



Fig 03.38 View north towards Wood End Farm Cottages



Fig 03.39 Breakspears,



Fig 03.40 Wood End Farmhouse



Fig 03.41 Westwick Row Farmhouse



Fig 03.42 Large Barn at Wood End Farm



Fig 03.43 Southern extent of L-shaped Barns at Westwick Row Farm



Fig 03.44 View north-west towards Wood End Farm



Fig 03.45 Westwick Row Farm courtyard

03.7.1

Noise and Air Pollution

The M1 runs next to and within the Site, contributing to significant noise pollution in the area. The A414 Breakspear Way, also lies within the red line boundary.

The Site does not sit within or around an Air Quality Management Area (AQMA). The nearest AQMA is located in Hemel Hempstead town due to levels of NO₂. Potential sources of noise and air pollution on site are:

- The M1 Motorway to the east, particularly in relation to NO₂ around Junction 8; PM10 and CO₂ along the extent of the motorway (source: National Atmospheric Emissions Inventory).
- Buncefield Oil Depot and industrial uses to the west of the site for dust, odour and potentially VOCs. However, previous studies do not indicate a significant impact on air quality. Additional information can be found in the Air Quality and Noise & Vibration sections (chapters 11 and 12) of the Environmental Statement.

Masterplan Considerations

Noise and air pollution linked to the motorway and trunk roads neighbouring the Site are a challenge; mitigation strategies, including the proposed noise bund, need to be closely considered and integrated into the design.

03.7.2

Geology and Ground Conditions

The Site consists of topsoil and the Clay-with-Flints Formation, underlain by the White Chalk Supergroup. Geotechnical investigations undertaken on the Site align with published geological records and provide insights into the geotechnical characteristics of the chalk and overlying materials.

Masterplan considerations

The Chalk bedrock presents geotechnical risks due to its susceptibility to dissolution. Features such as sinkholes, pipes, and voids pose risks to ground stability. These risks must be carefully incorporated into geotechnical design and mitigation strategies. Geotechnical site investigation including geophysical survey, ground penetration radar (GPR), additional intrusive investigations and groundwater monitoring will be undertaken to identify and assess ground conditions and to inform foundation and drainage design.

03.7.3

Contamination

The Site is directly adjacent to Buncefield Oil Depot located immediately to the west. Following a major fire in 2005, chemical contamination was released as a result of the firefighting foam used. This included PFOS and DEHP chemicals, which are of particular concern as they are “forever” chemicals which are not naturally broken down. This is of particular concern as the Site is located above multiple Source Protection Zones (SPZs).

A number of boreholes were undertaken in 2017 to determine the level of contamination across the Site. High concentrations of PFOS and DEHP were found near Buncefield. Previous consultation with the Environment Agency (EA) regarding this contamination indicates there was a concern of mobilising contaminants into the chalk aquifer beneath.

Masterplan Considerations

Defining the current extent of contamination will further inform the geo-environmental and drainage strategies. Groundwater monitoring has been undertaken to further understand the risk in consultation with the EA. It was determined there is a low concentration of PFOS and PFAS-substances within the central

area, less than that recorded in the 2017 investigations. Given the risk of contamination, however, the drainage strategy will not include 'concentrated' infiltration over areas of contamination to mitigate the risk of further mobilisation of contaminants.

03.7.4

Water

Hydrology

The Site sits within three dry chalk valleys in close proximity to the surrounding Chiltern National Landscape. The nearest watercourse is the River Ver, located approximately 3km to the east, which flows south and eventually joins the River Thames. The River Gade, located approximately 3.3km to the west, flows south to join the Grand Union Canal, where the River Bulbourne also joins. Based on the topography of the Site and surrounding area, the Site is considered to be in the catchment of the River Ver.

Underlying chalk means there is currently no permanent water bodies west of the M1.

There are a number of highway and land drainage ditches in the vicinity of the Site, including on Westwick Row, Green Lane, Breakspear Way and Cherry Tree Lane. These ditches are not believed to be connected to the wider watercourse network.

There are also a number of ponds in the vicinity of the Site, as follows:

- 01** Four ponds located immediately on the eastern side of the M1 motorway, believed to be for treatment and attenuation/infiltration of surface water runoff from the motorway.
- 02** A man-made pond is located immediately south of the A414, adjacent to Breakspear

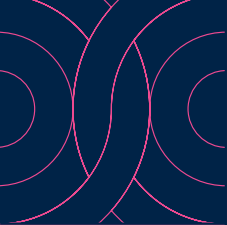
Way, believed to be for highway runoff collection and attenuation.

- 03** Marchmont Pond is located off Datchworth Turn, immediately west of Leverstock Green. Based on sewer records obtained from Thames Water, this feature is understood to provide surface water attenuation for the adjacent housing developments. This pond discharges into the Thames Water sewer network.
- 04** A small pond located is located towards the southeast of the A414. There is no evidence of a connection to a watercourse or sewer network on the available records, however it is assumed this discharges into the Thames Water sewer network.
- 05** Redbourn Reservoir immediately adjacent to the Site's northwestern boundary. This reservoir discharges into the Thames Water sewer network.

The Site is underlain by the White Chalk sub-group. This is a Principal Aquifer, which is defined by the EA as usually providing a high level of water storage, and water supply / river base flow on a strategic scale. The Site is within all the Source Protection Zones (SPZ). The southernmost edge of the Site is within both SPZ 1 and 2, with the remainder in SPZ 3. Furthermore, there are various public water supply groundwater abstractions from the chalk aquifer in the area. Most notably c.5km to the south-east at Bricket Wood, 2km east at Gorhambury and 3.4km east at St. Albans.

There is also a licensed groundwater abstraction for general farming purposes 327m north of the Site and a private groundwater abstraction c.1.4km to the north of the Site that is licensed for drinking water.

Groundwater levels vary between 12.65 and 53.77mbgl, with the depth to groundwater generally increasing to the south and east.



Masterplan Considerations

The drainage strategy must be developed to work alongside the surrounding hydrological constraints and where possible, use and upgrade existing landform and run off conveyance areas. The strategy will be developed with the aim of protecting and enhancing the Principal Aquifer.

Drainage and Flood Risk

The fluvial flood risk has been obtained from the Environment Agency’s Flood Map for Planning. This shows that the Site is in Flood Zone 1, meaning there is a less than 0.1% chance of flooding from rivers or the sea (i.e., a very low risk).

The surface water flood risk has been obtained from the Environment Agency’s Flood Map for Planning, shown in Fig 03.46. This shows that there is a risk of surface water flooding in the Site though generally the Site is dry and at a low risk. This is an expected characteristic of a dry chalk valley, where during intense storms there are distinct temporary overland watercourses that convey surface floodwaters. The flood routes follow the topography, with the risk being higher in valleys and low spots within the Site.

Through engagement with Hertfordshire County Council acting as the Lead Local Flood Authority (LLFA), It was advised that flooding incidents have been observed in close proximity to the Site, as follows:

Redbourn Reservoir

The Redbourn Reservoir is owned and maintained by Thames Water. There have been a number of reported flooding events associated with Redbourn Reservoir. This is combined with flood risk generally along parts of Hemel Hempstead Road (B487) on the northern boundary of the Site and overland flow routes from the land to the north of the B487.

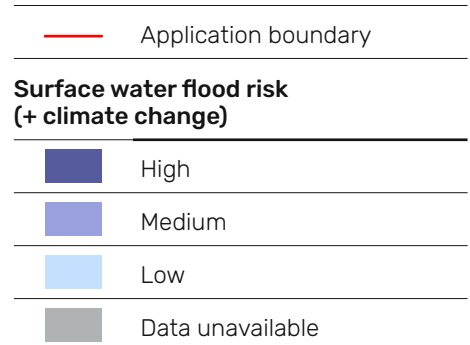
Marchmont Pond

The Marchmont pond is owned and maintained by Thames Water. There have been a number of reported flooding events associated with Marchmont Pond and downstream within Leverstock Green to the south-west of the Site. No further recorded flooding incidents have occurred since the open valve at Marchmont Pond has been closed.

It is understood that Thames Water are undertaking investigations and management of these assets to mitigate future flood risk. In addition, these overland flow areas will form part of the landscape areas and therefore risk of off-site flooding impacting the Proposed Development is low.

Masterplan Considerations

The surface water drainage strategy will be developed to mimic the behaviour of the existing dry chalk valley landscape, whilst providing multi-functional water quality, amenity and biodiversity benefit. Overland flow routes should remain unobstructed and free from development.



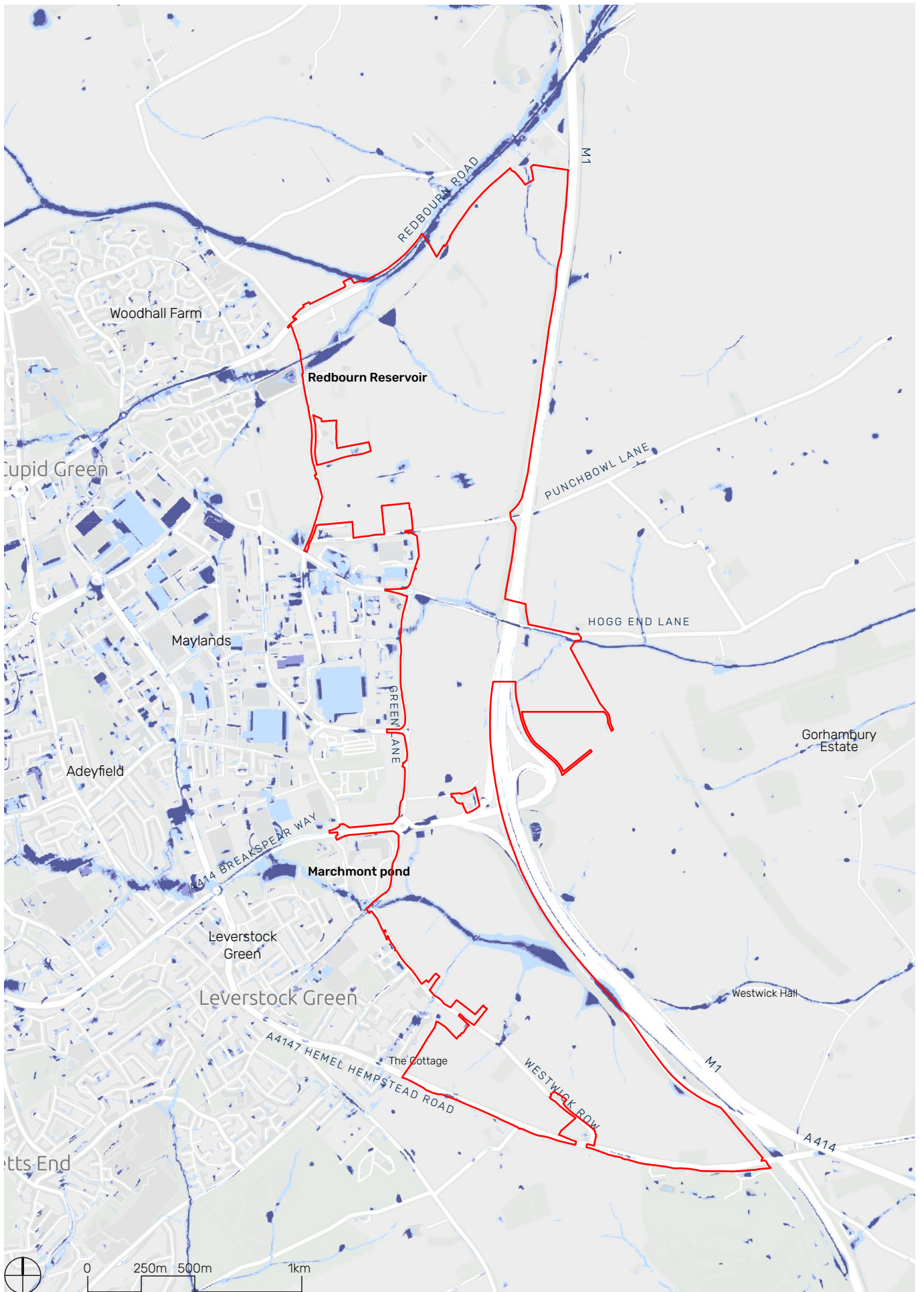


Fig 03.46 Flood risk and surface water flooding

Utilities & Infrastructure

The composite utilities constraints described below are shown in Fig 03.47.

03.8.1

National Grid Electricity Transmission (NGET)

NGET 400kV high voltage overhead cables bisect the northern part of the Site. These are major network assets which are essential to the operation of the National Grid network.

Engagement with NGET has confirmed that these cables cannot be moved or diverted given their strategic importance.

The cable sag clearances for the existing network are 5.3m for 'any object/building on which a person may stand' and 7.3m 'to ground'. The 5.3m vertical clearance was confirmed by NGET to be the minimum statutory requirement.

A 15m easement around pylon footings must be maintained for NGET access and maintenance, though some encroachment can be permitted if approved by the NGET engineering team.

03.8.2

Buncefield Oil Depot

The Site is directly adjacent to Buncefield Oil Depot in the west, an active terminal, operated by BP, which distributes petrochemical products across the UK.

Given the proximity to the Buncefield Oil Depot, the Site is subject to Health and Safety Executive (HSE) Land Use Planning Policy around large-scale petrol storage sites (SPC/TECH/GENERAL 43) and Control of Major Accident Hazard (COMAH) Regulations (2015). As per regulations and policy, all proposed developments are evaluated considering sensitivity levels of the development. The

sensitivity levels are defined as a scale from 1 to 4 and classified for different land use classes, such as residential, commercial, outdoor, etc.

Furthermore, all development must comply with the Development Proximity Zones (DPZs), which are within the four consultation zones. These are defined as DPZ 0, 1, 2, and 3 and correspond to:

- DPZ 0 = the DPZ 150m from the tank bund. No developments that are occupied are allowed.
- DPZ 1 = the Inner Zone (IZ) 250m from tank bund. Limited, very low density and transient (such as a low traffic estate road) development allowed.
- DPZ 2 = the Middle Zone (MZ) 300m from the tank bund. Some development, such as dual carriage roads and low-density housing and offices allowed.
- DPZ 3 = the Outer Zone (OZ) 400m from the tank bund. Some development allowed but not those deemed highly sensitive by the sensitivity level.

03.8.3

British Pipelines Association (BPA)

Given its adjacency with Buncefield Oil Depot, the Site is bisected by multiple oil pipelines which come to-and-from the Terminal.

There are 3 BPA pipeline groups maintained by UK Oil Pipeline (UKOP) and British Pipeline Association (BPA). These are understood to be strategic pipelines which distribute petrochemical products across the UK:

- A set of three pipelines, owned by UKOP & West London Group bisect the southern part of the Site. These pipes are 6", 8" and 14" pipes with an average depth of 1.39m

below ground to crown. The associated easement and maintenance strip is approximately 8.2m either side of the pipe group.

- A single 10" pipe owned by Total runs east-to-west adjacent to Hogg End Lane owned by Total (this is known as the Finaline). This pipe has an approximate depth of 1.42m below surface level to crown and a 3.4m easement either side of the pipe.
- A single 10" pipe bisects the northern part of the Site, owned by UKOP. This pipe is approximately 1.83m below surface to crown and has a 3.2m easement either side of the pipe.

Masterplan Considerations

These pipelines are not proposed to be diverted and will be protected in the masterplan through safeguarding their easements within the open space network, and validating proposed utilities or highway crossings with BPA.

03.8.4

Gas

Cadent Gas is the statutory provider for the Site. There are a number of existing gas mains in the vicinity of the Site.

There is an existing 250mm diameter PE medium pressure (MP) gas main in B487 Hemel Hempstead Road which terminates outside the Site's boundary in Shenley Road. There is also an existing 9" PVC medium pressure gas main in Three Cherry Trees Lane which serves Punchbowl Park. There is a 180mm diameter PE medium pressure main in Breakspear Way, which terminates at the Spirit Health Club and Hemel Hempstead Holiday Inn.

There is only one known existing Intermediate Pressure (IP) ductile iron (DI) gas main in the southwestern part of the Site, parallel to Hemel Hempstead Road (A4147).

Masterplan Considerations

It is not proposed to have any new gas connections for the Site, as described in the Energy Strategy.

03.8.5

Water Supply Infrastructure

Affinity Water is the statutory undertaker for providing potable water for the Site. There are no existing potable water connections within the Site, aside from small diameter connections to existing buildings. There are existing potable water mains adjacent to the site boundary in the west.

There is a 250mm Ductile Iron (DI) water main beyond the Site's western and northwestern boundaries along Three Cherry Trees Lane. There are water mains along the site boundary, to the north and southwest, in Green Lane and Westwick Row, respectively. The mains in Green Lane are 3" Cast/Spun Iron (CI/SI). The mains in Westwick Row are 4" CI/SI.

There is also a short length of 100mm DI mains connecting to the Green Lane mains which extends eastward along A414 off Breakspear Way roundabout. Further, 6" PVC water mains are adjacent to the Site's southern boundary, serving the Corner Farm buildings.

Masterplan Considerations

Existing mains are located within highways outside of the Site and are therefore not proposed to be diverted.

03.8.6

Drainage Infrastructure

Thames Water is the statutory undertaker for surface and foul water drainage for the Site.

Two existing 375mm diameter surface water sewers bisect the Site conveying flows from the Redbourn Reservoir in the north and from Marchmont Pond in the south to the River Ver.

There are no existing foul sewers within the Site given the existing agricultural use. There is an existing Thames Water foul sewer network to the west of the Site serving the neighbouring residential communities.

The residential areas beyond the site boundary near Redbourn Road/Hemel Hempstead Rd/B587 in the north are served by a foul sewer network connecting to a pumping station which is to the north of the Nickey Line.

The residential areas beyond the Site to the west in Boundary Way are served by foul sewers ranging from 150 to 225mm diameter. There is an existing bifurcated 375mm diameter foul sewer to the east of the site boundary along Watling Street (Old Roman Road) serving the nearby farm cottages.

The residential areas west of the Site, near Breakspear Way, are served by foul sewers ranging from 150mm to 300mm diameter.

Thames Water have confirmed that the foul discharge in this area is eventually treated at the Maple Lodge Wastewater Treatment Works (WwTW).

Masterplan Considerations

It may be necessary to divert part of the southern 375mm diameter surface water sewer to accommodate the Proposed Development. Retained surface water sewers will be protected by the Proposed Development through safeguarding the associated easements.

There are no foul sewers within the Site and therefore no proposed diversions.

03.8.7

Power

UKPN is the statutory provider (Distribution Network Operator) of electricity for the Site. There are existing high voltage (HV, 11-33kV) overhead lines bisecting the Site. A number of 11KV lines appear to serve Punchbowl Park and National Highways infrastructure.

Masterplan Considerations

Two primary substations (SS) are in close proximity to the Site and will be used to supply power to the Site.

03.8.8

Communications

BT Openreach are the primary telecommunications provider for the Site. There are multiple pole-mounted and below ground telecommunication cables adjacent to and within the Site.

Masterplan Considerations

All new utilities required for the Proposed Development will be supplied by the relevant utility providers. Supply will be coordinated through engagement with these providers with provision and capacity guided by the masterplan and future phasing strategy.

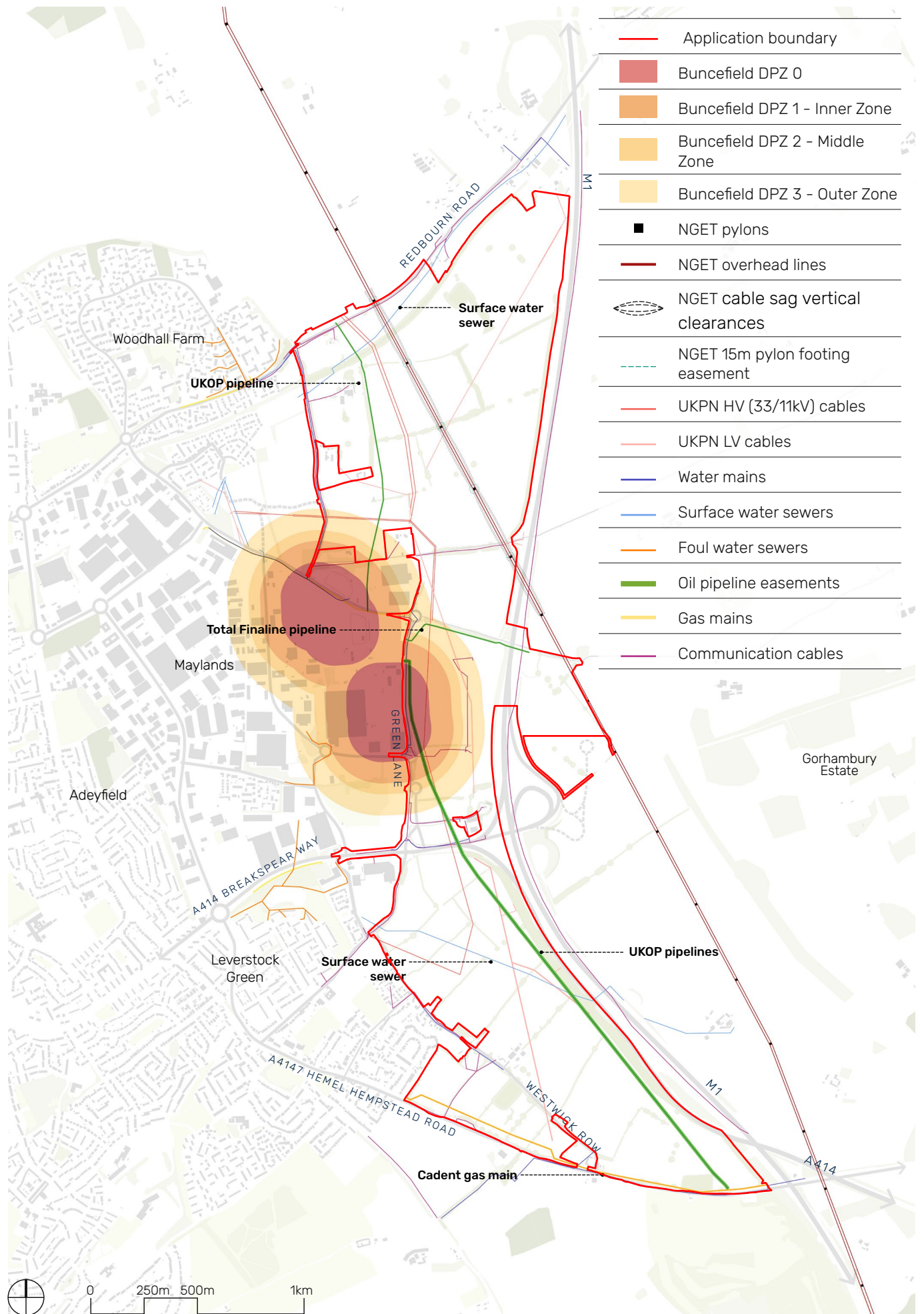


Fig 03.47 Composite utility and infrastructure constraints

Site Characteristics

This section describes each part of the Site in more detail, drawing out the key constraints and characteristics which have influenced the masterplan. For this purpose, the Site has been sub-divided into four areas. These areas are identified based on unique characteristics, as well as planning policy allocation:

- **H2 East Hemel Hempstead (North),** comprising the area of the Site within draft SADC Local Plan allocation H2 East Hemel Hempstead (North). This comprises the part of the Site to the north of Punchbowl Lane and south of the B487 Hemel Hempstead Road;
- **H3 East Hemel Hempstead (Central),** comprising the area of the Site within draft SADC Local Plan allocation H3 East Hemel Hempstead (Central). This comprises the part of the Site to the south of Punchbowl Lane and to the north of the A414;
- **H4 East Hemel Hempstead (South),** comprising the area of the Site within draft SADC Local Plan allocation H4 East Hemel Hempstead (South). This comprises the part of the Site to the south of the A414 and north of the A4147 St Albans Road; and
- **Land East of the M1,** comprising the land to the east of the M1 motorway.

Each area is explored in regards to existing constraints, assets and opportunities, with key considerations identified which have informed the masterplan proposals.

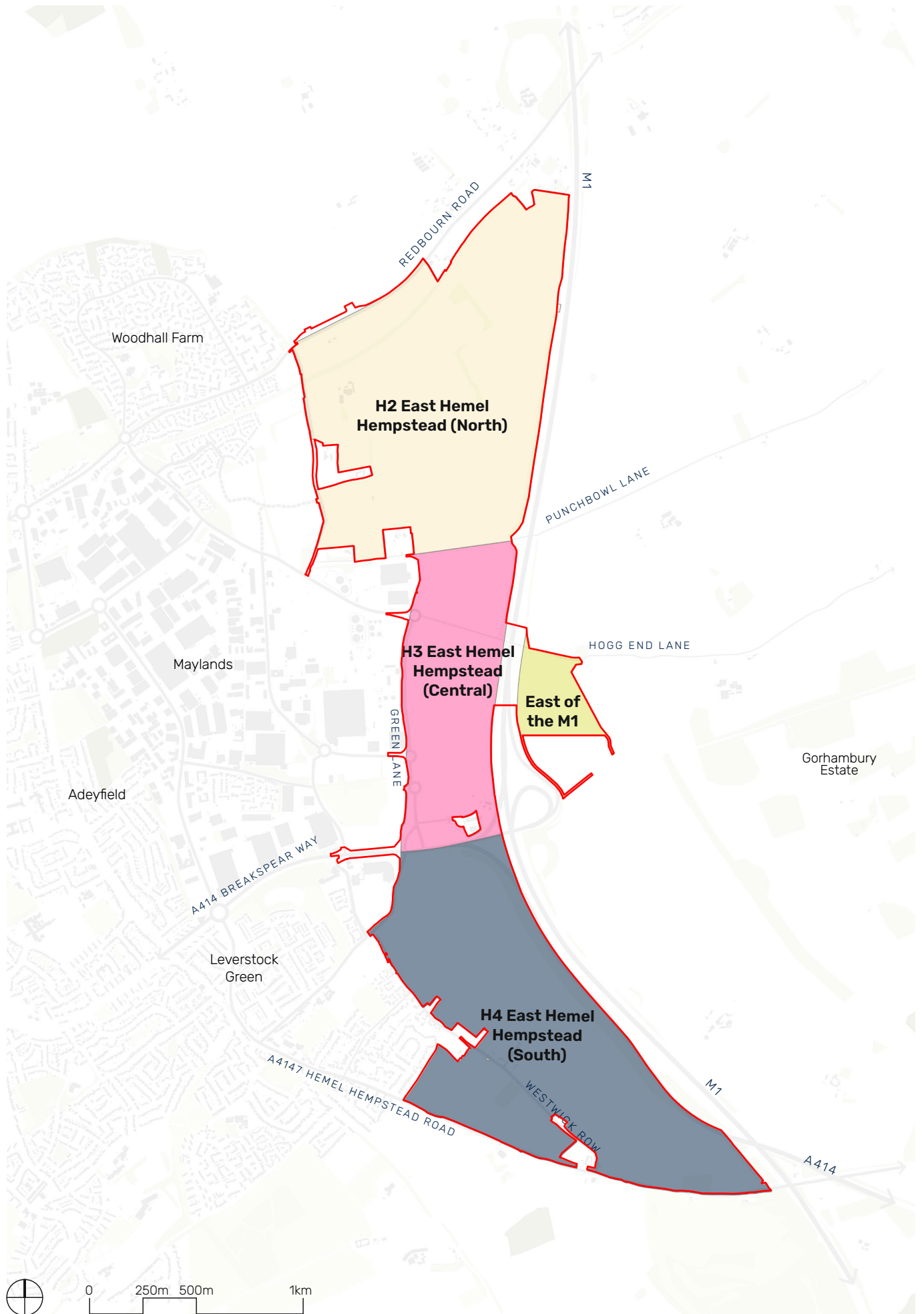




























Fig 03.48 Character areas within the Site

03.9.1

H2 East Hemel Hempstead (North)

Site Characteristics

- The area is allocated for residential-led development alongside a new secondary school, primary school, local centre, Sports Hub and Country Park alongside associated infrastructure.
- The area is predominantly arable farmland with undulating topography.
- The dry valley on the northern boundary is a distinctive feature, offering views across the valley and providing a green gateway into Hemel. It is vulnerable to surface water flooding, with the off-site Thames Water Reservoir overflowing into the Site.
- The Nickey Line (disused railway and waymarked walking and cycling route) crosses in an east-west alignment lined by mature treed hedges. It is often slightly in cut, preventing views to and from the route. It passes under the motorway to the east of the Site in a tunnel, and passes under Cherry Tree lane bridge.
- A remnant discrete small woodland (priority broadleaved) is located on the valley slope.
- To the north-east beyond the Site boundary, a continuous strip of pasture tracks the base of the dry valley from Redbourn along Hemel Hempstead Road-used for horses. This has a smaller field pattern. Within the Site, the fields north of the Nickey line are smaller but arable.
- South of the dry valley, the land rises to a flatter plateau with large arable fields with some intact hedgerows.
- The strongly treed Cherry Tree Lane bounds the west of the area and forms part of the HGC Green Loop. The narrower Punchbowl lane bounds the south of the area with strongly treed hedgerows. In both instances the hedgerows prevent views to adjacent areas.
- The motorway is dominant element bounding the east of the Site on an

	Application boundary
	District boundaries
	HGC growth area
	Surface water flooding
	Listed buildings
	Scheduled Monument
	Buncefield DPZ 0
	Buncefield Inner Zone
	Buncefield Middle Zone
	Buncefield Outer Zone
	Historic lanes
	HGC Green Loop
	Nickey Line
	Green belt (Policy LG5)
	Significant Publicly Accessible Green Areas (Policy NEB4)
	Hedgerows and Trees (root protection areas)
	Secondary school site (Policy COM1)
	Sustainable Transport Corridor (Policy TRA2)
	Public Rights of Way
	Access points
	Oil pipeline easements
	National grid pylons
	National grid power line swing
	National grid 15m pylon footing easement
	0.5m contours
	Slope

The numbers on the plan relate to site images overleaf.

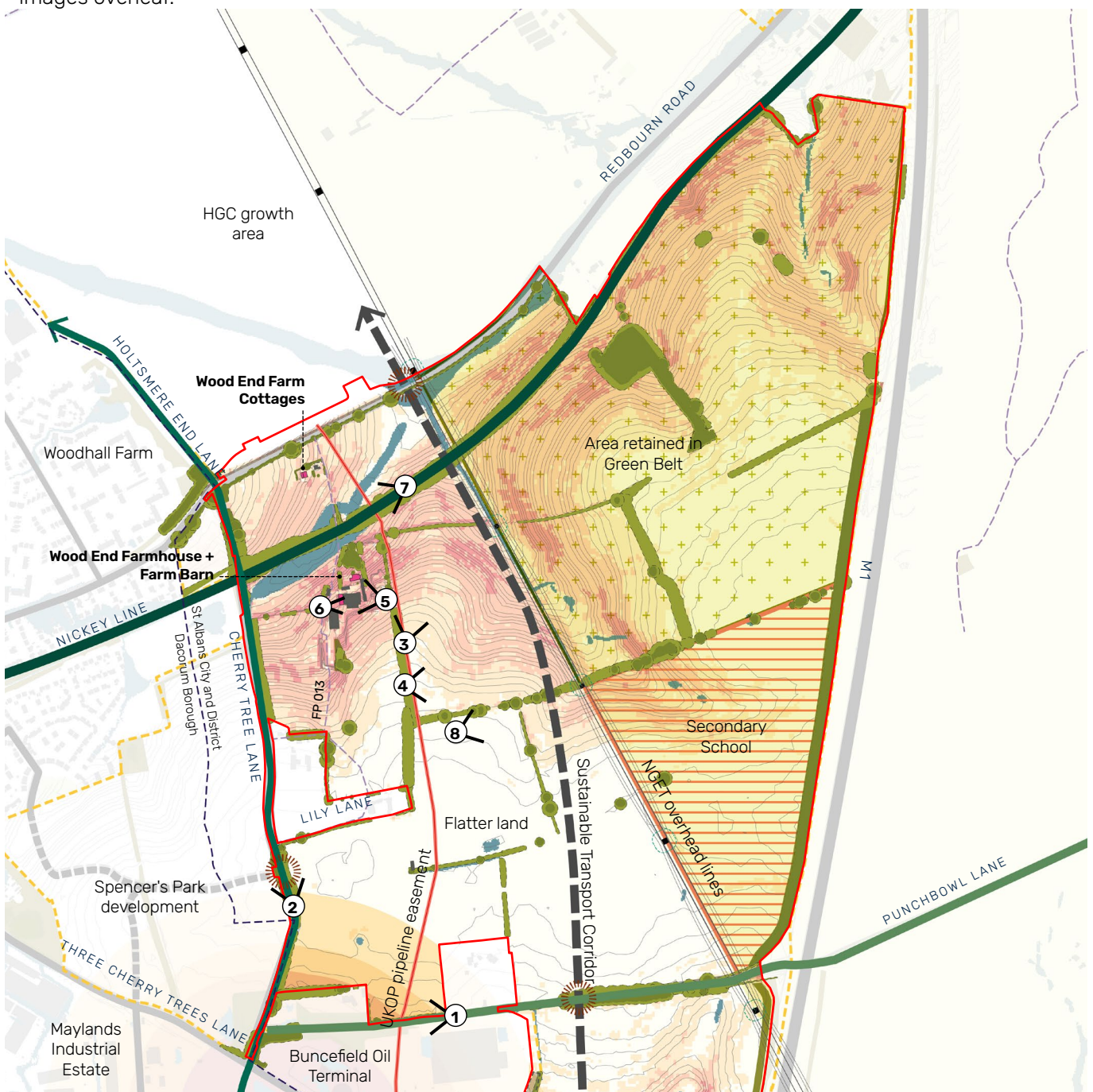


Fig 03.49 H2 Hemel Hempstead (North) characteristics and constraints



embankment as it crosses over the Hemel Hempstead Road and Nickey Line.

- There are a number of properties adjoining the boundary on Hemel Hempstead Road, Cherry Tree Lane and Punchbowl Lane.
- Within the boundary are the Grade II listed Wood End Farm Cottages, Farmhouse, and Farm Barn.
- Two PRowS (Redbourn FP13 and 44) run through the west of the area from Lily Lane north to Wood End Farm and connects to B487 Hemel Hempstead Road. FP 44 is overgrown and not well used. There is an informal diversion in place for FP13 where the path crosses north through a gravel path without going through the property's garden.
- National Grid pylons and overhead power lines cross the area and are dominant features. They form the proposed Green Belt boundary in the emerging SADC Local Plan, east of which development outside of that identified in policy is not permitted. They restrict development and planting within their easement and create a linearity feature within the Site.
- SADC emerging Local Plan policy, informed by the HGC Framework Plan, identifies sites for a Sports Hub and Secondary School.
- A BPA pipeline runs north-south from Punchbowl Lane to Redbourn Road and beyond.
- The southwestern most part of the area falls within the Buncefield Middle Zone and Outer Zone, presenting restrictions on the type of development and open spaces in this location.
- An overland flow route running northeastward from Cherry Tree Lane to B487 Hemel Hempstead Road conveys surface floodwater during intense storms.

Masterplan Considerations

- Aim to conserve and strengthen the character of the dry valley in the north, minimising harm and severance from new transport routes, retaining the valley and its sloping sides within new open space and maintaining the green separation between

Hemel and Redbourn.

- Integrate water management into open space utilising the low points in the existing topography.
- Integrate and enhance connections to the Nickey Line and wider PRow network.
- Promote a clear strategy for the visual and noise mitigation of the adjacent motorway and Hemel Hempstead Road, positively integrating these corridors into the local landscape character.
- Protect and conserve the character of existing lanes by repurposing as Quietways.
- Re-purpose the historic Wood End farmstead as a community asset.
- Carefully consider boundaries with existing residential properties outside and adjacent to the site boundary.
- The linear pylon lines conflict with the natural landscape assets. Proposed open space should avoid reinforcing arbitrary linear lines at ground level where possible.
- Efficiently use the flatter parts of the area for housing, schools and sports. Due to site topography, flat areas required for sports pitches are very limited. It will be important to agree sports types and quantum at future detailed stages, to ensure the provision caters to local needs and the land is used efficiently.
- Keep steep slopes and overland flow routes clear of development.
- Retain the BPA pipeline easement free of development and integrate into a green link connecting Punchbowl Lane to the Country Park.
- Align the Sustainable Transport Corridor and other key routes to minimise earthworks requirements and create accessible routes.
- Integrate into the Spencer's Park development and ensure that proposed amenities and facilities are accessible to this new community.



Fig 03.50 Punchbowl Lane is an attractive tree-lined lane (near Eaton Lodge)



Fig 03.54 Looking west toward Wood End Farm and Cherry Tree Lane



Fig 03.51 Cherry Tree Lane used by cyclists



Fig 03.55 Listed Wood End Farm Barn



Fig 03.52 Looking north east across the Nickey Line with pylons crossing the landscape



Fig 03.56 Nickey Line



Fig 03.53 Undulating topography of the valley sides looking west towards small wood


























Fig 03.57 Treed hedgerows

03.9.2

H3 East Hemel Hempstead & Land East of the M1

Site Characteristics

- The area is allocated as a major new employment location, including enhanced transport infrastructure, a pedestrian-cyclist bridge over the A414, and other associated infrastructure.
- This area comprises a mainly flat area of high plateau ground with large arable fields and gradients falling northeast towards Hogg End Lane and southwest towards the A414.
- The industrial buildings of Buncefield Oil Terminal and Maylands are prominent, and in the case of Buncefield, detracting features to the west of Green Lane.
- The narrow Punchbowl Lane bounds the north of the area with strongly treed hedgerows. Hogg End Lane bisects the area east-west and is also an attractive narrow hedge lined lane. Both lanes pass under the motorway. In both instances the hedgerows prevent views from the lanes into the adjacent areas.
- The busier Green Lane bounding the west of the area has been widened, lit and has lost some of its rural character. It has hedgerows on its east side although these are lower and less well treed than the smaller lanes.
- Green Lane connects to Boundary Way and Three Cherry Trees Lane, terminating at Punchbowl Park, a small collection of industrial buildings located north of Three Cherry Trees Lane and south of Punchbowl Lane.
- The fields are large, with historic field patterns and margins largely lost, except along the lanes where hedges are intact and strong. The area is devoid of woodland except the tree and scrub line along the M1.
- There is a small dry valley running from

	Application boundary
	District boundaries
	HGC growth area
	Surface water flooding
	Listed buildings
	Buncefield DPZ 0
	Buncefield Inner Zone
	Buncefield Middle Zone
	Buncefield Outer Zone
	Historic lanes
	HGC Green Loop
	Green belt (Policy LG5)
	Hedgerows and Trees (root protection areas)
	Secondary school site (Policy COM1)
	Sustainable Transport Corridor (Policy TRA2)
	Public Rights of Way
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	National grid pylons
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	National grid 15m pylon footing easement
	0.5m contours
	Slope

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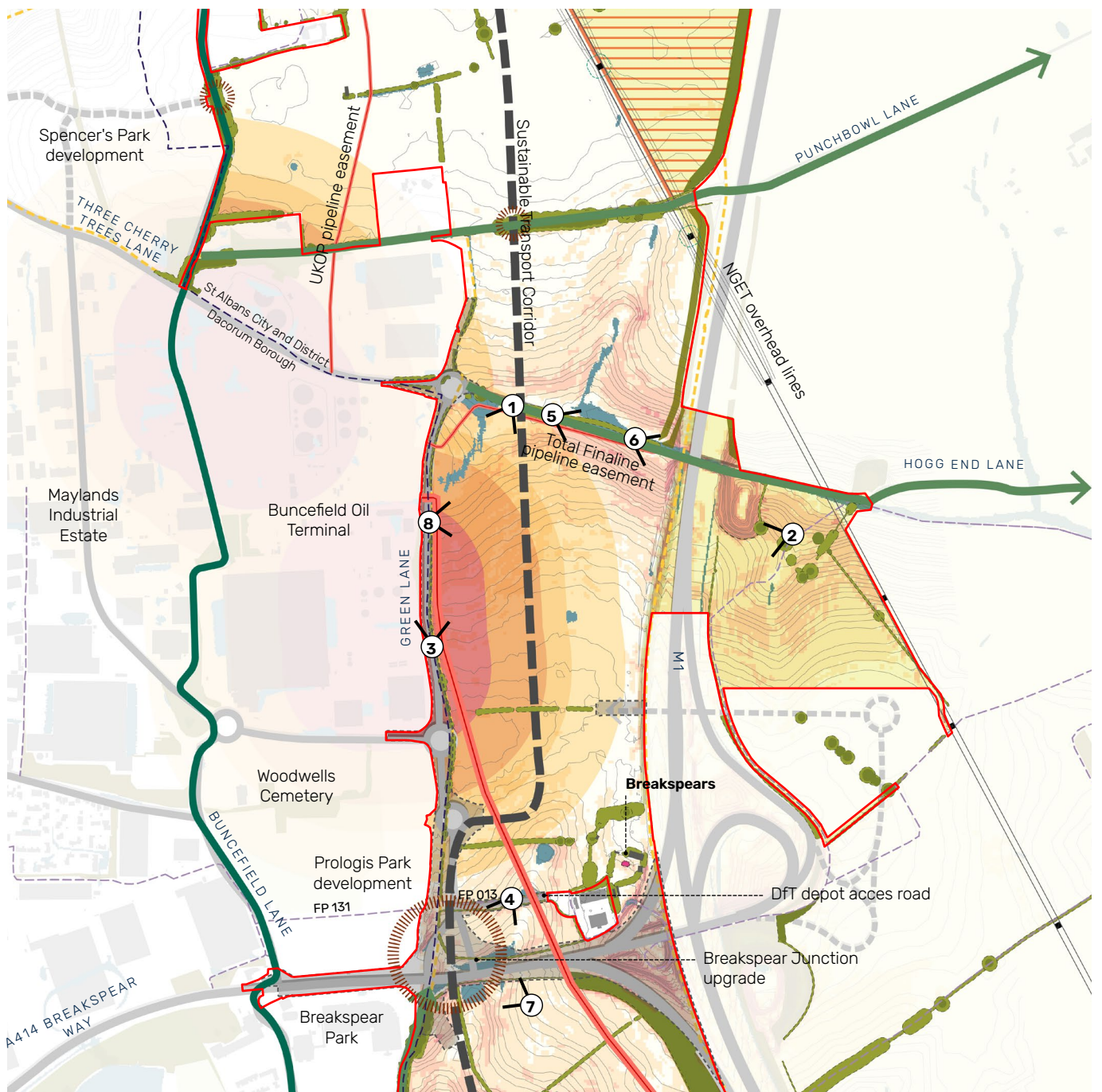


Fig 03.58 H3 Hemel Hempstead (Central) characteristics and constraints

- the northeast towards Hogg End Lane which causes surface water flooding.
- A National Highways depot is located in the south of the area, outside but surrounded by the site boundary. The depot is accessed through the Site via an access road off Green Lane; the access is actively used.
 - The A414 leading to M1 Junction 8 forms a busy, noisy edge.
 - The A414 Breakspear Junction has planned improvements associated with the overall Hemel Garden Communities growth, and will become the primary access point for the central area.
 - In the south-east, Breakspear House is a Grade II listed building surrounded by dense trees and vegetation.
 - Part of the area falls within HSE restriction zones for the Buncefield oil terminal, including the DPZ exclusion zone, where no development and limited infrastructure is permitted.
 - The area west of the M1 generally has an inhospitable and neglected image, dominated by the adjacent industrial influences, the motorway, and incidences of fly tipping on the minor lanes.
 - A little used PRoW footpath (St Micheals FP3) runs across the southern part of the site, connecting to Woodwells cemetery to the west and around the Highways Depot leading to an overgrown underpass, crossing the slip road and the A414 . This PRoW then goes over the M1 via an overpass and connects to the countryside east of the M1.
 - The Total / Finaline pipeline transects the area east-west, broadly in alignment with Hogg End Lane. The UKOP pipelines run along Green Lane from Buncefield Oil Terminal then transect the site broadly diagonally. All pipeline easements must be kept clear of built development.

Masterplan Considerations

- Aim to protect and conserve the character of the existing lanes by re-purposing as Quietways and improving sustainable travel links between Hemel Hempstead and the countryside to the east of the motorway.
- Carefully consider and seek to minimise extent of severance of the east-west lanes from new transport routes. Align new routes where they will do least damage to trees and hedgerows.
- Retain, widen and strengthen the existing tree belt along the M1.
- Carefully consider views from the countryside to the east and Gorhambury Estate.
- Integrate sustainable drainage to address existing surface flooding issues within the Site.
- Plan uses, built typologies, and landscape uses in accordance with the limitations and guidance imposed by the HSE zones associated with Buncefield Oil Terminal, including
 - No development in DPZ 0, and limited public access are permitted, creating an opportunity for a habitat creation area with minimal human disturbance.
 - Strategic movement corridors (STC) cannot be located within the DPZ or Inner Zones.
 - In the Inner Zone, restrictions on the numbers of employees per building create an opportunity for smaller footprint buildings that can suit smaller businesses.
- Provide new woodland planting to screen the detracting edges against Buncefield.
- Retain access to Punchbowl Park and the National Highways depot to protect their continued operations.



Fig 03.59 From Hogg End Lane looking south along the wood pole line and plateau towards Buncefield.



Fig 03.60 Hogg End Lane looking east



Fig 03.66 Buncefield Oil Terminal



Fig 03.61 Hogg End Lane as it traverses under the M1



Fig 03.62 Green Lane has lost its original rural lane near Buncefield- widened and lit



Fig 03.63 Newly constructed Prologis Park at Breakspear Junction | Source: Michael Sparks Associates



Fig 03.64 View towards Breakspear Park from the highways depot access road



























Fig 03.65 From Green Lane looking east towards the M1

03.9.3

H4 East Hemel Hempstead (South)

Site Characteristics

- The area is allocated for residential-led development alongside two new primary schools, local centre, and sports pitches alongside associated infrastructure.
- The dry valley is a distinctive feature of the area, draining to the south-east and susceptible to surface water flooding. The valley feels slightly less open than the rest of the plateau as it is contained by rising slopes and steeper contours to the east and west.
- There is limited flat land in the area due to topography.
- The M1 is elevated across the eastern site boundary, with a wooded embankment which helps reduce its dominance.
- The landscape is in overall better condition than the plateau east of Buncefield in the centre of the Site.
- The north of the area is predominantly open, medium-scale arable fields with the historic pattern interrupted by the motorway. To the south of Westwick Row the field pattern is smaller.
- Hedgerows between fields are intact with the exception of the southern tip of the area. There are few individual field trees.
- Westwick Row survives today as an attractive hedge-lined lane with mature hedgerow trees and a number of listed buildings, including Westwick Row Farm which is within the site boundary.
- Long views are possible across the dry valley across to Breakspear Park in the north west. The M1 embankment and Westwick Row hedgerows largely contain views to the northeast and southwest from within the Site.
- There are two small blocks of remnant broadleaved priority woodland in the south of the area.
- A PRoW footpath (St Michaels Rural FP005)

	Application boundary
	District boundaries
	HGC growth area
	Surface water flooding
	Listed buildings
	Buncefield DPZ 0
	Buncefield Inner Zone
	Buncefield Middle Zone
	Buncefield Outer Zone
	Historic lanes
	HGC Green Loop
	Green belt (Policy LG5)
	Hedgerows and Trees (root protection areas)
	Significant Publicly Accessible Green Areas (Policy NEB4)
	Secondary school site (Policy COM1)
	Sustainable Transport Corridor (Policy TRA2)
	Public Rights of Way
	Access points
	Oil pipeline easements
	National grid pylons
	National grid power line swing
	National grid 15m pylon footing easement
	0.5m contours
	Slope

The numbers on the plan relate to site images overleaf.



Fig 03.67 H4 Hemel Hempstead (South) characteristics and constraints



runs across the Site towards the M1, which historically connected to the edge of the Gorhambury Estate, now severed by the motorway and terminates in a dead end.

- Westwick Row connects into Pancake Lane and Green Lane which lead to Leverstock Green road, local centre and village green.
- To the north-west of the area, Buncefield Lane provides walking and cycling routes towards the A414.
- The UKOP pipelines traverse the area broadly along the base of the existing M1 bund. The easement must be kept clear of built development.

Masterplan Considerations

- Work with the sloping topography locating green space along the valley.
- Integrate water management into open space utilising the low points in the existing topography.
- Protect the function of the dry valley for flooding and overland flow conveyance in times of intense rainfall.
- Promote hedgerow retention and creation throughout the area.
- Promote the creation of a network of new woodlands and smaller copses linking with hedgerow restoration, with a view to visually integrating the motorway and filtering views into new development from the south.
- Ensure that the historic Westwick Row and its associated hedgerows and historic buildings are protected, enhanced and integrated into new development with due regard to their historic, ecological and landscape value.
- Re-purpose the historic Westwick Row farmstead as a community asset.
- Carefully consider boundaries with existing residential properties outside and adjacent to the site boundary.
- Retain the UKOP pipeline easement free of development and integrate it into a green link adjacent to the noise bund.
- Align the Sustainable Transport Corridor

and other key routes to minimise earthworks requirements and create accessible routes.

- Position pedestrian and cyclist links into Leverstock Green where possible—primarily via Green Lane, Pancake Lane and the A4147 Hemel Hempstead Road—to facilitate the integration of the two communities and improve accessibility to existing and new facilities.
- Carefully consider sensitive edges with Leverstock Green—primarily along Westwick Row and Greenacres—to protect Leverstock Green as a distinct neighbourhood and to ensure scale and character are positively reflecting existing conditions.
- Ensure the pedestrian and cycle network within the site connects with off-site routes such as the HGC Green Loop to Leverstock Green and Bunkers Park as well as emerging development on Westwick Row. Seek to improve PRoW connectivity with wider network of green infrastructure routes and assets.



Fig 03.68 The M1 crosses the Westwick Row dry valley on a tree planted embankment



Fig 03.69 Looking north to Breakspear Park

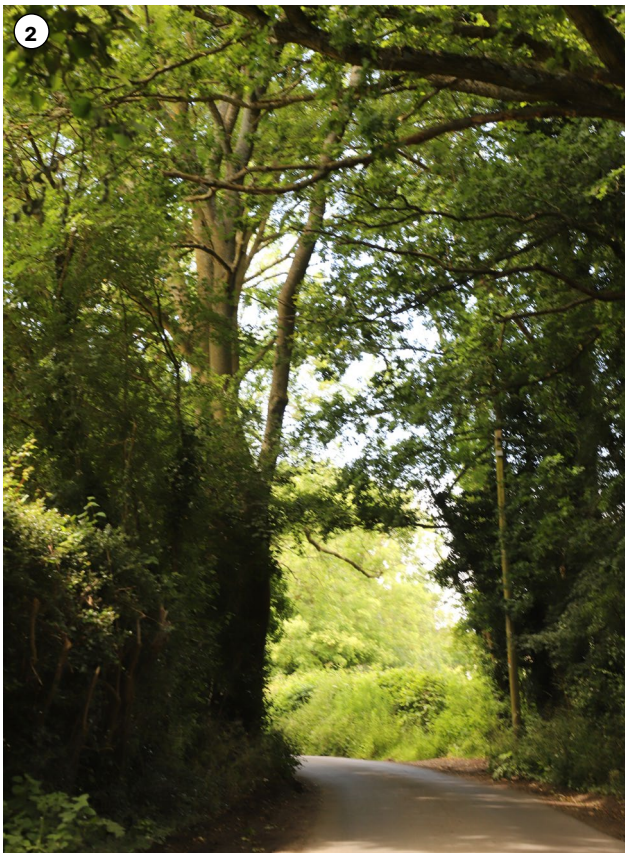


Fig 03.70 Westwick Row is an attractive historic lane



Fig 03.71 Looking east at the PRoW



Fig 03.73 Grade II listed Westwick Row Farm Barns



Fig 03.72 The valley is susceptible to surface water flooding.



Fig 03.74 Buncefield Lane adjoins the western boundary

03.9.4

Land East of the M1

Site Characteristics

- The land east of the M1 comprises of arable land, with gently undulating topography, which dips down towards Hogg End Lane, which forms a minor dry valley.
- The western edge is defined by the M1 motorway and Hogg End Lane and an existing Highways pond to the north.
- Much of the historic field pattern is lost, with a limited number of trees and hedges present on this part of the site, similar to the condition in H3 Central East Hemel allocation.
- The UKPN line runs along the east boundary, with 2 of the pylons sitting adjacent to the red line boundary.
- The Gorhambury Estate sits approximately 300m south east of the Site boundary, which houses several listed buildings and Registered Park & Garden.
- Gorhambury Estate boasts a very densely wooded boundary, providing strong screening.
- There is 1 no PRow within the land (St Michael Rural FP 7) which runs along the M1 edge and connect to Hogg End Lane.
- Two more PRowS are within adjacent context, St Michael Rural FP 5 and FP 3 which create a small walking loop in this area.

Masterplan Considerations

- Aim to create a new tree belt along the M1 motorway to supplement existing vegetation and strengthen this boundary.
- Introduce new tree planting, woodlands and hedgerow restoration (where possible), with due consideration to the pylons and overhead lines sway zone constraints.
- Aim to protect existing vegetation and ensure any necessary earthworks for the sustainable drainage ponds are set back from Hogg End Lane to protect nature hedges of the historic lane.
- Aim to protect and conserve the character of the existing lanes by re-purposing as Quietways.
- Where PRow diversion is required, aim to re-route footpaths away from the M1 to enhance quality of the footpath network.
- It is recommended that public access are limited to footpaths (with dogs on lead) to maximise habitat creation opportunities on the Land East of the M1.



Fig 03.75 Highways balancing pond on Hogg End Lane



Fig 03.77 Hogg End Lane crossing under the M1



Fig 03.76 Woodland belt along Gorhambury Estate's boundary



Fig 03.78 Aerial photo of the site area, with the M1 motorway, H3 central site and Buncefield in the background.



Fig 03.79 H3 Hemel Hempstead (Central) characteristics and constraints