Table 5.1 – Non-Residential Floorspace

TCPA Use Class Order 2005	Use	Non-residential Floorspace (m^2) (maximum)
A1 – A5	Retail, services, food and drink	Up to 9,500
B1(a,b,c)	Employment (dedicated employment and mixed use employment)	43,500
B2		79,000
C1	Hotel	Up to 5,000
D1	Community	Up to 1,750
D2	Assembly and Leisure	Up to 4,000
Sui Generis		Up to 200

Note: A foodstore of up to 2,500m² is provided for within the 9,500m² A1–A5 uses.

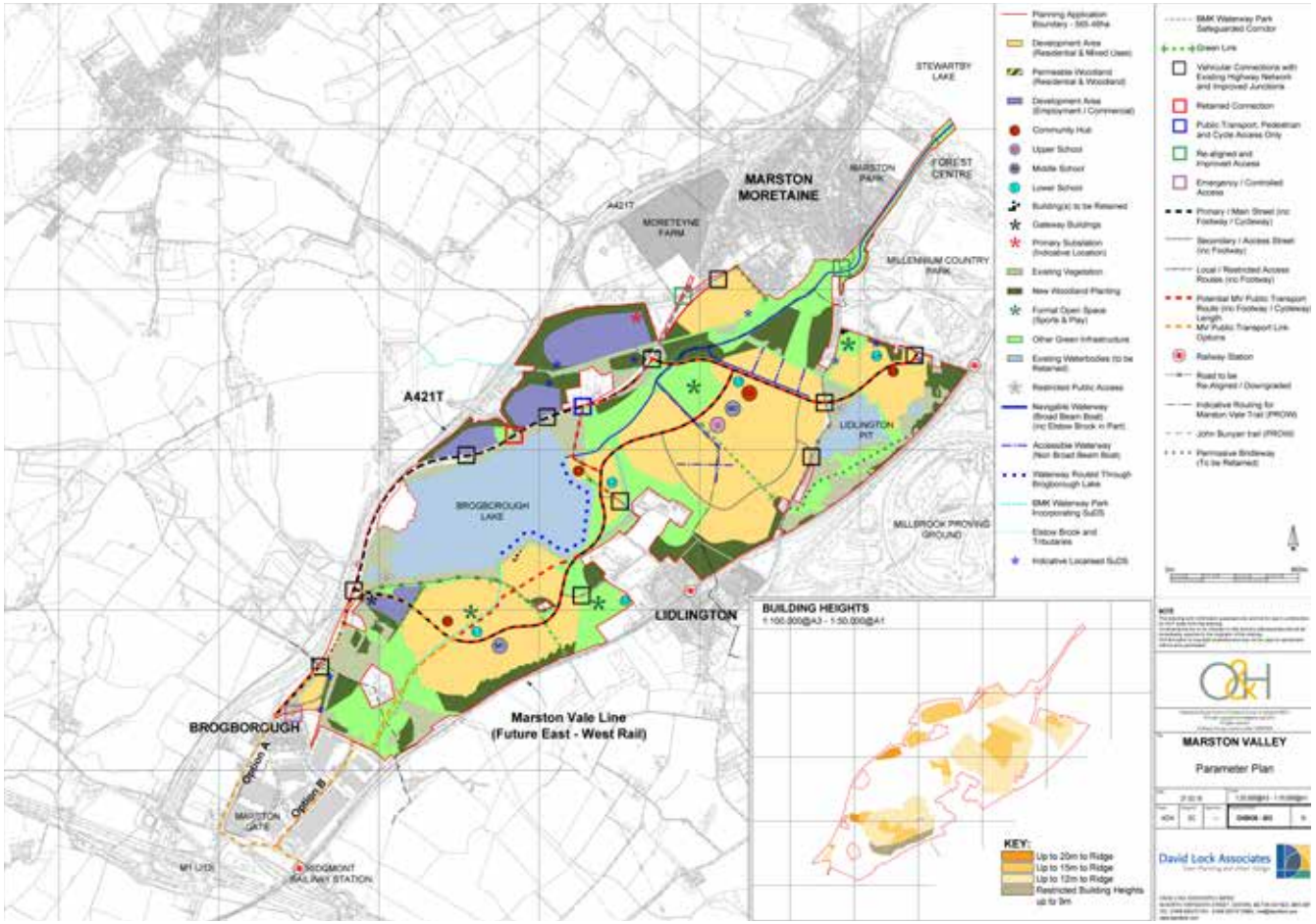


Figure 5.1 Parameter Plan

RESIDENTIAL DEVELOPMENT

5.8 Outline permission is sought for up to 5,000 new homes.

5.9 The master planning and capacity testing of the site considered the appropriate balance of residential development alongside requisite community facilities, open space and employment space as well SuDS and 'grey infrastructure' requirements.

5.10 Densities across the site will vary between approximately 20–40dph. In mixed use areas densities could increase to 60dph. The average density across the development is 35 dwellings per hectare. The density of the proposals and residential capacity has been designed to ensure Marston Valley is reflective of the local settlement pattern, and can deliver a good proportion of family homes.

5.11 The housing mix will include opportunities for a number of different types of units including:

- Affordable housing (including Starter Homes)
  - There is the possibility for Council build homes as part of the affordable mix
- Self-Build Plots
- Extra Care and elderly care facilities
- Lifetime Homes

5.12 The scheme will seek to be policy compliant in terms of affordable housing although the housing mix is intended to be flexible and adaptable so that it can respond to local needs and priorities, which may change over the 20+ year build out.

EMPLOYMENT

5.13 Employment opportunities within Marston Valley take three main forms:

1. Dedicated employment areas – up to 30 hectares of commercial land is available for employment use;
2. B1 uses within the community hubs throughout the development – some small scale employment opportunities will be available as part of a vibrant mix of uses in these areas;
3. Other employment generating uses – the other uses within the development (schools, hotel, retail etc) will all provide valuable employment opportunities. The focus on leisure and recreation, particularly associated with the B&MK Waterway Park,will also provide jobs within the visitor economy.

5.14 Other forms of employment may include adaptable townhouses in and around the community hubs that provide flexible accommodation for offices and / or homes. Live / work units may also be provided throughout the development with internal layouts to facilitate home working.

5.15 The total commercial floorspace within the dedicated employment areas and the B1 provision in community hubs is:

- B1 – Up to 43,500m²
- B2 – Up to 79,000m²

5.16 Allied with encouraging growth within CBC's key business sectors, the employment opportunities at Marston Valley will be capable of accommodating a range of business premises, particularly suited for high performance technologies and research and development. Marston Valley's proximity to Cranfield and Millbrook, both established and growing innovation hubs, provides the opportunity for additional start up and follow on business space for young establishing companies.

5.17 The dedicated employment areas have been consolidated into two main areas that are large enough to accommodate various types of space from offices, to workshops, studios and small industrial and manufacturing units.

RETAIL

5.18 Marston Valley includes four community hubs, one within each village. These are of a local scale to reflect the village ethos of the development. Each may have a slightly different function and role within the hierarchy across the site. These hubs will ensure much of the demand for goods and services are catered for within the development.

5.19 In total up to 9,500m² of A1 - A5 uses are proposed across the four community hubs. The facilities provided will complement and support existing amenities in the surrounding villages and the quantum of floorspace will meet the needs of the development without compromising existing provision.

5.20 A retail impact assessment has been undertaken in support of the application. This explains the 'self-contained' nature of Marston Valley and that the retail provision is serving the development and therefore cannot realistically be accommodated outside of the site. It reinforces that the level of retail provision is local in scale and therefore should not undermine existing centres. This emphasises the sustainable design principles of Marston Valley to create walkable neighbourhoods whereby most day to day needs can be met.

5.21 This floorspace includes allowance of 2,500m² for a foodstore. As shown on the Illustrative Master Plan this could be located within Community Hub 3, which is the higher order centre co-located with the lower / middle / upper school campus.

OTHER USES

5.22 To ensure the Marston Valley villages foster successful social integration and create vibrant and thriving places, the development will need to provide for the day to day needs of its population insofar as this is practical. In addition to residential, employment and retail uses, Marston Valley will accommodate a range of supporting community infrastructure from schools, open space and play areas, health care and flexible community space.

SCHOOLS

5.23 In accordance with CBC's recent child yield assessment and resultant education guidance, provision has been made for an upper school, two middle schools and four lower schools. In addition, the Parameter Plan identifies an opportunity to provide land for an extension to the existing lower school site in Lidlington if desired.

COMMUNITY USES AND HEALTH CARE

5.24 A total of up to 1,750m² of floorspace is proposed for community use (Use class D1) in addition to that required for the schools. This is for community uses, for instance a health centre and day nurseries. This floorspace will be distributed across the four community hubs with the likely focus for the health centre being in Redlands in hub 3.

5.25 Up to a further 4,000m² of floorspace is proposed within use class D2. This is to provide indoor and outdoor sports facilities and flexible community hall space. It also provides the opportunity for leisure facilities associated with the lakes and the waterway.

BLUE AND GREEN INFRASTRUCTURE

5.26 The provision of high quality green infrastructure including both public and private open space and areas protected for biodiversity enhancement is critical to a successful development. A high-quality setting with good links to the surrounding villages and wider Marston Vale green infrastructure network are fundamental to creating a sustainable scheme. The open space at Marston Valley is intended to be intrinsic to the character of the place and is designed to help provide permanent green buffers between the villages, new and existing but also be functional amenity space to facilitate social integration.

5.27 The routing of the B&MK Waterway Park through the site has also been a significant influential factor in the proposals. The scheme includes creating a length of the B&MK Waterway Park, with a section of navigable waterway. This has influenced the incorporation of a hierarchy of waterways into the development, creating a network of navigable features which also importantly provide the backbone of the surface water drainage strategy and ecological habitats.

5.28 The design of the green and blue infrastructure has driven the design approach to the built extents of Marston Valley. The extent and disposition of open space has been informed by:

- Creating a setting for the development that is landscape led and retains its local distinctiveness.
- Maximising the potential of the waterway(s) through the development and the recreational and environmental opportunities they offer.
- Preserving areas of ecological importance and creating valuable biodiversity connections.
- Ensuring built offsets to the heritage assets to help protect their setting and interpretation.
- Refrain from development in the EA's flood zones 2 and 3.
- Retain valuable trees and vegetation where possible
- Preserving and providing an appropriate setting to existing site features like the Greensand Ridge, lakes and former industrial 'conveyor lines'.
- Providing an integrated sustainable drainage network through linked waterways and channels and other SuDS features.
- Providing recreation areas and sports pitches in accessible locations throughout the development for new and existing residents.

5.29 To achieve these objectives a significant proportion of the scheme – approximately 54% – will constitute a multi-functional green and blue infrastructure network of informal and formal open space, waterbodies and features and new and retained woodland. Private gardens will provide additional private amenity space and biodiversity enhancement.

5.30 Additional sports provision will be provided within the school sites. There is the potential for dual use of these pitches and indoor facilities so that they can be shared with the local community, particularly in the upper school campus.

5.31 Tree planting will be provided throughout the green infrastructure network as well as within the development areas and the street corridors to contribute towards FoMV objectives. This is explained in further detail in the Landscape Section below.

5.32 The overall quantum of open space is set out in Table 5.2 below. This identifies how the types of green and blue infrastructure provided in Marston Valley relate to the CBC typologies and in turn how the provision meets the local standards in terms of quantum. The table demonstrates that there is a generous provision of open space, far in excess of local standards. These figures only relate to the open space outside of the development areas – additional formal and informal spaces will be provided within the development areas shown on the Parameter Plan to assist in meeting accessibility standards and to ensure an even distribution throughout the site.

Table 5.2 Indicative blue and green infrastructure Quanta

Open Space Use	Typology	Central Bedfordshire Typologies and requirement	Area proposed (ha)	Area proposed (acres)
Natural and semi-natural greenspace (new and existing woodland, informal amenity space, areas of ecological interest, retained waterbodies, new waterways	Informal Open Space	Urban Parks (2.6ha) Informal Recreation Areas (30ha) Small Amenity Spaces (7ha) Allotments (4.4ha) Total – 44ha Also – Countryside Recreation Areas (accessibility standard is met by Millennium Country Park) (38.3ha)	288	711
Outdoor Sports and play areas	Formal Open Space	Large Formal Recreation Areas (13.9ha) Facilities for Young People (0.5ha) Children's Play Spaces (1.3ha) Total – 15.7ha	17	42

LAYOUT

5.33 At the outline planning stage the scale of the scheme demands a robust strategic layout that both responds to the site characteristics, establishes the parameters necessary to secure the sense of place yet secures a level of flexibility to allow adaptability over the lifetime of its delivery. The detailed layout of the scheme is reserved for subsequent approval. The Parameter Plan (Figure 5.1) establishes the framework for the proposed development. The Illustrative Framework Plan at Figure 5.2 demonstrates indicatively how the layout and distribution of land uses within Marston Valley may be developed to accord with the key principles set out below.

5.34 The main design objective has been to balance the need to achieve an organic, village character which is informed by the landscape, including its ecological and heritage assets, with considerations related to access and connectivity to ensure the communities are well-integrated alongside the need to create viable mixed-use places.

5.35 To achieve this the layout of the proposals have been designed to foster a strong sense of identity and distinctiveness so that the development is 'of the Marston Vale' and Bedfordshire landscape. This applies to both the landscape and the settlement pattern.

5.36 Key to the village ethos is creating walkable neighbourhoods and ensuring that the built development relates well to the green spaces encompassing it. This has driven the disposition of uses and the design of the movement network. The public transport routing, and pedestrian and cycle accessibility have been an important design factor - ensuring that they can link the main destinations within the development clearly and directly.

5.37 The detailed design rationale for the layout of the individual villages and the parks within Marston Valley is described in Section B, including the 'Structural Influences' that guided the design framework. To further explain and expand upon how an iterative master planning process helped arrive at the proposed layout, a number of key principles are set out below:

1) Landscape – topography, open space, heritage, ecology and water

- The higher ground in the south-western part of the site is retained for open space, this also helps protect the setting of the Scheduled Ancient Monument at Brogborough Roundhouse and defines the ridgeline.
- Areas of open space and vegetation that are valuable for landscape and visual roles and ecological importance have been retained as informal open space.
- Utilising the lakes and watercourses as a setting whilst protecting their hydrological and biodiversity value has shaped development in these areas.
- Responding to the proposed B&MK Waterway and ensuring this is integrated centrally within the scheme and that the development can maximise the recreational and economic opportunities it provides through creating development frontages onto the waterway park. In other areas ensuring it can function as a quiet, ecological focused corridor.
- Ensuring a good distribution of formal sports provision across the development.

Figure 5.2 Illustrative Framework Plan


Key
Boundary
Residential Area
Community Hub
Employment
School : Upper
Middle
Lower
Community Hub Number
Woodland New and Existing
Other Green Infrastructure
Formal Open Space (Sports and Play)
Waterways
Retained Water Body
Public Transport Route
Public Transport Options
Railway Station
Stewartby Lake
Marston Moretaine
The Forest Centre
Marston Vale Millennium Country Park
South West Marston Moretayne
Wood End Business Park
Millbrook Station
Lower Millbrook
Redlands
Lidlington Lake
Brogborough Lakeside
Brogborough Lake
Millbrook Proving Ground
Lower Boughton
Lidlington Station
Lidlington
Brogborough Rise
Brogborough
East West Rail
Millbrook Golf Course
Marston Gate
Woburn Forest Center Parcs
M1 Junction 13
Ridgmont Station
A421 (T)

2) Village Design and community hubs

- The need to accommodate the right scale of development within each individual place to reflect a village form has informed the layout.
- Ensuring each place has its own identity and that there is a degree of separation between them through the layout of the green infrastructure network.
- The four community hubs are to be located as the central component of walkable neighbourhoods. As these will be centres of community activity they need to be well positioned in terms of the public transport network and pedestrian and cycle routes.
- Co-location of facilities – the schools have been co-located with the hubs to facilitate multi-purpose trips and encourage social integration.

3) Movement Network

- Walkable neighbourhoods - residential areas will ensure that new and existing residents can reach key facilities (retail, open space, play areas, schools) and public transport connections in easy walking distance.
- Interconnected streets and spaces – a legible hierarchy of streets will ensure that there are direct and coherent linkages between the new and existing villages and Wood End Business Park.
- Addressing the C94 – this will be integrated into the development and its character adapted through traffic calming and interventions so that it reads a street and is an integral part of Marston Valley has informed the layout.

SCALE AND DENSITY

Building Heights

5.38 The proposals have been designed to integrate sensitively with their existing landscape context. Central to this is establishing clear parameters for building heights. These are fixed by the Parameter Plan. The scheme responds to the key topographical features of the floor, slopes and ridgeline of the Marston Vale landscape.

5.39 In most residential areas the building heights will not exceed 12m to ridge level. To allow for the community hubs to have greater formality and a mix of horizontal and vertical uses, and be defined through increased massing, both residential densities and overall building heights will increase in these areas. Building heights of up to 15m can be achieved in key locations throughout the scheme where mixed uses, including schools, may be positioned. The majority of the commercial areas also have building heights up to 15m. In two carefully selected locations, building heights up to 20m are possible to provide the opportunity for gateway employment buildings.

5.40 Following the landscape and visual impact assessment and informed by local knowledge, the scheme will sensitively respond to the slopes of the Greensand Ridge which starts to rise on the south-western edge of the site. Along this edge building heights are restricted to 9m.

Density

5.41 Residential densities will reinforce the intended character of the development and aid legibility by emphasising areas of highest activity.

5.42 Housing mix is an important factor in considering appropriate densities. As an overarching design principle, Marston Valley is designed to accommodate predominantly family type housing on good sized plots and therefore average densities across the development will be around 35dph. It will also have the flexibility to respond to local priorities including potentially homes for the elderly, self-build and affordable homes. This is balanced with the need to make the most efficient use of the land and achieve a viable development that can deliver requisite infrastructure improvements.

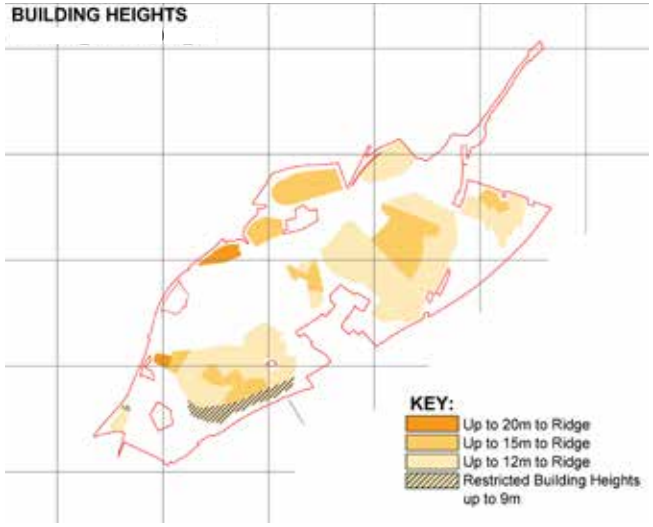


Figure 5.3 Building Heights plan

5.43 It is important that a scheme of this scale retains the ability to respond to local housing needs and market demand. Therefore, residential densities are not fixed by the outline application but the following principles should be applied:

- An organic character should be reflected through gradual changes in density;
- Densities should allow for a mix of house types which are capable of meeting CBC internal space standards, with a predominance of family housing (2-, 3- and 4-bed properties) with good garden sizes (that can accommodate tree planting);
- Densities should allow for generous street corridors with verges wide enough for tree planting;
- Higher density areas (up to 40dph) should be within and around community hubs and along primary streets;
- Areas where a more organic design response is appropriate - towards the some of the lake edges and at the base of the Greensand Ridge should have lower densities (up to 20–30 dph);
- Where residential units form part of a mixed use area densities may increase to 60dph, this is likely to be in apartment form above active ground floor uses.

5.44 These principles are reflected on the plan below. Densities for the individual villages will be specified through the 'Pattern Books' to provide guidance on how their intended character should be achieved.

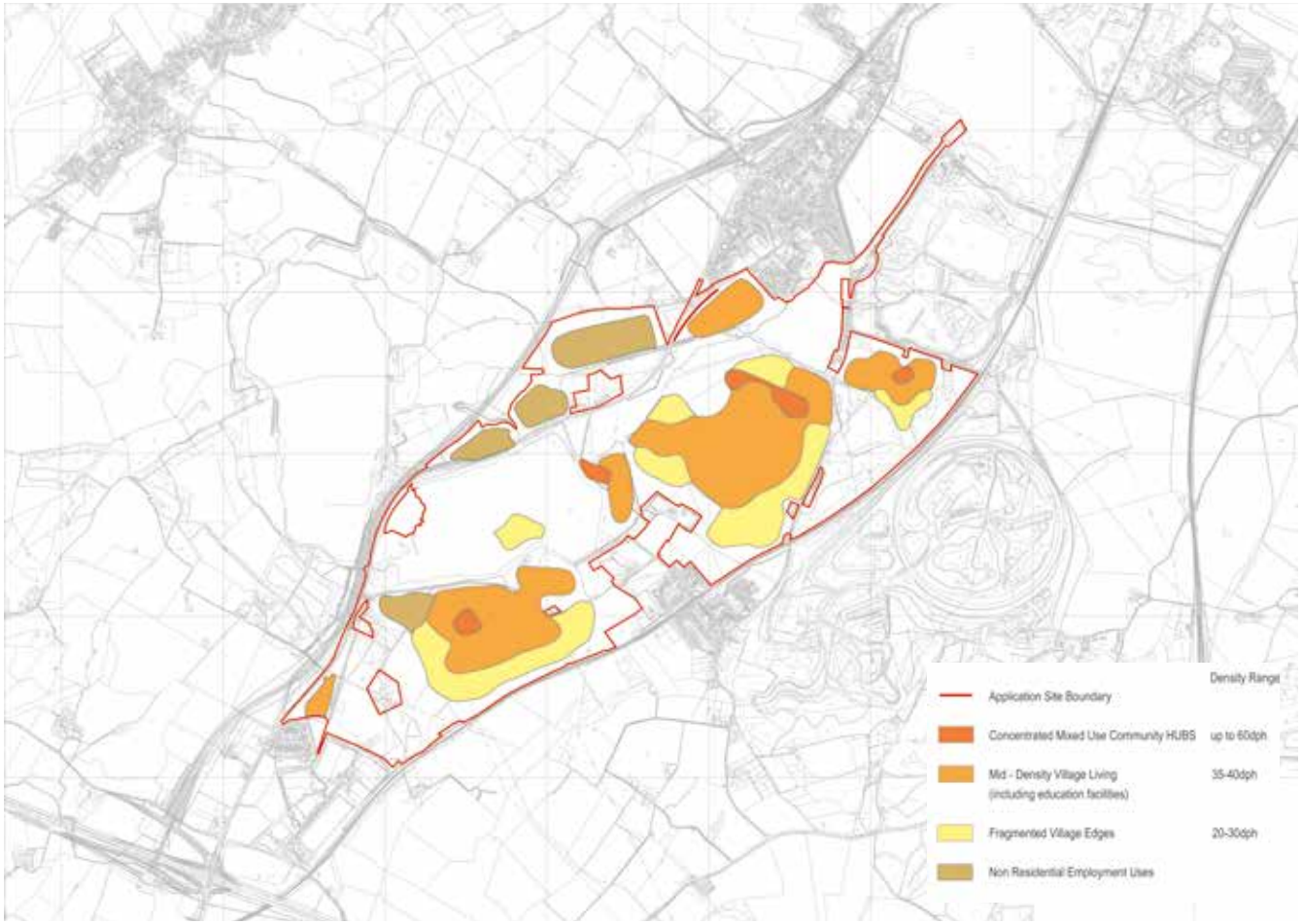


Figure 5.4 Density principles plan

APPEARANCE

5.45 Appearance is the component of a place which determines its visual impression. It is defined by the external design of the built form, the public realm and the green infrastructure network including the materials, architectural character and species used.

5.46 The application is submitted in outline with appearance reserved for subsequent approval. The previous design control diagram suggests the subsequent tiers of design control that will help secure a high quality appearance including design coding, pattern books and reserved matters applications.

5.47 This DAS contains a number of overarching design principles which should be applied to the scheme and the illustrative material including the Master Plan, perspectives and photomontages give a feel for how Marston Valley may look as a place.

5.48 Importantly, each village is defined by the landscape within which it sits and abuts and each will have a different character and appearance. This will be reinforced through the mix of units, the architectural style and materials used.

5.49 The design of the public realm, strategic infrastructure and open space network are critical to the appearance of a scheme. O&H, in their master developer role, are likely to be responsible for the design and delivery of most of these spaces and will ensure that they are of a high quality to set the precedent for the design of development parcels. As part of this application O&H have also established the high level principles for long-term management and governance across the development so that the quality and appearance of the place is maintained in perpetuity.

5.50 A number of key considerations should be taken into account in designing the development and will be picked up through subsequent stages of design control. These will have a material impact on achieving a high standard of design and appearance and are integral in ensuring individual components of the scheme are appropriate within their context:

- **Building frontage design and architectural detailing** – this will help reflect local distinctiveness and provide design cues from the surrounding landscape;
- **Use of appropriate house types** that sit harmoniously together, help turn corners, terminate key views and establish the character of a place;
- **Materials palette** – ensuring that range of appropriate materials and colours are agreed so that parcels relate well to each other and the public realm;
- **Landscape design** – ensuring that there is a consistent palette of plant and tree species and hard landscape treatments to provide continuity and integrate with the wider design of the villages and parks. This may differ for each village and park according to intended character.
- **Set backs** – these will affect the appearance of the street scene depending on the level of continuity of the building line that is required to either reinforce uniformity or a more organic character. The extent of the setback will help determine the urban or informal nature of the street.
- **Active frontages** – ensuring sufficient fenestration on elevations that overlook public realm and open space to help animate the street scene and provide natural surveillance;
- **Boundary Treatment** – this will have a significant influence on the appearance of a development, contributing the extent of formality and uniformity required;
- **Bin storage and collection** – this can have a negative impact on the street scene if not effectively designed in to the plot.

5.51 The detailed design of Marston Valley will take account of CBC's Design Guide which includes a number of key principles relevant to layout and appearance of a detailed scheme.

Creating a Landscape worthy of Recognition

The Marston Vale landscape is one that has continued to evolve in recent generations. The Forest Plan seeks to secure its environmental regeneration. These objectives are subject to overcoming ownership, existing use and management constraints. The Marston Valley scheme will deliver a significant package of improvements and enhancements that will transform this part of the Marston Vale and will create a populated landscape. The proposals will create a green and blue infrastructure network that is rich in biodiversity, provides a unique setting for development characterised by extensive tree planting and critically, delivers an excellent recreational resource, opening up access for all to enjoy. It will be of paramount importance that the diverse features and components of this landscape are managed and protected in perpetuity and it is envisaged that this scheme will create an ultimately 'Designatable landscape'. This will ensure its preservation and accessibility are secured for future generations to enjoy.

LANDSCAPE – GREEN & BLUE INFRASTRUCTURE

5.52 One of the key defining factors of the Marston Valley scheme is its response to the local landscape character and allowing it to permeate through the development lies at the heart of the proposals.

5.53 The design of each component of Marston Valley seeks to respond positively to the landscape in which it sits and transform it into a network of multi-functional, useable open space that creates a unique setting for the development.

5.54 The proposed Waterway Park is a central spine within the scheme and has played a significant role in structuring the landscape proposals for Marston Valley.

5.55 A Landscape and Biodiversity Strategy accompanies the application and this sets out the principles for the green and blue infrastructure network in more detail.

5.56 The green and blue infrastructure have driven the development framework for Marston Valley, informed by the following key objectives:

- To provide an appropriate setting for Marston Valley that is reflective of the evolving character of the Vale;
- To retain the physical and visual distinctiveness between the vale and the slopes of the ridges
- To protect and enhance the biodiversity value of the site, ensuring key habitats are retained and ecological corridors are provided;
- To retain important areas of vegetation, hedgerows and tree planting as a setting for the development;
- To create a range of attractive, accessible and linked open spaces;
- To promote the multi-functional use of open spaces so that they can fulfil recreational, ecological and SuDS roles;
- To create permanent green buffers between new and existing villages;
- To contribute substantially to the FoMV tree planting objectives;
- To help create healthy, active and cohesive communities;
- To integrate sustainable management of surface water into the natural fabric of the development including through the utilisation of existing channels and former conveyor line features;
- To create formal open spaces with sport pitches that are well distributed throughout the development and of a scale to form destination points within the wider green infrastructure network;
- To provide play areas for all ages of young people, both formally equipped and with natural play features;
- To reduce the impact of the development through retained, new and enhanced planting;
- To predominately use native species and forms of planting that are appropriate to the local landscape character;
- To establish a long-term management and governance plan to secure the management of the green and blue infrastructure network in perpetuity in accordance with the objectives and to ensure that there is community involvement with the multifunctional network of open space.

Key Features

5.57 The green and blue infrastructure network has three main components:

1. Woodland
2. Water
3. Grassland

5.58 These three components and their functionality and design principles are described in further detail in the Landscape and Biodiversity Strategy. Together they are intended to create a multi-layered and multifunctional series of spaces, the key features of which include:

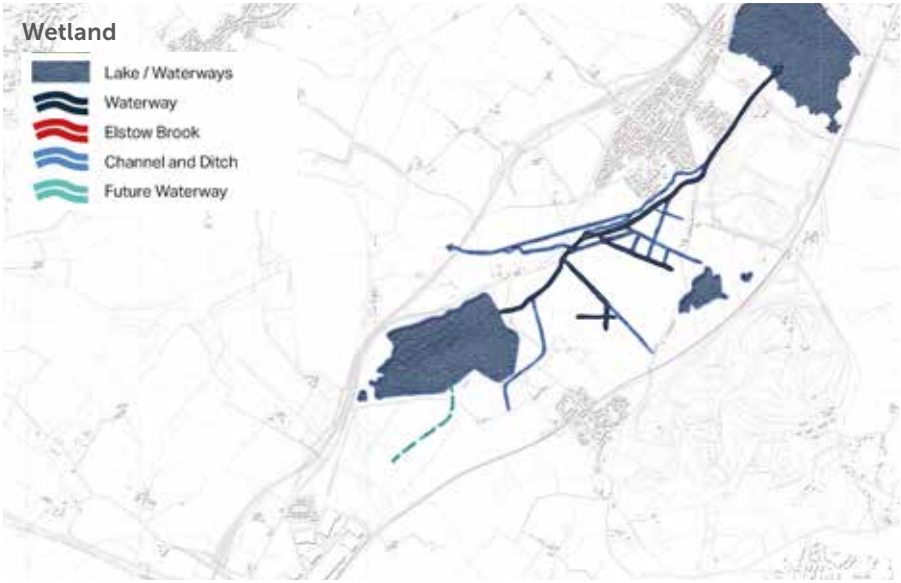
- Formal Open Space and play areas
- Informal and amenity space
  - Ecological areas
  - Local food production
- Waterways
- Lakes and ponds
- Green links

5.59 These different features will come together to form a series of 'Parks' within Marston Valley, each with its own character and relationship to the villages. The design rationale for the proposed parks across Marston Valley and how they are integrated with the villages is set out in more detail in Section B.

5.60 The following section provides an overview of the key features of the green and blue infrastructure network set out above.

Figure 5.5 Green and Blue Infrastructure Components


Woodland
Woodland


Wetland
Lake / Waterways
Waterway
Elstow Brook
Channel and Ditch
Future Waterway


Grassland
Formal Open Space
School
Meadows including SUDS
Species Rich grassland


Composite
Formal Open Space
School
Meadows including SUDS
Species Rich grassland
Woodland
Lake / Waterways
Waterway
Elstow Brook
Channel and Ditch
Future Waterway

Formal Open Space

5.61 In accordance with current CBC standards up to 17ha of open space will be provided for formal sports pitches. As indicated on the Parameter Plan, these will be distributed across the development in four key locations, the potential indicative layout of these is shown on the Illustrative Master Plan on Figure 5.6 This will help ensure access for all of the villages and existing communities, with facilities provided that complement current provision. CBC accessibility standards indicate that Large Formal Recreation Areas should be within a 10 minute walk for major settlements and a 10 minute drive for small villages.

5.62 The distribution of the formal open space in four locations will ensure each individual space is of a sufficient size to accommodate different types of pitches, and can respond to local demand at detailed design stages. Providing four larger spaces also assists in the management and maintenance regimes.

5.63 As indicated on the Illustrative Master Plan, the largest formal open space will be located within Redlands, providing a link between the community hub and Sun Valley Park. In addition to sports pitches, it could also include more formal oriental planting and recreation facilities to partly function as an urban park. This will establish it as a focal point for the local community and a destination for Marston Valley in its own right.

5.64 The formal open space network will be supplemented by sports pitches within the schools. The upper and middle campus in Redlands will have a significant pitch provision and indoor halls associated with it and there is the potential for this to have a dual use for the community out of school hours. This will be dependent on an access and management strategy but will help create activity around the school throughout the day and at weekends.

Figure 5.6 Indicative Formal Open Space Plan


Site Boundary
800m Formal Open Space
800m Shared School Use (Upper / Middle)
Indicative Distribution based upon the Illustrative Master Plan
Stewartby Lake
The Forest Centre
Marston Moretaine
Marston Vale Millennium Country Park
South West Marston Moretayne
Wood End Business Park
800m 10 Minutes Walk
800m 10 Minutes Walk
Redlands
Lidlington Lake
Brogborough Lake
Millbrook Proving Ground
Lidlington
Brogborough Rise
Brogborough
East-West Rail
Millbrook Golf Course
Woburn Forest Center Parcs
M1 Junction 13

Play Strategy

5.65 Play areas are also part of the formal open space provisions and are an important community resource, providing recreational and social benefits and meeting opportunities for children and parents. Play areas are to be distributed throughout the development so that most properties are within approximately 5 minutes walk / 400m of a play area, the potential indicative location of play areas is shown on the Illustrative Master Plan on Figure 5.7. Play areas should be well positioned in relation to community hubs, focal destinations in the open space network, and in well surveilled areas with high levels of activity.

5.66 Two types of play are proposed – formal play areas and natural areas of informal play.

5.67 Current Central Bedfordshire standards would equate to a total of 1.8ha of 'Children's Play Spaces' and 'Facilities for Young People'. This is accommodated within the proposed 17ha of formal open space.

5.68 The specific location and type of play areas will be determined at detailed design stages, albeit they will meet the accessibility standards set out above.

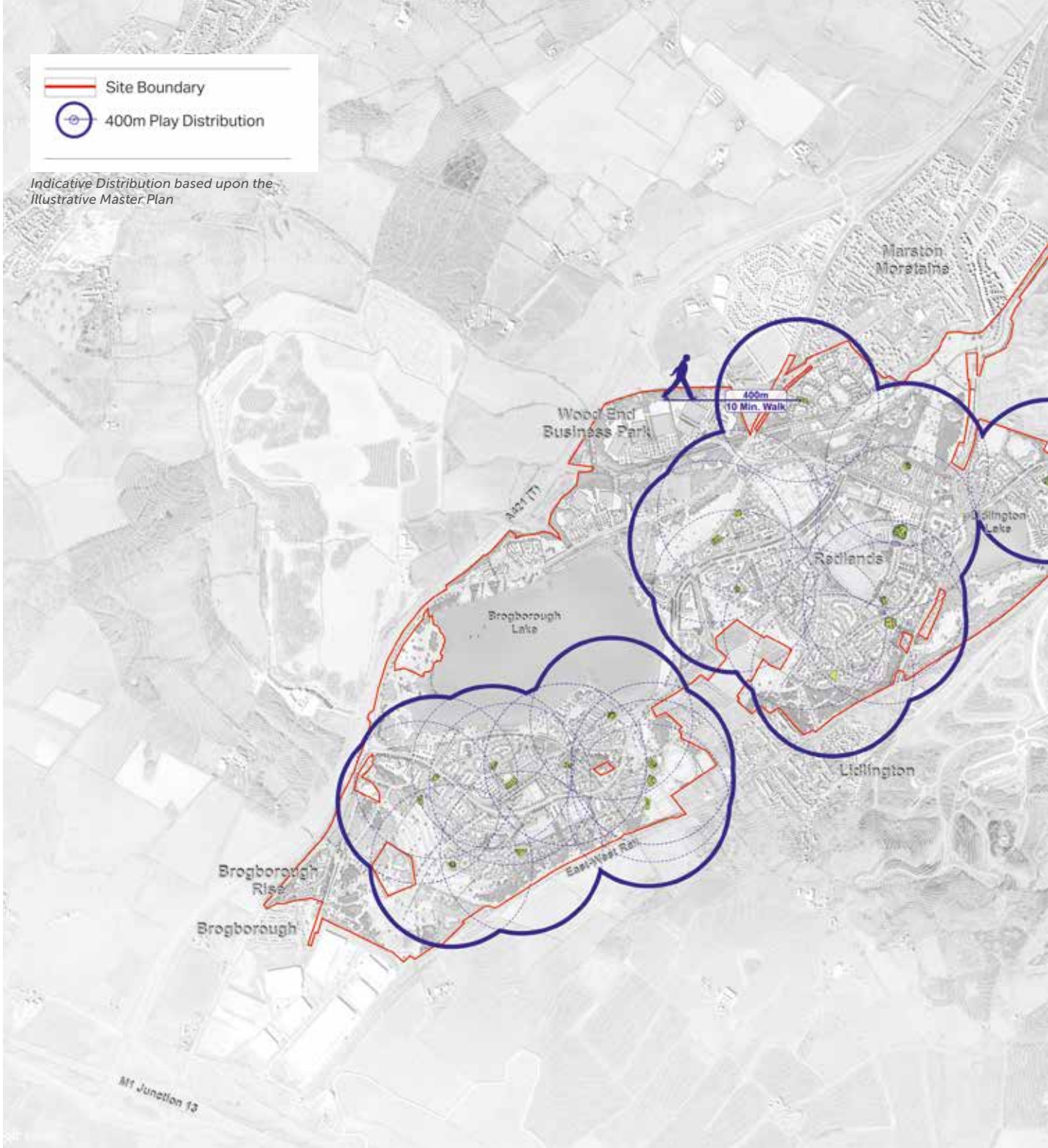
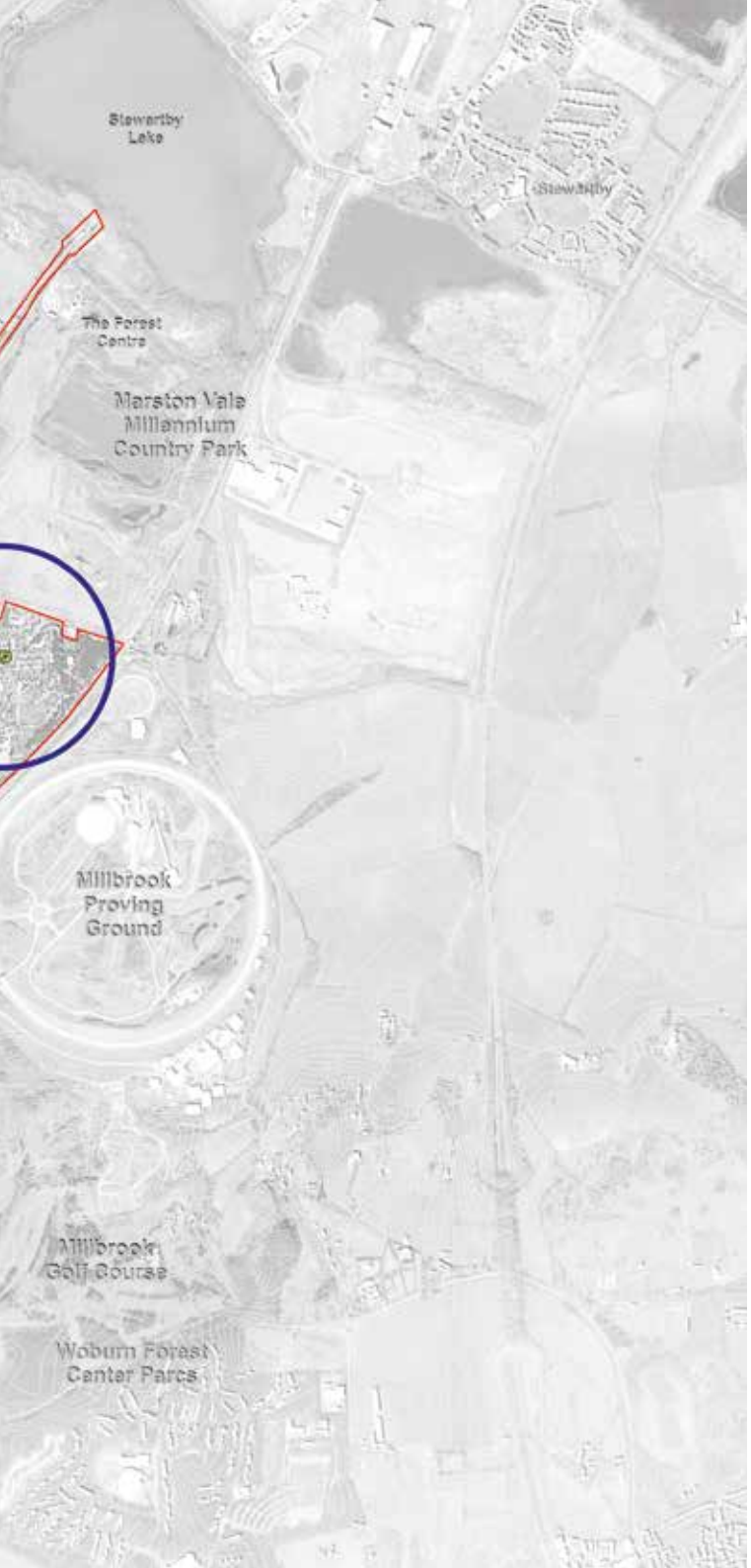


Figure 5.7 Indicative Play Area Plan



Informal and amenity space

5.69 Marston Valley includes a generous provision of informal open space. This type of open space knits the villages and places together. It provides the setting to the development and is fundamental to establishing the wooded, naturalistic character of Marston Valley.

5.70 The informal open space network incorporates woodland and vegetation and the waterways and lakes, however, these are all covered in more detail In the Landscape and Biodiversity Strategy submitted with the application.

5.71 The key role of this open space is to create a comprehensive network of multifunctional spaces.

Amenity space

5.72 Within the informal open space there will be areas more intensively used for recreation where activity is encouraged and that are fully accessible. Amenity grassland will provide opportunities for informal sports and gatherings, and areas of natural play and green gyms can be incorporated in to these spaces. Pedestrian and cycle paths will create a connected network of leisure routes, linking key destinations.

Ecological areas

5.73 Parts of the site are to be protected for their biodiversity value and as such will be managed for nature conservation. These areas could include retained and enhanced vegetation, hibernacular and ponds. They will be focused around habitat protection and enhancement. Where important wildlife corridors intersect with the street network, appropriate hopovers and mitigation will be provided to ensure connectivity between areas of habitat.

5.74 In these areas access will be permitted but controlled to the use of waymarked trails and interpretation boards.

Local food production

5.75 The informal open space network will include orchard planting and allotments. Food production areas could also be accommodated in the development areas as more local scale allotments.

Waterways

5.76 Water has been integrated into the fabric of Marston Valley. The scheme delivers a considerable section of the B&MK Waterway Park and this has been a defining feature of the proposals.

5.77 To maximise the recreational, ecological, economic and drainage benefits of the proposed waterway, a supplementary network of waterways has been incorporated into the design of Marston Valley. This waterway network is made up of retained and enhanced existing watercourses and landscape features and new linear channels to create a connected system.

5.78 There will be a clear hierarchy of waterways, denoted by the size, navigable capability and drainage function. This hierarchy will determine the design response to the waterways.

B&MK Waterway Park

5.79 Central Bedfordshire Council's Core Strategy requires that new development contributes to the delivery of Green Infrastructure and identifies the Bedford and Milton Keynes Waterway as a 'priority area'. With the route of the waterway passing through the site, Marston Valley proposed to delivery a section of the B&MK Waterway Park. As well as a significant recreation, tourism and economic asset, the delivery of the Waterway is a major infrastructure component in terms of its surface water drainage function.

5.80 As is set out in the Development Specification, the B&MK Waterway Park will be delivered in different components through the scheme. The design of each component applies standards that are capable of accommodating 'broad beam' boats when used for navigation:

a) **Functional waterway linking Brogborough and Stewartby Lakes** - this section of the waterway upstream of Brogborough Lake is routed through Sun Valley Park. Preliminary designs in the outline application demonstrate how it can perform both navigation and surface water drainage functions with the use of locks at necessary intervals. Along its route the waterway's relationship with Elstow Brook changes for both ecological and hydrology reasons:

   i. Brogborough Lake to the intersection with the primary street – Elstow Brook will be canalised as part of the waterway;
   ii. Primary Street intersection to Station Road – Elstow Brook and the waterway will be in separate channels with the Brook retained on its existing alignment given its ecological value in this location;
   iii Station Road to Stewartby Lake – Elstow Brook will be canalised as part of the waterway;

b) **Waterway corridor with connected SuDS features** – this section will comprise a series of connected surface water drainage features upstream of Brogborough Lake to the edge of the Lower Boughton development area, connected hydraulically to Brogborough Lake. These channels will be designed and constructed so that the future upgrade to a navigable waterway is facilitated.

c) **Safeguarded route through Brogborough Lake** – a route has been defined to ensure that boats follow a path through the Lake when a navigable connection upstream of the Lake is delivered by third parties in the future.

d) **Indicative safeguarded waterway park corridor** – through Brogborough Hill Park a landscape corridor will be safeguarded for the waterway should a connection towards Milton Keynes be pursued by third parties in the future.

Figure 5.8 Indicative Waterway Typologies


Navigable waterway & associated multifunctional waterway park
Existing Elstow Brook protected for nature conservation
Wet woodland
South west facing shores for new leisure facilities with lake access
Additional minor waterways
Additional SuDS features
Safeguarded waterway corridor with SuDS features

5.81 The focal section of the waterway is the section that is to be delivered to 'link the lakes', routed through Sun Valley Park – described in further detail in 'The Parks' section below.

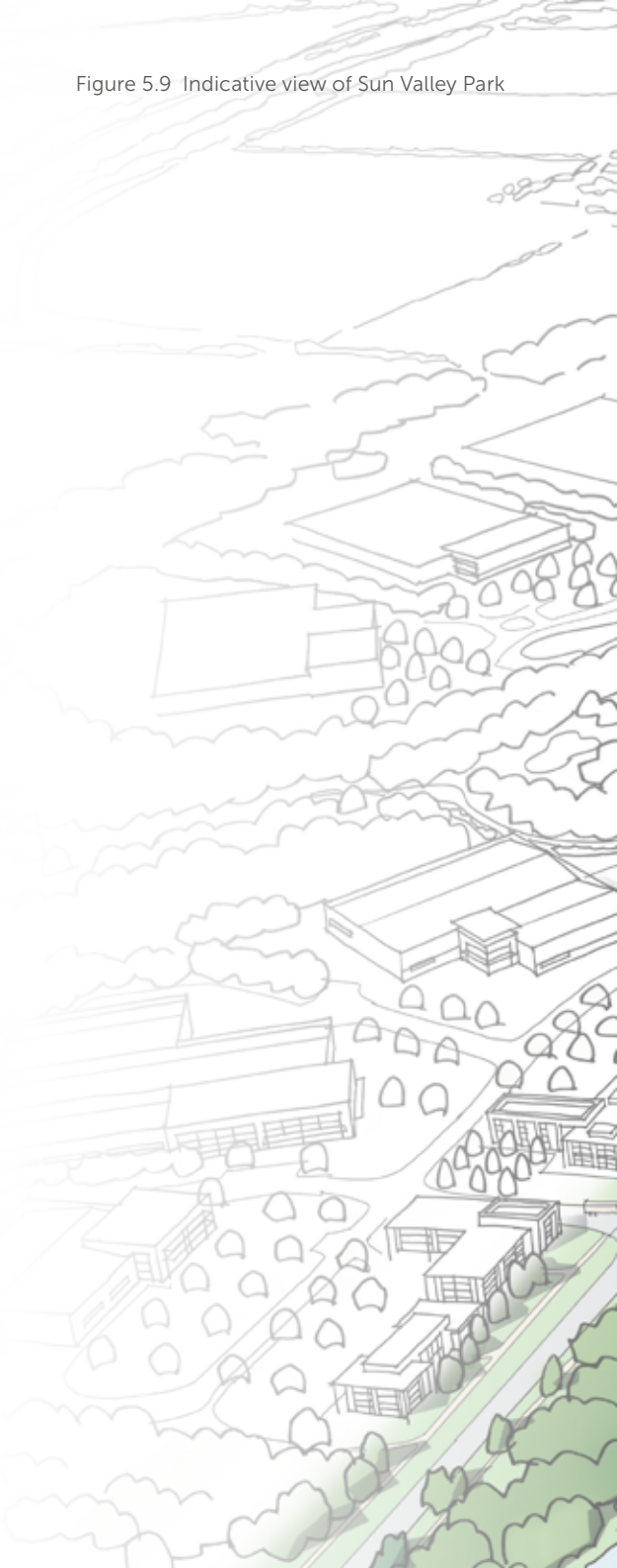
Sun Valley Park

5.83 Sun Valley Park will be designed to create a recreational destination associated with the waterway. It will be predominantly informal and organic in character, with some more formal sections to respond to adjacent development parcels. Brogborough Lakeside will denote the western end of the Park, providing leisure facilities associated with both Brogborough Lake and the lock connection to the waterway.

5.84 The Park will comprise a multi-functional corridor fulfilling leisure, biodiversity and drainage functions, and will contain a balanced mix of the following:

- routes for pedestrians and cyclists with suitable surfacing for protected species;
- new and retained woodland planting, including potential areas suitable for wet woodland;
- mosaic of new and retained habitats including grassland, hibernacular and existing and new ponds suitable for Great Crested Newt, otter, water vole, bats, birds and other species;
- potential for formal children's play areas and natural areas of informal play including trim trail equipment;
- food production areas in the form of orchards and allotments;
- SuDS features in the form of swales and scrapes;
- retained hedgerows;
- shorter, managed amenity grassland for informal play and sports;
- seating and picnic areas; and
- native meadow planting and more ornamental planting associated with the connection to the formal open space at Redlands.

Figure 5.9 Indicative view of Sun Valley Park



Other waterways

5.82 A supporting network of waterways and channels will connect to the main section of waterway comprising:

- waterways capable of accommodating broadbeam boats and conveying surface water;
- waterways capable of accommodating small craft and conveying surface water; and
- retained and enhanced channels facilitating surface water drainage.

5.83 These waterways have different design responses depending on their immediate context. Some will be more canalised as they run through more compact, urban areas. Others will be more natural, soft features which sit within open space corridors.

Lakes

5.84 The existing lakes have been a focus for the design of Marston Valley. The potential of the lakes for recreation and for creating a unique setting for development has been maximised.

5.85 The Brogborough Lake and Lidlington Pit are intended to each have distinct characters:

Brogborough Lake – the lake is already home to a windsurfing club and will form an integral component of the B&MK Waterway under the outline application. It will become a leisure and tourism hub. Recreation based activities and leisure facilities will be concentrated on the south facing shores, taking advantage of the gateway to the Waterway in this location. There is the potential for the creation of a marina, maximising the tourism offer of the waterway.
The wider lake, including the north western shores will be protected and managed mainly for nature conservation.

Lidlington Pit - this lake is more secluded and will retain its natural and quite character. Residential development is intended to front onto the water, maximising lake views from the new homes and providing a unique setting for development. Much like the character of Millbrook Park, the lake will serve primarily for nature conservation, where the focus will be on retaining and enhancing habitats.

Green links

A number of important 'green links' are provided across the site. Primarily these are associated with the most valuable hedgerows and in some cases, existing ditchcourses. These Green Links will ensure that a connection along these corridors and between habitats can be achieved. Where possible existing hedgerows and vegetation will be retained and supplemented with additional planting. These green links, for the most part, will be accommodated in the development area and could be designed as informal green corridors, or simply as hedgerows, providing a near continuous connection.

Other components of the Blue and Green infrastructure network:

Retained hedgerows – hedgerows which have a high combined landscape, biodiversity and archaeological value will be retained where possible, providing an important structuring feature of the open space network.

Private gardens – the proposed density of the development will facilitate good sized plots with well proportioned gardens. Private amenity space in Marston Valley will be an important contributing factor to the naturalistic character of the development. It is intended that trees are planted in front and back gardens to help supplement the contribution towards the FoMV objectives and increase canopy cover.

Forest of Marston Vale Woodland Cover

5.86 Marston Valley sits within the Forest of Marston Vale and the development will contribute significantly to the objectives of the Forest Plan – to increase woodland cover to 30% and facilitate the environmental regeneration of the Vale.

5.87 A strong wooded character will permeate through the development. The dedicated areas of woodland will help consolidate existing areas of vegetation; tree-cover will become a much more dominant feature of the landscape.

5.88 The dedicated new woodland areas will provide an opportunity not only for tree planting, but gladed areas, the creation of new habitats and ideal locations for informal recreation and picnic areas. In some locations where woodland provides a screening function, dense belts of woodland planting may be appropriate.

5.89 In addition to dedicated woodland areas, canopy cover will extend across most parts of the development through:

- Street tree planting;
- Trees in private gardens;
- Trees in informal open space;
- Planting to add character to formal open spaces;
- Planting within the public realm in civic areas and community hubs.

5.90 There is also the potential for further off-site woodland planting. This will be agreed between O&H and the FoMV and will achieve in excess of the 30% cover.

5.91 The following provides the indicative woodland contribution across the proposed development. The figures are based on the approximate area of canopy cover that is likely to be achieved:

- Total Site Area (minus the lakes and existing woodland that will be retained) – up to 422ha
- Dedicated woodland areas (primarily focused around canopy cover but will include gladed areas and knitted together with grassland) – up to 67 ha
- Tree planting within the wider green infrastructure network at 40% – up to 30ha
- Approximately 15% of development areas (as shown on Figure 5.10 excluding 10% infrastructure) (ha) – up to 30ha
- street trees* – up to 3ha
- Total contribution (ha) – up to 130ha
- Percentage of site area (%) – approximately 31%

** Street trees cover utilising the linear measurements of the primary and secondary streets.*

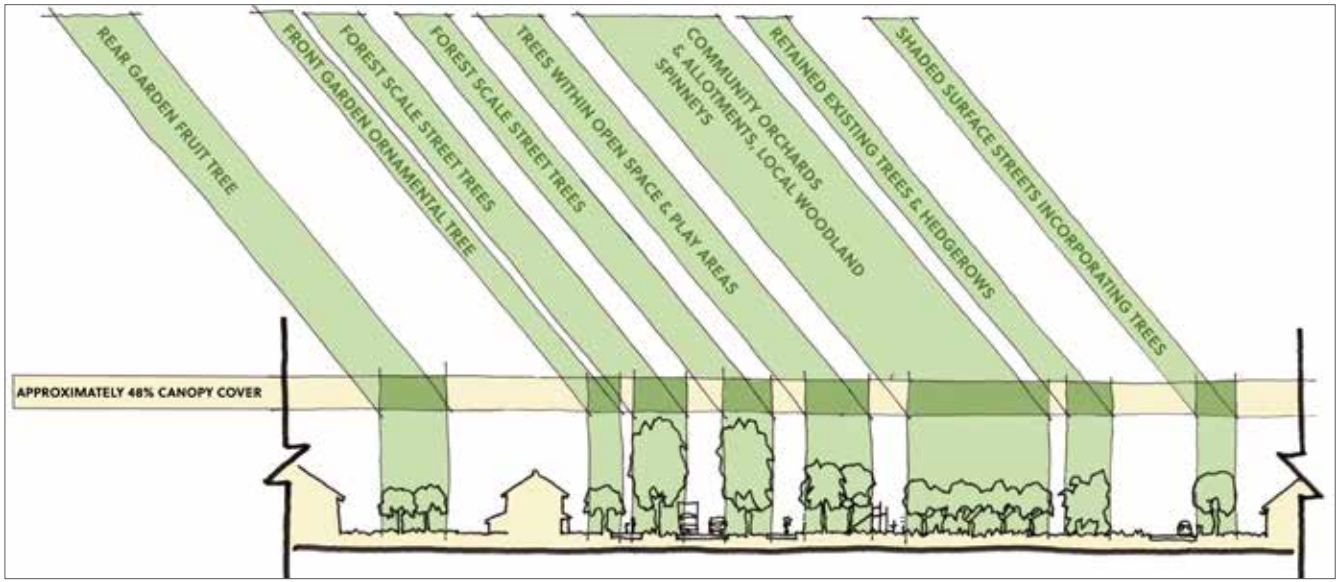


Figure 5.10 FoMV Canopy cover within the Development

THE PARKS

5.92 The design of the blue and green infrastructure will assist in 'place-making' and help ensure that each of the 'Parks' within the scheme are recognisable and distinctive. They will help reinforce the identity of the villages and genuinely reflect the local character and special characteristics of individual parts of the site. The Parks will be defined by their:

- Location;
- Function and accessibility;
- Ecological, landscape and heritage value; and
- Relationship to new and existing villages.

5.93 The character and design principles of the following 'Parks' is set out on the following pages and further information on their components is set out in the Landscape and Biodiversity Strategy:

- **Millbrook Park**
- **Lidlington Park**
- **Brogborough Hill Park**
- **Sun Valley Park**

Addressing coalescence

5.94 An important role of the Parks is to provide permanent parkland buffers between new and existing villages to ensure that the existing settlements can retain their identity.

5.95 The Parks are intended to be multi-functional spaces with woodland planting, ecological areas, sports pitches, play areas and informal amenity space.

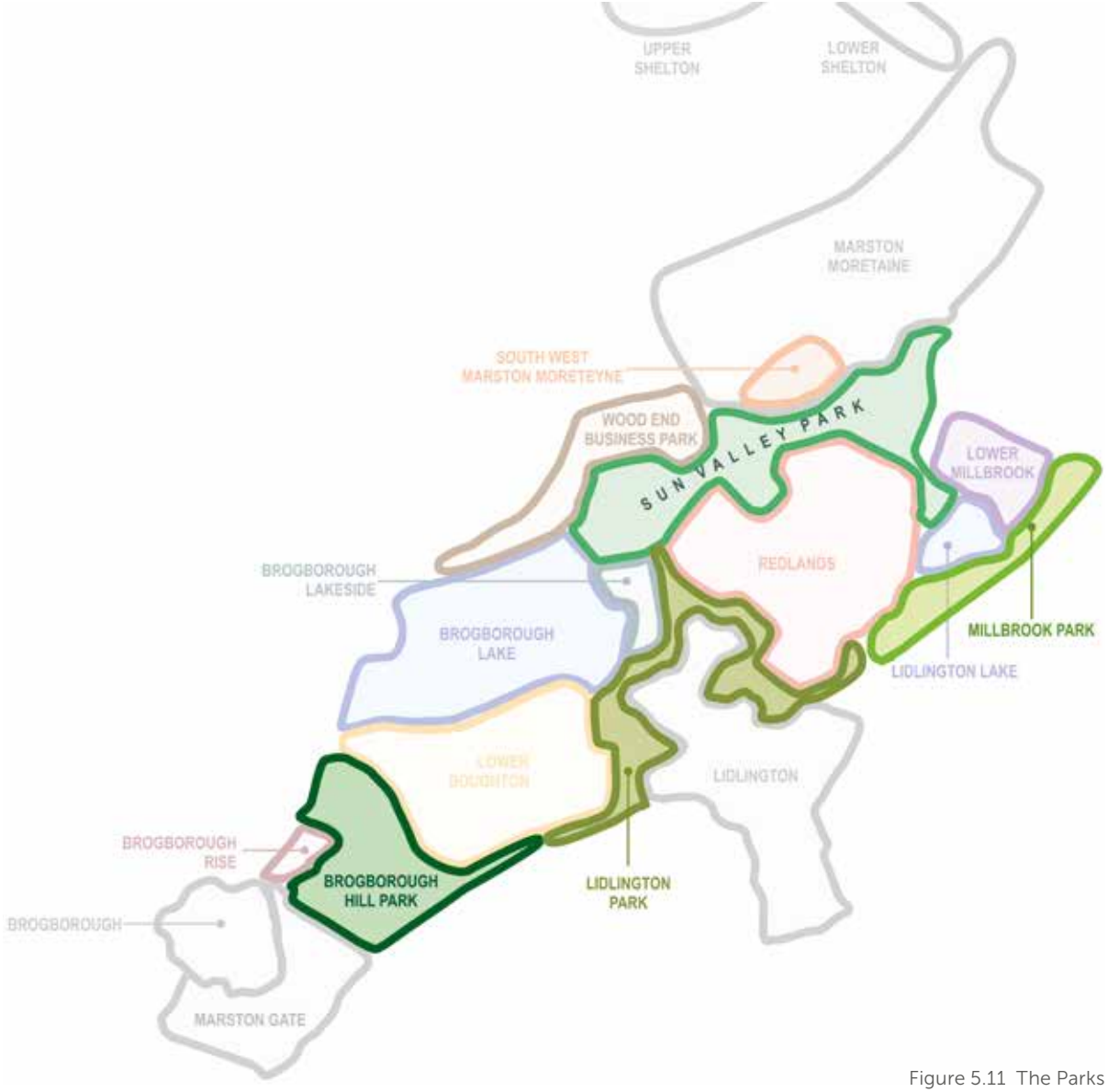


Figure 5.11 The Parks

BROGBOROUGH HILL PARK

Location: This Park sits at the Head of Marston Valley. It will provide a setting to the Brogborough Roundhouse and Ringwork and recreational links between the Marston Valley villages and Brogborough village.

Function and Accessibility: Brogborough Hill Park will be a place for informal recreation where a myriad of existing Public Rights of Way will provide access to enhanced amenity space. There will however be areas that are protected for the biodiversity value where access will be restricted to Rights of Way. This Park will be more naturalistic and contain substantial new and existing woodland planting and grassland, with the potential for low key recreation and picnic areas.

LIDLINGTON PARK

Location: a parkland setting between Lidlington Village and the Marston Valley villages.

Function and Accessibility: Lidlington Park will have a diverse character incorporating formal open space and sports pitches in its western part whilst east of Lidlington it will include gladed woodland, providing a permanent buffer to the existing village. As the Park extends towards Brogborough Lakeside, access will be restricted to waymarked trails and public rights of way as this area will be enhanced and managed for its nature conservation value.

MILLBROOK PARK

Location: encapsulating Lower Millbrook, adjacent to the railway.

Function and accessibility: open informal access. Retained and enhanced mosaic habitat that is reflective of its developed use as a former brickworks with interpretation boards to provide information on the brickmaking heritage which are focused around the existing permission route. It will have a naturalistic character with informal recreation opportunities. Filtered views to Lidlington Pit which is predominantly protected for its ecological value as a quiet and tranquil location.

SUN VALLEY PARK

Location: Sun Valley Park follows the route of the new waterway and provides a linear parkland between Brogborough Lake and Stewartby Lake. It will read as an extension of the Millennium Country Park.

Function and Accessibility: This Park will be one of the key recreational destinations within Marston Valley. It will be designed as a truly multifunctional space so that areas can be used for amenity grassland and informal sports, whilst others can be enhanced more for nature conservation. Sun Valley Park will also incorporate the largest formal sports area within Marston Valley ensuring it is a well-used and well-connected space. Parts of the linear park will include woodland planting, including wet woodland to assist in surface water drainage.

Sustainable Drainage Network

5.96 Managing surface water drainage and minimising flood risk have been an important factor in the design of Marston Valley. The scheme focuses on the use of open channels as far as possible and the SuDS are embedded as part of the multi-functional green and blue infrastructure network.

5.97 The concept of strategic surface water management using the existing lake features within the Marston Vale is well-established and endorsed by stakeholders and this approach provides the foundation for the Marston Vale Surface Water Plan.

5.98 A flood risk and surface water management strategy has therefore been devised, founded upon use of the lakes, in tandem with delivery of part of the proposed Waterway extending from Brogborough Hill to Stewartby Lake which will be an integral component on the surface water drainage strategy.

5.99 A network of existing and new watercourses will help convey water to both lakes. Some limited areas of the development are unable to drain directly to the lakes or Waterway and will require conventional SuDS measures, such as attenuation basins, which will be incorporated sensitively into both the open space and development areas. These may be designed to include wet woodland and ecologically rich grassland so that they also help meet FoMV and biodiversity objectives.

5.100 The design of the SuDS at outline master plan level have taken account of CBC's Design Guide and SUDS Manual. These guidance documents will help inform the detailed design of the SuDS .

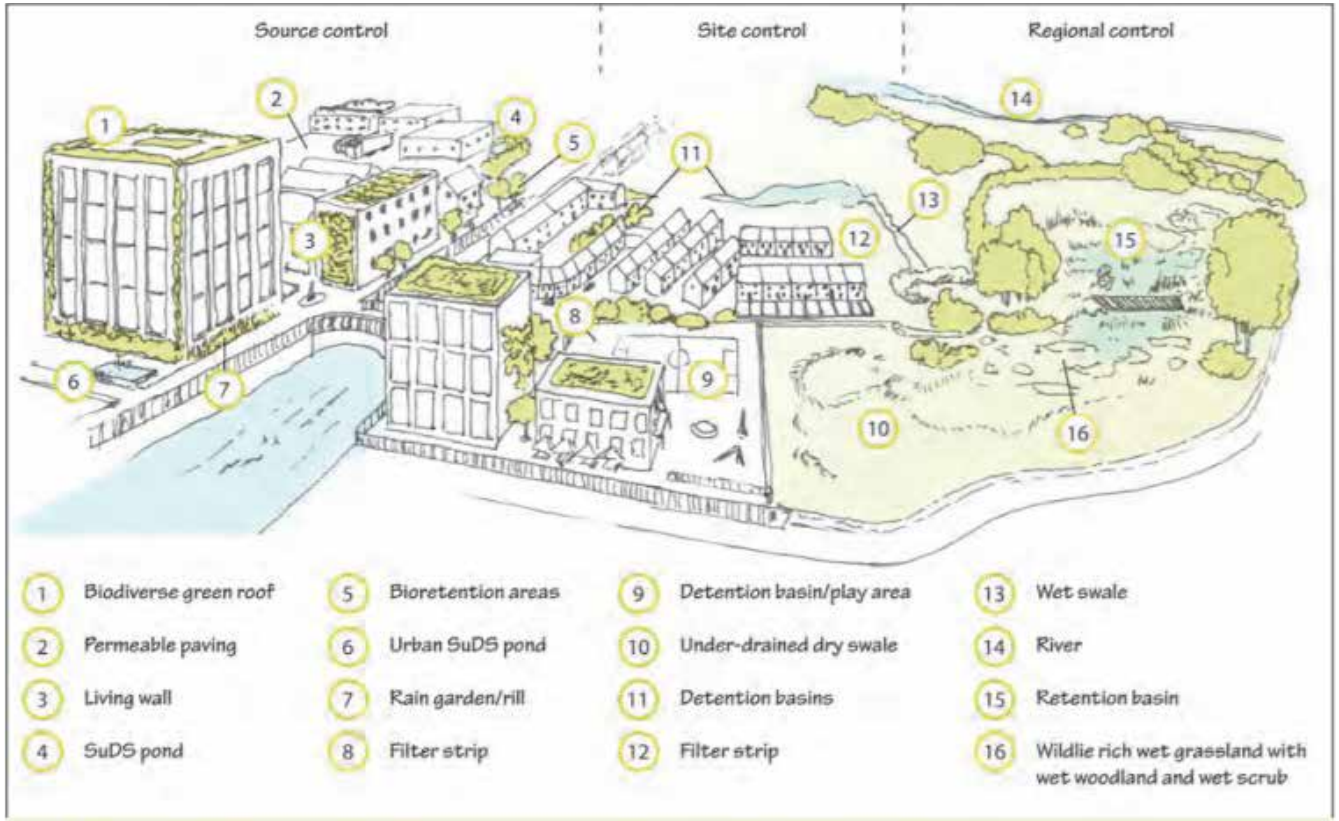
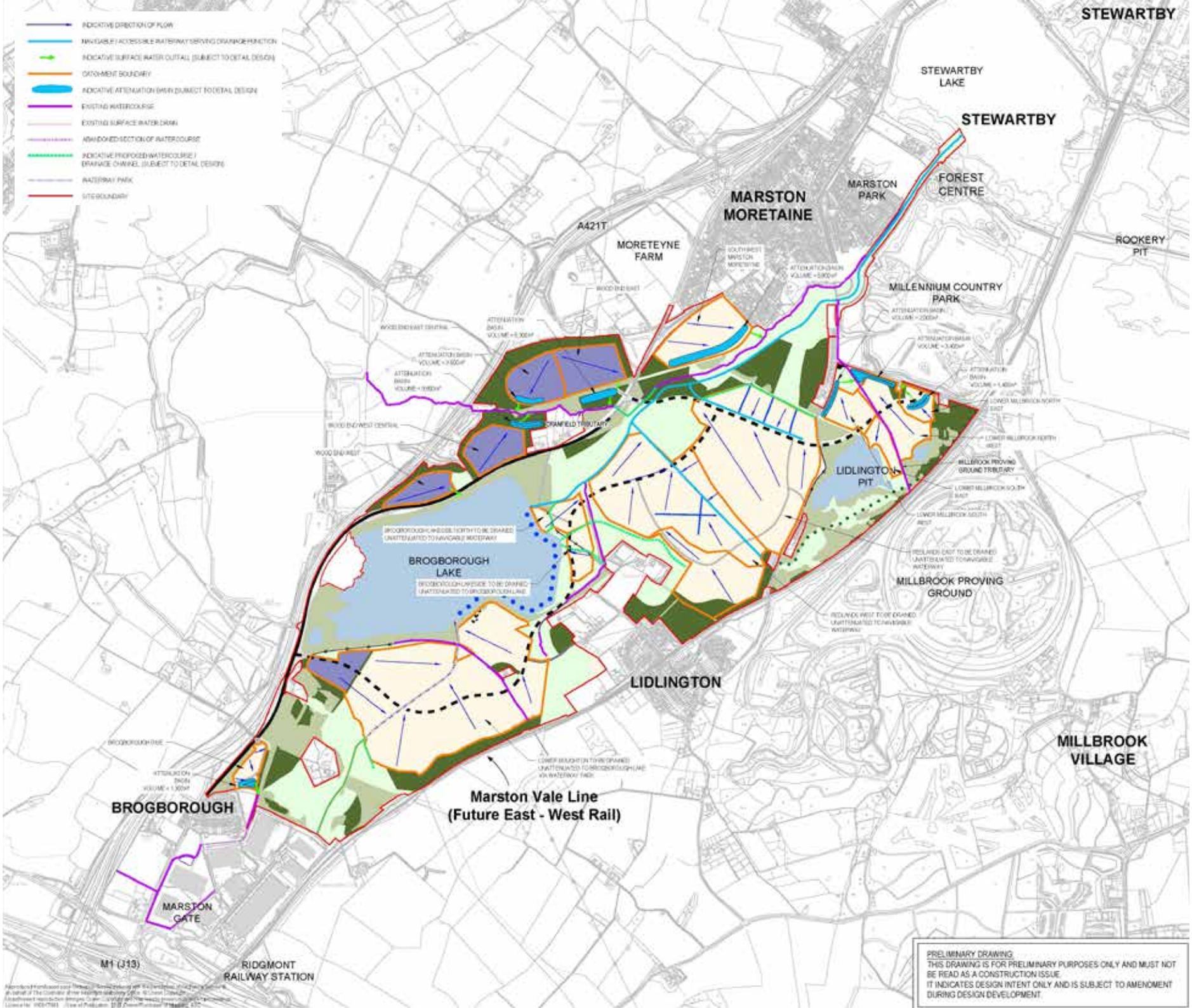


Fig 2.41 Components of a SuDS system - features are highly adaptable to the urban environment

Figure 5.12 Extract from CBC Design Guide, 2014


INDICATIVE DIRECTION OF FLOW
INVISIBLE / ACCESSIBLE WATERWAY SERVING DRAINAGE FUNCTION
INDICATIVE SURFACE WATER OUTFALL (SUBJECT TO DETAIL DESIGN)
CATCHMENT BOUNDARY
INDICATIVE ATTENUATION BASIN (SUBJECT TO DETAIL DESIGN
EXISTING WATERCOURSE
EXISTING SURFACE WATER DRAIN
ABANDONED SECTION OF WATERCOURSE
INDICATIVE PROPOSED WATERCOURSE / DRAINAGE CHANNEL (SUBJECT TO DETAIL DESIGN)
WATERWAY PARK
SITE BOUNDARY
STEWARTBY
STEWARTBY LAKE
STEWARTBY
MARSTON PARK
FOREST CENTRE
MARSTON MORETAINE
A421T
MORETEYNE FARM
ROOKERY PIT
MILLENNIUM COUNTRY PARK
LIDLINGTON PIT
BROGBOROUGH LAKE
MILLBROOK PROVING GROUND
LIDLINGTON
MILLBROOK VILLAGE
BROGBOROUGH
Marston Vale Line
(Future East - West Rail)
MARSTON GATE
M1 (J13)
RIDGMONT RAILWAY STATION
PRELIMINARY DRAWING
THIS DRAWING IS FOR PRELIMINARY PURPOSES ONLY AND MUST NOT BE READ AS A CONSTRUCTION ISSUE
IT INDICATES DESIGN INTENT ONLY AND IS SUBJECT TO AMENDMENT DURING DESIGN DEVELOPMENT

MANAGEMENT AND MAINTENANCE OF GREEN INFRASTRUCTURE

5.101 The green and blue infrastructure assets will need to be effectively maintained to ensure that they retain their value, quality and function and provide a high quality environment for local residents to enjoy.

5.102 The different types of space and components of the green infrastructure network and waterways and waterbodies may each require different approaches and mechanisms for their management. Ultimately, there should be a strong sense of community ownership for the open space.

5.103 A high level Governance Strategy is submitted in support of the OPA and sets out a range of options that are available for the management and maintenance of different aspects of the proposed development.

5.104 In addition to options such as the open space being adopted by the Local Authority or held by an estate management company or community trust, there are considerations such as the potential role of the Forest of Marston Vale and the B&MK Waterways Trust. The eventual arrangements will also have to ensure long term financing to be achieved through an annual maintenance charge on properties, asset management or alternative arrangement. The approach will be agreed at subsequent stages of the planning process but will ensure that the open space is effectively managed for the local community.

DARKNESS STRATEGY

5.105 To help reinforce the village character, avoid coalescence and enhance the landscape setting of Marston Valley, a 'darkness strategy' is proposed for the development. This will help minimise obtrusive external lighting and reduce the overall visual impact of the development.

5.106 The darkness strategy is based around establishing Environmental Zones that restrict the amount of obtrusive light from each proposed land use to the lowest level, subject to ensuring safety and viability of the development. This will mean providing high standards of lighting design and that will seek to be efficient; safe and secure for people moving in and around the proposed development. It will also help minimise light spill into sensitive ecological areas.

Figure 5.13 Indicative Surface Water Drainage Strategy

SUSTAINABLE DESIGN

5.107 Sustainable design of buildings, infrastructure and the wider landscape plays a critical role in safeguarding scarce resources and targeting against the effects of climate change. The effective management of water, energy and materials within a development should be integrated early into the design. Marston Valley will deliver a development that will enable and encourage sustainable living.

5.108 The Sustainability Strategy and Energy Statement submitted with the application promote an integrated approach to low carbon design principles, energy efficiency in site layout, building design and contribution to CO_2 reduction from decentralised and low carbon and / or renewable energy technologies to collectively help secure a sustainable development. It also explores a suite of effective energy technologies and carbon reduction mechanisms that may be suitable for Marston Valley.

5.109 The development will comply with current national and local requirements for energy use, CO_2 emissions and energy efficiency in new developments. The key targets include:

- Part L of the Building Regulations 2013 (Conservation of fuel and power), including the mandatory Fabric Energy Efficiency (FEE) target. This is subject to changes in the national Building Regulations;
- Incorporate sustainable building principles, including energy efficiency, and measures to take account of climate change (Central Bedfordshire Council Policies DM2, DM3 and CS13); and
- Meet 10% or more of energy requirements through the incorporation of on-site or near site renewable or low carbon technology generation sources, unless it can be demonstrated that this would be impracticable or unviable (Central Bedfordshire Council Policy DM1).

5.110 The CBC requirements are likely to be updated by the emerging Local Plan, including draft Policy CC1 – Climate Change and Sustainability which also requires developments to provide a minimum of 10% of their energy demand to either be reduced through fabric first, deployment of energy efficient technology, offset from the site or by low carbon or renewable energy sources.

5.111 A formal decision as to the precise energy generation technologies and low carbon design will be agreed at detailed design stages. The Infrastructure Design Codes and Village Pattern Books will provide more detailed guidance with reference to Supplement 2 of the Central Bedfordshire Design Guide (2014).

5.112 A number of high level sustainability principles have influenced to the proposed development:

- Strategic location - positioning development on existing movement networks (A421, Marston Vale Railway Line) and in proximity to employment hubs (Marston Gate, Cranfield, Millbrook).
- Integrated places - providing for jobs, homes and community facilities to meet daily needs and creating hubs of civic activity to facilitate community interaction;
- Designing buildings and public realm that respond to the local character and surrounding environment and are resilient and adaptable over the long-term to manage the impact of climate change;
- Sustainable lifestyles - encouraging modal shift to sustainable modes of transport and providing for walkable neighbourhoods;
- Preserving and enhancing biodiversity and heritage assets;
- Utilising the existing landscape - use of the lakes and drainage channels to form the framework for sustainable drainage;
- Minimise water and energy use and waste generation including management of construction waste.
- Longevity - ensuring long term stewardship and governance of the development to generate social cohesion and a sense of ownership;
- Prepare for the impact of climate change and create a development that is resilient and adaptable over the long term.

5.113 The Parameter Plan reflects a number of 'passive' interventions to address the principles above and ensure that resource efficiency and climate change adaption are considered from the earliest stage of design:

- The development layout has been designed to minimise energy consumption through maximising the use of natural daylighting and passive solar gain whilst maximising cooling opportunities through allowing the green infrastructure and tree planting to permeate the development providing natural shading and SuDS and evapotranspiration opportunities.
- Carbon emissions will be managed through the provision of a high quality public transport network and providing direct bus connections to the closest railway stations and through providing a comprehensive network of pedestrian and cycle routes, linking key destinations within the development.
- Higher density development and centres of activity are well located to ensure that they are easily accessible for all;
- The 're-imagined' C94 proposals will help change the character of this old A-road and ensure it provides an effective public transport, pedestrian and cycle route within the development, reducing its attractiveness as a 'through route' for traffic from further afield;
- The employment area is located on the C94 to ensure it is easily accessible from the public transport route and minimises the need for private cars to route through the development;
- The existing landscape and proposed waterway have been exploited to provide the backbone of the surface water drainage network whilst protecting biodiversity.

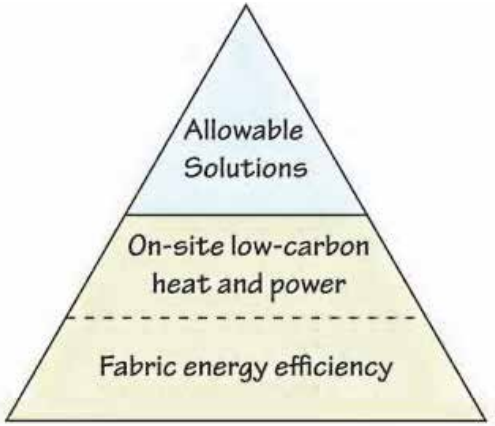


Fig 2.54 Energy Hierarchy - steps to achieving zero carbon

Figure 5.14 Extract from CBC Design Guide, 2014

Part D
Access

6.0 ACCESS

ACCESS AND TRANSPORT VISION AND STRATEGY

6.1 The application is submitted in outline with all matters reserved for subsequent approval, including access. However, a comprehensive movement and access framework has been developed for Marston Valley, the key principles of which are set out in this section of the DAS.

6.2 The Marston Valley development offers the opportunity to create a new highly sustainable community within the Cambridge – Milton Keynes – Oxford growth corridor. The transport vision for the development is therefore:

"To deliver a highly accessible community benefiting from a low carbon, high quality, integrated, efficient and reliable transport offer based on a range of sustainable mode choices covering the travel needs of new residents now and in the future, and having the ability to adapt to changes in travel behaviour through future technological advances."

Transport Objectives

6.3 The vision aims to:

- Maximise the potential of existing and planned infrastructure improvements and investments;
- Achieve modal shift;
- Deliver self-contained villages that reduce the need to travel outside of Marston Valley for local facilities;
- Ensure the transport infrastructure supports local communities through improving their accessibility whilst minimising the impact on local roads;
- Provide a safe and secure transport network which promotes a variety of travel modes.

6.4 The Outline Travel Plan and Transport Assessment set out the comprehensive approach to reducing reliance on the private car, however there are a number of key principles and measures within the scheme that will address this overarching objective:

Walkable Neighbourhood – The Marston Valley development is designed to allow for a wide range of facilities to be available to all residents within an easy walking distance (800m). These facilities would include local employment, education, retail and leisure facilities and connections to transport interchanges providing access to the public transport network and other modes of transport.

Accessibility and Permeability – The Marston Valley development is designed around networks of hubs and corridors delivering accessibility and permeability by all modes of transport. The most convenient routes reflecting desire lines are adhered to in order to create transport networks that are convenient, direct and easy to use throughout the development.

Connectivity and Integration – The internal transport networks are aligned to the key gateways onto the existing local transport networks to offer full connectivity between the development and neighbouring communities.

Mode Hierarchy – Sustainable modes of transport throughout the development and at gateways will be prioritised using walking and cycling as a means to connect to public transport hubs, with the private vehicle considered last in the Mode Hierarchy for the development. This is particularly relevant to the community hubs and movement corridors.

6.5 Importantly, the Access and Movement Framework for the Marston Valley development makes full use of:

- the C94 're-imagined' – as the main piece of highway infrastructure from which access into the development can be gained, this will be integrated into the scheme. A series of design interventions, new junctions and traffic calming will transform the character of this once 'A' road. The design of the street network seeks to encourage traffic on to the C94 rather than through local routes. This is intended to help separate strategic traffic and local traffic and avoid 'rat-running' through neighbouring villages and communities.
- Ridgmont Station – a stop on the East West Rail (EWR), this station will become a key strategic gateway into the Marston Valley development and wider area. Central Bedfordshire Council (CBC) have indicated that Ridgmont Station has the potential to become an important transport hub in the sub-region as the East West Rail project is delivered. The development will deliver direct public transport connections to Ridgmont and the services will be integrated with the EWR timetable.
- the Marston Vale Railway Line and the three stations local to the development, namely: Ridgmont, Lidlington and Millbrook station. In addition to the future EWR service, each provide a local service to Bedford and Bletchley and thus onward connections to London.

Future Adaptability

6.6 Attitudes, behaviours and technological advances in sustainable transport will change over the lifetime of the development, including over the 20+ year build out. The delivery of Marston Valley will facilitate a step change in sustainable movement patterns in this corridor.

6.7 The development framework includes a number of 'community hubs', these are important interchange locations where connections between different modes of transport will be possible. This framework will be adaptable for different modes and transport systems in the future.

CURRENT CONTEXT

6.8 The site is knitted around the existing highway network and there are currently three points where access can be gained into the site - Sheeptick End onto the C94 Bedford Road; Station Road from Lidlington, joining onto Sheeptick End; and Station Road from Millbrook. All of these roads are rural in nature and whilst integrated into the development, they will be subject to local improvements.

6.9 There are a number Public Rights of Way that cross the site, these provide connections across to neighbouring villages and links to the Millennium Country Park. Some are terminated by the lakes and roads and there is the potential to divert and consolidate the Right of Way network into a series of effective and useable routes.

6.10 The existing bus service provision in and around the proposed Marston Valley site is poor. There are five infrequent bus services (through Brogborough, Lidlington, and Marston Moretaine) through the proposed site.

6.11 Lidlington and Millbrook rail stations lie along the south-eastern boundary of the site. Ridgmont rail station is located approximately 900m south of the southern boundary of the site, separated from it by Marston Gate. All three stations are on the Marston Vale Line between Bletchley and Bedford, offering an hourly service. There are direct onwards connections from both Bedford and Bletchley to London.

PLANNED IMPROVEMENTS AND INVESTMENTS

6.12 The strategic movement corridor within which Marston Valley sits will be subject to a number of nationally significant improvements which will change the context for the new villages in terms of travel opportunities:

1. **East West Rail** – a major Government funded initiative to connect Oxford and Cambridge and more widely with eastern and southern England.
2. **Wixams Railway Station** – a new station which is planned as part of the Wixams new settlement on the Midland Mainline.
3. **Oxford to Cambridge Expressway** – one of the six strategic studies as part of the first Road Investment Strategy. The government has committed £137m of new or accelerating funding to support development of both OCE and EWR. The A421 running to the north of Marston Valley will form part of the OCE.

6.13 The proposals for Marston Valley have been designed to be responsive and adaptive to the above improvements, both through the approach to transport modelling and in building in public transport connections to the EWR station at Ridgmont.

SUSTAINABLE TRAVEL & ACCESS

6.14 The access and movement strategy is based on the overarching principle of utilising the excellent accessibility of the site to achieve a modal shift away from the private car. Sustainable modes of travel have been prioritised in the design of Marston Valley through developing a series and hubs and corridors connected by walking and cycling routes and a new robust public transport network.

6.15 The various components of the Movement Framework are set out on Figure 6.1 – the Movement and Access Framework.

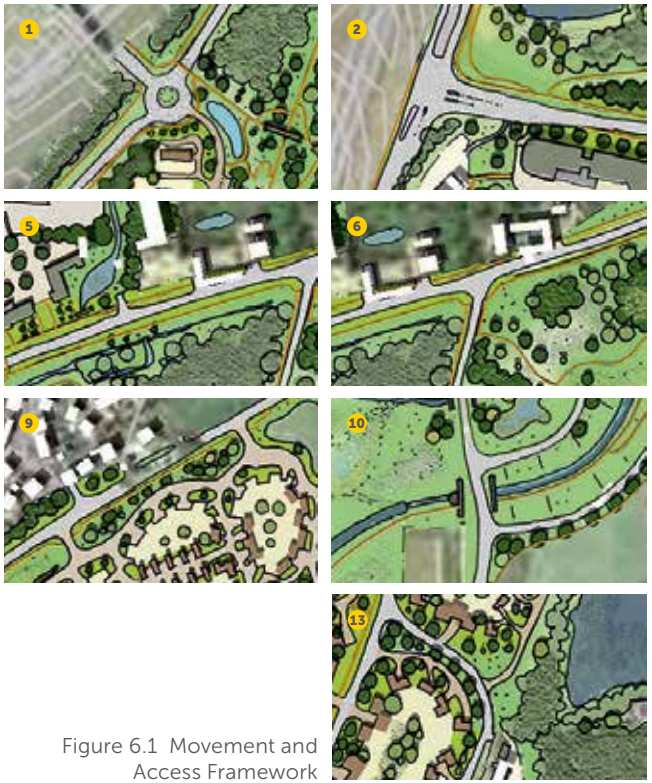


Figure 6.1 Movement and Access Framework

Site Boundary

Key Vehicular, Cycle & Pedestrian Connections

Primary Main Streets incorporating Public Transport, Cycleways & Footways

Secondary Local Streets incorporating Footways

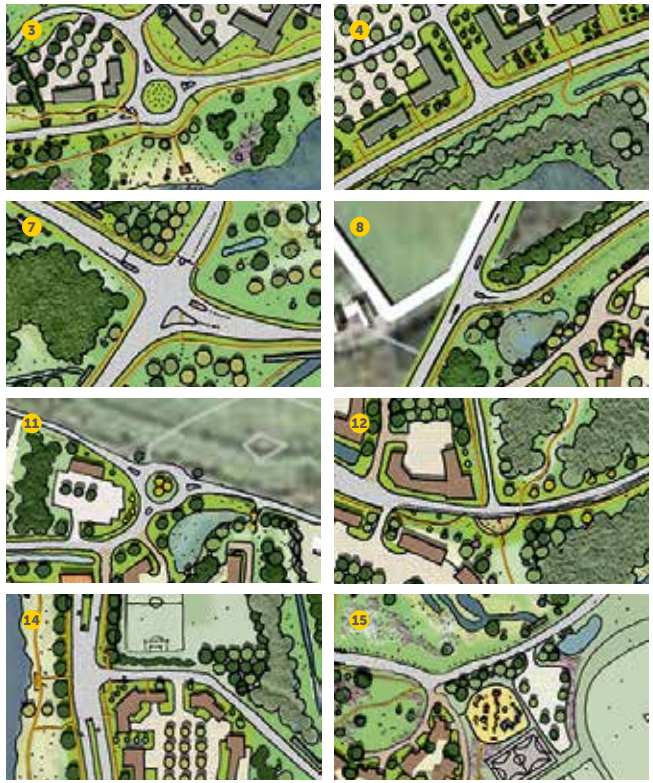
Local Access, Bus only Route with Footway

Existing Road to be downgraded for local vehicular, cyclists and pedestrian access

Marston Valley to Ridgmont Public Transport Route Options being considered

Existing Trails, other existing Public Rights of Way to be retained and incorporated

Existing Railway Station



PEDESTRIAN & CYCLE MOVEMENT

6.16 The linked villages are designed as walkable neighbourhoods. Connected to one another, but each with a central community hub with local scale facilities ensuring that multi-functional trips can be made. These key destinations will be linked by the bus routes.

6.17 There will be a permeable network of streets which will form the backbone to the pedestrian and cycle network, with dedication pedestrian and cycle paths on primary streets. The re-imagined character of the C94 will make this a more attractive pedestrian and cycle route.

6.18 Additional pedestrian and cycle routes will be provided throughout the development, within the parks and along waterway routes. There will be a variety of forms including on-street, combined footway / cycleway adjacent to streets, and standalone routes through the open space and public realm. These will connect into existing and diverted PRoW, ensuring routes and efficient, direct, safe and attractive.

6.19 Figure 6.2 below shows the likely PRoW which will be diverted and retained on their current alignment as part of the proposals.

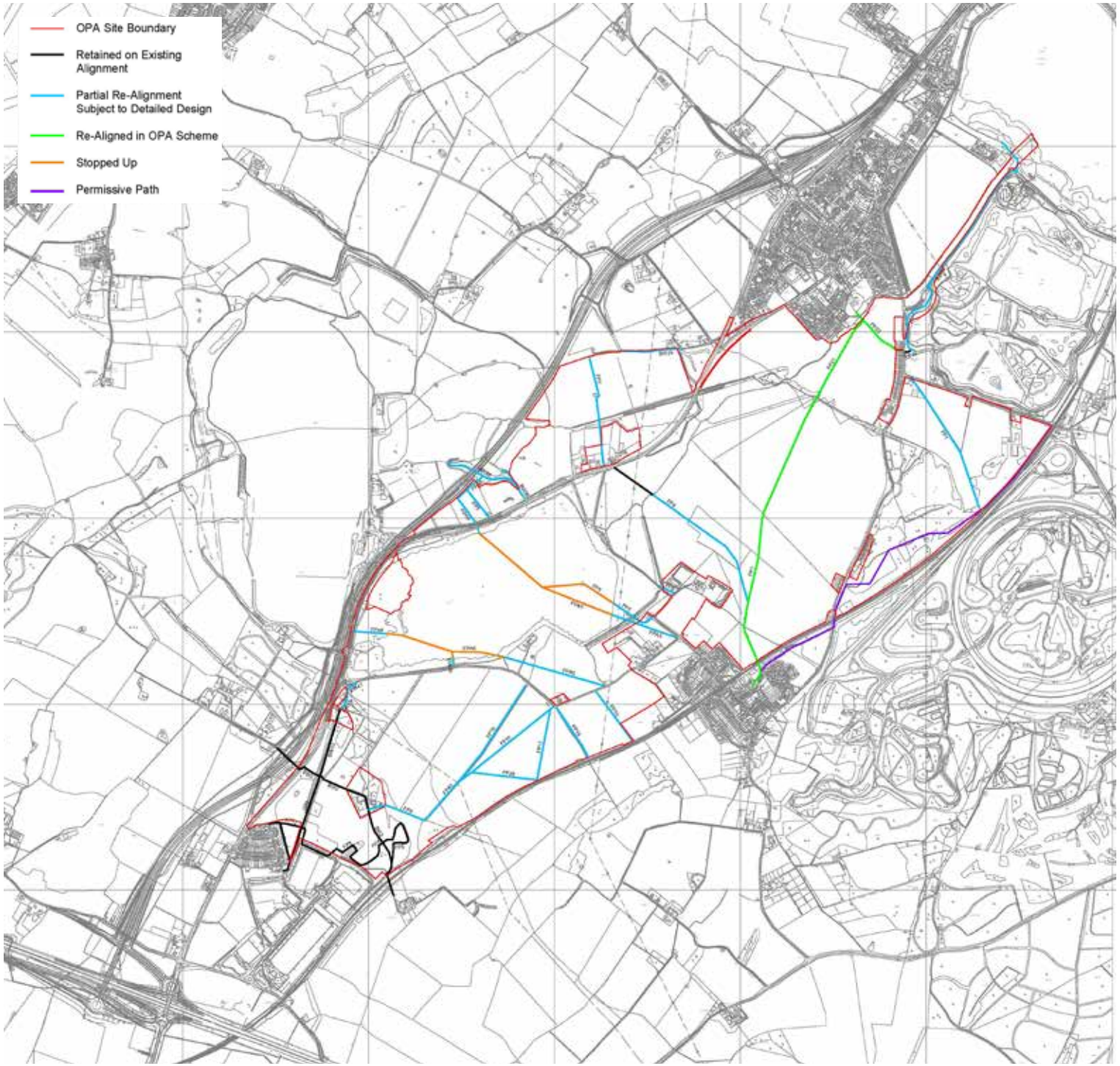


Figure 6.2 Public Rights of Way likely future status

6.20 A towpath will be provided on at least one side of the Waterway, this will be a major recreational route, linking Brogborough Lake to the Millennium Country Park and Forest Centre. Other recreational routes will help open up access to this part of the Marston Vale.

6.21 The Walking and Cycle Framework at Figure 6.3 demonstrates the key routes that will be provided throughout Marston Valley.

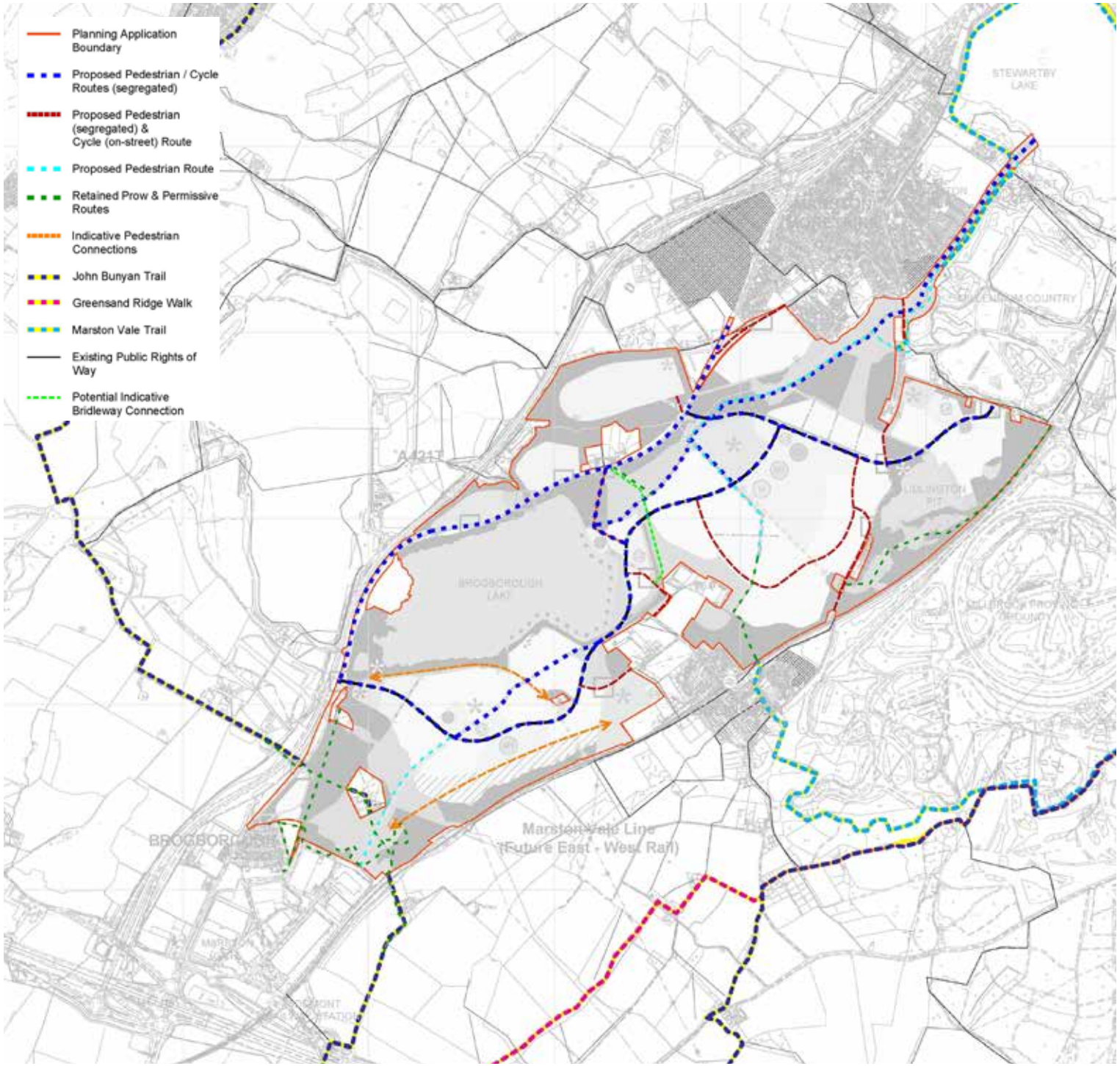


Figure 6.3 Walking & Cycling Framework

PUBLIC TRANSPORT

6.22 Public Transport provision forms an important part of the access strategy for the Marston Valley site as it provides a real alternative to the private car in forming either complete journeys or part of longer journeys, for example providing access to rail stations for onward travel to strategic destinations.

6.23 The public transport strategy for the Marston Valley site is set out in full in Appendix H of the TA and it seeks to deliver an attractive and high quality bus service offer, accessed via local hubs within the development, connecting with the national rail network at local stations and providing direct links to major employment, retail, leisure and education opportunities in the surrounding area.

6.24 The principles of the public transport network are based around access to bus and rail services on the most direct routes, providing fast, efficient and reliable connections. First and foremost, the proposed public transport strategy focuses on creating links for the development and surrounding villages to:

1) Ridgmont and other local stations, to gain access to destinations further afield;
2) Milton Keynes and Bedford as the two main commercial hubs;
3) Cranfield as a key employment destination and Flitwick for access to the railway station and higher order facilities.

6.25 Two new bus routes are proposed to be delivered as part of Marston Valley, providing high quality services to the destinations above. The public transport route follows the primary street network within Marston Valley, ensuring all of the community hubs and other key destinations are served as well as the main employment areas, reinforcing it as an attractive alternative to the car. There is the possibility for sections of the network to be along dedicated bus corridors to increase the speed and reliability of the service.

6.26 The route will ensure the majority of residents and workers are within a 400m walking distance. Given the proximity of the railway stations at Millbrook, Lidlington and Ridgmont, these will also help ensure residents are within a reasonable walking distance of public transport. Railway stations are considered to have a greater accessibility standard as people are prepared to travel further for journeys made further afield by train.

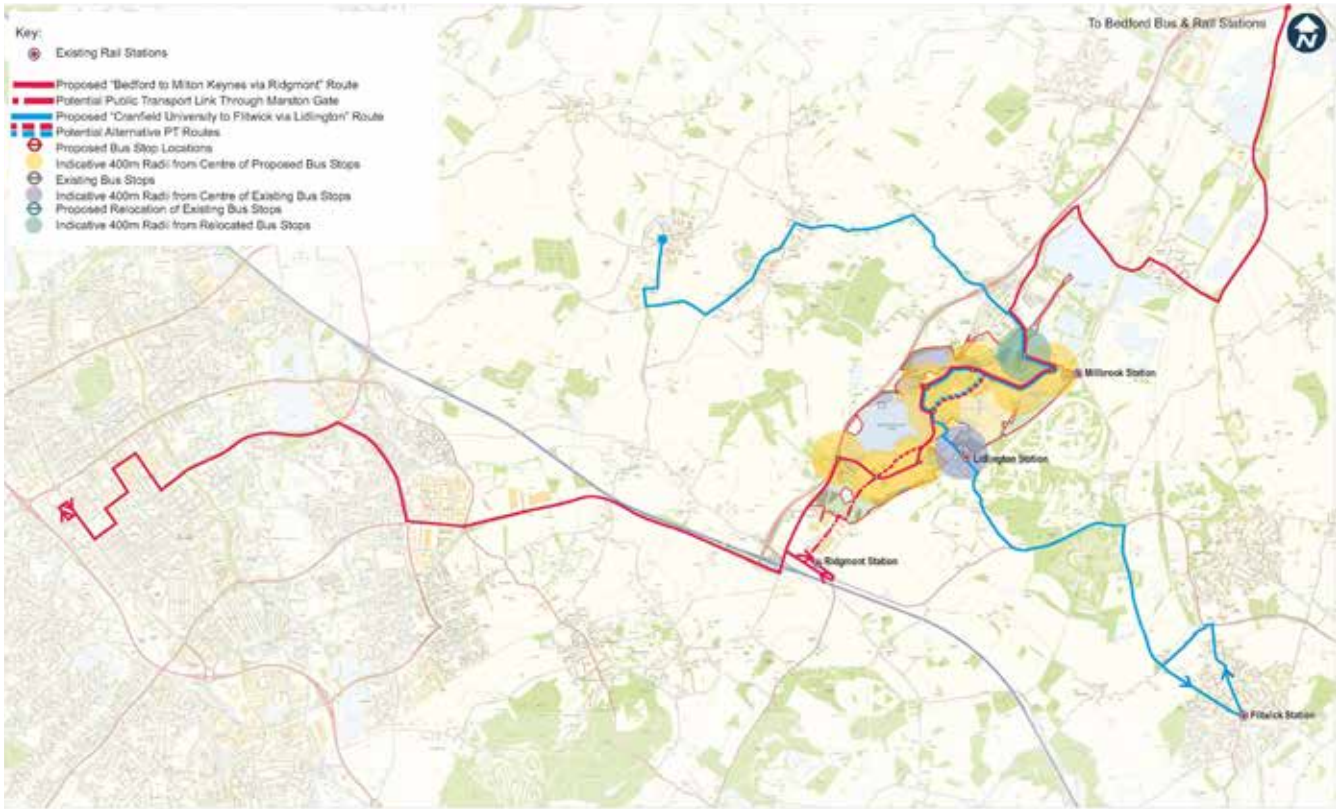


Figure 6.4 Indicative Public Transport Framework

VILLAGE STREETS

6.27 The streets within Marston Valley will be an integral part of the place and will contribute to the character of the villages. The street network will be made up of a hierarchy of primary, secondary and tertiary streets. The key primary and secondary streets are shown on the Parameter Plan, and create the basic structure for Marston Valley, ensuring that a series of well-connected places will be delivered.

6.28 The primary and secondary street network will provide connections into the main site from the existing highway network in seven locations. Additional points of access are provided into the employment parcels and the south west Marston Moretaine parcel. Two new and improved junctions are also proposed on the C94 close to Brogborough Hill Park and on Station Road associated with the Forest Centre and Marston Park access. All of these points of connection with the existing network are identified on the Parameter Plan and further detail on the indicative access arrangements is set out in the Transport Assessment.

6.29 A network of lower order tertiary streets will be provided within development parcels. These will be of a finer grain and designed to create a permeable and legible layout, helping form a series of smaller coherent blocks.

6.30 A range of street types and designs will be provided to contribute to a strong sense of place and local distinctiveness. The street design will accord with Manual for Streets and CBC's 'Design in Central Bedfordshire' Design Guide.

6.31 The following key principles apply to the street network:

- There will be two main routes through the development - one as a new primary street through the centre of Escheat, acting as the central spine and linking to Lower Boughton it will connect the two main points of access on the C94. Another will be provided by the C94 which will be integrated as a street within Marston Valley as explained below.
- These primary streets will connect each of the villages to one another and their community hubs, creating a legible spine to the development.
- The design of the street network will ensure that walking and cycling routes are prioritised and routes direct and link to key destinations in accordance with 'walkable neighbourhoods'. Primary and secondary streets will include a 3m footway / cycleway on one side and a 2m footway on the other.
- The street network will be designed so that a highly efficient and direct public transport service can be achieved, which connects the key hubs and destinations through the development.
- A new vehicular link across the Vale will be provided, to connect Millbrook Proving Ground to the strategic highway network via the C94, as explained in more detail below.
- The Marston Valley villages will be integrated with the existing settlements whilst improvements and sensitive downgrades to existing routes will help discourage traffic using the local road network and through the local villages.
- A bus only link will be provided between Brogborough Lakeside and the C94, this will ensure that public transport is prioritised and has the most direct routing.
- Opportunities for segregated bus lanes and bus corridors will be considered to ensure that public transport provides an attractive and fast alternative to the private car.
- Streets will be designed to keep vehicle speeds low with the lowest speeds in residential areas.

Streets as Green Infrastructure

6.32 The streets within Marston Valley will perform an important function in contributing to the green infrastructure network and towards meeting the FoMV canopy cover targets. All key routes within the development shall have a 'green' character and will include some or all of the following:

- Good sized grass verges;
- Street tree planting;
- Meadow / grass swales and rain gardens;
- Native shrubs; and
- Residential layouts (parking courts, garaging, on plot parking)

Integration of Placemaking, Access and Design

6.33 Two significant infrastructure improvement schemes are proposed as part of Marston Valley and both will perform an important function in 'placemaking' within the scheme. The following sections help further articulate the principles that will apply to the design of two key routes within Marston Valley.

Re-imagining the C94

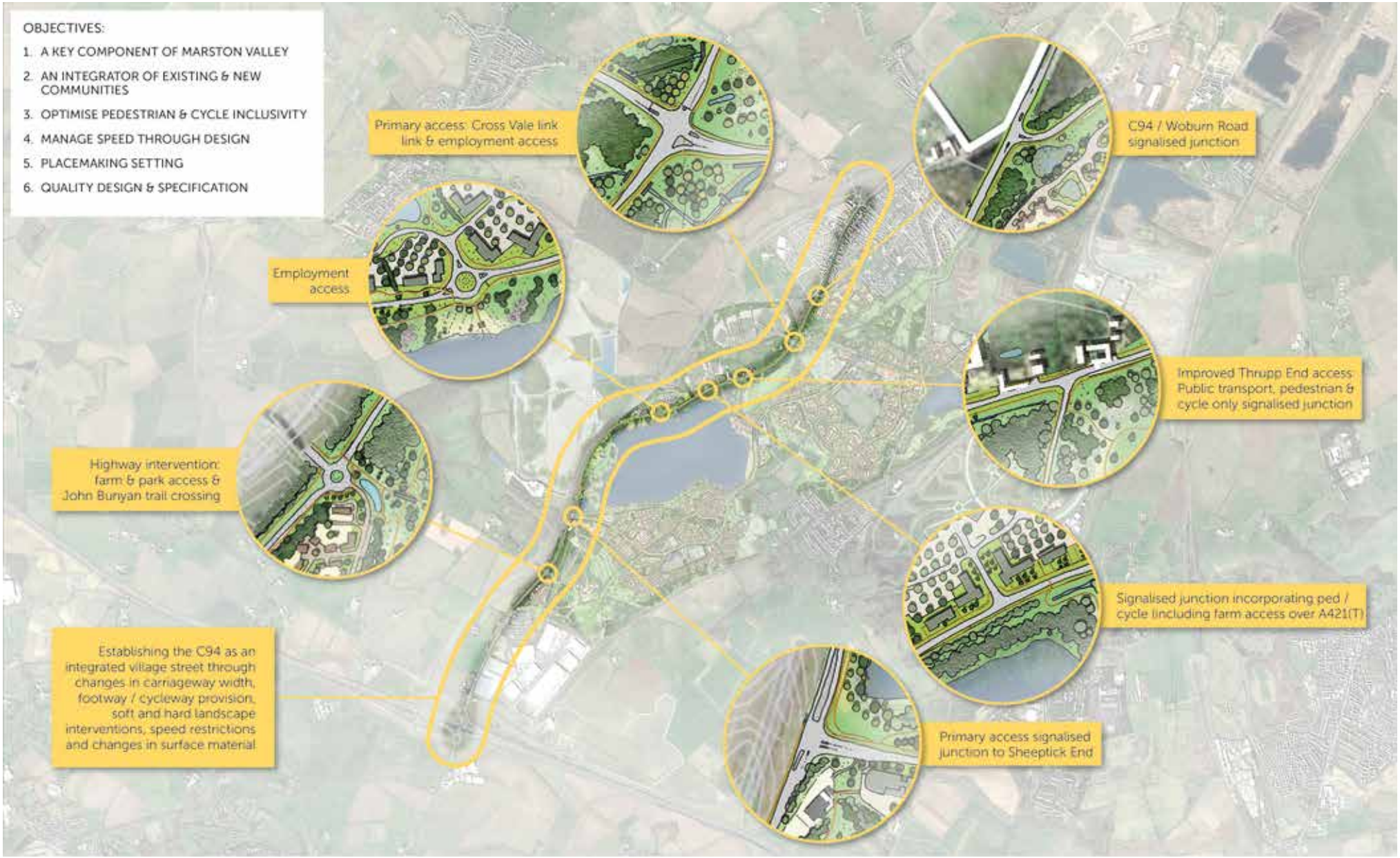
6.34 The two major vehicular gateways into Marston Valley are provided on the C94.

6.35 The development provides the opportunity to 're-imagine' the C94 and incorporate it as a structural part of the access and movement framework for the development. The concept is for the width of existing road to be reassigned to allow the creation of a multi-modal corridor across the northern section of the development. It will have a changing character defined through the uses that are fronting on to it and by key intersections along it. This street will be characterised by a number of interventions and treatments:

- A 3m footway / cycleway will be provided on one side of the street and 2m footway on the other;
- Building lines will help provide a strong frontage and sense of enclosure;
- Street tree planting will be incorporated to enhance the 'green character' of the route;
- A series of junctions and interventions will act as traffic calming features to reduce vehicle speeds:
  - The proposed new roundabout to the north of Brogborough maintains access to Manor Farm and also provides a traffic calming gateway feature as traffic enters Brogborough, but also as traffic approaches the development area;
  - The southern section of the C94 will be more rural in character until the western gateway junction which will urbanise the corridor and mark the arrival into the development;
  - As the C94 carries on north, it will remain relatively open in nature without any development directly fronting into it, until it reaches the employment plots to the north of the development; and
  - The proposed access junction into the first employment plot immediately north of Brogborough Lake is to take the form of a roundabout to mark a transition between an open road environment to a road with direct frontage.
  - Between this roundabout and the junction with Woburn Road, the C94 will become more urban in nature, hence a succession of traffic signal junctions with pedestrian and cycle crossing facilities are proposed to encourage permeability across the C94.

6.36 This comprehensive strategy which is illustrated on the Illustrative Master Plan and Long Section in Figure 6.5, will be further supplemented by landscape design and possible changes in surface materials, will significantly modify the layout and experience of the C94.

Figure 6.5 Traffic Calming the C94


OBJECTIVES:
1. A KEY COMPONENT OF MARSTON VALLEY
2. AN INTEGRATOR OF EXISTING & NEW COMMUNITIES
3. OPTIMISE PEDESTRIAN & CYCLE INCLUSIVITY
4. MANAGE SPEED THROUGH DESIGN
5. PLACEMAKING SETTING
6. QUALITY DESIGN & SPECIFICATION
Primary access: Cross Vale link link & employment access
C94 / Woburn Road signalised junction
Employment access
Improved Thrupp End access: Public transport, pedestrian & cycle only signalised junction
Highway intervention: farm & park access & John Bunyan trail crossing
Signalised junction incorporating ped / cycle (including farm access over A421(T)
Establishing the C94 as an integrated village street through changes in carriageway width, footway / cycleway provision, soft and hard landscape interventions, speed restrictions and changes in surface material
Primary access signalised junction to Sheeptick End

Cross Vale Link

6.37 The development's transport strategy also offers the opportunity to deliver a new vehicular route into the Millbrook Proving Ground. This is as an alternative to the often-used existing route through the village of Marston Moretaine.

6.38 The proposed link will utilise the C94 and primary street through Marston Valley. It will pass through the heart of Redlands helping reinforce the viability of this community hub and create a good level of activity on this route.

6.39 This will be a 'village street' with low vehicle speeds and whilst it will be designed to accommodate the Proving Ground traffic and provide relief to the residential roads through the village of Marston Moretaine, it will not seek to attract additional traffic beyond that which is already routing to the Proving Ground.

6.40 The street will incorporate a 3m shared footway / cycleway on one side, and 2m footway on the other. It will benefit from generous tree planting and wide verges.

6.41 This meets the objective to "reduce the impact of commuting trips on local communities" set out in the Local Transport Plan 3 - The Central Bedfordshire Council Transport Strategy (April 2011 to March 2026, Adopted 1st April 2011). In addition, it also meets the requirement in the Local Area Transport Plan (Adopted 1st April 2012), which specifically prioritises the need to manage vehicles, including HGVs passing through Marston Moretaine.

Figure 6.6 Cross Vale Link

Car Parking

6.42 A critical element of the scheme's design is the accommodation of car parking. The movement framework for the site is primarily based around reducing reliance on the private car. However, it is important that the parked car is appropriately planned for so that it is does not dominate the street scene. The level of parking, including within the community hubs, will depend on the proximity of the public transport route and as such is an integral component of the sustainable transport framework.

6.43 Parking provision will generally be in accordance with CBC standards and in accordance with the CBC Design Guide. As the application is submitted in outline, the precise level of parking will be determined at detailed design stage. The following principles will be taken into account in parking provision:

- Provide a variety of parking solutions (on-plot, on-street, appropriately sized garages etc);
- Reduce the dominance of the parked car in the street scene through careful plot design, street design and boundary treatments;
- Explore the potential for combined parking in the community hubs and in proximity to the schools and other mixed-use destinations so to avoid overprovision, taking account of different uses being busy at different times of the day;
- Ensure public parking areas are well surveilled;
- Consideration for electric vehicle charging points including for commercial areas;
- Cycle parking should be provided for residential uses.

7.0 PHASING AND DELIVERY

7.1 Marston Valley is a long-term development project expected to be delivered over approximately a 20 year period extending beyond the time horizon of CBC's Local Plan. This section explains how a flexible approach to delivery is to be adopted to ensure that the implementation of the site can respond to the market whilst ensuring that the correct infrastructure is delivered at the right time.

7.2 The development will be brought forward in phases, although a fixed phasing plan is not submitted as part of the OPA. The phasing of the development will be influenced by infrastructure requirements, utilities capacity and improvements and necessary environmental mitigation. Areas of the site will only be brought forward when the necessary infrastructure is in place and identified improvements delivered. Triggers for key infrastructure requirements and mitigation will be secured through any outline permission as part of the planning conditions and S106 legal agreement. This will ensure that the following are fixed at necessary points in the development (the list is not exhaustive but provides an example of the key infrastructure that will be secured at specific points in the development):

- Delivery of schools
- Completion of highway works including access points and off-site improvements
- Delivery of community facilities including health and social care hub
- Delivery of formal open space and play areas

7.3 It will be important, in accordance with the Council's housing delivery trajectory, to commence construction on multiple development fronts. These could be across different villages, each holding their own character, which will assist in achieving high absorption rates and attracting different housebuilders to the site. Importantly, this reinforces the requirement for a flexible phasing strategy to ensure that the development can respond to the market and that O&H as master developer can deliver parcels to market as and where there is demand. There are a number of parcels that can be easily delivered early in the development which will contribute towards the Council's housing land supply in the initial years of CBC's Local Plan.

7.4 Before reserved matters can be approved or development can commence on any phase within the scheme, the necessary tiers of design control will have to be addressed. This will involve the preparation and approval of village pattern books / Guides and infrastructure design guides. Reserved matters applications will then have to be submitted in accordance with such approved documents.

8.0 CONCLUSIONS

8.1 Marston Valley is able to secure sustainable growth that meets national, regional and local policy, aspirations and objectives. The approach to the proposed development responds directly to the established need for new homes and jobs, particularly in the context of the significant and continually growing focus on the Oxford to Cambridge Corridor.

8.2 The fact that the site is in single ownership, is of significant scale, and is strategically located both in terms of existing and planned national infrastructure means Marston Valley is in a unique position to deliver sustainable benefits.

8.3 The proposals for Marston Valley have been developed in response to the characteristics of the site and its wider context and through an extensive and effective engagement with local stakeholders. Of uttermost importance is ensuring that the proposals deliver a scheme that is sensitive within its locality, integrates well with the surrounding context and creates the best place possible. Furthermore, the proposal for delivering a series of linked villages is in accordance with national objectives and planning policy.

8.4 Arriving at the right scheme for Marston Valley has been a well considered and careful process and one informed by multiple years of O&H and its consultant team working within and understanding the local area. This geographical location has long been established as an excellent area for strategic growth, and the Marston Valley scheme is considered the most appropriate way of securing this growth alongside comprehensive infrastructure benefits in a well planned manner.

8.5 The proposals respond positively to the Marston Vale landscape and neighbouring settlements and seek to maximise the opportunity provided by the existing and planned infrastructure. An exceptional opportunity exists to harness the potential of this location and the Marston Valley scheme seeks to do this whilst securing benefits for new and existing communities and preserving and enhancing the local landscape.