

05 FRAMEWORK PRINCIPLES AND MASTERPLAN

Overview

5.1 This chapter provides planning and design guidance on how the development principles will be used to guide future planning applications.

5.2 The main guiding principles are defined in a series of parameter drawings with supporting text. These are supported by a range of illustrative drawings which depict how the principles could be realised to create a high quality development.

5.3 As well as following the planning and design guidance set out in this SPD, any future planning applications should comply with extant policies contained within the Cambridge East AAP, the Cambridge Local Plan (2006) and South Cambridgeshire Core Strategy (2007) and their replacements, which are currently the subject of examination.

5.4 This chapter is structured as follows:

- Summary of consultation to date
- Movement
- Environmental considerations and sustainability
- Landscape and open space
- Land uses
- Character and form
- Environmental considerations and sustainability
- Planning obligations
- Overview of key development principles

Summary of consultation to date: SPD workshops

5.5 The principles set out in this section have been informed by consultation events and feedback. A summary of the key findings are provided below. Findings have informed the development principles set out on the following pages.

5.6 A number of key stakeholders were identified and included neighbourhood groups, local councillors and key councillors from Cambridge City Council, ~~and~~ South Cambridgeshire District Council and Cambridgeshire County Council.

5.7 Two stakeholder workshops were held in preparation for the drafting of the SPD:

- Workshop 1. Key stakeholders were informed that the Site was being brought forward as part of the local plan and were invited to attend a Planning Workshop. The workshop was held at St. Andrew's Church Centre on 9th March 2017.
- Workshop 2. Having reviewed and input feedback, key stakeholders were invited to a follow up planning workshop. The workshop was held on 7th April 2017 at St. Andrew's Church Centre.

Movement and transport:

- Spine Road – strong desire to avoid rat running
- Concern over congestion caused by development
- Cycling – consensus that cycle routes could play an important role in minimising traffic through the development and providing sustainable access to key destinations and local facilities
- Public transport – lack of bus transport in the village
- Footpaths – questions raised over the future of the footpath through the site

Social infrastructure:

- Primary school should be located near the local centre
- Secondary school should be placed carefully in relation to transport routes, possibly on the edge of development
- Allotments – should be located between the built development and existing village
- Community facilities – extra would be needed; a square or open space could hold community events
- Local centre ingredients – suggestions included a pub, shop, greengrocer, library, pharmacy, cafe, charity shops, community space, health centre, faith space, hotel, meeting rooms

Landscape and environment:

- Buffer zone between the development site and airport land should be lined with vegetation
- There should be a clear green edge with Teversham
- Airport – felt to be an interesting view
- Green space should integrate recreational opportunities and should maintain views to countryside
- Urban edge – careful thought should be given to the interaction of the urban edge with the countryside

Placemaking and character:

- Character – a mix of styles are found in Cherry Hinton
- Density – view that apartments should not extend beyond 4/5 storeys; higher density could be close to transport interchanges
- Mixed-use considered a positive

Housing:

- Open spaces should be prioritised over gardens
- Height – 4/5 storey maximum

Movement

5.8 The development of a transport and movement strategy for the site relies on the relationship of several key components. It is important that these work together to encourage walking, cycling and the use of public transport as the most desirable modes of travel.

5.9 The components considered in this section are:

- Access and primary routes
- Primary street options
- Cycle and pedestrian movement
- Public transport
- Cars and parking

5.10 Relevant planning policies include CEAAP (Cambridge East Area Action Plan 2008) policy CE/10 (road infrastructure), policy CE/11 (alternative modes and parking), CLP (Cambridge Local Plan 2014) policy 80 (Supporting sustainable access), CLP policy 81 (mitigating transport impact), and SCLP (Proposed Submission South Cambridge Local Plan 2013) policy TI/2 (Planning for sustainable transport) prioritise sustainable travel methods, and seek to ensure development mitigates transport impacts.

5.11 The movement strategy, as illustrated in figure 39, capitalises on the unique opportunity that the location of the site offers in the east of Cambridge, promoting sustainable travel for existing and future residents in the area. Three key principles that are incorporated in the strategy include:

- Reducing the need to travel by car ~~within the development~~ through offering excellent permeability within the site for pedestrians, cyclists and public transport.
- Encouraging journeys on foot and by bicycle through providing direct connections to important routes off-site including Cherry Hinton High Street, Airport Way, Coldham's Lane and the Tins route.
- Encouraging travel by bus by ensuring main routes within the site accommodate buses and are designed to maximise the number of residents located within walking distance of a regular service.

Figure 39 – **AMENDED**

Figure 39: Overview of movement strategy - current draft SPD

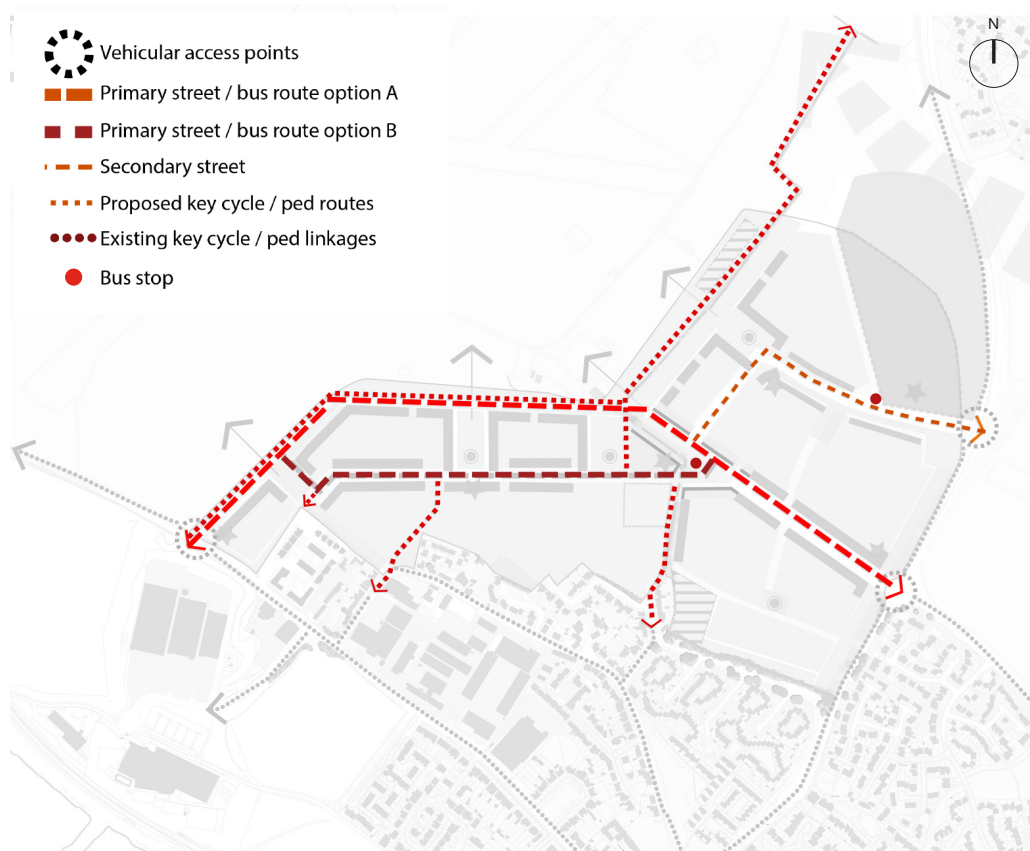
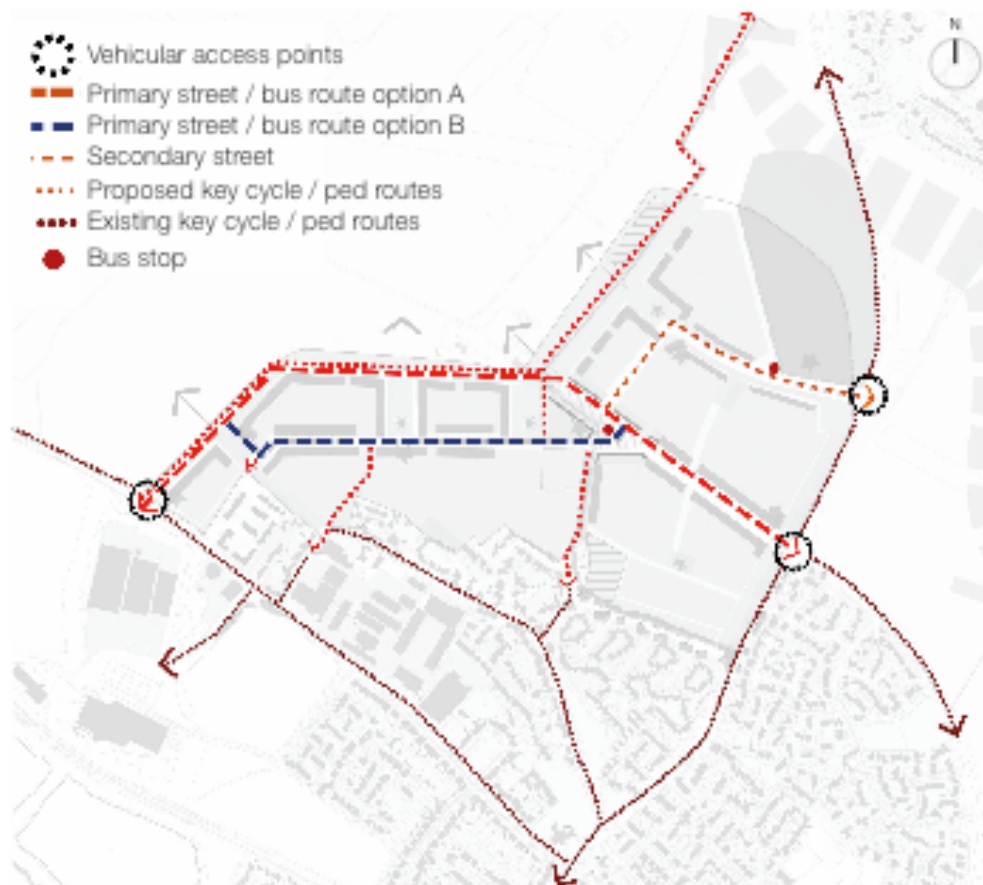


Figure 39: Overview of movement strategy - proposed additional modifications



Access and primary routes

5.12 As shown in figure 40, vehicular access to the site will be from Coldhams Lane and Cherry Hinton Road / Airport Way, as required by CLP policy 12 (R47) and SCDC policy SS/3.

5.13 Any future planning application will need to demonstrate appropriate capacity at each of the access junctions for all vehicles, including emergency and refuse vehicles, travelling to and from the site through provision of a Transport Assessment. This assessment should also consider the development impacts on the local highway network (including Cherry Hinton Road and Coldhams Lane), and local junctions (Coldhams Lane / High Street, Coldham's Lane / Barnwell Road Drive).

5.14 Developers will be encouraged to incorporate a traffic calmed environment using street design and intersecting cross routes to create a natural reduction in speeds. Shared surface environments should be employed. The spine road speed limit should be agreed with Highways Development Control Cambridgeshire County Council as Highway Authority however a design speed of below 20mph is considered most appropriate.

Figure 40 – NO CHANGE

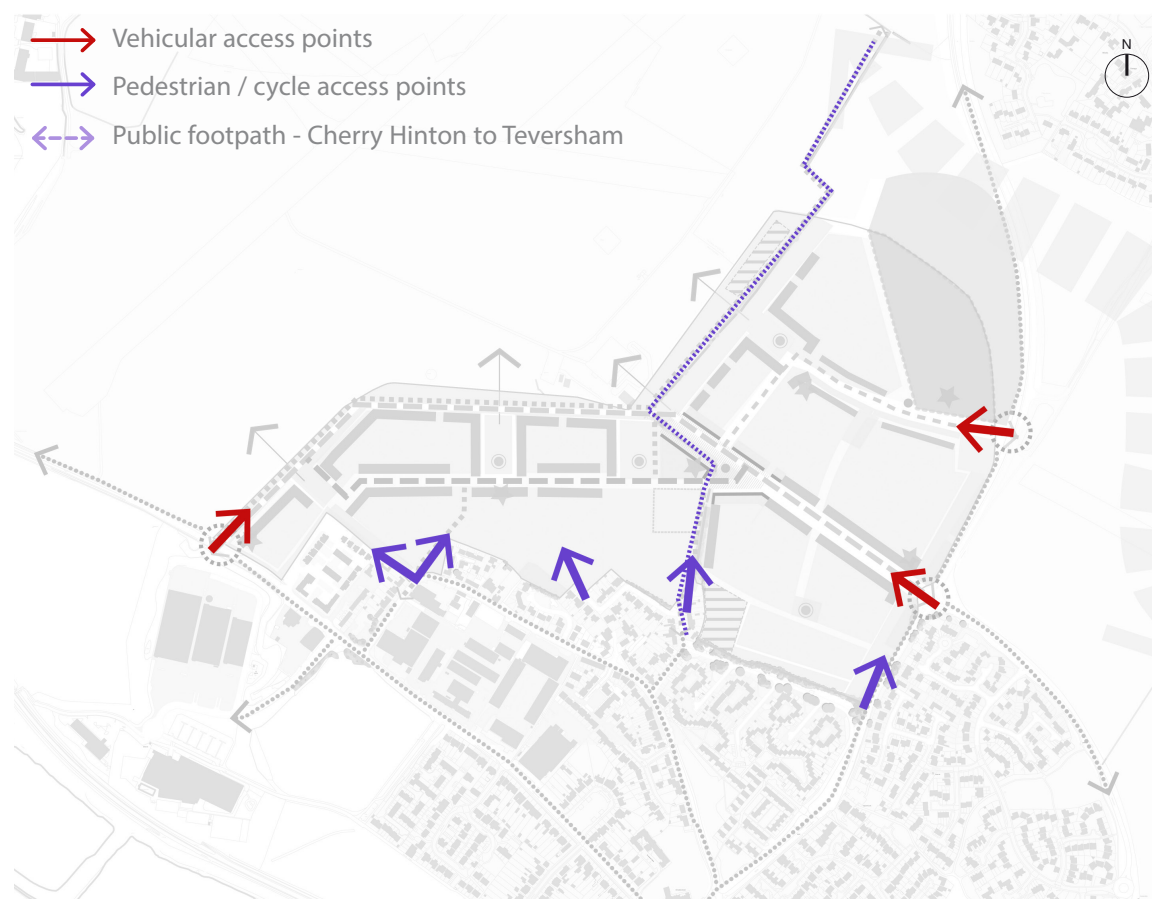


Figure 40: Connectivity

Primary routes

5.15 As set out in part 3 of policy 12, the master plan for site R47, 'will make provision for a primary and secondary school, a local centre with community hub, open space and a spine road connecting Coldham's Lane with Cherry Hinton Road. Vehicular access to the site will only be permitted via the new spine road unless needed for emergency access'.

5.16 There has been discussion through the initial technical work and stakeholder workshops on the route, form and function of the spine road. Two primary street options are presented which show different ways that the spine road could form a flexible primary route through the site. The requirements of the final spine road design will be determined by ~~Cambridge County Council and local authorities through the planning application process~~ Cambridgeshire County Council as Highway Authority and local planning authorities, as part of the pre-application planning process. Any future planning application would be expected to include a through route spine road design in order to comply with the Highway Authority's recommendations approved by the Economy and Environment Committee 11 December 2017.

5.17 Consideration should be given to landscape when deciding on the design of primary routes in order to ensure the usability of open spaces within the site.

5.18 Elements to consider include, but are not restricted to, the following:

- The visual impact of the design
- Impact on drainage
- The amenity value of adjoining open spaces
- Impact on residential amenity
- The location of the relocated gas main.

Main vehicular access points to the Site

5.19 Weston Homes have obtained planning permission for up to 57 homes on land at Hatherdene Close, near to the western access into the Site. The Weston Homes development will become the immediate ~~eastern~~ western boundary to the site in this location. Housing proposed on this site will be accessed via a new priority junction from Coldham's Lane and in order to maximise spacing between the two junctions, the Coldham's Lane access to the Land North of Cherry Hinton site is required to be located to the west of the site boundary, on Coldhams Lane. Local design guidance recommends minimum spacing between junctions on the same side of the road, to ensure that the visibility splays at each of the junctions do not interfere and result in safety issues. The visibility splays agreed for the Weston Homes site were 4.5m x 120m and therefore the location of the access to the far west of the boundary seeks to reduce the potential for impact on the Weston Homes visibility splay.

5.20 The County Council has recommended that the main access from the eastern side of the site is to be from the existing roundabout at the Cherry Hinton Road / Gazelle Way. This is due to the fact that the existing roundabout already requires vehicles to slow down and presents an opportunity for a main access point that has the least impact on vehicular movements as well as keeping this access point within the urban area of the city.

5.21 There are as such two options for a spine road connecting these two main access points. The first of these options (Option A adjacent) runs the main spine road through the site along the northern boundary of the site; the second brings the main spine road away from the northern boundary and through the heart of the site (Option B adjacent).

Option A

5.22 A spine road which runs through the local centre ~~of the site~~ and continues along the northern perimeter allowing for the provision of direct, traffic free or low traffic cycle and pedestrian routes through the central belt of the site (figure 41).

Figure 41 - NO CHANGE



Figure 41: Primary street option A

Advantages

- Allows for a traffic calmed / free central spine through residential areas
- Aids in reducing the noise impact on residential areas by keeping noise generating activities along the airport edge, with a landscape park buffer to the residential blocks
- Opportunity to integrate the new gas main along the footpaths and verges, keeping landscaped areas and parks free from constraint

Disadvantages

- Requires a thoughtful design considerations for traffic calming, to ensure it does not turn into a bypass peripheral route
- Requires consideration of landscape design to achieve high quality park and open spaces

Option B

5.23 A spine road which runs through the centre of the site allowing for the provision of traffic-free cycle and pedestrian routes along the perimeter of the site rather than through the centre. [\(figure 42\)](#)

5.24 For Options A and B, there is also the possibility to introduce a bus gate along the spine road which would offer the opportunity to only allow through connections between Cherry Hinton Road and Goldham's Lane for buses, pedestrians and cyclists.

Figure 42 – NO CHANGE

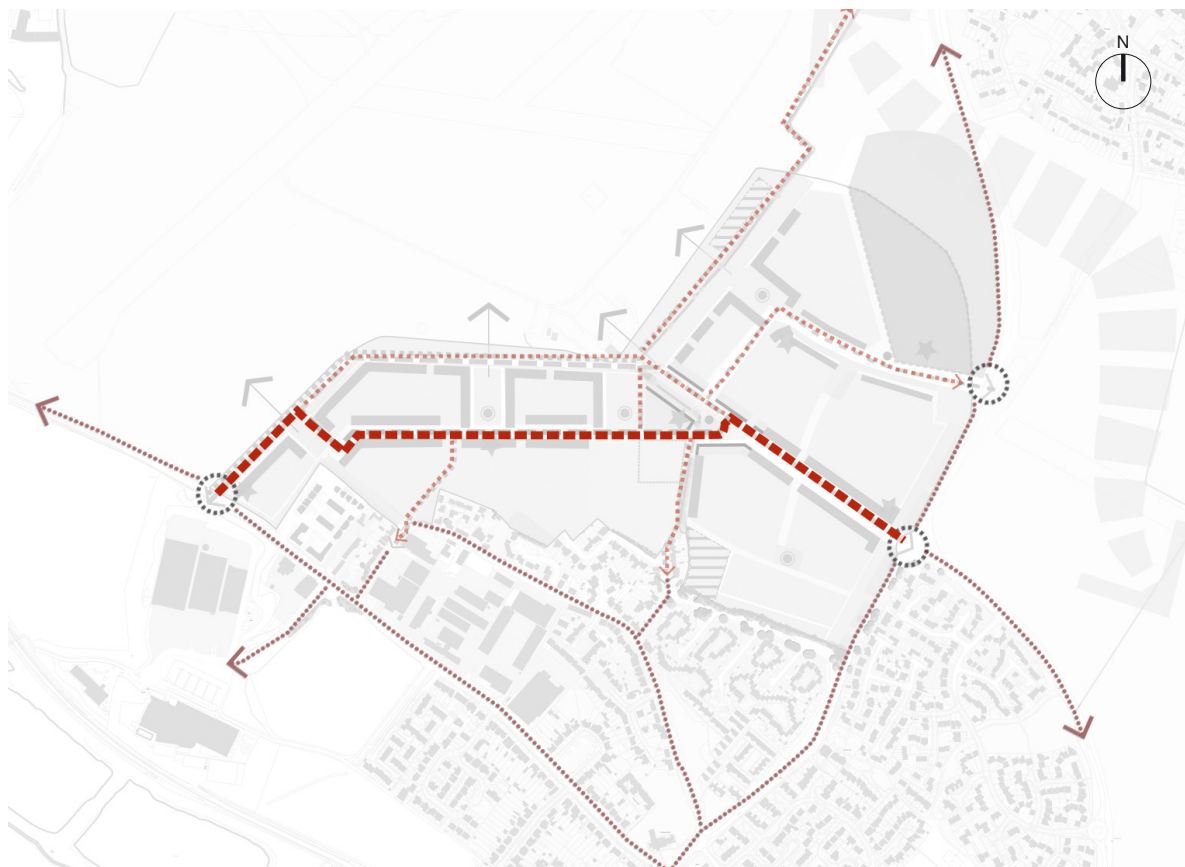


Figure 42: Primary street option B

Advantages

- Places the primary vehicular movement through the centre of the development
- Allows traffic free landscape edge and cycle pedestrian movement along the airport edge
- Opportunity to integrate the new gas main along the footpaths and verges, keeping landscaped areas and parks free from constraint

Disadvantages

- Requires careful considerations of density and building heights along the primary street due to proximity to the existing residential edge

Cycle and pedestrian movement - potential links

5.25 Proposals for the site should be as permeable for cyclists and pedestrians as possible, exploring potential connections to the wider strategic cycle networks surrounding the site such as the Chisholm Trail and the existing Airport path as well as connections on foot to local facilities. Proposals should also explore potential improvements to existing connections. Proposals will be required to demonstrate an appropriate walking and cycling strategy in terms of the site, and acknowledge the wider walking and cycling journeys which interface with it. Potential wider cycle connections are illustrated in figure 43.

5.26 On-site, direct routes should be provided between areas of housing and community

facilities. Local cycle and pedestrian only connections will be encouraged on the site. Pedestrian and cycle connections will also be accommodated on primary and secondary routes. Proposals should incorporate openings and cut through's for cyclists and pedestrians where possible.

5.27 Cycle routes should be well integrated into the proposals and utilise the green corridors and low order less trafficked streets. Off road cycle links within the site that are shared by cyclists and pedestrians should be at least 3.5m wide.

Figure 43 – AMENDED

Figure 43 - Potential wider cycle connections - current draft SPD

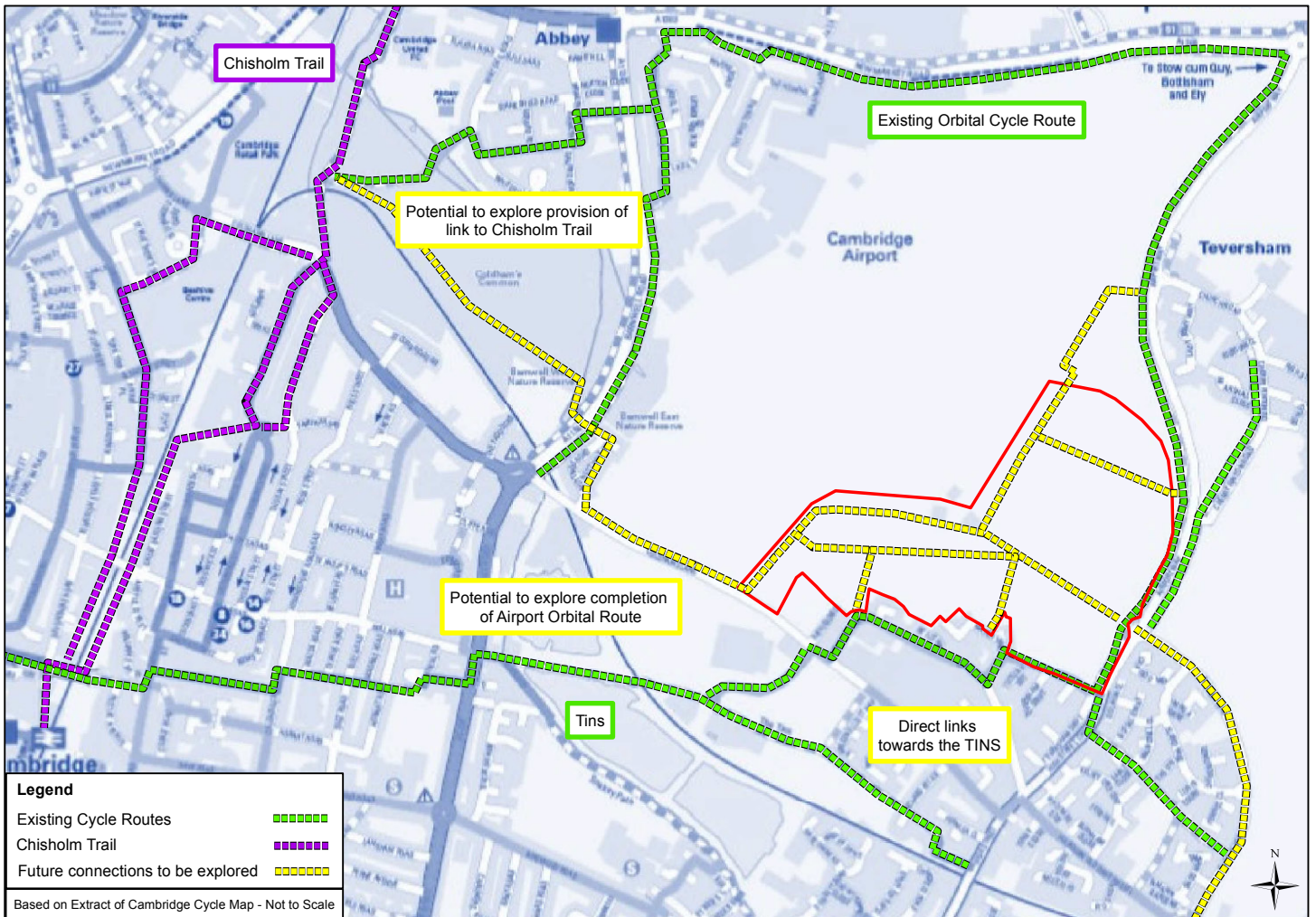
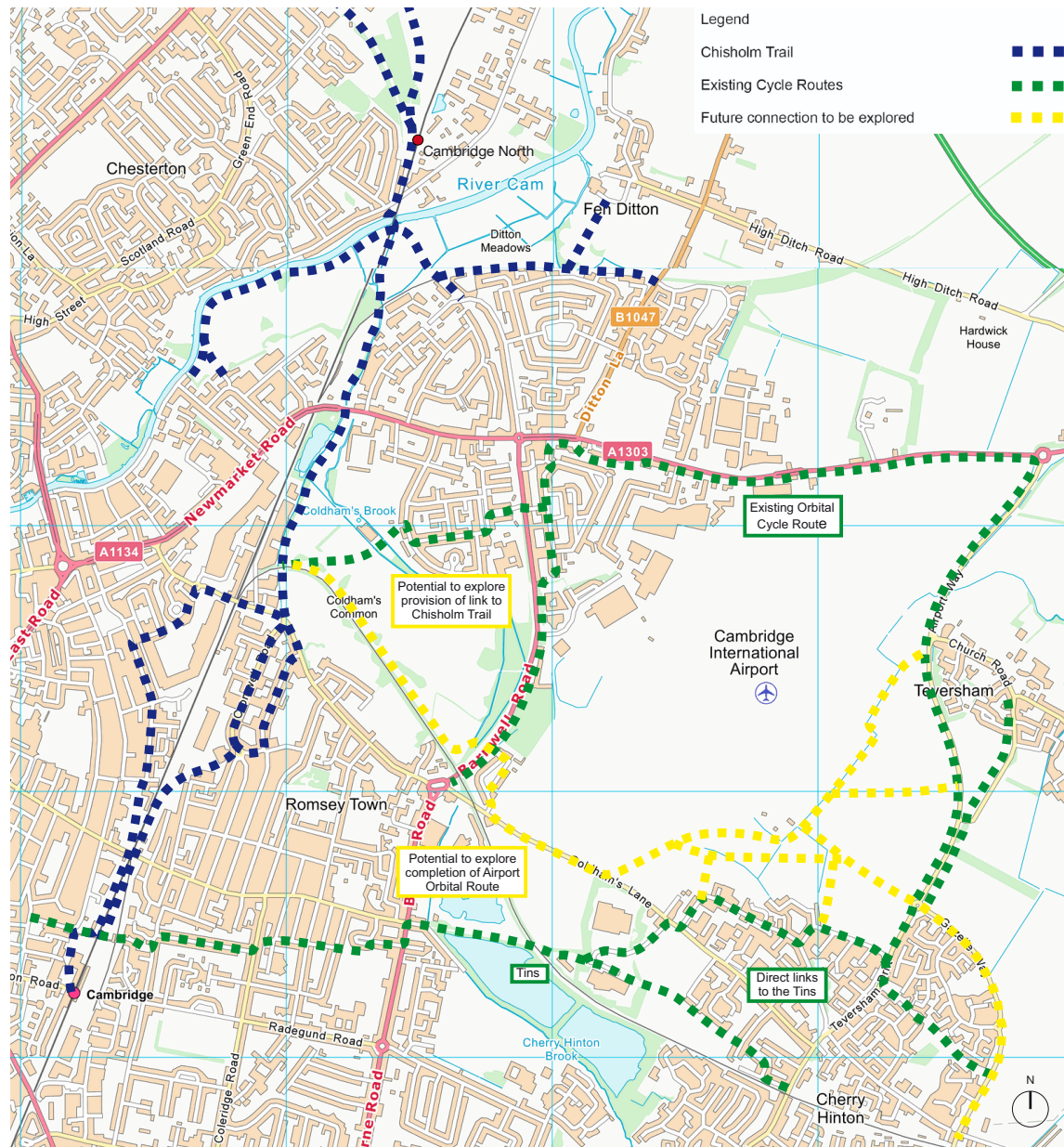


Figure 43 - Potential wider cycle connections - proposed additional modifications



5.28 Proposals should make full provision of the existing public right of way running south-north through the site, connecting Cherry Hinton to Teversham.

5.29 Pedestrian and cycle connections should be delivered by the proposals to facilitate both local and more strategic movements between the site, existing communities and key local services. [Indicative pedestrian and cycle routes are shown in illustrated in figure 44.](#)

5.30 In response to consultation feedback, safe cycle and pedestrian linkages through the development with minimum interaction with vehicular traffic should be encouraged.

Figure 44 – NO CHANGE



Figure 44: Indicative pedestrian and cycle routes

Central spine cycle options

5.31 There is the opportunity to provide a dedicated cycle and pedestrian route through the site. Based on the two options for the primary street route, this dedicated network could come forward as shown in figure 45. Guidance contained with Making Space for Cycling 2014 should be followed when developing proposals for the cycle route.

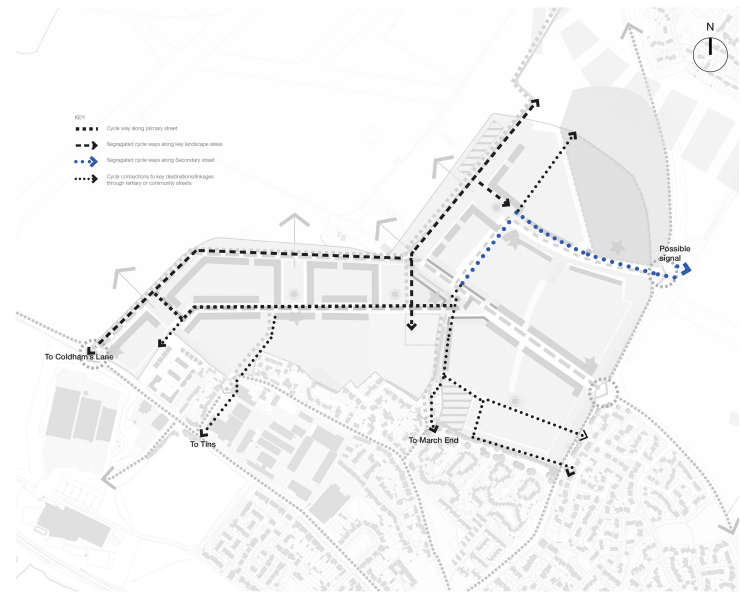
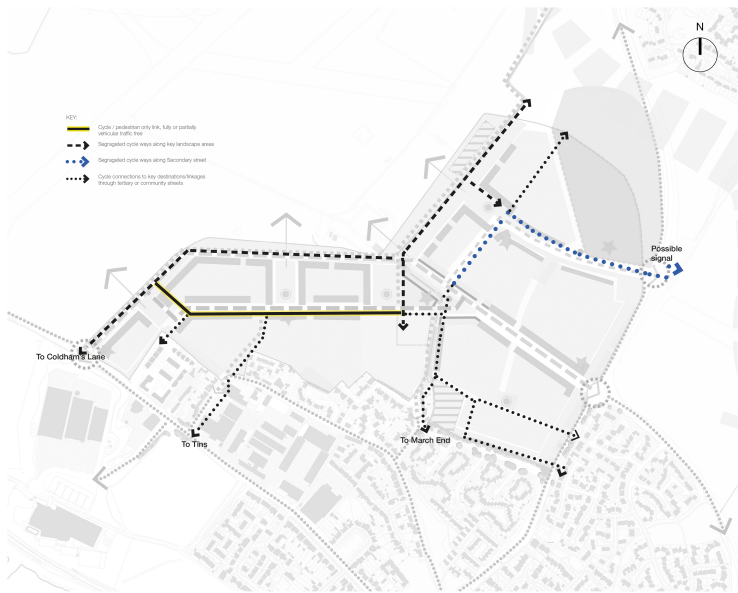
5.32 Options for the primary street include:





- A wholly segregated cycle route is available on the northern boundary of the site for cyclists, providing a completely segregated route between Airport Way and Coldham's Lane.
- There is also a central spine within the development which will be a pedestrian / cycle priority link, with limited or no access for vehicles. The design and arrangement of the blocks around this central spine seek to reduce the volumes of turning traffic potentially conflicting with cyclists.

External pedestrian and cycle connections are also provided from this central spine through the site to the south, linking with the Tins route and to the east to Cherry Hinton High Street, including access to the existing bus stop which is served by the Citi 1.

Figure 45 – AMENDED

Figure 45 - Central spine cycle options - current draft SPD



-  Cycle / pedestrian only link, fully or partially vehicular traffic free
-  Segregated cycle ways along key landscape areas
-  Segregated cycle ways along Secondary street
-  Cycle connections to key destinations/linkages through tertiary or community streets





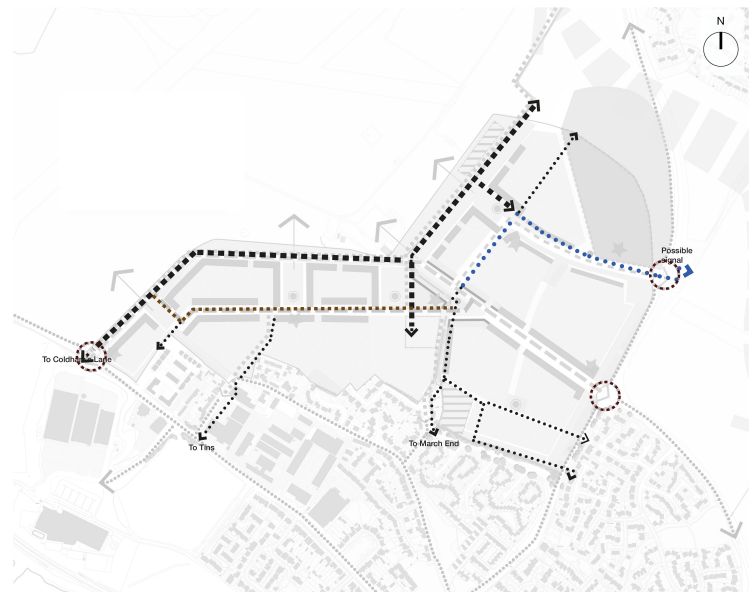
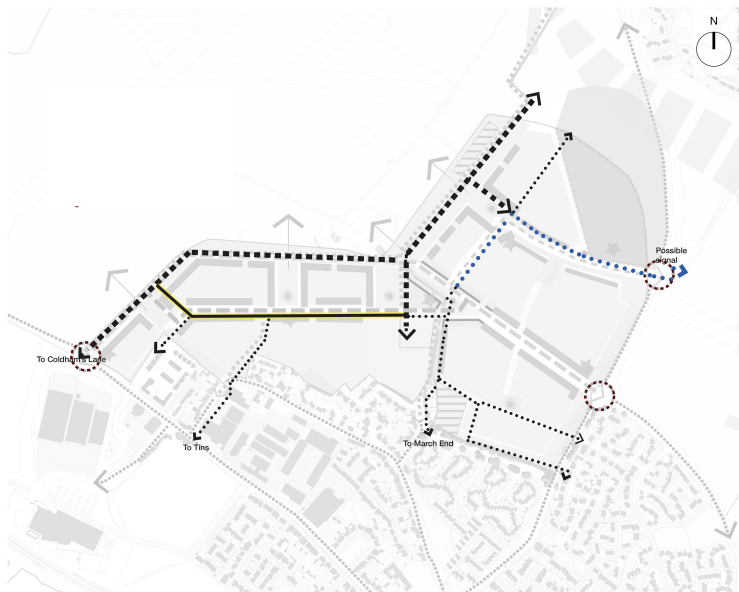





-  Cycle way along primary street
-  Segregated cycle ways along key landscape areas
-  Segregated cycle ways along Secondary street
-  Cycle connections to key destinations/linkages through tertiary or community streets

Figure 45 - Central spine cycle options - proposed additional modifications



-  Cycle / pedestrian only link or partially vehicular traffic free
-  Segregated cycle ways along key landscape areas
-  Segregated cycle ways along key secondary street
-  Cycle connections to key destinations / linkages through tertiary or community streets
-  Access junction

-  Cycle way along primary street
-  Segregated cycle ways along key landscape areas
-  Segregated cycle ways along key secondary street
-  Cycle connections to key destinations / linkages through tertiary or community streets
-  Access junction

Public transport

5.33 Any strategy for public transport must be led by the County Council, in partnership with the local authorities, bus companies and developers. The proposed public transport strategy for the site will build upon the existing network.

5.34 Proposals will provide well-connected, high quality pedestrian and cycle routes that connect with the public transport network to help make sustainable travel modes more attractive than use of the private car. The majority of the development should aim to be no more than a 5 minute or 400m walk to bus stops. Figure 46 illustrates how the bus route could come forward.

5.35 Any planning application will be accompanied by a public transport strategy, setting out how the site will be served by public transport. Consideration should be given to the restricted height of Coldham's Lane Bridge.

Figure 46 – NO CHANGE

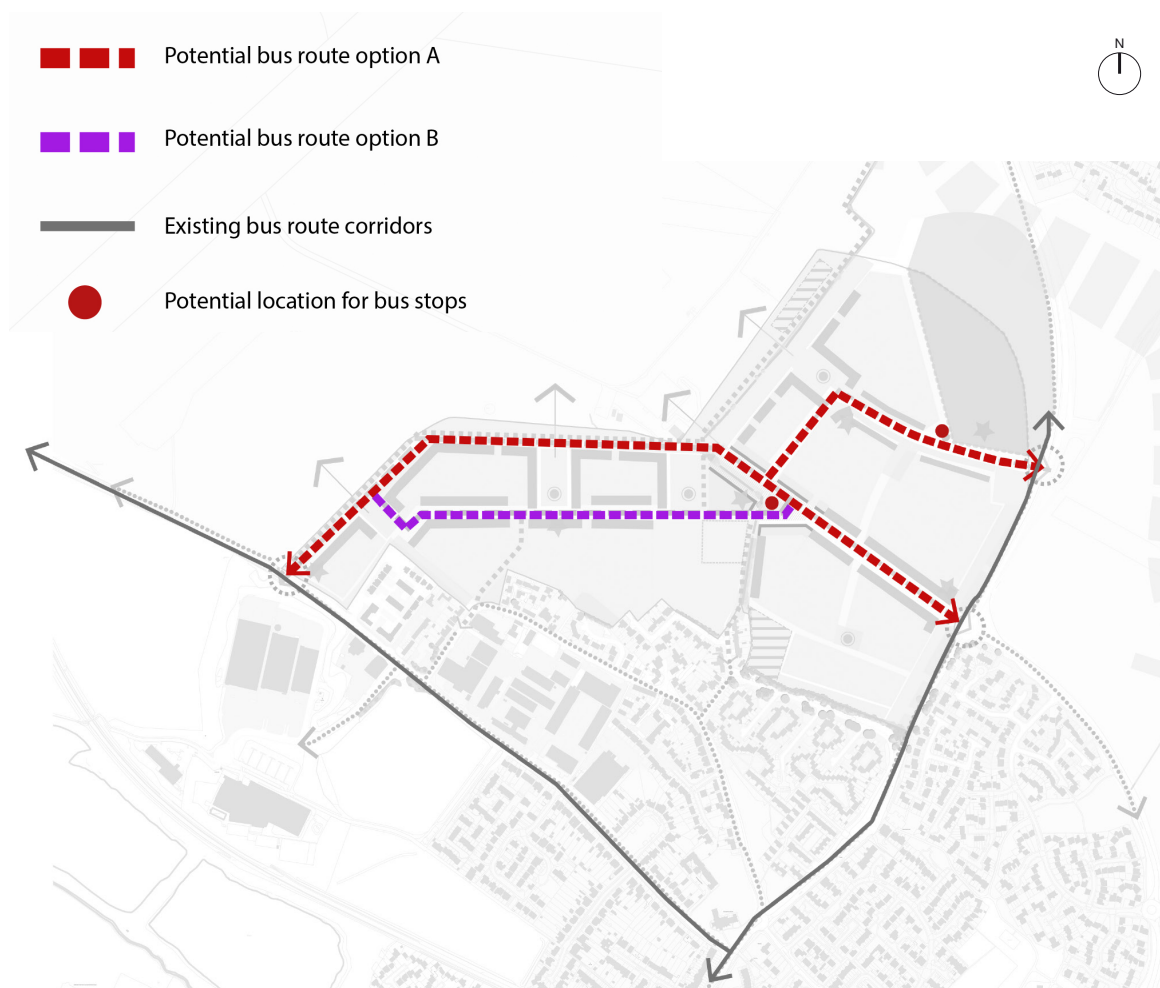


Figure 46: Indicative bus route

Car parking

5.36 Proposals should accord with Cambridge City Council's parking standards, which are expressed as maximum standards in line with national guidance and the council's sustainability aims, and with CEAAP policy CE/11 (alternative modes and parking), CLP policy 82 (parking management) and SCLP policy T1/3 (parking provision), which seek to ensure appropriate parking provision for new developments for motor vehicles and cycles.

5.37 Car parking should be designed to minimise impact on the urban form. The majority of car parking spaces should be provided 'on plot' with parking courts avoided.

5.38 Facilities for electric charge points should be incorporated into design proposals with consideration given for provision of EV charge points (in line with Policy 35 of the National Planning Policy Framework (NPPF)).

Cycle parking

5.39 Safe and secure cycle parking should be provided and should accord with both Cambridge City Council and South Cambs District Council's policy requirements and cycle parking guidelines, following guidance contained with the Cambridge Cycle Parking Guide for New Residential Developments, February 2010. Cycle parking should be considered early in the design process with an emphasis on Sheffield stands or within garages where appropriate.

Environmental considerations & site-wide sustainability

5.40 The development plan policies of relevance are CEAAP policy CE/25 (sustainable building and materials), CE/26 (noise), CE/27 (air quality), CE/28 (an exemplar in sustainability), CLP policy 27 (carbon reduction, community energy networks, sustainable design and construction), policy 33 (contaminated land), policy 34 (light pollution control), policy 35 (protection from noise and vibration), policy 36 (air quality, odour and dust), and SCLP policy CC/1 mitigation and adaption to climate change), CC/4 (sustainable design and construction), and CC/6 (construction methods).

5.41 Creating a sustainable development should be a priority underpinning the development of the Land North of Cherry Hinton. An integrated and site-wide approach should be employed to address the environmental, social and economic principles of sustainable design and construction. Development should seek to comply with all essential design considerations set out in the Sustainable Design and Construction SPD (June 2007), or as superseded, and should be strongly encouraged to adopt the recommended design considerations where appropriate.

5.42 As the site is within an area of water stress, a key priority for development is to promote water efficiency and water-sensitive design. All dwellings should seek to limit internal potable water consumption to 110 litres/person/day through measures such as low- / dual-flush toilets, using flow restrictors on basin taps, smaller capacity baths and low-flow showers. Opportunities for incorporating rainwater harvesting systems for irrigation purposes, as well as greywater recycling systems, should also be explored.

5.43 Promoters of development should prepare a Sustainability Statement that proposes strategies for addressing the relevant sustainability criteria including water conservation, urban design, biodiversity, pollution and sustainable drainage.

Energy, carbon reduction and adaption to climate change

5.44 Development should be designed and built in accordance with the energy hierarchy of:

1. Reducing energy demand in the first instance through careful consideration of site layout and by adopting a “fabric-first” approach to building design;
2. Using energy efficiently by, for example, using highly efficient systems to provide space heating and hot water and, where appropriate, heat recovery technologies; and
3. Only then supplying clean, renewable and low carbon energy to seek to meet the council’s 10% on-site energy target, where it is appropriate to do so. Where renewable and low carbon technologies are proposed, applicants should demonstrate that potential adverse impacts on the environment will be reduced as far as possible.

5.45 Development should demonstrate how adaptability will be built in so that future building occupants, particularly the vulnerable, are not exposed to unnecessary risks associated with the East of England’s changing climate. Proposals should consider options to reduce potential overheating and reliance on air condition systems in accordance with the following cooling hierarchy of:

1. Reducing internal heat generation through energy-efficient design;
2. Reducing the amount of heat entering a building in summer through measures such as orientation, shading, albedo, fenestration, insulation and, where appropriate, green roofs and walls;
3. Managing heat within the building, e.g. through use of thermal mass and consideration of window sizes;
4. Passive ventilation;
5. Mechanical ventilation;
6. Only then considering cooling systems (using low carbon options).

5.46 Planning applications should be supported by an Energy Statement outlining the proposed strategy for conforming with the energy and cooling hierarchies outlined above.

Air quality

5.47 Air quality should be considered at the design stage, with consideration given to mitigating emissions at the site wide level. Development should comply with best practice guidance set out in the IAQM Land Use Planning & Development Control: Planning for Air Quality (2017), or as superseded. Consideration should be given to the following (please note the below list is not exhaustive):

- Combustion Emissions - Consideration should be given at an early stage to the method of energy provision in the context of its impact on air quality including location of combustion emissions away from receptors through well cited vents or chimney stacks; scale of delivery e.g. district heating or CHP; height of chimney stacks in relation to dispersion and corresponding design constraints
- Incorporate facilities for electric charge points - Consideration should be given for provision of EV charge points across all appropriate land uses.
- Design should ensure there are no ‘street canyons’ which could inhibit effective pollution dispersion and lead to future air quality problems.

Energy

5.48 The relevant policies are CEEAP policy CE/24 (energy), CLP policy 29 (renewable and low carbon generation), and SCLP policy CC/2 (renewable and low carbon energy), and CC/3 (renewable and low carbon energy in new developments).

5.49 The development at LNCH will be designed and built in accordance with the energy hierarchy of reducing energy demand in the first instance (Be Lean), using energy efficiently (Be Clean) and, only then, supplying clean renewable and low carbon energy, where it is appropriate to do so (Be Green). The energy hierarchy is illustrated in figure 47.

5.50 Any planning application(s) for development will be supported by an Energy Statement presenting passive energy demand reduction measures adopted in the masterplan, options for further reducing demand through building designs, and options for efficiently supplying heating and cooling to buildings. The Statement(s) will include a preliminary feasibility study identifying opportunities for incorporating building-integrated or standalone renewable and low carbon technologies and, where appropriate, opportunities for 'exemplar' energy efficiency projects and consideration of smart grid approaches.

Figure 47 – NO CHANGE

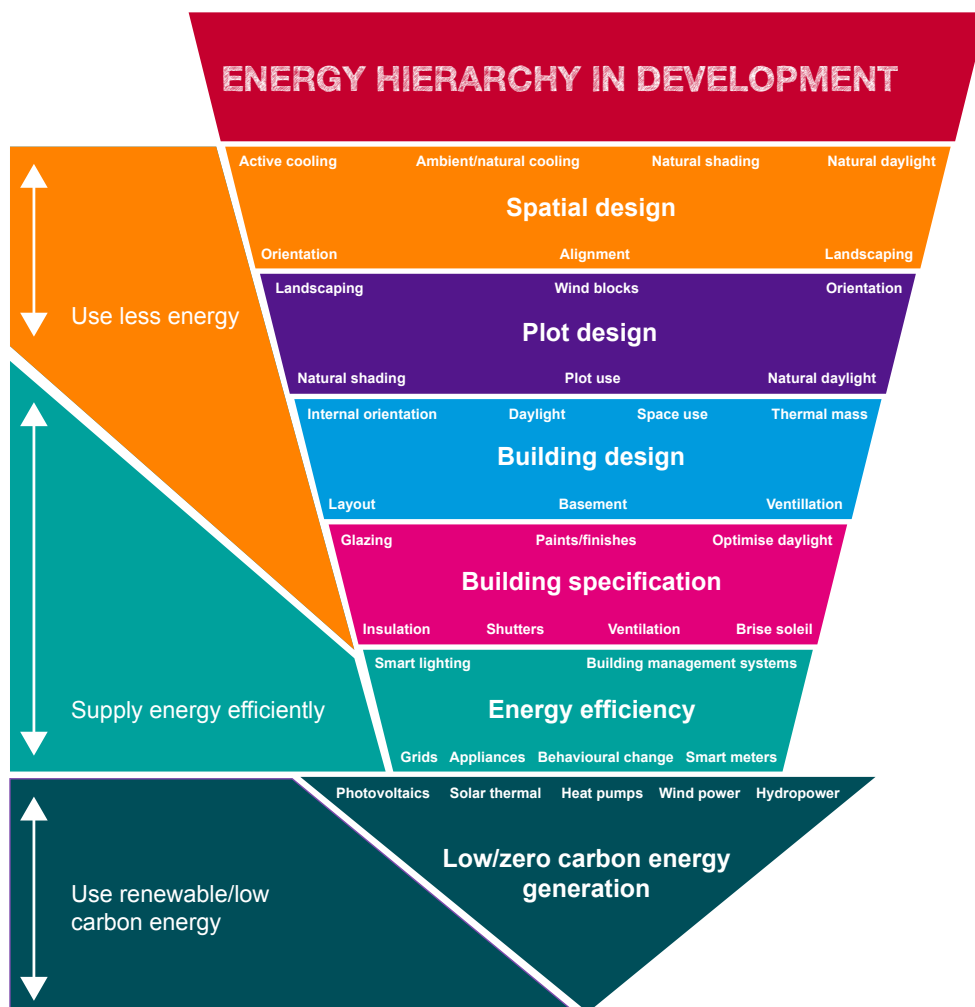


Figure 47: Energy Hierarchy