

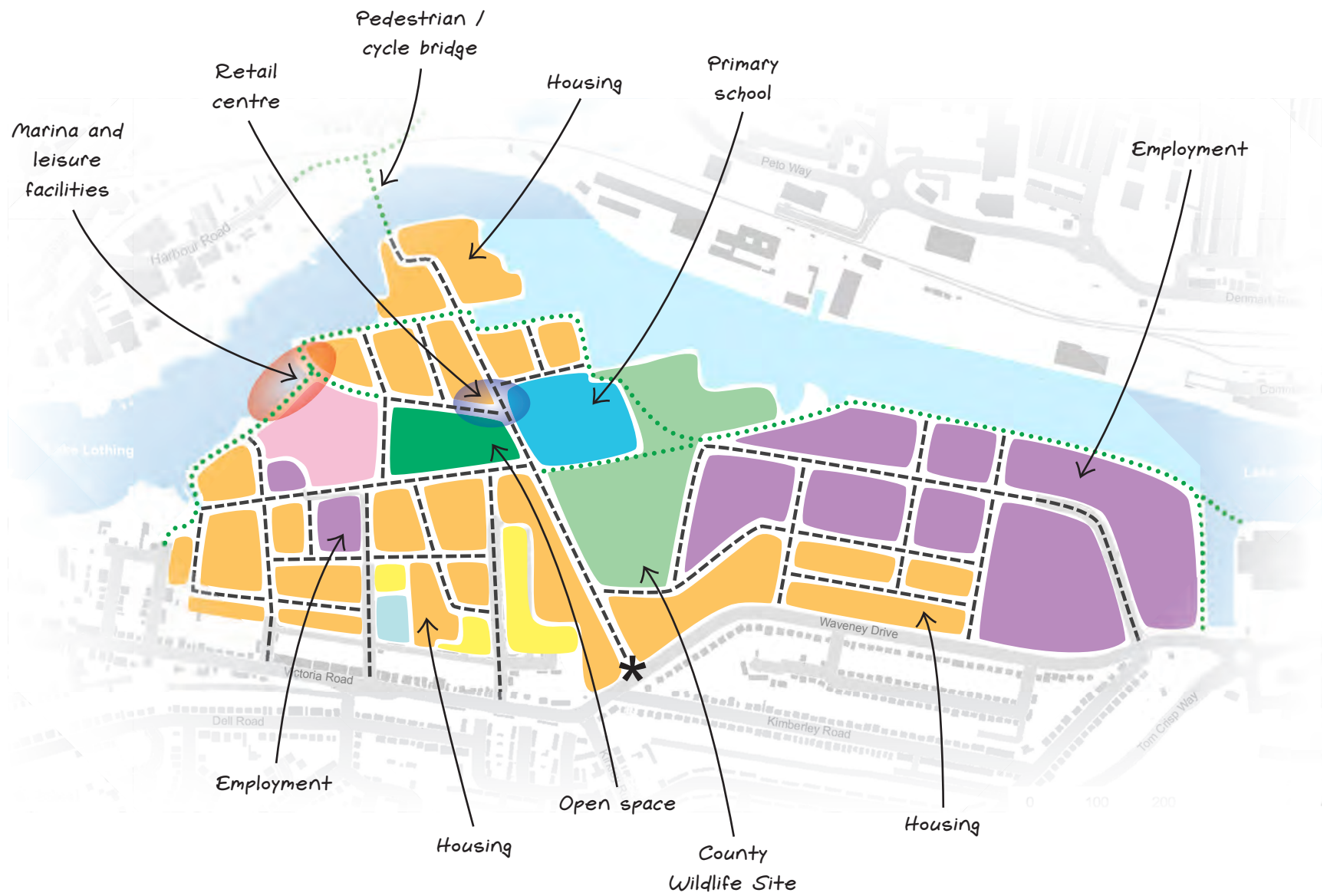
A guide to developing Kirkley waterfront and a new sustainable urban neighbourhood in Lowestoft

Sustainable Urban Neighbourhood and Kirkley Waterfront Development Brief
Supplementary Planning Document (SPD): Adopted May 2013



On 1st April 2019, East Suffolk Council was created by parliamentary order, covering the former districts of Suffolk Coastal District Council and Waveney District Council. The Local Government (Boundary Changes) Regulations 2018 (part 7) state that any plans, schemes, statements or strategies prepared by the predecessor council should be treated as if it had been prepared and, if so required, published by the successor council. Therefore this document applies to the part of the East Suffolk Council area formerly covered by the Waveney local planning authority area until such time that it is replaced.





View the full draft outline masterplan on page 51

What is the purpose of this document?

The Sustainable Urban Neighbourhood and Kirkley Waterfront will be a large mixed-use development on the south-side of Lake Lothing in Lowestoft. This document provides practical information and development guidelines to help implement this site.





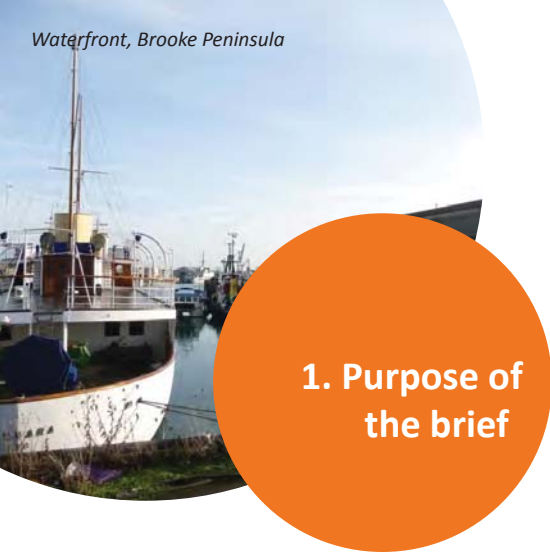
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1

Introduction



1. Purpose of the brief



1. Introduction

1.1 The Sustainable Urban Neighbourhood and Kirkley Waterfront (SUN) will be a large mixed-use development on the south-side of Lake Lothing in Lowestoft. The 59.8 hectare site covers the majority of the southern shore of Lake Lothing stretching back from the shore to Victoria Road and Waveney Drive. Figure 1.1 shows the location and area of the site. The site comprises predominantly underutilised or unoccupied brownfield land and offers an unrivalled waterfront opportunity to regenerate the south-side of Lake Lothing as a new employment area and residential community and to open up access to the waterfront for the public.

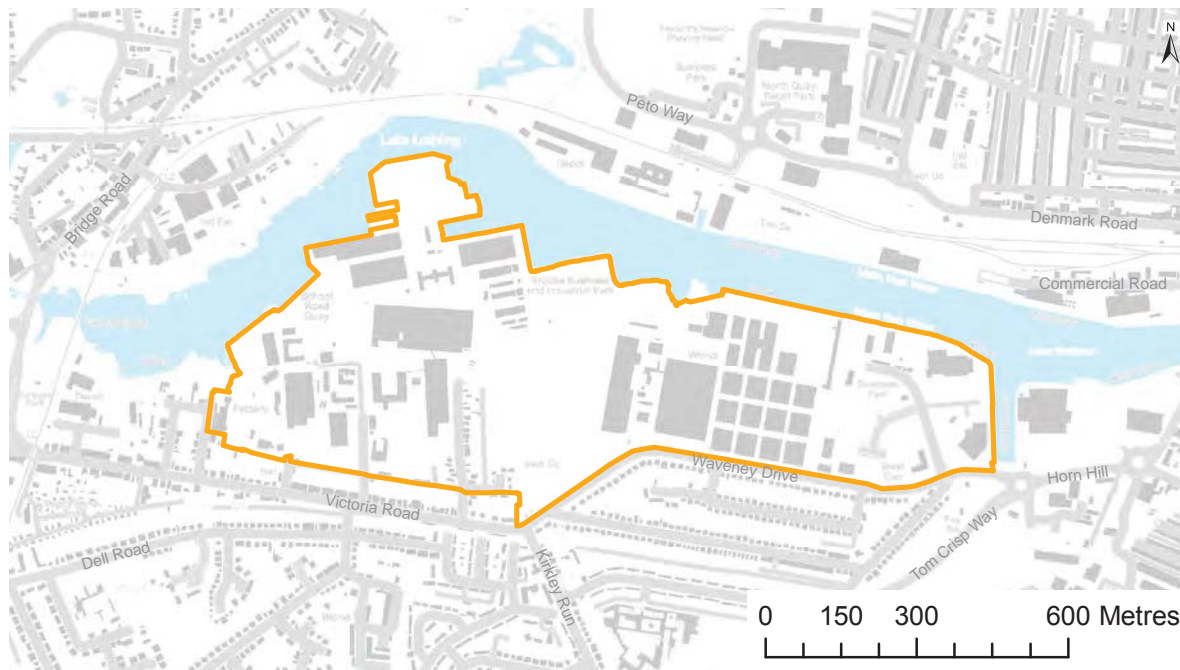





Figure 1.1 Location of the Sustainable Urban Neighbourhood and Kirkley Waterfront

1.1 PURPOSE OF THE BRIEF

1.1.1 The Sustainable Urban Neighbourhood and Kirkley Waterfront (SUN) is allocated for a mixed-use development under Policy SSP3 of the Lowestoft Lake Lothing and Outer Harbour Area Action Plan. Policy IMP4 of the Area Action Plan requires the preparation of a Development Brief prior to the determination of planning applications.

1.1.2 The purpose of this Development Brief is to set out a site-specific vision and objectives for the delivery of the SUN. It builds upon the detail set out in the Area Action Plan and seeks to ensure that a comprehensive approach to development is achieved. In summary, the brief sets out:

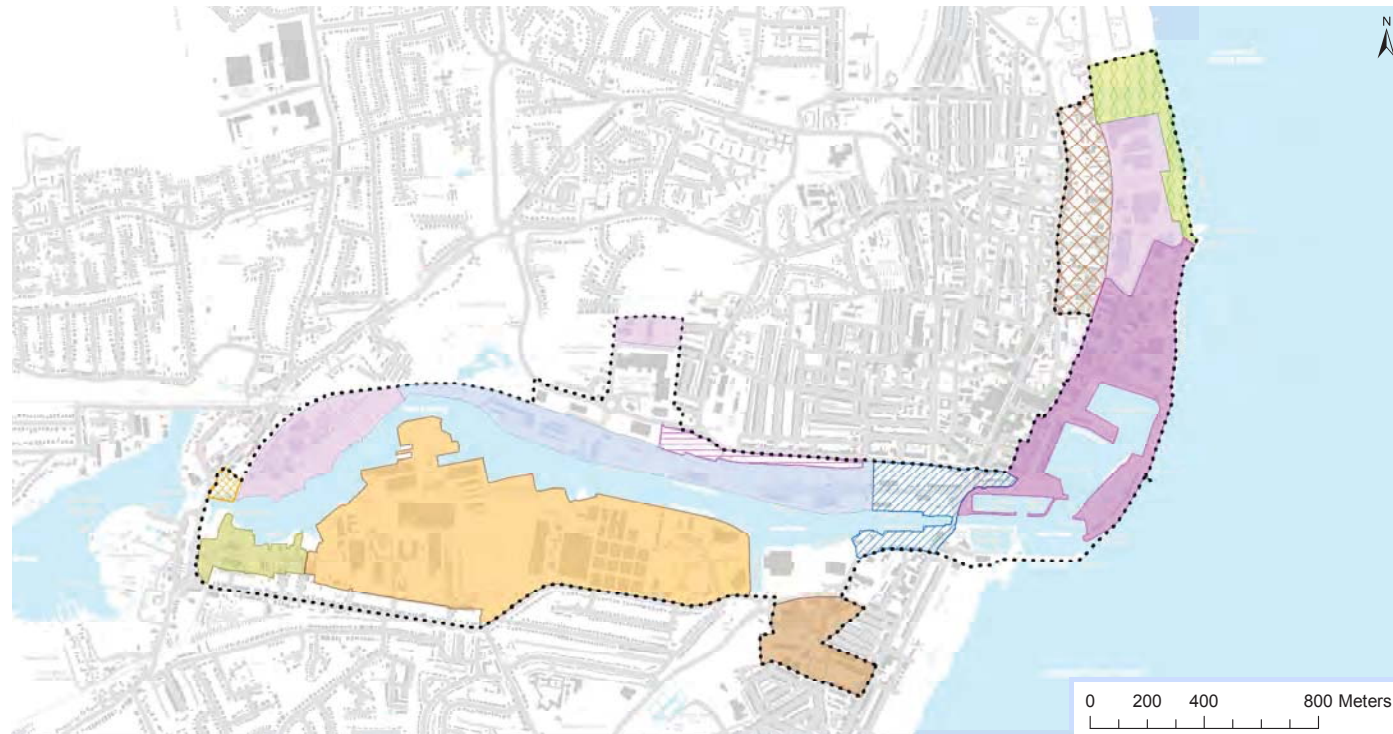
- Proposed Energy Related Employment (SSP1) 
- Proposed Retail, Leisure, Tourism and Port Related Activities (SSP2) 
- Proposed Housing, Industrial and Community Facilities (SSP3) 
- Proposed East of England Park (SSP4) 
- Proposed Housing, Employment and Community Facilities (SSP5) 
- Proposed Mixed Use Regeneration (SSP6) 
- Proposed Housing and Community Facilities (SSP7) 
- Proposed Mixed Use Regeneration and Enhancement (SSP8) 
- Proposed Employment (SSP9) 

- the distribution of land uses across the site,
- high level street network and transport proposals
- open space and landscape principles
- design principles
- flood risk mitigation requirements
- implementation strategy

1.2 POLICY CONTEXT

1.2.1 Policy CS05 of the Adopted Waveney Core Strategy identifies Lake Lothing as an area for employment led regeneration and the provision of 1,500 new homes. Policy CS05 states that an Area Action Plan for the Lake Lothing area will be developed to provide further guidance.

Figure 1.2 AAP Allocations



1.2.2 The Adopted Lowestoft Lake Lothing and Outer Harbour Area Action Plan (AAP) sets out the detailed policy framework for the Lake Lothing area which includes the Sustainable Urban Neighbourhood and Kirkley Waterfront site (SUN). Figure 1.2 shows how the SUN allocation fits with other allocations in the AAP area. The document contains a number of area-wide policies which have been reflected in this document as well as a site-specific policy for the site. Policy SSP3 of the AAP sets out detailed proposals for the development of the SUN including:

- Approximately 1,380 dwellings and a potential continuing care retirement community
- Open space (3 hectares, dependant on actual density) and re-provision of the Jeld-Wen Playing Fields
- 12 hectares of employment land to be shared with Kirkley Waterfront (majority to be on the waterfront)
- Primary School
- Retail, restaurants, bars, cafes as active ground floor uses
- Marina facilities and moorings for historic vessels
- Hotel

1.2.3 Policy SSP3 is repeated in Appendix 2 for reference.

1.2.4 The National Planning Policy Framework (NPPF) has been considered in the preparation of this brief. The NPPF distilled guidance from a large number of national Planning Policy Statements and Planning Policy Guidance Notes which informed previous drafts of this brief.

An aerial photograph showing a coastal area with a river or harbor. On the left, there's a dense residential area with many small houses. In the center, a large green and white ship is docked at a pier. To the right, there are several large industrial buildings and a parking lot. In the background, a large white wind turbine stands on a hill. The sky is clear and blue. A large orange circle is overlaid on the right side of the image, containing the number '2' and the word 'Context'.

2

Context











2. Context

2. Context

2.1 Before it is possible to plan for the future of a site it is necessary to understand the historical and present context of the site and its surroundings. Figure 2.2 analyses the existing physical context of the site and its surroundings and Figure 2.1 analyses the existing social infrastructure surrounding the site and the key connections to and from the site. A detailed analysis of existing uses, constraints and opportunities and local character is found in Appendix 1 of this brief.

2.2 Figure 2.3 highlights the constituent parts of the site that are referenced throughout the brief. For reference, throughout this document the Sustainable Urban Neighbourhood and Kirkley Waterfront will be abbreviated to SUN. Where the document refers to the western part of the SUN, it means the area west of the Jeld Wen Factory site.

- Railway station 
- Health centre 
- High school 
- Shop 
- National Cycle Network 
- Regional Cycle Network 
- Main roads 
- Town centre area 

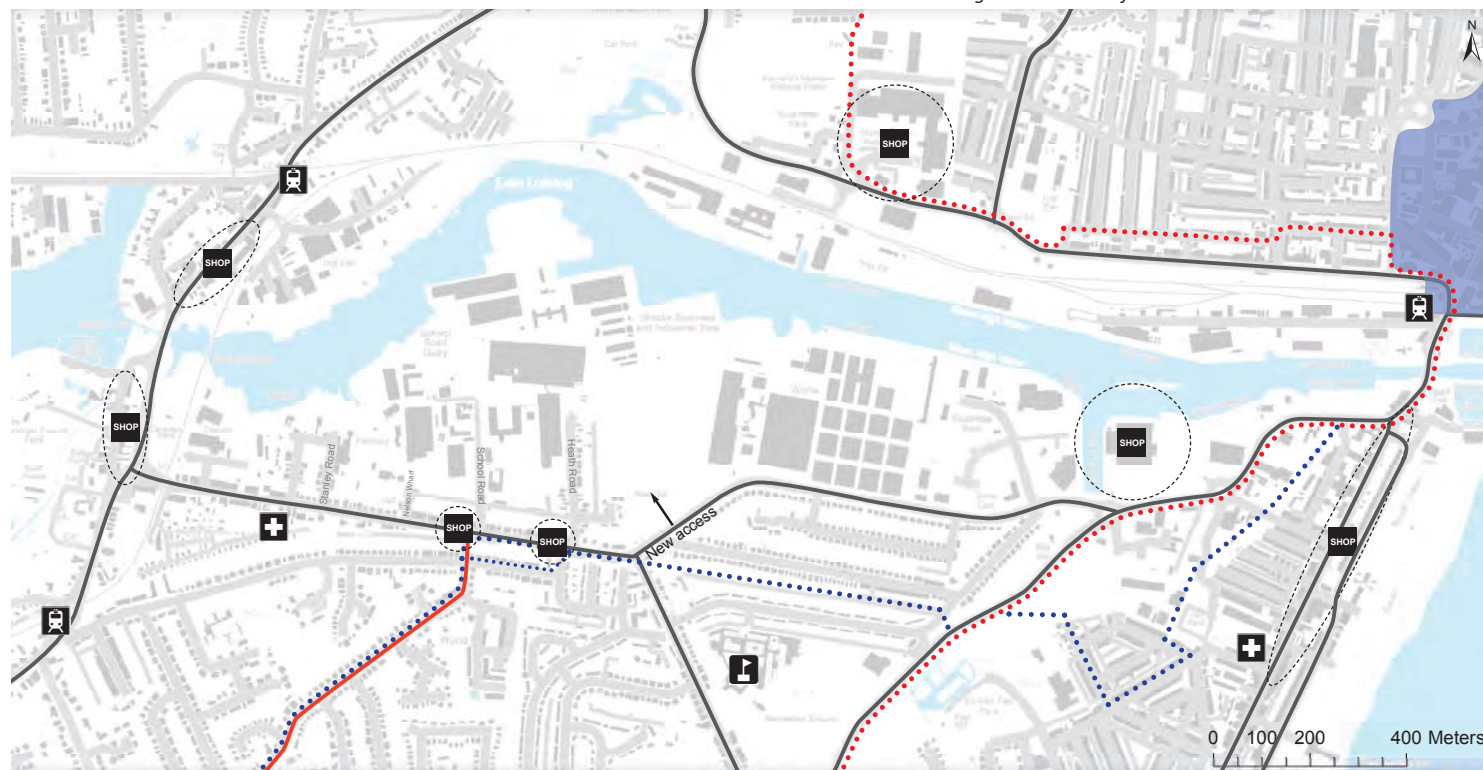
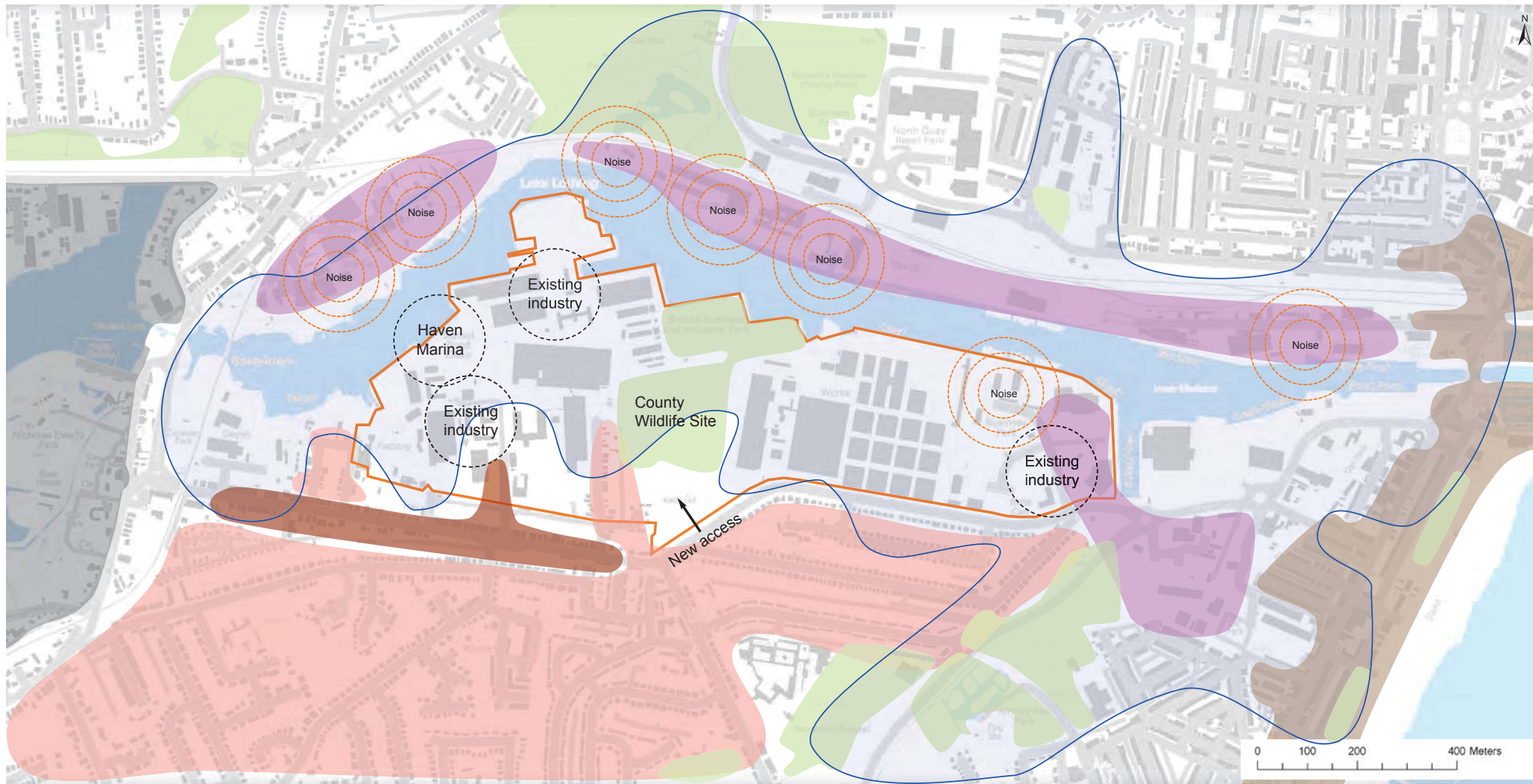


Figure 2.1 Social Infrastructure Context

Figure 2.2 Physical Context



19th Century Housing Character



Port / Industry Character



Open space



Broads Authority Area



20th Century Housing Character



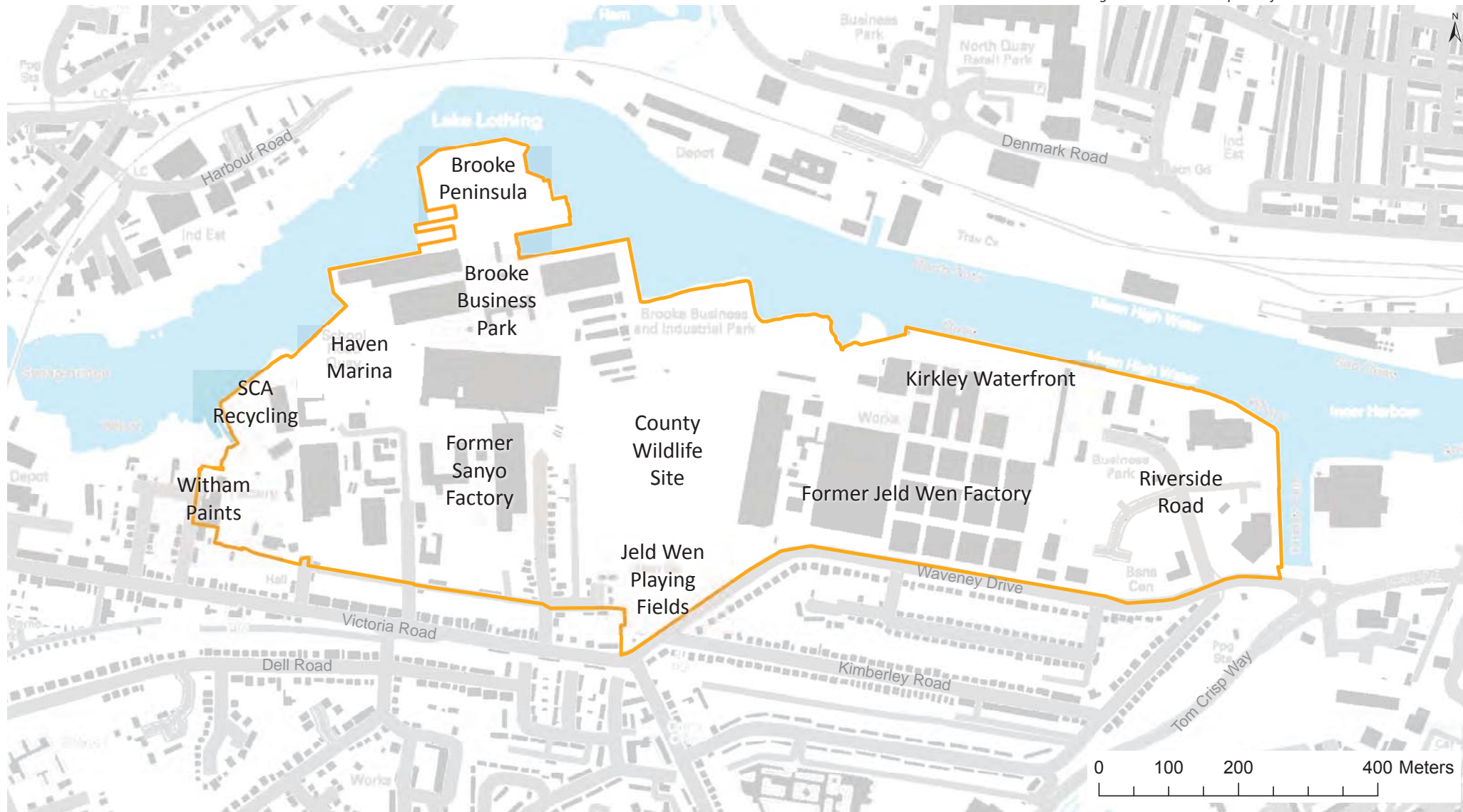
Indicative Flood Risk



Conservation area



Figure 2.3 Constituent parts of the SUN



An aerial photograph of an industrial and residential area. In the foreground, there is a large body of water with many boats docked at a marina. To the right, there are several large industrial buildings and a parking lot. In the background, there is a dense residential area with many houses. A large orange circle is overlaid on the right side of the image, containing the number 3 and the text 'Vision And Objectives'.

3

Vision And Objectives



3. Vision and Objectives

3. Vision and Objectives

3.1 VISION

Development in the Sustainable Urban Neighbourhood and Kirkley Waterfront will transform an underutilised and unattractive area into a vibrant, inclusive community that is integrated with adjacent areas and provides access to employment, services and facilities in a high quality environment.

Development will maximise the opportunities presented by the waterfront, the central location of Lowestoft and linkages to the town centre. It will be a place that will grow and develop in the future, where people take pride in where they live and they feel part of the community.

3.2 OBJECTIVES

Objective 1: Housing

Approximately 1380 new homes consisting of a mix of market and affordable housing will be provided to meet local housing need. These will be of different housing types, sizes and tenures to provide for people of different ages, incomes and family sizes. New dwellings will be of high quality and maximise the attributes of the local area including the waterfront, public open space, access to goods and services and connections with existing residential areas.



Objective 2: Employment

New land available for employment uses along the waterfront will enable businesses to take advantage of the opportunities presented by the growing onshore and offshore renewable energy sector, new port related activities and an existing skilled work force. In conjunction with the PowerPark and supporting business start-up units, the SUN development will assist with the creation of 5000 new jobs in the area.

Objective 3: Infrastructure

New infrastructure will support new residents and businesses in the area. This will include a new primary school, a pedestrian/cycle bridge over Lake Lothing at Brooke Peninsula, a new road to access the site and measures to reduce the risk of flooding. New infrastructure will be delivered in a comprehensive and integrated fashion.

Objective 4: Retail

Small-scale retail facilities in the heart of the SUN will provide goods and services for the local community. These will reduce the need to travel, assist with the creation of a focal point in the neighbourhood and complement the existing shopping areas of Kirkley, Oulton Broad and central Lowestoft.



Objective 5: Leisure and Tourism

New residents and visitors to the SUN will support a flourishing marina area and boating community that will encourage maritime related business and recreation. Supported by leisure and recreation facilities such as bars and restaurants this will create a focal point on the waterfront. A pedestrian and cycle route along the waterfront will improve connections between Lowestoft's South Beach and Oulton Broad, support local tourism and encourage people to use the SUN.



Objective 6: Social Inclusion

The Sustainable Urban Neighbourhood and Kirkley Waterfront will be a comprehensive development that will provide housing to meet the needs of people in the community, access to facilities needed by people of different ages and incomes and spaces where people can interact and socialise. Together these will contribute to a place that has a local identity.

Objective 7: High Quality Design

High quality design will be instrumental to achieving the aspirations of the SUN. Site layout, new buildings, public spaces and movement routes will be designed to the highest calibre, highlighting the setting of the SUN between the Broads and the North Sea and will contribute to achieving a 'Lifetime Neighbourhood'. The interior of buildings will provide living and working spaces that are adaptable to meet the needs of a population that may change over time and support a high quality of life.

Objective 8: Open Space and Environment

A network of open spaces will be designed to create a sense of openness and legibility within the neighbourhood. An attractive and interesting public realm that contains a variety of useful facilities and spaces will encourage residents to become more physically active, enjoy a healthier lifestyle and provide greater opportunities for social interaction. A well connected network of open spaces will support biodiversity and provide opportunities to improve connections with the existing community.

Objective 9: The Waterfront

A new path along the water for pedestrians and cyclists will increase access to the waterfront and significantly improve connections with other areas such as Lowestoft town centre, South Beach and Oulton Broad. These connections will be supported with views and landmarks orientated towards Lake Lothing at Brooke Peninsula from various vantage points. Public access to and along the waterfront will build upon the historical links between the people of Lowestoft and the sea.

Objective 10: Sustainable Transport

A network of legible, attractive walkways and cycleways will enable convenient access to local facilities and services. Supplemented by public transport they will provide people with a choice of transport modes to get to their destination. This will reduce the need to travel by private vehicle. A new pedestrian/cycle bridge across Lake Lothing at Brooke Peninsula will improve access to local facilities and benefit people living in both north and south Lowestoft.

Objective 11: Flood Risk

People and property in the SUN will be protected from flooding. This may be achieved through new flood defences or measures to mitigate flooding such as building design and land raising. A comprehensive surface water drainage system will be built as part of the development to reduce the risk of surface water flooding. Additional flood protection may also benefit existing properties providing a more secure and safe environment for local residents and businesses.

Objective 12: Sustainable Buildings

New buildings will be designed and built to be energy and water efficient. As an exemplar development, new buildings will show how best practice can be achieved. The broader issues related to sustainable buildings including; waste, ecology, surface water flooding as well as the wider construction process will have been considered. This together will have helped contribute to a Sustainable Urban Neighbourhood.



4
Land Use



4. Land Use

- New housing ●
- New/existing employment ●
- Marina ●
- Primary School ●
- Replacement open space ●
- County Wildlife Site ●
- Existing education ●
- Existing residential ●
- Leisure focus ●
- Local centre ●

Land Use	Approximate Area (hectares)
Housing	24.5
Employment (new and existing)	20
Open Space	2
Primary School	2
County Wildlife Site	6.2
Existing Marina	2.4
Existing Residential	2.2
Existing School	0.5
Total	59.8

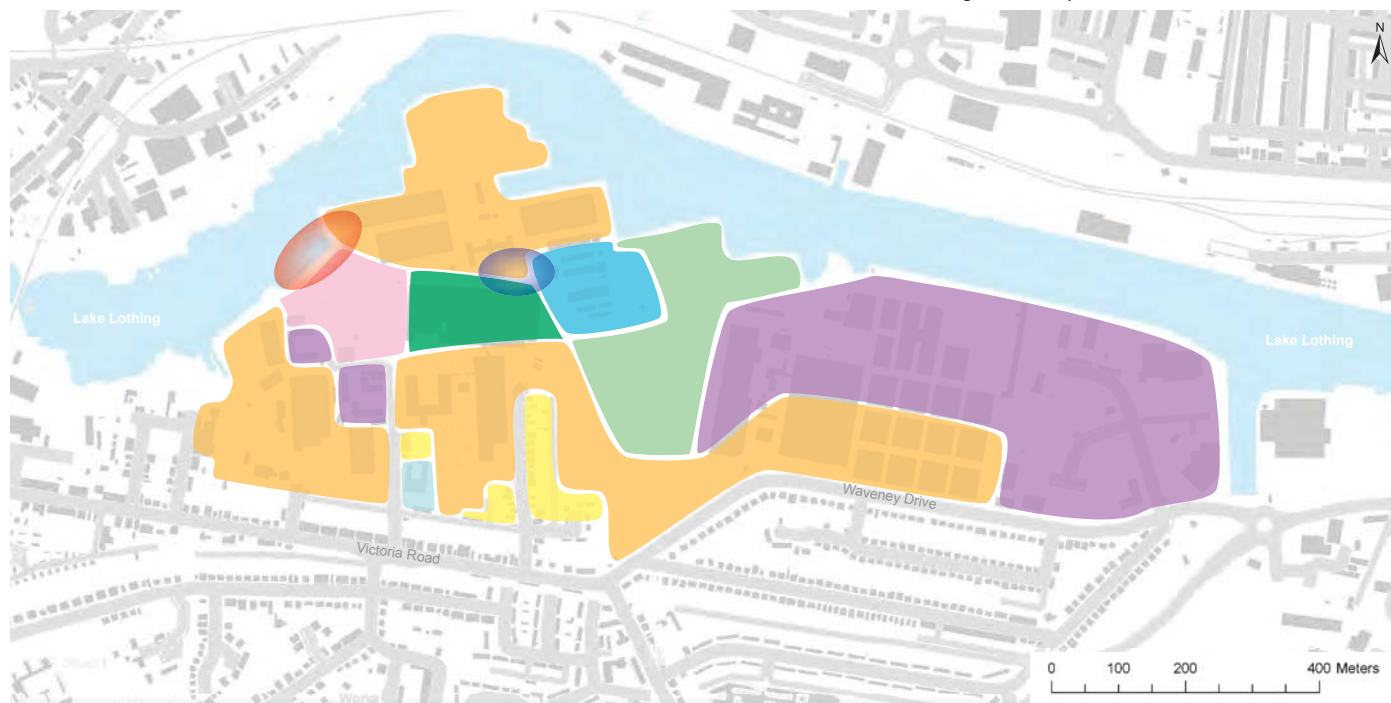
Table 4.1 Land Use Budget

4. Land Use

4.1 The expectation for the Sustainable Urban Neighbourhood and Kirkley Waterfront (SUN) is that it will be a thriving and diverse mixed-use development. Mixed-use developments help provide convenient access to services and facilities to help reduce the need to travel. They also help create a sense of place that has life, feels safe and provides a greater opportunity for social interaction. The mix of uses should blend and integrate well together. The types and quantum of each use is outlined in Policy SSP3 of the Area

Action Plan. The broad distribution of uses across the site is set out in Figure 4.1. The distribution of land uses shown in Figure 4.1 reflect the key development objectives and principles outlined in Section 3. This distribution creates a central focus to the development and ensures the key community needs such as the primary school and local centre are accessible to the majority of people in the SUN. The distribution of uses has taken into account the sequential approach to flooding with housing focused in areas of no flood risk or less hazardous flood risk. A land use budget is shown in Table 4.1.

Figure 4.1 Proposed Land Use



4.2 The boundaries between land-uses should not be seen as rigid zones of uses. A degree of overlap and blending of uses, both horizontally and vertically, may be acceptable in some locations of the site, subject to amenity considerations.

Housing

Density and Quantum

4.3 Figure 4.1 shows the distribution of housing across the site. The majority of this housing is proposed to be located in the western part of the site in close proximity to the key community facilities proposed in the area.

4.4 The waterfront location of the site is close to the geographic centre of Lowestoft. This, in conjunction with the character of the surrounding residential area, means that the site naturally lends itself to higher densities of residential development. Policy SSP3 requires densities of broadly between 50 and 90 dwellings per hectare across the site. The policy provides scope for lower and higher densities where they are appropriate, considering site constraints and surrounding land uses. The land proposed for housing on the site for residential development is approximately 24.5 hectares which indicates an average gross density of 56 dwellings per hectare across the site is to be expected.

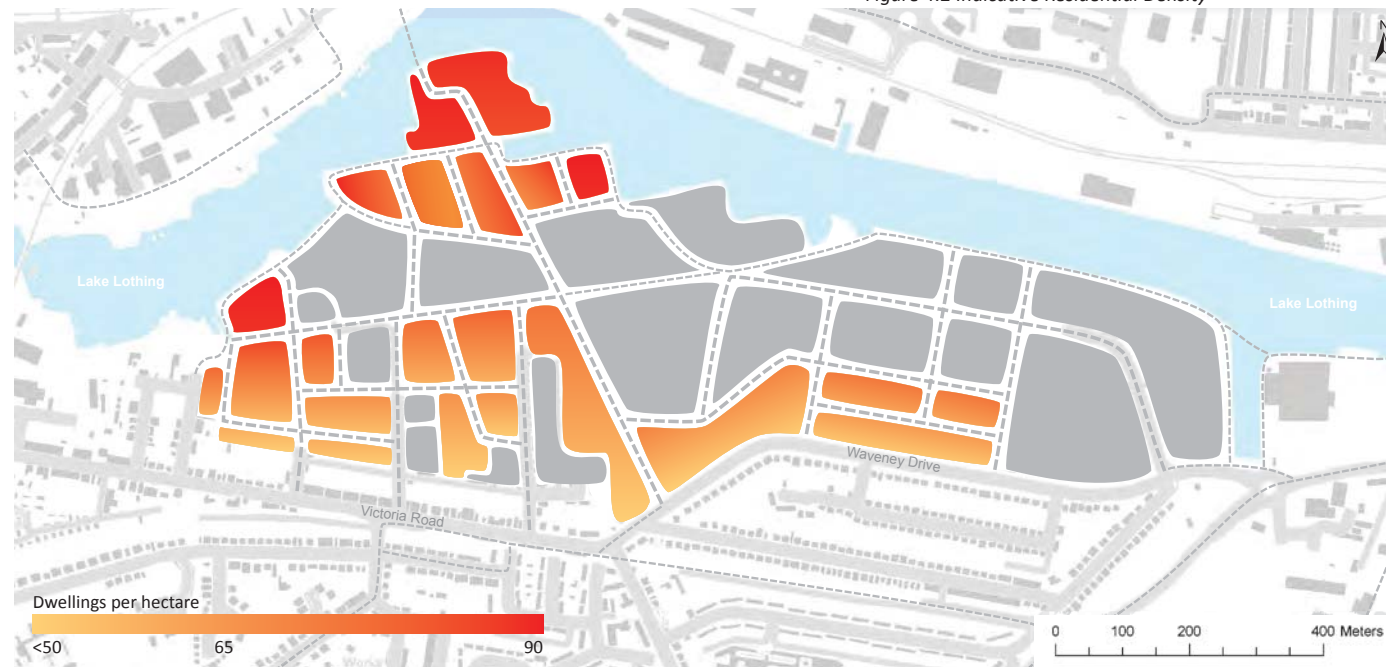
4.5 Figure 4.2 shows how density should vary across the site considering the character of surrounding areas and opportunities provided by the waterfront.

4.6 The waterfront areas of the site are more appropriate for multi-storey apartments to provide a landmark focus for the development. Additionally, densities should be higher nearer the local centre, where apartments can be provided above shops and commercial units.

Area	Approximate Number of Dwellings
Brooke Business Park	Between 550 and 600
Former Sanyo Factory Site	Between 250 and 300
Jeld Wen Playing Fields	Between 100 and 150
Former Jeld Wen Factory Site	Between 250 and 300
SCA Recycling Site	Between 80 and 100
Witham Paints Site	Between 10 and 30

Table 4.2 Quantum of housing development based on density guidelines

Figure 4.2 Indicative Residential Density



4.7 Properties along Victoria Road to the immediate south of the SUN have an average density of approximately 40 dwellings per hectare despite having relatively long back gardens. The average densities of the area surrounding the western section vary between 30-60 dwellings per hectare. Densities on the southern parts of the western section of the SUN should reflect this character. There will be scope within these areas for densities as low as 40 dwellings per hectare for some blocks. There may also be potential for a limited number of detached and semi-detached style dwellings in this location.

4.8 The density of properties facing Waveney Drive is approximately 34 dwellings per hectare. The eastern section of the SUN should create a high quality, residential frontage along Waveney Drive of a similar density. As the development moves closer to the waterfront the density should increase to over 50 dwellings per hectare consisting of mostly terrace and townhouse typologies.

4.9 Across the rest of the site, densities should average 50 dwellings per hectare consisting of mostly terraced townhouse style dwellings arranged in blocks¹.

4.10 At present, the SUN is in multiple ownerships and it is likely that development proposals will come forward through a number of planning applications. Table 4.2 gives an indication of the quantum of housing development for each area of the SUN considering the above density guidance.

¹ See Section 3.5 on Design

Mix of Housing

4.11 Central to the achievement of a sustainable community will be housing with a mix of sizes, types and tenures of housing. Approximately 40% of the residential units delivered on the site should be smaller sized dwellings, typically 1-2 bed properties, with the preference for 2 bed dwellings. It is likely that a large proportion of these smaller units will be provided on the waterfront in the form of apartments, however, there will need to be provision elsewhere in the development in the form of smaller terraces and apartments in corner blocks. This mix of dwellings should help meet district accommodation needs as evidenced in the latest Strategic Housing Market Assessment. Developers should also consider housing need for people with disabilities and the elderly. Providing dwellings that include the principles set out in the 'Lifetime Homes' standards is encouraged.

Marram Green, Kessingland



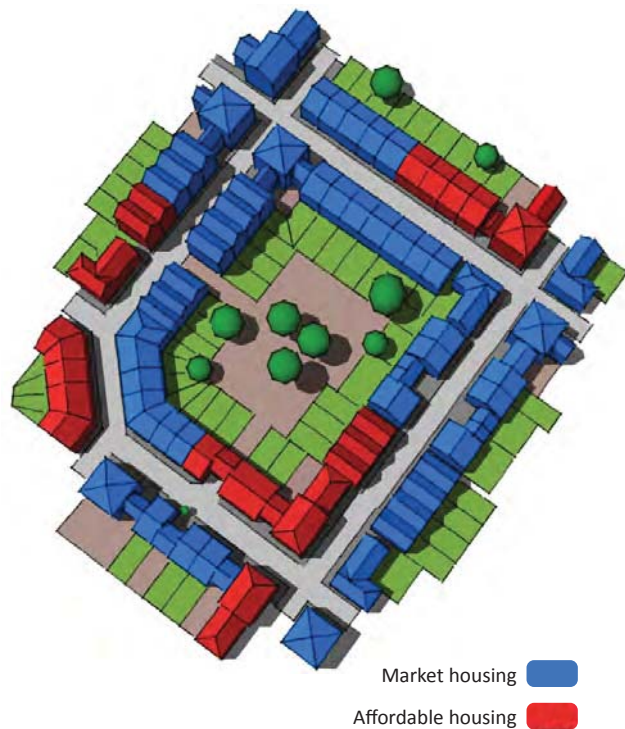
4.12 In the early phases of development, up to 2015, planning applications for development should include at least 20% affordable housing. This percentage requirement is expected to rise to 35% post 2015 when the achievement of this target is likely to be more viable. For planning applications in the SUN area that propose development that will take place before and after 2015; phases that will be largely complete before 2015 will require 20% affordable housing and later phases that will largely complete after 2015 will require 35% affordable housing.

4.13 An indicative split of affordable housing tenure is given in Policy HC1 of the Area Action Plan as 90% social rented and 10% intermediate. The precise mix of tenure will need to reflect the most up to date Strategic Housing Market Assessment and have regard to the viability of development. Advice from the Council's Housing Officer will also be important to establish the tenure split.

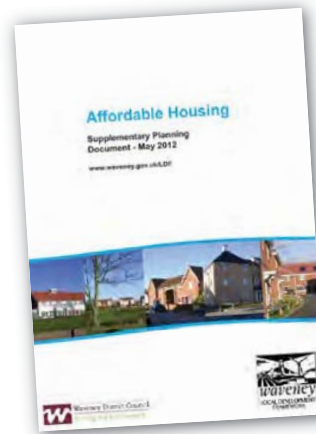
4.14 Viability is a key issue with respect to the development of the SUN, especially given the likely costs of site preparation and infrastructure. Where viability becomes a concern, the approach to affordable housing delivery will need to be flexible. More detail on this approach to viability is included in Section 10.

4.15 The affordable housing provided on the site should be integrated with the market housing to avoid high concentrations of single tenures in any one location. Small clusters of affordable housing of between 5 and 10 units should be provided as part of larger perimeter blocks which also contain market housing. This approach encourages community integration but also makes management easier. Figure 4.3 shows how this can be achieved within a perimeter block.

Figure 4.3 Suggested Tenure Mix



4.16 Most affordable housing on the site should be provided in the form of houses such as terraces or townhouses rather than flats. Where affordable flats are provided these should be in corner blocks of terraces. Whilst there may be small differences in the size of dwelling, ideally there should be no discernible differences in the appearance of market and affordable units on the site. This will generally require consistency of design, materials and detailing. This approach should also help integration and at the same time reduce any impact on values of market housing.



4.17 The Affordable Housing Supplementary Planning Document (SPD) contains more detail on affordable housing provision and the principles of that SPD should be applied in preparing detailed proposals for the SUN.

Employment

4.18 At least 12 hectares of new industrial land should be provided as part of the development of the Sustainable Urban Neighbourhood and Kirkley Waterfront (SUN) and should be broadly distributed in accordance with Figure 4.1. The majority of industrial land is proposed in the eastern part of the site where there is already a cluster of operational employment uses and good access to the quay for port related activities.

4.19 The Great Yarmouth and Lowestoft Enterprise Zone includes a 4.5 hectare portion of the SUN at Riverside Road. The focus of the Enterprise Zone is to encourage employment development in the offshore energy sector. New and expanding businesses setting up in the Enterprise Zone will benefit from a business rate discount and will also potentially benefit from a simplified planning regime. In implementing a simplified planning regime the Council has introduced the Riverside Road Local Development Order (LDO) which grants conditional planning permission for operational business development in the ports, logistics, offshore engineering and the energy sectors. The LDO covers a larger area of land than the Enterprise Zone, covering most of the employment area indicated in Figure 4.1. The LDO requires development permitted to be in accordance with a Design Code. The Design Code for the LDO in the SUN area has been prepared to ensure consistency with this Development Brief.

Figure 4.4 Local Development Order on Riverside Road and Jeld-Wen Factory Site



4.20 Prior to 2020 it is envisaged that land on the Jeld-Wen Factory site identified for housing will be used temporarily for employment in connection with the energy industry. The LDO does not cover this area. Temporary planning permissions (for the period up to 2020) for employment development will be considered favourably in this area where the amenity of existing residents living along Waveney Drive is not disturbed.

4.21 Figure 4.4 above shows the location of the LDO and the area of land where temporary employment uses will be considered.

4.22 In the longer-term (post 2020), careful consideration will need to be given to the interface between housing and employment on the eastern part of the SUN. Uses such as offices and light industrial/research and development will coexist better with residential uses and this should be reflected in proposals. Live-work units² would also be suitable in this location. A blend of uses in this location will help produce a more sustainable form of development that allows people to live close to where they work whilst respecting the amenity of residential properties. The Design Code for the LDO requires landscaping and more strict design controls in this area to minimise the impact on the planned adjacent residential community.

4.23 There may also be scope for additional employment development as part of the mixed-use development proposed in the western parts of the site. This could be in the form of small scale premises and live-work units. In these locations, where the majority of housing is proposed, care will be needed to ensure the amenity of new and existing residents is not disturbed.

Area covered by Local Development Order on Riverside Road and Jeld Wen



² A live-work unit is property where the floorspace is shared between domestic space and working space. Working space is normally provided on the ground floor with residences above.

4.24 There are a number of existing operational employment uses within the SUN. These include existing operational businesses at Riverside Road and business units on Lowestoft Enterprise Park including Silkcutters House and Quayside Business Centre. Figure 4.1 identifies these areas for employment and therefore these sites will continue to remain in their existing uses. There are other areas of the SUN where current employment activities are identified for housing such as on Brooke Business Park, Witham Oil and Paints, SCA Recycling and Survitec-SD. Where businesses need or choose to relocate they will be assisted by the Council. In anticipation of this, a relocation strategy³ has been prepared which identifies potential opportunities for relocation. Prior to relocation and redevelopment it is likely that business uses will continue to operate on the site.



Retail

4.25 A well located local retail centre in the SUN will provide access to local goods, facilities and services that will benefit people living in the local community. A five minute walk (approximately 400m) is commonly referenced as a recommended distance for people to have access to their local facilities. This catchment area covers most of the proposed development in the SUN.

4.26 The Retail Capacity Update⁴ undertaken in 2010 stated that new provision should be of a scale appropriate to the role and function of the centre. The findings of the study suggest that the local centre would likely benefit from a small anchor store that could provide convenience goods supported by a couple of small shops to provide other goods and services.

4.27 To support a small convenience retail outlet that can act as an anchor store, provision should be made for premises with a gross floor area of approximately 300m² with net sales area of about 200m². Two additional retail units, each with a floorspace of approximately 50-100m² should be provided to support small businesses.

³ 1st East Relocation Strategy For Brooke Peninsula – Roche Chartered Surveyors (June 2010)

⁴ Waveney District Retail Capacity Update (DTZ, 2010) www.waveney.gov.uk/site/scripts/download_info.php?fileID=1202

Marina and Leisure

- 4.28 The existing Haven Marina provides an important role in the function and amenity of the area and will be retained as part of the development of the SUN. However, it is currently 'hidden' from the general public in an otherwise industrial area. The development of the SUN provides an opportunity to open this area up and become a focal point of the development.
- 4.29 As part of the development, new marina facilities including a public slipway could be provided around the Brooke Peninsula to enhance the tourism offer and exploit the waterfront location between the North Sea and the Broads. New moorings should be provided for private craft and the potential for moorings for historic vessels should be investigated to enhance the cultural appeal of the area. Additionally, waterfront space should be reserved for a potential water taxi service, which could serve the area between the Bascule bridge and Oulton Broad. This space should be located adjacent to an area that is publically accessible and should be designed into any proposals. Any new marina development and new moorings must not inhibit navigation or the ability to dredge Lake Lothing. It should be noted that new moorings and marina facilities that extend on to Lake Lothing will likely require a license from the Marine Management Organisation. The Statutory Harbour Authority should also be consulted as part of any proposal for additional moorings in Lake Lothing.

Haven Marina



- 4.30 Figure 4.1 shows a leisure focus around the northern part of the existing Haven Marina. New restaurants, bars and cafes should be developed in this area to complement the existing offer associated with the Marina. This development should be reasonably small-scale so it does not compete with Peto Square in the town centre where the main leisure focus of the AAP is being channelled. These uses should be orientated towards the west to maximise the views towards Oulton Broad and make the best out of the afternoon/evening sun. Public 'spill out' space should be provided in front of these uses, fronting onto the waterfront.

Community Uses

- 4.31 The main community uses to be provided on the site are a primary school and a network of open spaces. The network of open spaces is described in detail in Section 6.

- 4.32 The level of development proposed will create the need for a new primary school to serve the area as the surrounding primary schools have no capacity to accommodate the increased number of children in the area resulting from the development. For this scale of development a primary school is essential in creating a sustainable form of development that encourages walking and cycling. The primary school should be located in the area shown on Figure 4.1. This central location, helps form a central focal point to development in the SUN and should minimise car journeys to the school.
- 4.33 The use of school buildings for community use should be explored. School buildings can act as meeting places for various groups outside of school hours and help make the facility the heart of the community. The District Council will work with Suffolk County Council and any future school provider to ensure that the school is designed in such a way that facilitates community use.
- 4.34 In terms of other facilities, the SUN is in close proximity to many services Lowestoft and Oulton Broad have to offer. New pedestrian links such as the proposed pedestrian/cycle bridge over Lake Lothing at Brooke Peninsula will provide good access to secondary and further education and health and other community facilities in the area.



5

Streets and
Transport



5. Streets and Transport

5. Streets and Transport

5.1 Figure 5.1 illustrates an indicative movement framework for the site. The movement framework has been designed to promote permeability and legibility as well as maximise views of the waterfront. The use of straight roads and an irregular grid reflects the planned nature of the sea front area of South Lowestoft. The proposed network has considered links to existing areas and destinations across the town and should promote sustainable modes of transport.

- New streets - - -
- Existing streets - - -
- Pedestrian and cycle network - - -

5.2 Transport modelling undertaken to support the AAP found that the full development of all sites allocated in the AAP would have a significant impact on traffic flows in the town. Reducing car use will be key to mitigating the negative impacts traffic has on the town and ensuring new development is truly 'sustainable'. The proposals and requirements in this section should help to improve accessibility to modes of transport other than the car and therefore help produce a 'modal shift'. However, through transport assessments and travel plans, all applications for development within the SUN will need to include measures which secure a reduction of at least 15% in trips

originating from the development by private car during the morning peak hour, compared to a "do-nothing" scenario. A precise target will be agreed through the production of a Travel Plan and through discussions relating to parking provision on site. In addition there will need to be town-wide comprehensive sustainable transport initiatives to help reduce the impact of development on traffic which developers in the SUN may be required to contribute to. The proposed pedestrian and cycle bridge detailed below will be important in contributing to these initiatives.

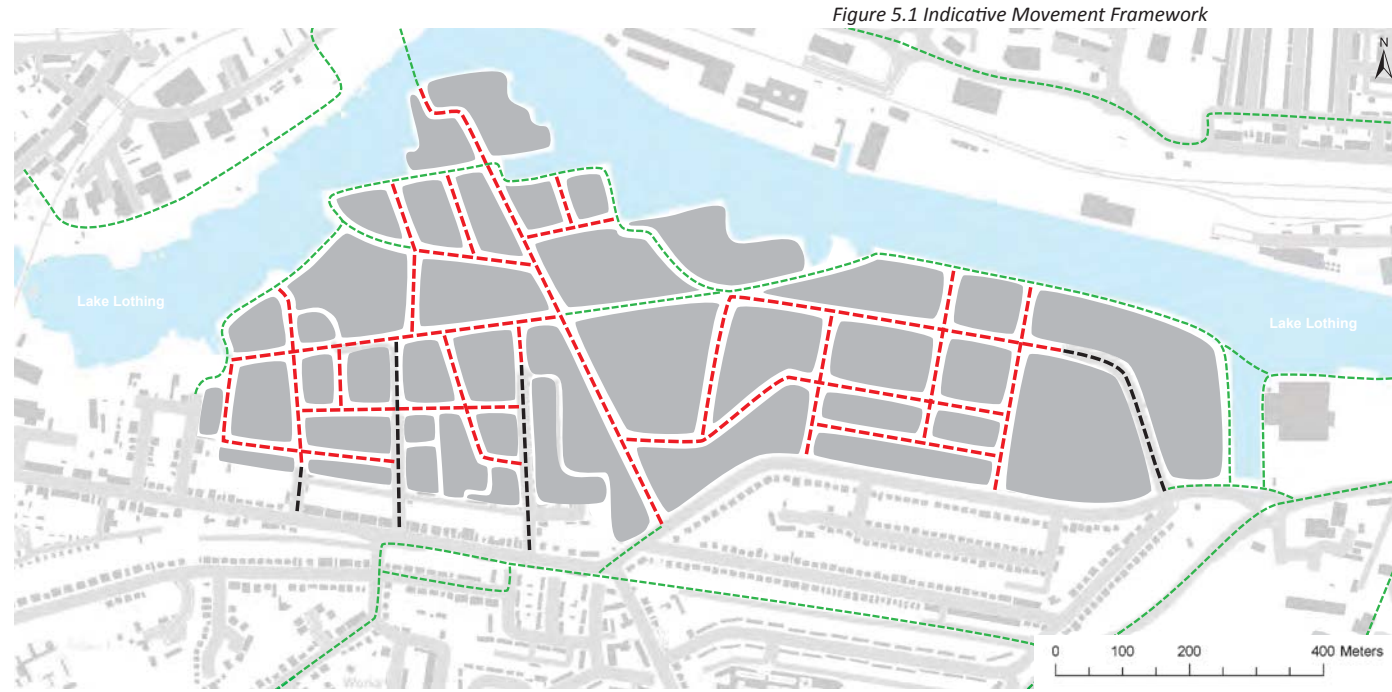


Figure 5.1 Indicative Movement Framework

Pedestrian and Cycle Network

- 5.3 Critical to ensuring the number of additional car journeys associated with the development is minimised, will be the prioritisation of cycle and pedestrian friendly streets and a comprehensive network of cycle and pedestrian routes. These routes should be well defined, legible and enhance the permeability of the development as well as providing links with the existing community.
- 5.4 Within Lowestoft there is an existing cycle network and new cycle routes in the SUN should connect into this. The development of cycle and pedestrian networks should be considered at the same time as the development of road networks throughout the site. Figure 5.2 shows how cycle and pedestrian routes should be accommodated in the SUN.
- 5.5 All streets, in addition to those shown on Figure 5.2, within the SUN should be cycle and pedestrian friendly. This can be achieved through innovative shared surface designs such as 'Home Zones'⁵.

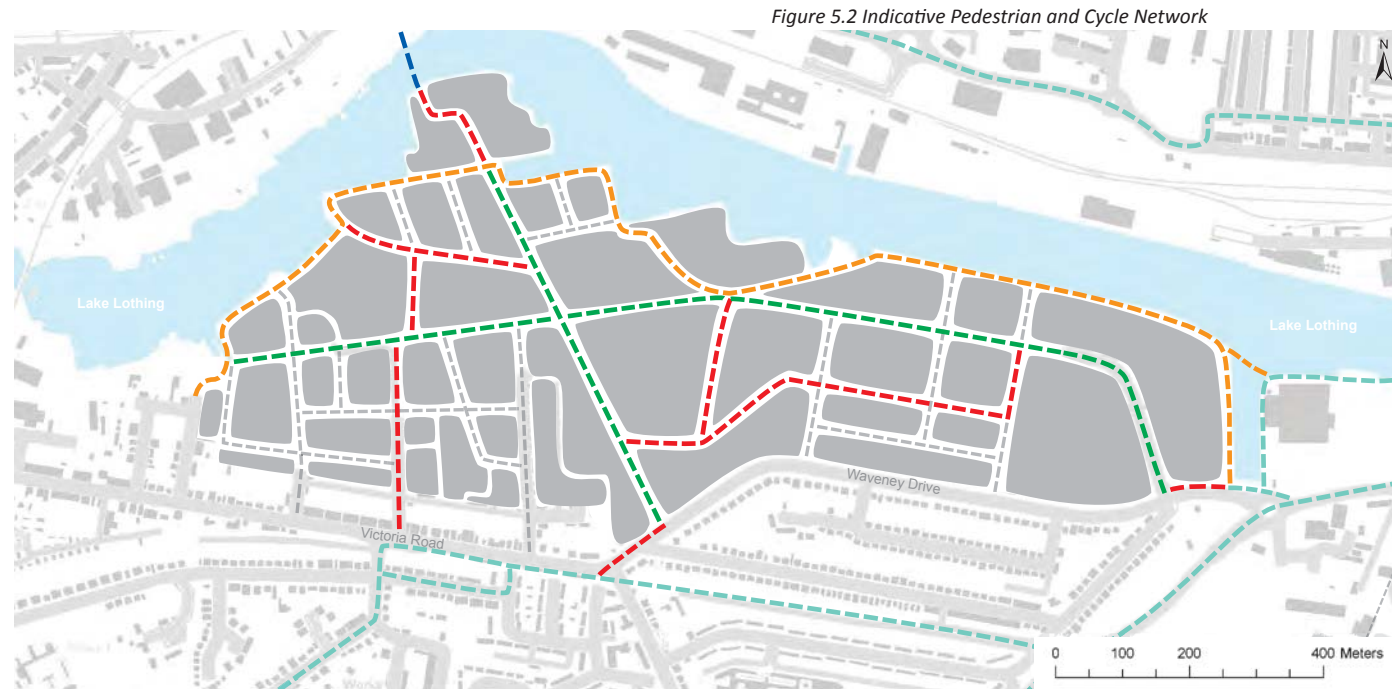
- Pedestrian / cycle bridge ————
- Off-street cycle path ————
- Waterfront pedestrian / cycle path ————
- On-street cycle path ————
- Existing cycle path ————

- 5.6 Pedestrian and cycle routes should be constructed with high quality materials using the palette established in the Lowestoft Design Guide (2004).

Waterfront Pedestrian/Cycle Path

- 5.7 The development of the SUN should facilitate the creation of a continual east-west pedestrian and cycle path along the waterfront as shown in Figure 5.2. This will provide a much needed traffic-free link on the south shore of Lake Lothing from the seafront to Oulton Broad.

- 5.8 The waterfront path should have a width of at least 5m to accommodate shared uses (pedestrians and cyclists). There are some locations along the waterfront that will provide interesting views or support public activities such as the western side of Brooke Peninsula (including the marina area). In these locations the path should be widened to link into or incorporate a public space. These areas should incorporate facilities such as seating for people to enjoy the environment around them.



⁵ See Department for Transport Circular 02/2006

- 5.9 Seating should also be provided at regular intervals along the waterfront to encourage greater pedestrian use for those who may be unable to walk longer distances or those simply intent on enjoying the view. The path should have appropriate way-finding measures and points of interest along the route such as public art and public information boards detailing any archaeological remains found during the redevelopment. The path should have barriers to provide safety for users but these should not be intrusive to the point of being detrimental to the setting. Consideration should also be given to the provision of life saving equipment along the route where necessary. The Lowestoft Design Guide can provide guidance about appropriate use of materials.
- 5.10 Where the path crosses parts of the waterfront where new employment development is planned, care will need to be taken to ensure the twin objectives of both public and business access to the waterfront can be achieved. If it is demonstrated to the satisfaction of the Local Planning Authority that the provision of the waterfront path through the employment areas on the east of the site would undermine safe and secure business operations, the path may need to be set back from the waterside in appropriate places. Similar care will need to be taken at the Haven Marina site. It will be important that any path in this location does not create health and safety issues for the operation of the marina. Provision of the path in this location will be subject to discussions with the Statutory Harbour Authority to ensure that any path provided in this part of the site maintains safety. Where the path is away from the waterfront, the path should be physically separated from any vehicular routes. This will create a route that is free from vehicles along the entire length of the SUN encouraging greater use.
- 5.11 The path should be set back from the natural part of the shore which is designated as a County Wildlife Site (CWS). A key feature of the CWS is the linkage between the intertidal areas and scrubland. The path in this location may need to be more informal in nature to be of consistent character with the surroundings and to avoid any unnecessary impact on the protected area. The width of the path in this location could be reduced to 3 metres to lessen the impact.
- Pedestrian and Cycle Bridge**
- 5.12 A new pedestrian/cycle bridge over Lake Lothing at Brooke Peninsula will be required to provide quick and easy access to Normanston Park, Oulton Broad North Station, employment areas and further education facilities in the north of the town. It will improve north-south connections within the town which will benefit the entire town and should further reduce the need to travel by car and therefore is essential to minimise the traffic impacts of the development on the locality and the wider town.
- 5.13 To minimise the impact on navigation within the inner harbour, the bridge will need to be an opening bridge that is operational at short notice, 24 hours a day and 7 days a week, year round. Adequate signalling on the approach to the bridge would also be required. In developing the detailed proposals for the pedestrian bridge, the Council will work closely with the users of Lake Lothing to ensure navigation is not compromised. The construction of the pedestrian and cycle bridge will require a license and a Harbour Revision Order from the Marine Management Organisation.
- 5.14 In addition to the crossing over the water there is also a need for an improved crossing over the railway line on the north shore of Lake Lothing to improve the accessibility of Normanston Park and beyond.
- Cycle Parking**
- 5.15 Secure cycle parking should be provided in central locations throughout the site. Ideally cycle parking will be sheltered and well overlooked to promote a greater sense of security. ‘Sheffield stands’ which provide 2 cycle parking spaces are preferred as they allow both the frame and wheel of a bicycle to be chained.
- 5.16 Suffolk County Council set standards for cycle parking stands in Suffolk. The latest standards published by Suffolk County Council should be adhered to in the development of the SUN.

5.17 The provision of storage space for bicycles is important to encourage people to use alternative modes of transport than the car for local journeys. This is particularly important for apartments where there isn't the option of a garage or private garden. In apartments, communal space should be set aside for indoor cycle storage. Alternatively secure sheltered outdoor cycle parking should be provided. New premises for commercial uses should provide facilities such as secure cycle parking, showers and changing facilities to encourage active travel such as walking and cycling.

Public Transport

5.18 Provision should be made for a bus route to service the site. The route should make use of the new access road in the western part of the SUN and ensure that all new dwellings in the SUN are within 400m of a bus service. Provision of frequent and accessible bus services improve access to facilities and help reduce car use within the development. The bus service is expected to be a commercial operation that is self-sustaining in the longer-term. Such a service is likely to be as a minor extension to existing services rather than a new service. The final configuration of the bus route through the site will need to be confirmed with the bus operator and have regard to existing services in the area.

- 5.19 A central transport node situated close to the primary school and retail uses should be included in the development. This should provide sheltered bus waiting facilities with real-time travel information. The node should also include provision of secure cycle parking.
- 5.20 The provision of water taxis on Lake Lothing should be facilitated by the development through the provision of mooring space on the waterfront.

Figure 5.3 Cross-section of an avenue

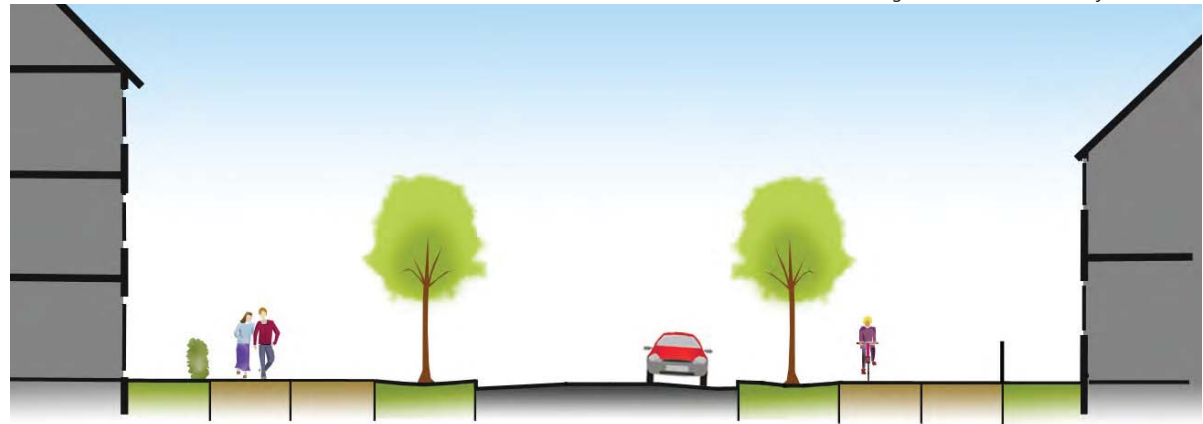
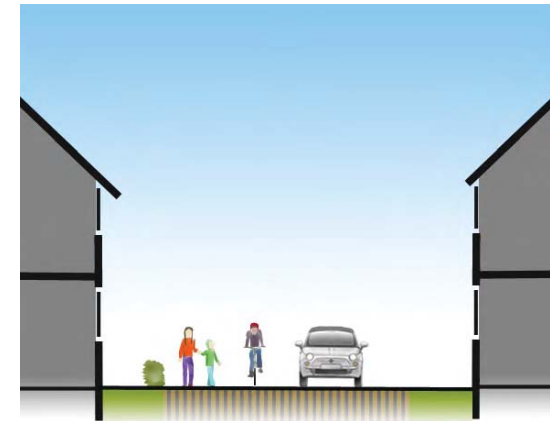


Figure 5.4 Cross-section of a small street



Vehicular Network

5.21 All roads within the SUN should be designed as 'streets' that prioritise pedestrian and cycle movements, following the principles set out in Manual for Streets⁶ (DfT, 2007) and Manual for Streets 2⁷ (CIHT, 2010). A hierarchy of streets within the SUN should be developed that integrates well with existing streets and creates an environment that is permeable and legible, particularly for cyclists and pedestrians. For the areas of the site designated for industrial/employment use, the Suffolk "Industrial Estate Roads: Notes for Guidance of Developers"⁸ should be referred to.

5.22 Figure 5.5 identifies three different types of vehicular street in the SUN. These being:

- **Avenue:** This should be a wide single carriage way street with deciduous tree planting alongside. There should be wide pavements of approximately 4m either side of the road which accommodate a segregated cycle lane. Development should front on to these roads. Traffic speeds will need to be limited to 30mph and appropriate speed controls will need to be implemented, particularly on the main access road through the Jeld-Wen playing fields site. Figure 5.3 shows an indicative cross section of an avenue.

- **Secondary Street:** These will be smaller through routes connecting different parts of the neighbourhood together. Traffic speeds will need to be lower on these roads with appropriate traffic calming measures. Secondary streets in industrial areas on the eastern part of the site should conform to the guidelines set out in the Suffolk "Industrial Estate Roads: Notes for Guidance of Developers".⁷

- **Small Streets:** These will provide access to small blocks of residential properties and will exhibit 'home zone' principles and will generally have a shared surface design. Figure 5.4 shows an indicative cross section of a small street.



Figure 5.5 Indicative Vehicular Network

⁶ www.dft.gov.uk/publications/manual-for-streets

⁷ www.ciht.org.uk/en/publications/index.cfm/manual-for-streets-2--wider-application-of-the-principles-2010

⁸ Industrial Estate Roads: Notes for Guidance of Developers www.waveney.gov.uk/site/scripts/download_info.php?fileID=2436

5.23 Figure 5.5 identifies a number of indicative points where through traffic (with the exception of buses, pedestrians and cyclists) should be restricted. This is to ensure the majority of private vehicles access the western part of the SUN by the main avenue which connects to Waveney Drive through the Jeld Wen Playing Fields. In the short-term before this access road is complete, some development can be supported by the existing access points into the site such as School Road and Heath Road. Once the access road and other through routes are constructed the existing access points should then be blocked off to private vehicular traffic.

5.24 Developers should consider the long-term aspiration of the Council to secure a third vehicular crossing over Lake Lothing. As such, avenues through the eastern part of the site should be built within a corridor that can accommodate upgrading to a specification to accommodate any future proposal for a third road crossing over Lake Lothing. Developer's should speak to the Highway Authority to ascertain the standards required. It will be important that development of the SUN does not restrict future opportunities to deliver a third river crossing.

Example of 'Home Zone' off St Margarets Road, Lowestoft



Car Parking

5.25 Suffolk County Council set standards for car parking provision in Suffolk. Development in the SUN should adhere to the latest standards published by Suffolk County Council.

5.26 The manner in which car parking is arranged across the site is of fundamental importance to the overall quality of development. Parked cars should not dominate the public realm of the development and should not inconvenience pedestrians and cyclists by blocking desire lines or restricting lines of sight. A mix of both on-street and off-street parking should be provided.

5.27 Where on-street parking is included it should ideally be incorporated as short runs of parking bays (up to a maximum of 5 bays). Spaces should be integrated into the street scene by interspersing them with features such as trees and spaces. On-street parking should help support traffic calming but not create a barrier to pedestrian or cycle movement. As with all parking provision, on-street parking should be well overlooked. Specific car parking bays located near the entrances of each workplace for people car-sharing is encouraged.

5.28 For both industrial/commercial and residential development off-street parking should be within well designed, secure, rear courtyards within perimeter blocks that are well overlooked. For residential areas this can be achieved by designing space within the rear curtilage of a dwelling and in spaces designated in communal parking courts. The Manual for Streets provides advice for design of these areas.

- 5.29 Parking within the front curtilage should generally be avoided as it breaks up the street frontage and restricts informal surveillance. It also gives the appearance of a car dominated environment. Where parking is provided within the curtilage of a dwelling and has direct access onto the street, this should be to the side and in between dwellings, behind the building line. Integral garages could also be used in dwelling types such as mews and townhouses. However, they should be used sparingly along a single frontage in order to avoid 'dead' frontages.
- 5.30 Charging points for electrical vehicles should be provided in the street for public use, (eg. in the housing of a street sign) or connection points can be included in the design of domestic and commercial buildings.
- 5.31 Electrical connections for vehicles use standard three point connectors and can therefore be connected easily to the grid. New residential buildings that have off-street parking should be designed to include an outdoor electrical socket that could support vehicle charging. The same is expected for parking areas associated with commercial buildings. It is uncertain how much of an immediate demand there will be but providing connection points will future proof the buildings for future users.



6

Open Space and
Biodiversity

6. Open Space & Biodiversity

6. Open Space and Biodiversity

6.1 Well designed and maintained open spaces that relate to their surroundings are an important part of a quality public realm. Green areas of open space within the site, including private gardens and green roofs, can encourage a greater sense of health and well-being, improve biodiversity and enhance the ecological network.



Open Space

- 6.2 A hierarchical network of open spaces that performs different functions within the community will contribute to a more comprehensive development. Landscaping should provide opportunities to create a stimulating outdoor environment, improve local amenity and enhance the biodiversity of the area.
- 6.3 The design and form of the open spaces provided will reflect the nature and character of the area they will serve. This will vary from small community blocks to neighbourhoods. Open space typologies in the SUN area will include:
- semi-natural (e.g. County Wildlife Site)
 - playing pitches (replacement playing fields)
 - play spaces (LAPs, LEAPs and NEAPs)⁹ and parks
 - paved areas for community use
 - green corridors
 - pedestrian walkways and cycleways
 - private spaces and courtyards
 - landscaped areas in employment areas
 - hard surfaced areas along the waterfront
- 6.4 The role of an open space should be identified as part of the design process to maximise opportunities presented by existing features such as the waterfront, marina, slipways, County Wildlife Site and the proximity of the Broads and North Sea. Open spaces need to be accessible to everyone and well overlooked to create a greater sense of security for people using these areas. Open space and green infrastructure is a land use that can contribute towards flood risk management in areas of flood risk. These spaces can support vegetation, provide visual amenity and useable open space, enhance biodiversity as well as reducing peak water flow during rainfall events and providing space to temporarily store excess water when required. Green infrastructure is also important for climate change adaptation. It aids with air quality in sequestering pollutants (there are local issues with air quality) and contributes towards mitigating the urban heat island effect.

⁹ Play space standards that need to be met are set out in Section 7 of the Open Space SPD, Adopted January 2012

Open Space Provision

6.5 Policy DM25 of the Development Management Policies Development Plan Document and the Open Space Supplementary Planning Document (SPD) require developers to provide an appropriate amount of public open space on site. For each new dwelling the amount of public open space required is between 27m² and 53m² depending on the density of the development. Private open space, such as back gardens, do not count towards meeting these standards. Assuming the total development of 1380 dwellings is built out with an average density of 50dph, this will require approximately 4.4ha of new public open space to be provided to serve the development.

- Amenity greenspace 
- Facilities for young people and teenagers 
- Green corridor 
- Natural and semi-natural greenspace 
- Outdoor sports facilities 
- Parks and gardens 
- School playing field 
- Local area for play (LAP) 
- Local equipped area for play (LEAP) 
- Neighbourhood equipped area for play (NEAP) 
- Playing pitches 
- Tennis court 
- Bowls 
- Skate park 

6.6 The total amount of open space provision as required by policy will be difficult to achieve on the site. Therefore, there will be a need to improve connections to existing areas of open space in the locality and make enhancements to existing open space provision on the site.

6.7 Figure 6.1 shows the existing public open spaces in the Lake Lothing area. The geographically closest open space to the parts of the SUN proposed predominantly for residential is Normanston Park on the north side of Lake Lothing.

Normanston Park provides facilities for a variety of activities including tennis courts, playing pitches, equipped play areas and a skate park. The park is also adjacent to the Local Nature Reserve of Leathes Ham which is accessible by the public. There are no similar sized open spaces in close proximity to the site in South Lowestoft which provide the same functions as Normanston Park. The proposed pedestrian/cycle bridge will allow access to Normanston Park from the SUN and will therefore assist in mitigating the shortfall in provision on site.

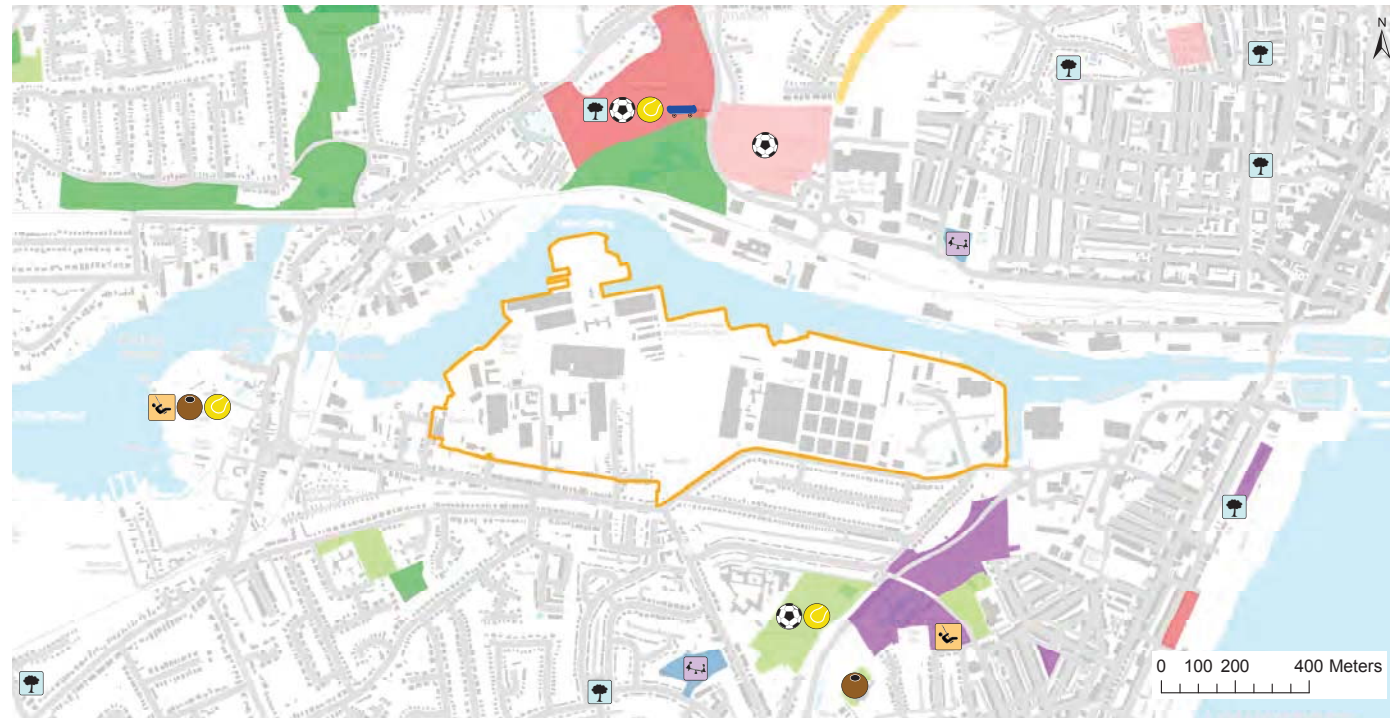


Figure 6.1 Open Spaces Surrounding the SUN

6.8 In addition to these measures, there will still be a need for some new open space to be provided on the site. This will be principally in the form of areas that can be used for play and local amenity. Table 6.1 sets out the level of on-site provision required and Figure 6.2 shows how these spaces could be distributed across the site. The open spaces in Figure 6.2 are indicative and the circles representing play areas are not drawn to scale. These details should be finalised as part of a detailed planning application.

6.9 New open spaces are expected to have appropriate facilities provided on site that meet the quality standards set out in the Council's Open Space Supplementary Planning Document. Facilities may include play equipment, low level fencing, seating, rubbish and dog waste bins, lighting, sheltered areas, sport facilities (field or court related), landscape features and planting. Where rubbish bins are provided these should be designed to accept material can be recycled such as paper waste as well as general waste. Facilities will vary between spaces and will be dependant on the function of the open space within the neighbourhood.








- Local Area for Play (LAP) 
- Local Equipped Area for Play (LEAP) 
- Neighbourhood Equipped Area for Play (NEAP) 
- Amenity greenspace 
- School Playing Field 
- County Wildlife Site 
- Playing Pitch 

Table 6.1 Open Space Provision On-Site

Type of New Open Space	Typical size of Open Space	Quantity of Provision	Approximate Total Area of Open Space to be Provided
Local Area for Play (including equipped area near Haven Marina)	100sqm	4	400sqm
Local Equipped Area for Play	400sqm	1	400sqm
Neighbourhood Equipped Area for Play (will be on playing fields)	1000sqm	1	1000sqm
Total		6	1800sqm

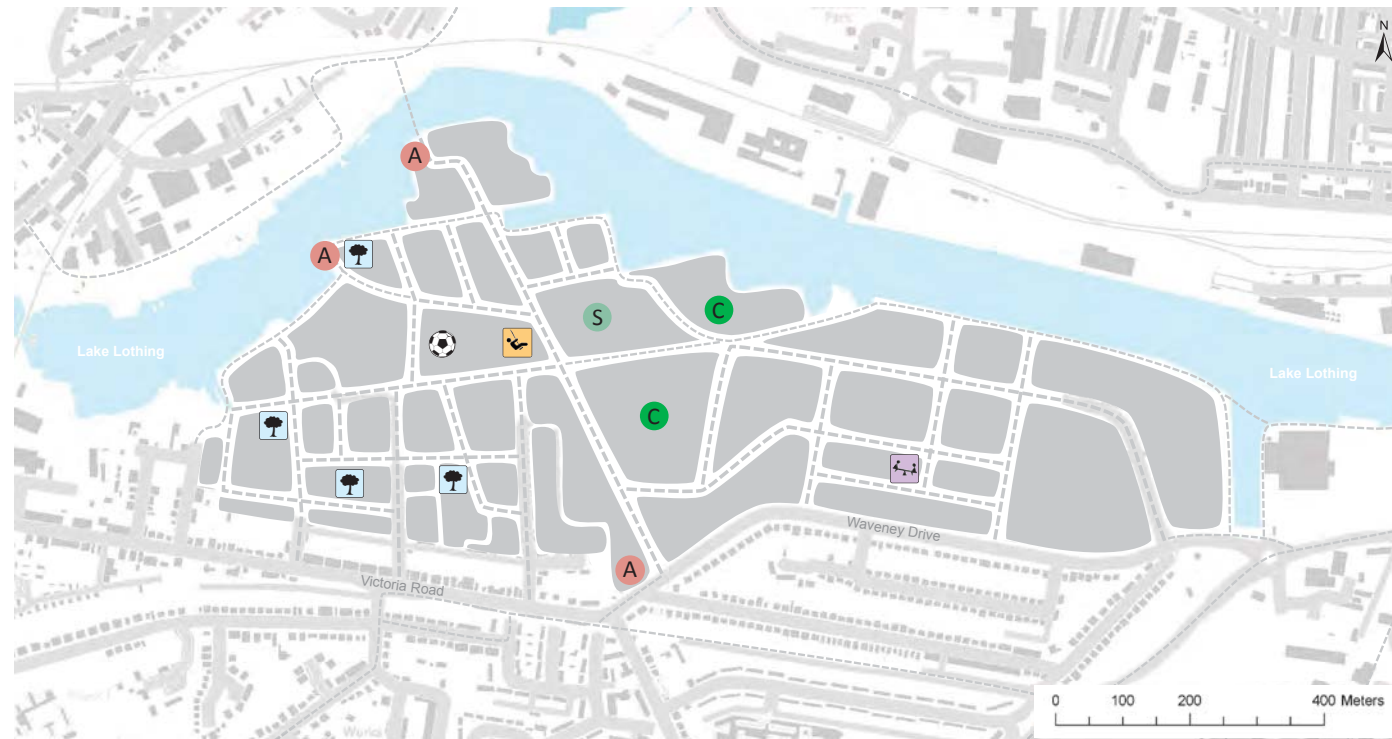
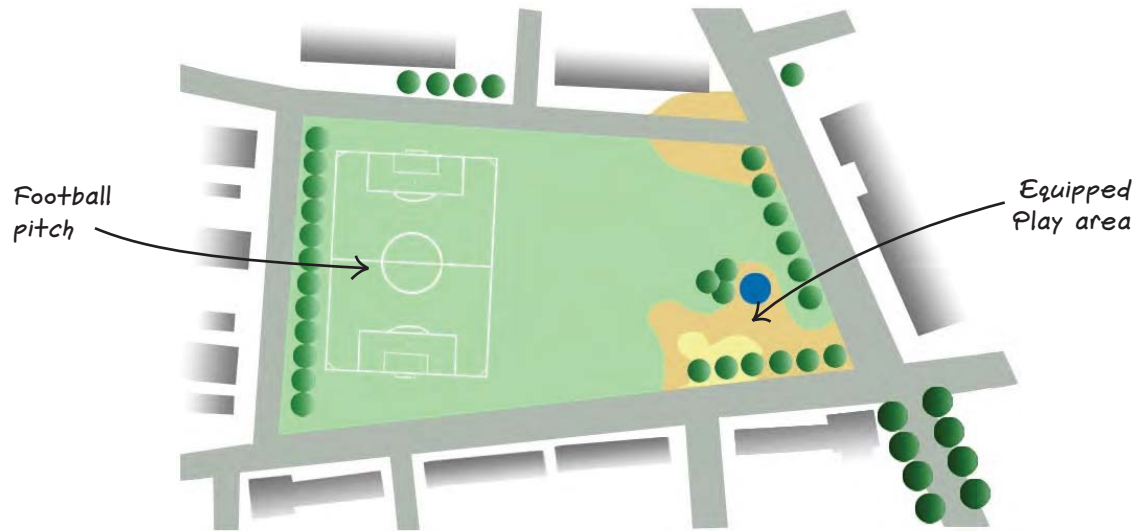


Figure 6.2 Indicative Open Space Network

Figure 6.3 Indicative Playing Fields Plan



Playing Fields

6.10 The existing playing fields (2 hectares) located on Waveney Drive have been zoned for housing. In accordance with Policy SSP3, like for like replacement playing fields are required (in terms of size and quality) elsewhere in the SUN. The replacement playing fields will not be considered as part of the open space provision needed to meet the additional needs of the development as this space is already located on the site. Figure 6.2 shows the replacement playing fields will be located in a central part of the site which will assist in creating a focal point for the community. They will also be an integral part of the wider open space and green infrastructure network and the sustainable urban drainage system (SUDS) scheme that will need to be delivered on site.

6.11 The playing fields will need to include a football pitch measuring approximately 90m by 60m and also encompass a new Neighbourhood Equipped Area for Play (NEAP). The NEAP should be located to the east of the playing fields close to the local centre and the new primary school. Figure 6.3 gives an indication of how the playing fields could be designed.



Children's play area

Play Spaces

- 6.12 A local equipped area for play, approximately 40sqm in size is to be provided in the residential area in the eastern part of the SUN. Ideally, this should be located on a corner where it is well overlooked and contributes to the openness of the area. This space should be large enough to be used for sport and play for people of all ages. Landscaping should be used to provide play for small children. Facilities such as seating and bins should be provided.
- 6.13 Other small open spaces should be designed as pocket parks and local areas for play that are generally unequipped. These spaces should be at least 100m² and be designed with landscaping, planting and facilities such as seating so they provide recreational value for local residents. Ideally located on street corners this will increase visibility and natural surveillance. In these locations, sensitive boundary treatments should be used to discourage the play area from becoming a through route. Individual spaces should be designed so they have different attributes and features to create and help foster a sense of identity that reflects the role of the open space in the community.

Hard Surfaced Public Spaces

- 6.14 A multifunctional, hard surfaced, open space should be provided adjacent to the leisure area on the waterfront. Incorporated into the waterside path, it is a setting that is conducive to leisure activity and this site is likely to experience a significant amount of use. A local area for play should also be located in this area with provision of an interactive medium such as play equipment or public art that can support interactive use as well as enhance the public realm.
- 6.15 A tiered edge to the waterfront could be provided in this location to enable people to get closer to the water. Lake Lothing is tidal therefore access below the high tide mark is to be avoided. A pointed corner should also be avoided to soften the visual effect on the path. This area could also be used for informal performing arts and other street performers.
- 6.16 The open space should be created using the same paving as used along the waterfront path. This will provide continuity in the development and make public spaces more recognisable to passers by.

Employment Areas

- 6.17 New employment areas are expected to contribute positively to the public realm. Non-residential development is not required to provide new open space. However, it is encouraged to provide open space to create a higher quality environment and improve the well-being of employees. Improving the amenity of employment areas will act as a 'good neighbour' to residential areas and reduce the likelihood of anti-social behaviour.

Primary School Playing Fields

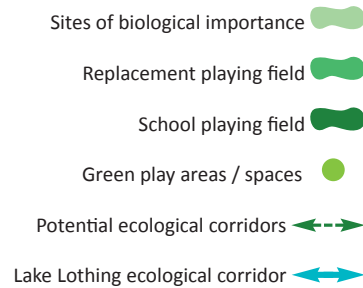
- 6.18 The primary school will have playing fields associated with it. Given the location of the school there is an opportunity to incorporate part of the adjacent County Wildlife Site into the school site. This could provide a more varied outdoor environment and contribute towards outdoor education for young children. Dual use of the school grounds between the primary school itself and the public should be considered. This would provide a greater range of facilities available to the public but with the primary school retaining priority of use. Such an arrangement would need to be made with the school / education authority after the development is completed.



Indicative sketch of hard surfaced open space area near marina and leisure focus

Biodiversity and Ecological Networks

6.19 The development of a network of green open spaces through the site will enhance the ecological networks and improve biodiversity. The Suffolk Wildlife Trust Lowestoft Wildlife Audit (2007)¹⁰ identified an ecological network of green spaces and links across Lowestoft. This network is shown in Figure A1.5 in Appendix 1. The distribution of open spaces and green corridors through the site will help enhance this network locally as shown in Figure 6.4 .



6.20 The most significant area for biodiversity on the site in this network, as shown in Figure 6.4, is the County Wildlife Site (CWS). The CWS provides habitat for species identified in the Biodiversity Action Plan (BAP) including birds and reptiles such as the common lizard. The shoreline along the CWS is the only remaining natural shoreline along the southern edge of Lake Lothing and is to be protected.

6.21 Protecting and enhancing the CWS from development whilst encouraging greater public access is a key objective identified in the Area Action Plan and this Development Brief. Proposals that include greater access to the CWS should be discussed and agreed with the County Council ecologist, Suffolk Wildlife Trust and the District Council to ensure there is not an adverse impact of the biodiversity value of the CWS.

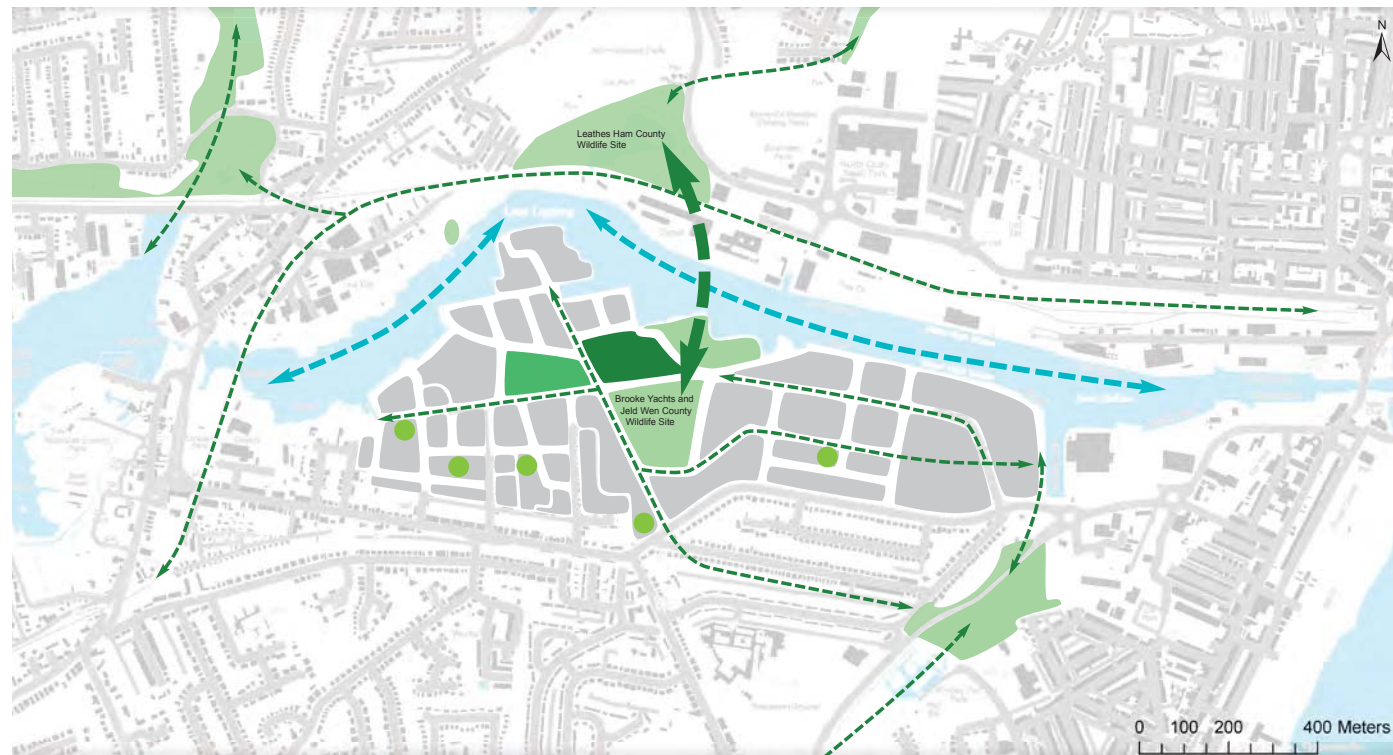


Figure 6.4 Potential Ecological Network through the site

¹⁰www.waveney.gov.uk/site/scripts/download_info.php?downloadID=110

6.22 In addition to the CWS, the other areas of green open space provided on the site will be of benefit to the ecological network. The centre of the western part of the SUN includes a large area of green space encompassing the primary school playing fields and the relocated Jeld-Wen playing fields. These should have direct connections to the County Wildlife Site and should include appropriate flora such as deciduous trees and shrubs. Smaller areas of green space such as children’s play areas will also provide some benefit for biodiversity.

6.23 The green corridors identified on Figure 6.4 are also beneficial to the ecological network by creating links between areas that will support wildlife movement between sites. Green corridors should include deciduous street trees that can provide habitat for birds, provide shelter and visual corridors for pedestrians and cyclists. This will enhance the appearance of the street scene and reduce the visual and pollution impact of vehicular activity. Deciduous trees also provide shade in the summer whilst maximising sunlight receipts in the winter months. Planting should reinforce the network of existing vegetation. Existing mature trees should be retained where possible for their biodiversity benefits and their contribution to the amenity of the area.



6.24 Buildings, both residential and commercial, provide an opportunity to support wildlife through the use of green/ brown roofs, balconies, private gardens and nest boxes for birds and bats. Care will be needed to ensure such measures do not encourage pest species.

6.25 There are several designated areas for protection near the SUN which need to be considered. Potential impact on these sites should be addressed as part of a planning application. These areas include:

- Broads Special Area of Conservation (SAC)
- Broadland Special Protection Area (SPA)
- Broadland Ramsar
- Sprat’s Water and Marshes Site of Scientific Interest
- Broads Executive Area

6.26 Further information about these sites is available in the Habitats Regulations Screening Report for this brief and from the Broads Authority and Natural England.



7

Urban Design
Guidance



7. Urban Design Guidance

7. Urban Design Guidance

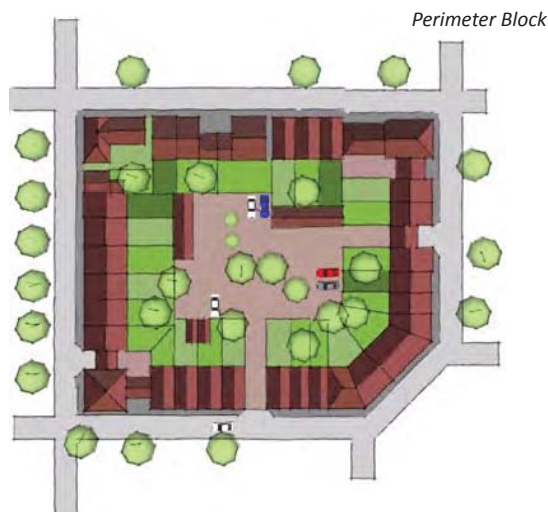
7.1 The Sustainable Urban Neighbourhood and Kirkley Waterfront (SUN) should be an example of excellent urban design and architecture. Principles of urban design run throughout this Development Brief but this section focuses on the more generic design principles which should be applied across the site.

Site-wide Design Principles

Urban Form and Structure

7.2 The SUN should be structured around a grid layout consisting of straight streets that maximise views down to the waterfront. The resulting perimeter block structure should create a legible form and allow for ease of movement. Blocks should ideally be between 0.6 and 1 hectare in size although in some locations blocks may be smaller to be consistent with the form of existing development or where constraints exist.

7.3 In residential areas the perimeter blocks should be capable of accommodating all dwelling types including apartments, terraces, townhouses and detached properties as well as other uses such as small shops and workshops. The internal areas of perimeter blocks should be utilised for private gardens for dwellings, communal garden space for apartments and secure rear parking courts.



7.4 The enclosed areas of commercial blocks can be used for outside storage and 'break out' areas for staff. These internal areas can also provide space for parking to avoid large areas of surface parking on the street. The issues should be considered early in the design phase of any proposal.

7.5 There can be many benefits associated with new industrial and commercial buildings facing onto a street giving them a 'public face':

- buildings can be used as a barrier to enclose secure areas and can minimise the need for fencing along frontages. This can improve the quality of the public realm and improve security. This approach is compatible with many of the principles of 'Secured by Design' for commercial developments
- general security can be further enhanced where industrial buildings provide windows (to offices, canteens, or other active rooms) that overlook the public street and provide surveillance
- buildings can screen noise and other disturbances more effectively than fences, and thus reduce potential conflicts between neighbouring businesses and activities

Nodes

7.6 At most crossroads, junctions and corners of blocks, buildings should be more distinctive through their height, massing and design. This can improve legibility and provide local focal points. Key junctions and cross roads provide an opportunity for landmark buildings that help define the character of the area. Figure 7.2 identifies potential locations for key landmark buildings. Care should be taken to ensure all walls of corner buildings that front onto the street have active facades to ensure the building line turns the corner effectively.

Amenity

- 7.7 An important consideration of development in all parts of the SUN is to ensure an acceptable standard of amenity for residents. In the detailed design and layout of buildings, streets and blocks, care will be needed to ensure overlooking is minimised and privacy is maintained.
- 7.8 In areas close to existing and proposed employment uses and the waterfront, the design of buildings and spaces will need to consider the impacts of noise. Noise issues can be mitigated through landscaping and vegetation planting, glazing and positioning of bedrooms within dwellings. A noise assessment will be required to support all planning applications to ensure this is not an issue for residents and other users of the site.
- 7.9 There are some existing residential dwellings which could be negatively affected by the development's construction. There is potential that detrimental impacts could arise from noise, dust, vibration, transport movements among others. Developers are encouraged to register with the Considerate Constructors Scheme¹¹ which is a voluntary scheme that aims to make construction sites better neighbours in the community.

Security

- 7.10 The design of streets, buildings and spaces should consider the best ways to promote public safety and deter crime. Active frontages and good surveillance will be key to deterring crime. As part of the design process, consideration of the principles set out in 'Secured By Design' and correspondence with Suffolk Constabulary's Architectural Liaison Officer are encouraged.

Street Frontages and Movement Corridors

- 7.11 In residential and commercial areas throughout the SUN active frontages with regularly spaced windows and doors will be encouraged. Active frontages help animate the street and provide natural surveillance. The frequency of entrances from buildings onto the street is of particular importance.
- 7.12 Streets and open spaces are often the focus for community activity and social interaction. Streets and junctions should be designed to encourage use of the public realm rather than simply being functional routes for vehicular traffic. It is important to consider how facades of buildings complement their surroundings such as adjacent footpaths and open spaces. Where it is necessary to provide signage, this should be sympathetic to the surroundings. For example, on a street it may be appropriate to use metal signs, however, in a park or green space it will be more appropriate to use signage made of softer materials such as wood.

- 7.13 Many of the street frontages will consist of residential dwellings. Where opportunities arise, the space between the building and the footway will provide a buffer that may be grassed or separated into a small private space.

- 7.14 Street calming measures and soft boundaries that separate areas intended for pedestrian and vehicle use are to be implemented in residential areas. These should avoid creating a sense of clutter. This may include using items such as bollards instead of fencing, seating, rubbish bins and planting to create a sense of separation without physical barriers being put in place. In line with Policy EHC1 of the Area Action Plan, the Public Realm Strategy in the Lowestoft Design Guide should inform the design of public spaces.

Light corridors

- 7.15 Spaces that receive lots of light are more likely to be used by the public for recreational purposes. Light corridors need to be considered to ensure building design, layout of open spaces and movement corridors do not result in areas that are shaded for significant parts of the day. This will reduce the potential for spaces becoming devoid of activity over time.
- 7.16 Similar consideration needs to be given to the avoidance of creating wind tunnel effects. The Brooke Peninsula is in an exposed location when considering the regular easterly winds, particularly during the winter months.

¹¹www.ccscheme.org.uk






Character Areas

- 7.17 The general site layout lends itself to the formation of several character areas based on the attributes and opportunities associated with different parts of the site (Figure 7.1). Development will need to ensure the different areas relate to one another to achieve the overall aspirations of the SUN. New development should respect and complement the natural and built character of the area without the constraint of mirroring existing buildings.
- 7.18 The following paragraphs identify specific design issues for each character area identified in Figure 7.1. Detailed design codes that cover matters such as materials, massing, façade treatment and building heights should be worked up for each character area to support detailed planning applications.

- 7.19 This area is a northward extension of the residential area (in the Kirkley and Whitton wards) south of Waveney Drive and Victoria Road. The area should be designed to connect into the built form of the existing community. Development should respect local vernacular but should not be a pastiche of historic architectural styles.
- 7.20 Development in the vicinity of Victoria Road should reflect the existing fine grain urban form of this area. Residential densities should be similar to those found on School Road, Stanley Road and Victoria Road.

Kirkley Extension Character Area

- 7.21 The main entrance to the development should exhibit two landmark buildings either side of the access road that welcome people into the site. These buildings should be designed to a high architectural quality and could be up 4 storeys in height. As part of the main entrance to the site, landscaping should be used to create an attractive setting that leads the visitor into the SUN
- 7.22 A high quality residential frontage should be provided along Waveney Drive that reflects the existing residential properties on the south side of Waveney Drive. Buildings should be set back from the road to provide space for small front gardens. There should be a clear demarcation between public and private space, however, this should not be done in a way that will create significant visual barriers to people using the public realm.

- Waterfront character area 
- Neighbourhood centre character area 
- Employment character area 
- County wildlife site character area 
- Kirkley extension character area 

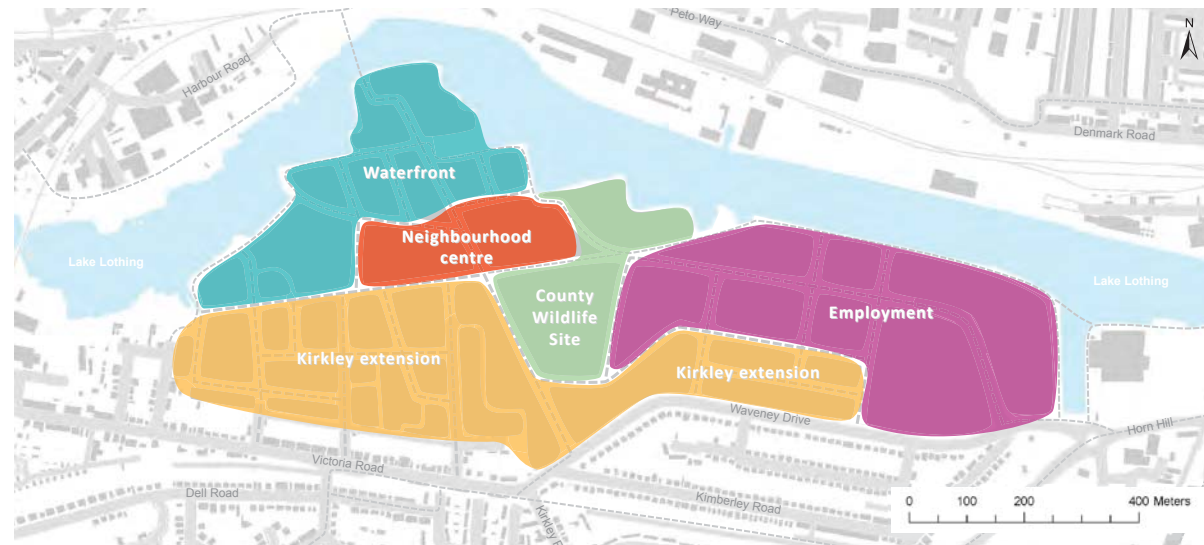
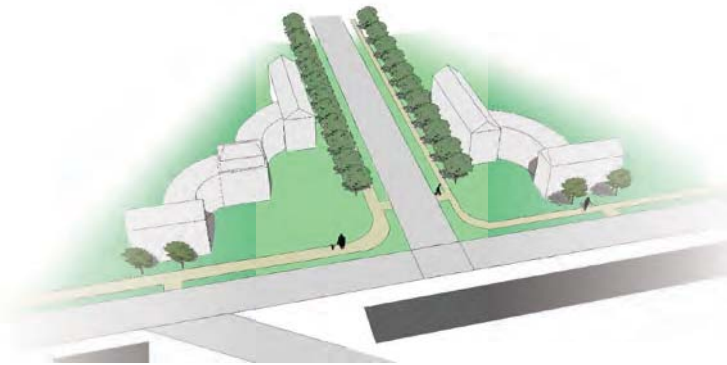


Figure 7.1 Character Areas

Indicative sketch of entrance to the site from Waveney Drive



7.23 The area of the site fronting onto the replacement playing fields in the central part of the SUN should exhibit innovative architecture and provide a strong frontage that overlooks the public space. Building heights could be up to four storeys in this location. The potential for unique self-build plots in this location should be explored.

7.24 Between Stanley Road and Heath Road an unmetalled alleyway runs behind properties that front on to Victoria Road. Parts of the Sanyo site and the SCA Recycling site back on to this alleyway. The best design response in this area would be for new dwellings to back on to this alleyway with garages to the rear. Garages could cover the entire rear frontage on to the alleyway to help improve security. Extra lighting and an improvement to the surface could also improve security.

Waterfront Character Area

7.25 This area should exhibit strong maritime characteristics that reflect its waterfront location. Buildings and spaces should be designed to relate to the water and maximise views of the wider Lake Lothing area. Key views into and out of the site will link the built up area and the waterfront which will act to reinforce the connections within the wider SUN area. This area should showcase good architecture and sustainable design.

7.26 Less regard to local vernacular is needed in this location and the design of buildings and spaces should be innovative and contemporary. The Brooke Peninsula provides an opportunity for taller landmark buildings (up to 6 storeys). These taller buildings should reflect their unique position in the heart of Lowestoft and their proximity to the Broads. The only building of significant height in the area is the grain silo located in the Port Authority area on the north shore of Lake Lothing therefore any proposal will be visually prominent. Design proposals will need to carefully consider their contribution and impact on their immediate surroundings and other potential effects from further away. The existing slipways on the peninsula should be maintained where possible and should be used innovatively. The slipways could provide private access to the water for some dwellings but some public access should also be retained. Careful consideration should be given to the design and layout of buildings to minimise the potential for permanent shading in some areas.

7.27

Indicative Sketch of Brooke Peninsula slipways



Careful consideration should be given to higher density areas so that buildings do not inadvertently create an unwelcoming environment for residents and visitors. The use of visual and physical connectivity between buildings and surrounding spaces, soft furnishings and appropriate lighting should be used to encourage a greater sense of security.

7.28 This part of the SUN will provide the strongest visual connection between the new development and other areas around Lake Lothing because of its prominent waterfront location and the higher building heights. Visually stimulating design should be considered in the context of viewing areas of the SUN such as from Oulton Broad, Normanston Park and the area east along the waterfront.

Indicative sketch of the Neighbourhood Centre Character Area



Employment Character Area

7.29 Most of this area is covered by a Local Development Order (LDO) through to at least 2017 as described in Section 4. The LDO has a Design Code attached to it which identifies specific character areas within it, with strict design criteria that development should adhere to. Proposals in this area that do not meet the criteria set out in the LDO, will still require planning permission. In these circumstances the principles of the Design Code should apply in determining these planning applications.

Neighbourhood Centre Character Area

7.30 This area provides the community facilities that make up the central focal point of the development. It encompasses one of the largest areas of public open space on site, the primary school and the local retail centre. The openness of the area will provide views across the site but this will need to be complemented by a sense of enclosure in some locations. This enclosure should be achieved by high quality, taller (up to four storeys) buildings north and south of the central open space.

County Wildlife Site Character Area

7.31 The County Wildlife Site provides attributes to the development that are distinctly different from those surrounding it. The site supports a significant amount of biodiversity and incorporates the only remaining natural shoreline on the south side of Lake Lothing. The site will provide an open break between the proposed residential development in the SUN and the industrial development in the Kirkley Waterfront. This open break, alongside the playing pitch and primary school playing fields, will enhance the visual amenity of the area.

7.32 The CWS supports a variety of flora and fauna and has potential to be an attractive space which would increase its importance in the local biodiversity network. To achieve this a 'habitat management plan' should be prepared whose implementation would act to conserve and enhance the biodiversity value of the site. Access should be directed towards the least ecologically sensitive parts of the site.

7.33 Artificial lighting in the immediate vicinity of the CWS, such as along the waterfront pedestrian/cycle path, is likely to have a detrimental impact on wildlife, their behaviour and their habitat. Any proposed lighting should highlight the path but not create overspill into the adjacent CWS. Not using lighting during particular hours of darkness could reduce the potential impact on the CWS and discourage use at times that could be deemed inappropriate.

Key Views and Vistas and Landmarks

Views

- 7.34 Strategic views into and out of the development will support the identity of the area by people who live in the SUN and those who use the surrounding areas north and south of Lake Lothing. Vistas looking out over Lake Lothing should be considered, particularly from strategic points such as public open space. Consideration should also be given to the views into the SUN from the waterfront. A sense of isolation is likely to discourage use through a sense of insecurity.
- 7.35 Important vantage points along the waterfront include:
- the marina towards Oulton Broad
 - northern end of Brooke Peninsula across Lake Lothing
 - vantage points through the slipways looking east and west
 - line of sight from the access road intersection with Waveney Drive into the site
- 7.36 Figure 7.2 identifies potential key views and vistas through the site that should be designed into the development.

Landmarks and Public Art

- 7.37 Proposals should include landmarks such as well designed and architecturally distinctive buildings, open spaces and public art to be located at strategic points in the development. This will create identifiable locations for local people and contribute to the character of the development. Potential sites include key nodes, sites that will

receive significant public use and sites that provide an important vantage point of the surrounding area. Public art that is to be provided or funded should involve discussions with the Council. Selective use of interesting features on buildings that reflect the history of the area and its future aspirations should be considered.

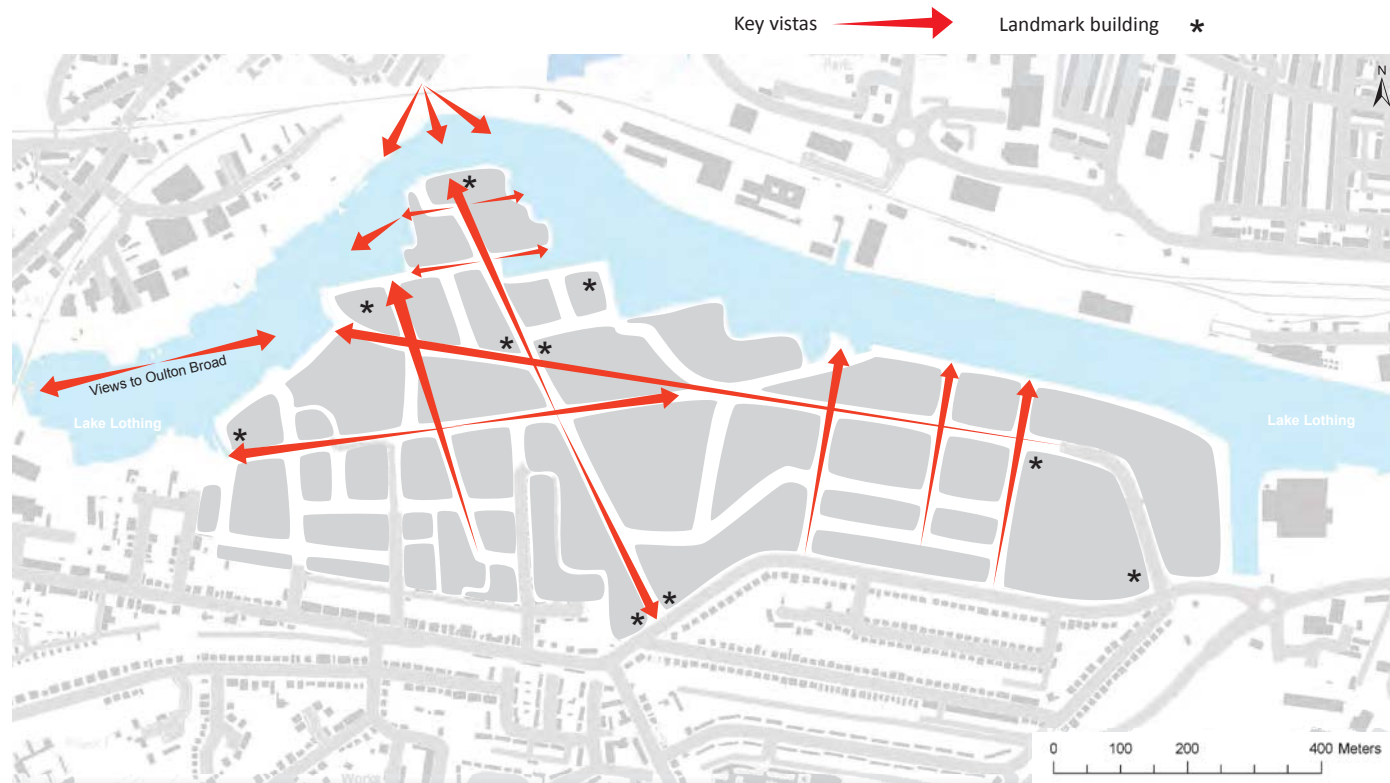


Figure 7.2 Views, Vistas and Landmarks

Galleons Reach Eco-Park, London



Sustainable Design

7.38 The Waveney Renewable Energy and Sustainable Construction Study identifies the area south of Lake Lothing as a location where new development could be designed and constructed to minimise energy demand, carbon emissions and water use. This is due to the scale and density of development proposed in the AAP area. As such the energy and water requirements for new buildings in the SUN are higher than other areas of the District. How these requirements can be achieved will need to be considered early in the design process and alongside other planning requirements. The energy requirements to be achieved in the SUN, are set out in Policy WEW1 of the AAP and repeated in Appendix 3.

Solar panels on BRE demonstration home



Energy Efficiency

7.39 The first priority for new development should be reducing energy demand. Consideration will need to be given to the layout and design of buildings and building clusters to include passive design features. The main orientation of the site is east-west which will enable maximum solar gains on many building frontages, including in the streets that front onto playing fields, but it may be necessary to incorporate shading measures to mitigate the risk of overheating in summer. At a more detailed design stage, high levels of building fabric energy efficiency, low air permeability and reduced thermal bridging should be incorporated. Two scenarios that need to be considered to achieve the energy requirements include individual building solutions or larger scale community heating schemes such as a district heating network in combination with a combined heat and power (CHP) system.

Individual Building Approach for Energy

7.40 An independent building approach will require limited investment or infrastructure planning and will enable developers to adopt their own approach at different phases of the development. This will assist them to maximise the specific characteristics of their site and use the technologies available. The downside to the individual building approach is that as the site is developed the benefits of scale are reduced. Initially, this will not be a significant issue, however, as 2016 approaches there will be considerable challenges placed on new development. The Government has set out a timetable for all new residential dwellings to be 'zero carbon' from 2016 and all new buildings to be 'zero carbon' from 2019. To meet these standards, new dwellings will need to be designed and built to be much more energy efficient than they currently are. This will have cost implications for new development. Costs per dwelling are likely to be higher for an individual building approach compared to a larger energy scheme that new buildings can be connected to, however, upfront costs will be less.

7.41 If an individual building approach is adopted, consideration should be given to achieving Passivhaus standards, whereby space heating demand is reduced to negligible levels. In addition to passive design considerations, building design should incorporate exterior surfaces that could potentially be used for solar PV and solar thermal technologies. During construction, there is an opportunity for these technologies to be integrated into the roof during construction.

Decentralised Energy Approach

7.42 The second approach is in the form of a decentralised energy network. An energy network that can distribute energy such as heat and/or electricity to new buildings should be considered, particularly with the pending 'zero carbon' standards. The site has two distinctive character areas; residential areas to the west (which will have some mixed-uses) and industrial development to the east. The range of uses and different patterns of energy demand through the day could support district heating.

7.43 A decentralised energy network could source its energy from a single, large generation unit or through several smaller generation units within the SUN which could be installed in phases as the development comes forward. This energy could then be distributed to new dwellings and buildings through a network of insulated pipes carrying low temperature water and electricity. In the future there is potential for retrofitting existing buildings which could increase the long-term viability of such a scheme if the network is expanded.

7.44 If considering a decentralised heating network that is powered by biomass or biofuel that will result in airborne emissions, the applicant should be aware that current nitrogen dioxide concentrations at Belvedere Road, Mill Road and Pier Terrace (i.e. in the vicinity of the Bascule Bridge in Lowestoft) are only just below the National Air Quality Strategy Objectives (prescribed by the Air Quality Regulations 2000 (as amended)). As such, the Council's Environmental Health Team should be consulted early on in developing such schemes.

7.45 Energy Service Companies (ESCos) provide an opportunity for developers to work with partners to deliver energy infrastructure. ESCos have expertise and may be able to assist with creating business plans, financial support and implementation strategies to deliver an energy scheme that is appropriate for the development. This can include small-scale and community-scale technologies.

Allowable Solutions

7.46 It has been recognised that achieving the Government's zero carbon energy standards by 2016 and the requirements set out in the AAP will be challenging. Allowable solutions have been proposed by the Government as a means to mitigate carbon emissions that cannot be abated on site. Simply put, developers will be required to meet a certain level of carbon reduction on site and those who cannot go beyond this to meet the full zero carbon standard will be required to make a payment to an allowable solutions provider who will take responsibility for ensuring that carbon savings projects deliver the remaining required carbon emissions reduction. Potentially, the Council could act as an allowable solutions provider where contributions can be used to invest in carbon reduction projects such as improving the energy efficiency of the existing housing stock which would off-set carbon emissions created by the new development. Such proposals, however, remain uncertain as the Government continues to consider this approach.

7.47 To help meet the energy requirements further information will be available in the Renewable Energy and Sustainable Construction Supplementary Planning Document currently being prepared.

Achieving Water Efficiency Standards

- 7.48 A strategy setting out how CfSH Level 5 and BREEAM 'Excellent' standards for water efficiency can be delivered should be considered early in the design process. Water efficiency devices such as low flow showers, aerated taps and water butts will reduce water consumption and are encouraged. However, to achieve significant water savings a larger strategy that implements rainwater harvesting and grey water recycling may be required to maximise the benefits of scale. This can contribute towards non-potable water uses and reduce the amount of surface water run-off. Water can be collected from most forms of roof surfaces. Water harvesting is compatible with solar technologies and combined these will contribute to the sustainability of the building. Waterwise and the Environment Agency can provide further information about reducing water use.
- 7.49 Achieving CfSH Level 5 and BREEAM 'Excellent' standards for water efficiency will be challenging. Where a developer can demonstrate that achieving these standards is not feasible or viable then alternative options may be considered. This may include contributions towards water efficiency off-site or financial contributions to water efficiency schemes elsewhere in the area in a similar manner as being considered for 'allowable solutions'.

Waste Management

- 7.50 New developments generate considerable amounts of waste material, both during the construction phase and throughout their lifetime. Waste is generated from the packaging of many construction products and craft based industries of brickwork, plastering, carpentry and decorating.
- 7.51 If parts of the development are to be cleared, levelled or excavated consideration should be given to reusing the waste materials elsewhere on site. There may be opportunities, assuming any excavated land is not contaminated, for waste materials to be reused to assist with mitigating flood risk.
- 7.52 Developers will be encouraged to submit a waste management plan to show how they can reduce waste associated with their development. Credits related to Construction Waste Management of the Code for Sustainable Homes and BREEAM certification schemes, or such issues or standards as replace these, should be targeted. This will assist a developer with achieving compliance with Policy DM04 'Sustainable Construction' of the Development Management Policies.

Delivery

- 7.53 The difficulty of achieving the energy and water (including drainage) requirements justify the need for developers to work together to find a solution. It is unreasonable to expect a developer to disproportionately invest in a community scheme that others may benefit from without contributing their fair share. Therefore a strategy should be prepared and agreed between developers to deliver new development that will comply at all phases of development.
- 7.54 Any planning application is expected to be accompanied by an Energy Strategy that states how energy and water efficiency requirements will be delivered on individual sites or on a community scale. If requirements cannot be met the strategy should justify why. Consideration should be given to the timeframe of delivery and the increasing Building Regulations requirements.

An aerial photograph of a coastal town and harbor. The town is built on a peninsula, with a harbor in the foreground containing several boats and a large industrial or construction site. The background shows a wide expanse of water and distant land. An orange vertical bar is on the left side of the image. A white circle is overlaid on the right side, containing the number 8 and the text 'Flood Risk Management'.

8 Flood Risk Management



8. Flood Risk Management

8. Flood Risk Management

8.1 Within the lifetime of the development the majority of the Sustainable Urban Neighbourhood and Kirkley Waterfront (SUN) will be at risk from flooding. Some of the areas of the site are at risk from high hazard flooding involving dangerous depths of water. The distribution of land uses as shown in Figure 4.1 has considered the sequential approach to the development of the site where possible. Areas with lower flood risk have been considered first for 'more vulnerable' development such as new homes. Less vulnerable uses such as employment are proposed in areas of higher flood risk on the site. Water compatible uses such as the playing fields are proposed in one of the most hazardous areas of flood risk on the SUN.

8.2 However, to accommodate the proposed levels of development it is necessary that some development classified as 'more vulnerable' development will have to be located in flood risk zones. To take advantage of the qualities of the waterfront the highest density residential development has also been proposed in flood risk areas. Areas proposed for residential development outside of the flood zone are not suitable for high density housing given the character of the surroundings. The challenge will be ensuring this development is safe from flooding by designing flood resistant buildings, developing flood mitigation measures such as land raising and ensuring there are safe means of access and egress from the areas at risk.

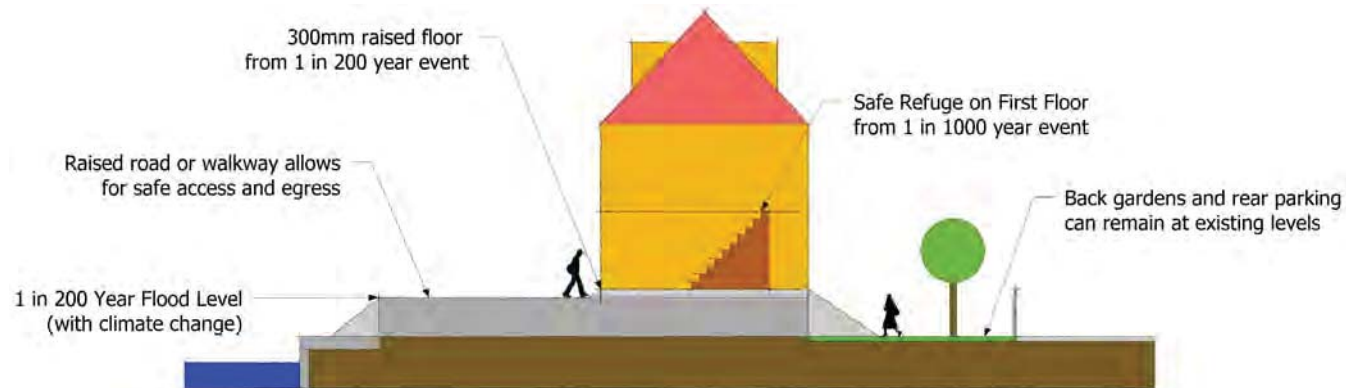
8.3 Taking new development out of risk of flooding will ensure properties can get access to home insurance. The current commitment to provide flood insurance for domestic properties at risk from flooding does not apply to any new property built after 1st January 2009. Failure to obtain insurance would mean it would be difficult to sell properties on the site as new property owners would struggle to obtain mortgages on uninsurable property. The Government is currently negotiating with the Association of British Insurers on the provision of flood risk insurance in the future as the existing commitment is due to expire in June 2013.

8.4 For information, Table 8.1 shows the National Planning Policy Framework (NPPF) Technical Guidance flood risk classifications for the types of development that are likely to occur in the SUN.

Table 8.1 Flood Vulnerability Classifications

NPPF Vulnerability Classification	Essential Infrastructure	Water Compatible	Less Vulnerable	More Vulnerable	Highly Vulnerable
Land Uses that may occur in SUN	Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk	Flood controls	Shops and services	Care homes	Basement dwellings
		Marinas, docks and wharves	Restaurants	Housing	Caravans, mobile homes and park homes intended for permanent residential use
	Essential utility infrastructure which has to be located in a flood risk area for operational reasons	Water based recreation	Offices and Industry	Schools	Installations requiring hazardous substances consent
		Open Space		Drinking establishments	

Figure 8.1 Potential Flood Mitigation Option



Flood Risk Assessment Requirements

8.5 Site-specific Flood Risk Assessments (FRA) will need to be prepared to build on the detail of the Strategic Flood Risk Assessment and the Cumulative Land Raising Study (2008)¹² to ascertain the exact risk, depth and hazard of flooding throughout the area. The site survey should collect and utilise detailed topographical ground level data. The FRA should identify the necessary defences and mitigation measures needed to reduce risk to an acceptable level in line with the NPPF. The FRA should also test whether the mitigation measures proposed will increase the risk of flooding elsewhere. Additionally, the FRA should include a flood warning and evacuation plan that details access and egress arrangements and warning arrangements to ensure people are safe by unaided movement to a place of safety. This plan will need to be to the satisfaction of the Council's emergency planners.

¹²www.waveney.gov.uk/site/scripts/download_info.php?downloadID=116 and www.waveney.gov.uk/site/scripts/download_info.php?downloadID=112

8.6 Allowances for climate change should be built into modelling and these should be applied for a 100 years from the date of modelling for residential development. For industrial development and other development on the SUN, climate change allowances should be applied for 75 years.

8.7 The Environment Agency have produced a new flood model for the Lake Lothing area. FRAs should make use of this new model. The PPS25 Practice Guide¹³ provides detailed information on how to carry out FRAs.

¹³www.communities.gov.uk/publications/planningandbuilding/pps25guideupdate

Flood Risk Mitigation Requirements

8.8 It is important that all buildings on the site remain safe from flood risk for the people within them. For 'more vulnerable' development, ground floor levels of multi storey buildings should be 300mm above the 1 in 200 year tidal flood level (including climate change). First floor levels should provide dry refuge 300mm above the 1 in 1000 year annual probability flood level including climate change. For single storey dwellings the ground floor levels should ideally be 300mm above the 1 in 1000 year tidal flood level (including climate change).

8.9 For less vulnerable development such as commercial development, the floor levels should be 300mm above the 1 in 20 year tidal flood level (including climate change).

- 8.10 For all flood events up to the 1 in 1000 year annual probability flood event including climate change, people should be safe by unaided movement to a dry floor or refuge, or by other arrangements, such as a flood warning and evacuation.
- 8.11 It will also be important that buildings are connected to roads or other pathways that are also above the 1 in 200 year tidal flood level to allow for access and egress in times of flood and to enable emergency vehicles to get into the site.
- 8.12 The development should also incorporate flood resilient construction up to the 1 in 1000 year tidal flood level (including climate change), as required in PPS25 Practice Guide paragraph 6.31 for development with raised floor levels. This is to ensure that if the building floods the damage will be minimised and so will allow faster re-occupancy of the building. The flood resilient measures should be implemented in accordance with the Communities and Local Government document 'Improving the Flood Performance of New Buildings: Flood Resilient Construction'¹⁴.
- 8.13 These above requirements do not mean that all areas at risk from flooding need to be raised out of the flood zone. Back gardens and rear parking courts could be at a lower level. Waterfront and other pedestrian and cycle paths can also be at a lower level if not needed for emergency access and egress. Public open space and playing fields associated with the primary school are 'water-compatible' and therefore do not need to be raised or defended from flood risk. Figure 8.1 shows an indicative approach to flood risk mitigation. Any flood mitigation measures proposed should not increase the risk of flooding elsewhere.
- 8.14 Lake Lothing is classified as a "Main River" for consenting purposes. Therefore, any structures in, under or over Lake Lothing will require a Flood Defence Consent from the Environment Agency. Additionally, any erections or works within 9 metres of the edge of the river will require consent under the Anglian Region Land Drainage and Sea Defence Byelaws.
- 8.15 It is important for developments to integrate systems and techniques for managing surface water. A comprehensive water strategy that addresses both water conservation and surface water run-off should be prepared to mitigate these water issues. This should reflect the phased nature of the site-wide development.
- 8.16 The SuDS (Sustainable Urban Drainage System) Management Train is a hierarchical approach to sustainable drainage design to manage surface water run-off from a site, both in terms of reducing its volume and its rate. There are opportunities for integrating these principles into the SUN site.
- 8.17 Suffolk County Council will be the SuDS Approval Body (SAB) once the relevant aspects of the Flood and Water Management Act 2010 have been implemented. At that point it will assume responsibilities for approving construction work which has drainage implications, adopting all SuDS schemes associated with surface water emanating from developments of a certain scale and ensuring that all adopted SuDS schemes are properly maintained. It is therefore essential that the County Council is involved in discussions to deliver the most appropriate water drainage system for the area. The Suffolk Local Flood Risk Management Strategy¹⁵ should be referred to for guidance. Development will not be allowed to commence until a SuDS scheme is agreed with the County Council. The same applies for foul water drainage where a strategy will need to be agreed with Anglian Water.
- 8.18 When considering design proposals for a SuDS scheme there is potential to include open space and water features.

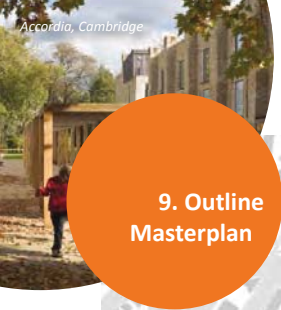
Surface Water Run-off Management

¹⁴www.communities.gov.uk/publications/planningandbuilding/improvingflood

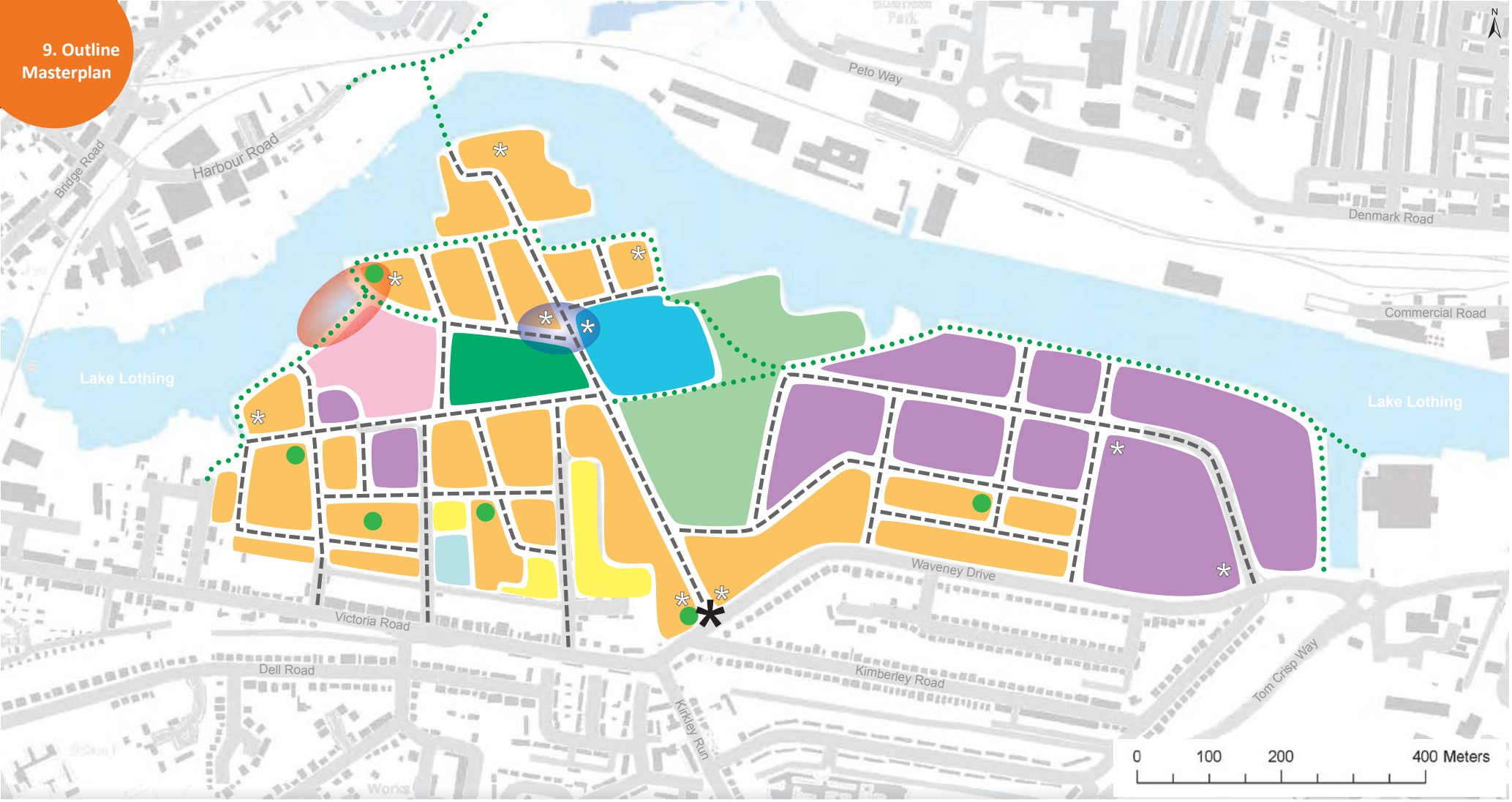
¹⁵www.suffolk.gov.uk/your-council/decision-making/consultations/flooding-are-you-prepared/









9
Outline
Masterplan



9. Outline Masterplan



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-  New Housing
-  Primary School
-  Playing Field
-  Existing Residential
-  Open Space
-  New / Existing Employment
-  Leisure Focus
-  County Wildlife Site
-  Pedestrian / Cycle Network
-  Landmark building
-  Marina
-  Local Centre
-  Existing Education
-  Street Network
-  New access point

An aerial photograph showing a mix of industrial and residential areas. In the foreground, there are large industrial buildings with corrugated metal roofs. A river or canal flows through the middle ground, with several boats docked. Beyond the water, there are more industrial buildings, a large green field, and a dense residential neighborhood. A large orange circle is overlaid on the right side of the image, containing the text '10 Implementation'.

10 Implementation

View from former Jeld-Wen factory towards North Quay Retail Park and Barnards Meadow



10. Implementation

10. Implementation

10.1 INFRASTRUCTURE REQUIREMENTS

10.1.1 The development of the Sustainable Urban Neighbourhood and Kirkley Waterfront (SUN) is dependant on a number of items of infrastructure. In the absence of confirmed public sector funding streams, infrastructure delivery to support development within the SUN will need to be funded almost entirely by development. The Council will be exploring sources of public funding to help deliver infrastructure in the Area Action Plan area and to facilitate the delivery of increased levels of affordable housing. However, these sources of funding cannot be guaranteed at present.

10.1.2 The Council is planning to introduce a Community Infrastructure Levy (CIL) which will be a standard charge applied across the District. It will be possible to use some of the funds raised through the levy from wider developments to help deliver infrastructure within the SUN and the wider Area Action Plan area. Similar to other public funding CIL funds will not be used to subsidise developers on the SUN and to give them a commercial advantage. CIL will not be used to fund infrastructure where it will deliver developer profits above normal levels or where it will support historic or higher than normal residual land values. CIL could be used to help unlock development sites where viability is a problem and where infrastructure on or near those sites brings wider benefits to other developments, such as the proposed pedestrian and cycle bridge over Lake Lothing. However, the Council will need to ensure that a balanced approach is taken to ensure that infrastructure across the District is funded and delivered. Therefore, the majority of funding for infrastructure on the site will still need to come from the developments within the site as this is the largest development in the District and accounts for over half of the planned housing development to 2025.

Shared Infrastructure

10.1.3 Ideally the site will be delivered by a single developer or a consortium of developers working in collaboration through a single planning application. In this scenario all infrastructure items could be more easily secured through a single planning obligation. However, it is more likely that the site will come forward through multiple planning applications relating to existing land ownership. In this scenario the cost of providing shared infrastructure which is needed to support the development on all parts of the SUN will need to be fairly apportioned across the site which reflects the amount and type of development on each part of the site. There will need to be a mechanism to ensure landowners who provide infrastructure on-site will not be penalised for doing so in terms of land value.



Brooke Peninsula

10.1.4 One mechanism for achieving this as promoted by the AAP is to ensure that where a piece of infrastructure is provided on a particular landowners land, that landowner will pay commensurately less contributions towards infrastructure requirements based on the land value lost. This value will need to be determined by an independent valuer and should be based on the benchmark land value used for viability testing. The value of land determined by the independent valuer will need to be added to the total infrastructure bill to ensure there is not a shortfall towards the physical costs of providing infrastructure. This results in landowners who do not provide the infrastructure on their land paying a higher per dwelling tariff than landowners who do provide infrastructure on-site.

10.1.5 This mechanism becomes more difficult where viability is an issue and individual development parcels cannot afford to pay the full amount of infrastructure contributions required. By ensuring that for viability testing the 'benchmark land value'¹⁶ includes the value of land lost to infrastructure, the landowners providing infrastructure will not lose out. If this approach is taken there will be no further discounts from the tariff for those landowners as the land value lost for providing the infrastructure would have already been accounted for.

Primary School

10.1.6 The level of development proposed on the site will likely create a need for a 1.5 forms of entry primary school. The level of development will also necessitate additional pre-school provision. The primary school should therefore incorporate pre-school provision. To allow for future expansion, the primary school will require a 2 hectare site and will need the core accommodation of a 2 form entry school. The primary school will need to be defended from the risk of flooding and as such the finished floor levels will need to be 300mm above 4.7m AOD. The cost of building a 1.5 form entry primary school, including pre-school provision in a flood zone is estimated to be £7.68 million.

10.1.7 In the early phases of development on the SUN, primary school pupils arising would have to be accommodated in off-site schools, possibly in temporary accommodation, prior to the opening of the new on-site school. Contributions may be requested from developers for the provision of this temporary accommodation. Suffolk County Council estimate the cost of temporary accommodation would be £468,480.

10.1.8 It is likely that the new school will be constructed in two phases: a 210 place (1 forms of entry) school by the completion of 500 dwellings but on the basis of being able to add additional classrooms as development proceeds in later years as phase 2.

Pedestrian/Cycle Bridge over Lake Lothing

10.1.9 The pedestrian/cycle bridge over Lake Lothing on the Brooke Peninsula is essential to minimise traffic impacts associated with new development planned in Lowestoft and to provide access to Normanston Park for new residents, which addresses the difficulty of providing adequate amounts of open space on the site.

10.1.10 Ideally, the bridge will need to be in place prior to the completion of all residential units on the SUN. However, given the difficulties in funding the bridge as described below, this may not be possible. The bridge will need to be funded partly by developers on the SUN. There will also be potential for funds raised through the Community Infrastructure Levy from wider developments in Lowestoft to help pay for the bridge. The Council will also explore other public funding streams as and when they become available such as through Local Transport Plan funding.

10.1.11 A draft feasibility study established that a bridge with a soffit level of 3.5m above ordnance datum would have a capital cost of £4,810,382.

¹⁶Benchmark land value is the value that is determined to be a reasonable return to a landowner to enable them to release the site for development. This will be a function of the current use value of the site plus an uplift. Given that most of the Sustainable Urban Neighbourhood and Kirkley Waterfront site is of a similar nature it is likely that benchmark land values of all parts of the site will be similar. The CIL Viability Study (BNP Paribas Real Estate, 2012) valued the benchmark value at £300,000 a hectare. This value will need to be reviewed and updated at the time of any planning application by an independent valuer.

10.1.12 It is considered that the new pedestrian bridge will support all development in Lowestoft as it will contribute to town wide traffic reduction measures as required to deliver the quantum of development proposed in Lowestoft. As 1,869 units are proposed for Lowestoft a reasonable contribution to the bridge from SUN developers, assuming no other public funding is available would be £3,551,806.

10.1.13 As stated in Section 5, a new pedestrian and cycle bridge over the railway line next to the above crossing over Lake Lothing will also be needed. However, developers in the SUN will not be expected to contribute towards this as it is not needed to mitigate the impacts of this development.

Open Space

10.1.14 As per the strategy in Section 6, a playing field will need to be provided in the central part of the development to compensate for the loss of the existing Jeld-Wen playing fields. This open space will need to accommodate a football pitch and be of approximately 2 hectares in size. The cost is estimated to be approximately £265,800. This figure is calculated on the basis of £100,000 of remediation costs¹⁷ and a lay-out cost of £165,800¹⁸. There may be additional costs for demolition of existing buildings as well. This area of open space should also include a Neighbourhood Equipped Area for Play as detailed in Section 6 of this Brief.

¹⁷Based on assumptions in Best Practice Note 27 – Contamination and Dereliction Remediation Costs, English Partnerships

¹⁸Based on the cost of local examples (Waveney Norse, 2011)

10.1.15 Open spaces are to be brought forward at the same time as the part of the development they are to serve.

10.1.16 As it is not possible to provide the full requirement of open space on site, developers should identify and implement opportunities to improve the CWS. This includes the provision of the path traversing the site and improving the quality of the habitat itself.

Access Road

10.1.17 Fundamental to the deliverability of most of the housing proposed in the western half of the SUN is an access road that diverts traffic from the western part of the new development away from Victoria Road and the minor access roads which currently connect the site to it. This road will be essential for western sections of the site to be developed fully without creating an unacceptable impact on the existing access junctions and Victoria Road. An Access Study¹⁹ has been prepared that has shown that 563 dwellings can be developed using the existing access roads which connect on to Victoria Road before the new access road going through the Jeld Wen Playing Fields site is needed.

¹⁹Sustainable Urban Neighbourhood and Kirkley Waterfront Access Study, Lowestoft (AECOM, 2012)

10.1.18 The Access Study found that the Waveney Drive junction could be a priority junction with a ghost island allowing right turns into the site from Waveney Drive or a signalised junction. Detailed specification will need to be determined through Transport Assessments in discussion with the Highways department at Suffolk County Council.

10.1.19 The new access road will traverse through areas identified for development and therefore should form part of the scheme and have buildings fronting onto it.

Waterfront Pedestrian and Cycle Path

10.1.20 This Development Brief requires the creation of a waterfront pedestrian and cycle path along the entire length of the sites waterfront. As the redevelopment reaches the waterfront it will be expected that the developer responsible will provide their section of the waterfront path. At Kirkley Ham, redevelopment proposals will need to ensure land is reserved to enable a future crossing over the inlet to link to the existing path running north of the Asda supermarket. Once the path is needed in the area of the Haven Marina, the Council will discuss and negotiate with Associated British Ports as to how public access to the marina area could be safely provided to create a link between the Brooke Business Park development and any new development on the SCA Recycling site.

Off-Site Infrastructure

10.1.21 New development in the SUN will place additional pressures on libraries. There are plans to address this need in the AAP area by building a new, enhanced library in Oulton Broad on part of the Oswald's Boatyard site (allocated under Policy SSP7 of the AAP). Based on Suffolk County Council standards, the 1,380 units planned for the SUN will create an additional need for 91 sqm of library space. Therefore the contribution to the new library from the SUN will need to be £273,000. The proposed pedestrian/cycle bridge over Lake Lothing at Brooke Peninsula will help provide quick access to the library.

Site Specific Infrastructure

10.1.22 In addition to the shared infrastructure above there will be a need for some site-specific infrastructure on each separate land holding.

10.1.23 As stated in Section 8, flood defences or land raising will be required across the site. This could either be delivered on a site-specific basis or on a strategic basis across the whole site. Sustainable drainage systems will be required along with upgrades to the local sewerage network. It would be beneficial for landowners to jointly commission a site-wide strategic study to identify the most cost effective ways of delivering this type of infrastructure. In a similar situation to the access road, it may be that some of the infrastructure becomes shared infrastructure but due to its nature it may best be delivered by developers rather than by contribution to the Council.

10.1.24 Consultation with other utility providers will be needed to ascertain whether any upgrades to other utility infrastructure will be required.

10.1.25 Developers will be encouraged to ensure the development includes the provision of high-speed broadband for residents and businesses.

Aerial view south-west across site



Viability

10.1.26 It may be that the site cannot viably contribute to the full costs of the infrastructure required to support development. If this scenario arises the Council will need to prioritise infrastructure delivery across the site and look for other sources of funding. The Council will be able to draw on CIL receipts from a wider area to help deliver some of the infrastructure as stated above. It will be important that the development delivers the critical items of infrastructure such as any necessary flood protection/mitigation measures and the access road. Without these types of infrastructure some parts of the development cannot proceed.

10.1.27 The CIL Viability Study (BNP Paribas, 2012)²⁰ included a high-level viability assessment of the scheme. It concluded that in the current market there was limited potential for any affordable housing to be provided on the site and potential for only minimal contributions to infrastructure. However, the study identified that a small increase in sales values could deliver a quantum of affordable housing and a significant contribution towards the infrastructure required. A 10% rise in sales values (above build cost inflation) could allow the primary school and open space to be viably delivered on site plus 10% affordable housing and a contribution of £740,000 towards the pedestrian bridge.

10.1.28 It is likely therefore that in negotiating section 106 planning obligations for the site (or separate parts of the site) that a form of overage agreement, or contingent deferred contributions will be required. This will mean a small contribution to shared infrastructure and affordable housing will be secured upfront that keeps the scheme viable. The agreement then allows for additional profits (as a result of increased sales values or lower than expected build costs), over what were expected (likely to be 20% of gross development value) to be shared between the developer and the Council up to the level of the original contribution required (plus inflation).

10.1.29 Viability testing will be undertaken in accordance with the methodology outlined in the Affordable Housing Supplementary Planning Document.

²⁰www.waveney.gov.uk/site/scripts/download.php?fileID=2676

10.2 STRATEGIC PHASING

10.2.1 The Sustainable Urban Neighbourhood and Kirkley Waterfront (SUN) is a large-scale development that will take a significant period of time to complete. It is currently anticipated that the scheme will be complete by 2028. The development is dependant on a number of key pieces of infrastructure as detailed above, the site is also in a number of different land ownerships. As such, a careful approach to the phasing of the site is required that takes into account landownership as well as infrastructure need. Table 10.1 summarises when each piece of infrastructure is required.

10.2.2 Some parts of the SUN are available and ready to develop now and can form part of the first phase of development.

10.2.3 The Riverside Road area of the site is already serviced and can be developed at the present time for employment purposes. Some parts of the SUN are ready to develop for residential purposes. An Access Study has shown that the following amounts of residential development can take place off the following access roads before the new access road going through the Jeld Wen Playing Fields site is needed.

10.2.4 This means that a total of 563 new dwellings on the western part of the SUN can be developed prior to the access road being put in place.

- Heath Road = 176 new dwellings (involving the redevelopment of Brooke Business Park)
- School Road = 343 new dwellings (involving the redevelopment of the former Sanyo Factory)
- Nelson’s Wharf = 24 new dwellings (involving the redevelopment of the SCA Recycling plant)
- Stanley Road = 20 new dwellings (involving the redevelopment of the Witham Paints Factory)

10.2.5 The Jeld Wen playing fields site is also ready to develop and will involve the construction of the access road connecting to the Brooke Business Park site. The delivery of this part of the site will require the relocation of the existing playing fields. The land use plan shown in Figure 4.1 earmarks the northern part of the former Sanyo site for these playing fields. Should the Jeld Wen Playing Fields come forward for development before the former Sanyo factory is redeveloped the playing fields could be temporally relocated to the land set aside for the new primary school on the southern part of the Brooke Business Park site.

Table 10.1 Infrastructure Trigger Points

Infrastructure	Trigger Point
Primary School	First phase complete following the completion of 500 dwellings.
Pedestrian and Cycle Bridge	Following the completion of all residential dwellings on the site
Open Space	Playing fields to be relocated in tandem with development of existing playing fields.
Access Road	Completion of 568 dwellings maximum
Waterfront Pedestrian and Cycle Path	In tandem with the development of the waterfront parts of the site.

10.2.6 Before the completion of 500 dwellings, a new primary school will need to be provided within the SUN. Once this is in place and the access road, the final phase of residential development on the western part of the site can move forward.

10.2.7 A large part of the eastern part of the site comprising of the former Jeld Wen Factory site is only available for industrial uses under lease agreements in the short term. It is likely that the site will become fully available in the later parts of the plan period, post 2020. At this point, residential development could come forward on the southern part of the former factory site.

10.2.8 Figure 10.1 and the accompanying table below shows an indicative approach to phasing on the site. Other approaches to phasing could take place providing they take into account the infrastructure constraints and general principles referred to above. Detailed phasing plans will need to be developed as part of planning applications for the site.

Riverside Road and former Jeld-Wen factory

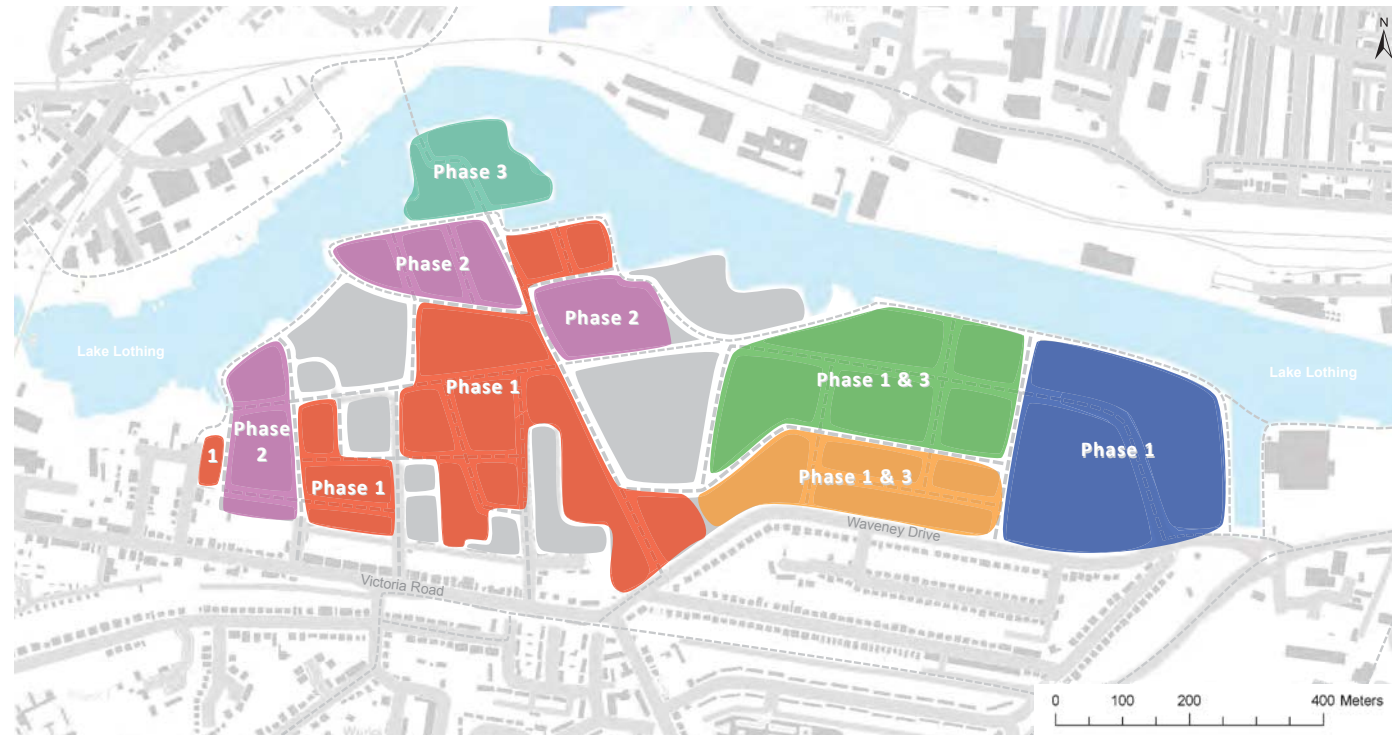


Figure 10.1 Indicative Approach to Phasing

Phase 1

This phase would involve the residential development of the former Sanyo factory, and the residential development of the Jeld Wen Playing Fields together with the relocation of the playing fields to the northern part of the former Sanyo site.

The residential development of the Jeld Wen Playing Fields would involve the creation of the access road from Waveney Drive.

Using existing access off Stanley Road, Witham Paints could be redeveloped for housing in this phase following relocation of their business.

Residential development would also occur on part of the Brooke Business Park site in this phase. Some parts of Brooke Business Park would likely remain in employment use during this phase.

Approximately 500 new dwellings would be delivered in this phase.

Phase 1 also involves the development of office and industrial uses on the Riverside Road area of the site. Some of this development will likely take advantage of the existing Local Development Order.

Employment development of a more temporary nature will likely take place on the entire former Jeld Wen Factory site.

Phase 2

Phase 2 would take place following the completion of the new access road and would start with the completion of the first part of the new primary school.

Residential development would follow on large parts of the Brooke Business Park together with the small scale retail facilities making up the local centre. The Brooke Peninsula would likely remain in employment use during this phase.

Leisure facilities on the western part of the Brooke Business Park development would also be delivered in this phase.

Following the completion of the access road, and other adjoining roads, residential development of the entire SCA Recycling site could take place in this phase.

Parts of the waterfront pedestrian and cycle path covering the Brooke Business Park and SCA Recycling water frontage would be completed in this phase.

Phase 3

Phase 3 would see the development of the Brooke Peninsula for residential development.

Phase 3 would also involve the residential development of the southern part of the former Jeld Wen Factory site and industrial/office development of a more permanent nature on the northern part of the site.

This phase would involve the completion of the waterfront cycle and pedestrian path and the creation of a pedestrian and cycle bridge over Lake Lothing at Brooke Peninsula.

The primary school would be extended in this phase to ensure it could accommodate pupils from the whole of the SUN.

11

Planning Application Requirements



11. Planning Application Requirements

11. Planning Application Requirements

- 11.1 This section outlines the Council's requirements for planning applications submitted for development within the Sustainable Urban Neighbourhood and Kirkley Waterfront site.
- 11.2 Although it is likely that the Sustainable Urban Neighbourhood Development Brief will come forward through multiple planning applications, these planning applications will still be applications for major development. To enable the Council to efficiently process and determine applications it will be important that planning applications submitted are of an acceptable standard. This means they are accompanied by the necessary studies and documentation and are in accordance with policy stated in the AAP and the guidance in this Development Brief.

New development, Lowestoft



- 11.3 Pre-application discussions will be essential to ensuring acceptable planning applications are submitted. Developers are encouraged to meet with the Council and discuss their proposals well in advance of submitting an application. The Council will be able to advise on the documentation required, the studies required and the scope of such studies. The Council will also be able to check that proposals are being worked up in accordance with the Development Brief and adopted planning policies. This will help save time in the long run and by working closer together on a project from the outset, developers and the Council can achieve better outcomes and save on costs. For the larger parts of the site the Council would like to engage with the Developer in a collaborative approach to developing the planning application and supporting studies. This will often involve working groups consisting of officers from the Council and representatives of the Developer.
- 11.4 Applications for large scale developments in the SUN should consult with the community prior to submission of the application. Ideally developers should discuss with the Council their plans for public engagement.

Outline Planning Application Requirements

- 11.5 It is likely that most applications that come forward in the SUN area will be in the form of an Outline Application followed by Reserved Matter Application or a series of Reserved Matter Applications. It is crucial to establish certain parameters and design principles to development proposals in Outline Applications to give more clarity to what is actually being proposed and what has been assessed as part of the supporting studies/documentation such as Design & Access Statements, Transport Assessments and Environmental Statements. Outline Applications should include specific parameter plans as a formal part of the application material that identify the following:
 - Land Use: the building / site use or uses proposed for the development
 - A phasing plan for within the site
 - Areas of potential built development. This should identify broad areas within the site within which proposed buildings would be located
 - Building Heights. Plans should identify the upper and lower limits for height within the areas of built development
 - Landscape & open space structure. This should identify strategic areas of open space indicating the role & purpose of different spaces, landscape and other facility (i.e. LEAP, NEAP) content

- Access & movement: this should identify proposed access point/s, movement across the site including strategic highway, pedestrian and cycle routes
- 11.6 In addition to the above, a schedule of development should also form part of the formal application material. This should detail the amount of development proposed for each use, including the total gross square metres of built development, numbers of residential units (with tenure/size splits), and site areas. This should also be subdivided down to each identified phase as appropriate.
- 11.7 A number of supporting documents will also be required at the outline stage:
- A planning statement setting out how the proposal accords with planning policy and the guidance in this Development Brief
 - A Design and Access statement
 - Section 106 heads of terms
 - An Environmental Statement (if an Environmental Impact Assessment is required)
 - For larger sites, a detailed masterplan which demonstrates spatially how the principles of this Development Brief have been incorporated into the application
 - Design Statement/Code for character areas
- Consultation Statement. This briefly outlines the community engagement activities undertaken prior to the submission of the application and a summary of the main concerns raised and how they have been addressed in the application.
- 11.8 A number of supporting studies will also be required to support the application these are discussed below.
- Types of Supporting Studies Required for Outline / Full Applications**
- 11.9 A number of studies will be required to support an application in the SUN site. The list below gives an indication of the likely studies required. It is not exhaustive. Similarly it may be that in some cases not all studies are needed. All of the studies will be required at the outline stage. However, it may be that only desk studies are needed as part of the Outline Application with more detailed studies secured as conditions or as parts of reserved matters. This will need to be discussed with the Council in pre-application discussions. The overall scope of all studies should be discussed with the Council prior to the submission of a planning application. Additionally it would be helpful for the studies prepared to have the support of relevant statutory organisations prior to submission of a planning application.
- 11.10 The studies listed above for individual planning applications should consider the development of the entire SUN and other developments allocated in the AAP area.
- i. Flood Risk Assessment incorporating a defence and risk management/evacuation strategy.
 - ii. Detailed site-specific Transport Assessment which includes public transport strategy and travel plan. The scope of the transport assessment will need to be discussed with the Highway Authority.
 - iii. Contaminated Land Survey. In most cases an intrusive study will be required at the Outline Application stage given the previously developed nature of the site.
 - iv. Noise Assessment.
 - v. Archaeological Survey.
 - vi. Energy and water efficiency strategy which demonstrates how energy and water efficiency will be achieved up to a standards equivalent to Code level 5 of the Code for Sustainable Homes or BREEAM 'Excellent' as appropriate.
 - vii. Landscape/ Townscape Assessment.
 - viii. Ecological Assessment. In particular this will need to examine the impact on the County Wildlife Site and identify a programme of mitigation / enhancement works. This will need to include a Habitat Management Plan setting out how the site will be managed and who will be responsible for this.
 - ix. Air Quality Assessment.
 - x. Health Impact Assessment.

An aerial photograph of an industrial waterfront area, likely a shipyard or port. The image shows several large, rectangular industrial buildings with flat roofs, some with corrugated metal siding. There are numerous parking lots filled with cars and trucks. In the foreground, there are long, narrow piers extending into the water, with several boats docked. The water is a deep blue-green color. A large, solid orange circle is overlaid on the right side of the image, containing the word "Appendices" in white, bold, sans-serif font. The background of the left side of the image is a blurred, orange-tinted aerial view of a residential or commercial area.

Appendices



Appendix 1 Site Analysis

Appendix 1 Site Analysis

A1. EXISTING USES

A1.1 The land upon which the Sustainable Urban Neighbourhood and Kirkley Waterfront will be built was previously used for industry. A small proportion of the site is still occupied by a number of businesses. Most of the site is occupied by underutilised or unoccupied industrial units. The site consists of:

- Brooke Business Park which used to be a boat building factory
- The former Sanyo electronics factory
- The former Jeld-Wen factory
- SCA Recycling
- Survitec-SD premises
- Witham Oil and Paints
- Playing fields associated with Jeld-Wen factory
- County Wildlife Site
- Haven Marina
- Businesses on Riverside Road

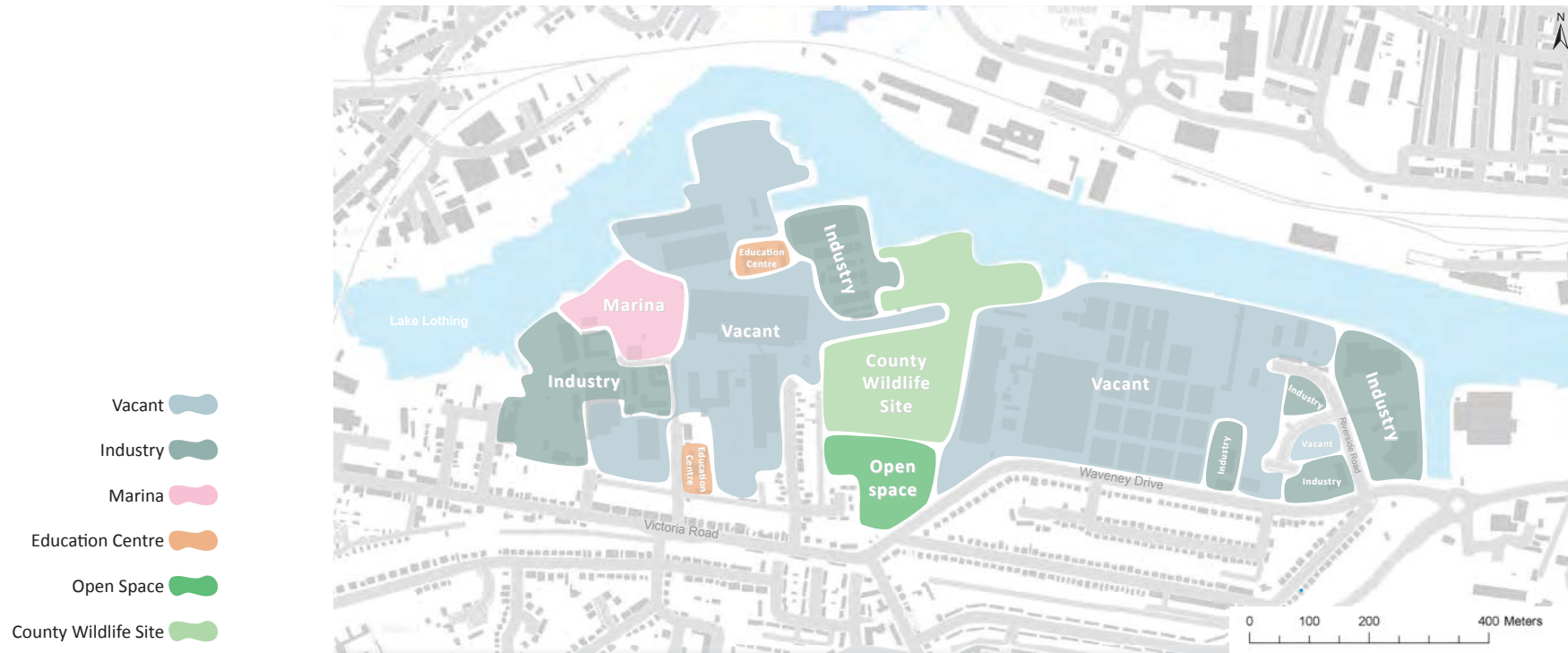


Figure A1.1 Existing Uses

A1.2 There are a number of residential properties within the site area. These properties will be retained as part of any redevelopment.

A1.3 Figure A1.1 shows the existing uses on the site.

A1.4 To the immediate south of the site is a line of residential properties along Victoria Road and Waveney Drive. To the west of the site are residential properties fronting Stanley Road and Lake View Road. To the east of the site is an inlet, beyond which is an ASDA Supermarket. Across Lake Lothing to the north of the site are industrial units along Harbour Road and port facilities off Commercial Road.

A1.5 The existing residential areas surrounding the site range from low density to medium density with a mix of terraces and semi-detached homes along Victoria Road, School Road, Stanley Road and Heath Road.



Aerial view west across Lowestoft and towards Oulton Broad

A2. CONSTRAINTS AND OPPORTUNITIES

Transport Issues

A2.1 The Sustainable Urban Neighbourhood and Kirkley Waterfront (SUN) site is near the geographic centre of Lowestoft, close to the town centre and PowerPark and about 1.5km from the shopping area at Oulton Broad. As part of the wider regeneration of the Lake Lothing area, the site will be close to new leisure and retail development at Peto Square (see Figure 1.2).

Access

A2.2 Despite the central location of the site, physical access to parts of the site is problematic. The Brooke Peninsula and Sanyo parts of the site are currently accessed by School Road and Heath Road and the more western part of the site can be accessed from Nelson's Wharf and Stanley Road. Congestion is already a problem on Victoria Road and further development could exacerbate the issue. Therefore the parts of the SUN west of the Jeld-Wen Factory will require a new access on to Waveney Drive. An Access Study¹⁸ has been prepared which established that 563 units could be accommodated off existing access roads connecting to Victoria Road.

Wider Traffic Issues

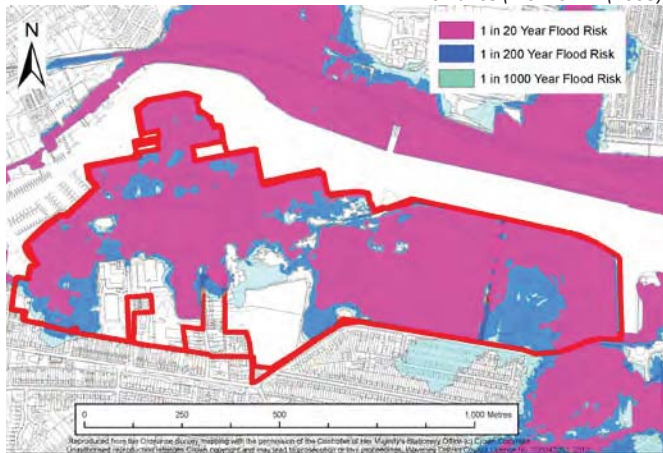
A2.3 Transport modelling undertaken to support the Area Action Plan found the full development of all sites within the Lake Lothing Area would have a significant impact on traffic flows in the town. Even when taking the existing Travel Smart initiative into consideration alongside strong travel planning and sustainable transport initiatives only 80% of the growth proposed in the Lake Lothing area can be accommodated without having significant implications on the existing road network. Therefore, town-wide traffic reduction measures will need to be explored and implemented. Failure to address additional traffic pressures arising from the development could potentially have significant effects not only on the environment of the immediate areas but also on businesses and residents elsewhere in the town.

Crossings

A2.4 A key consideration in the development of this area will be to ensure future options for a third road crossing of Lake Lothing are not jeopardised.

A2.5 The development of the SUN presents an opportunity to deliver a new pedestrian/cycle bridge across Lake Lothing at Brooke Peninsula, linking the development to Normanston Park, Harbour Road and the wider area. However, Lake Lothing in this location is navigated by a number of different vessels including dredgers and sail boats. It is important that the construction and use of a bridge does not restrict navigation along this stretch of Lake Lothing.

Figure A1.2 Flood Zones with Climate Change Allowance (From SFRA (2008))



Flood Risk

A2.6 In the context of the wider AAP area the SUN is, in flood risk terms, sequentially preferable for ‘more vulnerable’ development (such as housing) than other strategic sites. However, flooding does remain a major constraint to development on the site. The Strategic Flood Risk Assessment²¹ (2008) (SFRA) shows that when considering climate change, most of the site lies within Flood Zone 3. Figure A1.2 shows the extent of the Flood Zones across the site. The difference between the SUN and other areas of Lake Lothing such as Peto Square and the Outer Harbour PowerPark area is that the depth and hazard of flood risk is significantly less. Figures A1.3 and A1.4 show the depth and hazard modelling from the Strategic Flood Risk Assessment for the 1 in 200 year event (Flood Zone 3a, taking into account climate change).

A2.7 The Cumulative Land Raising Study (2008) illustrated that the northern part of the site, the Brooke Business Park, could be raised from approximately 3.3m AOD to 4.7m AOD, taking the site out of risk from flooding without increasing risk elsewhere. The study also concluded that the area of the site at Riverside Road where the Waveney Campus was once proposed could also be raised without increasing risk elsewhere. However, the Cumulative Land Raising Study did not look at other parts of the SUN at risk from flooding which include the main Sanyo buildings, the Jeld-Wen site and the northern tip of the SCA paper recycling plant. It is likely that these areas can be raised as well without causing increased flood risk although this will need to be further tested as part of site-specific Flood Risk Assessments. However, there is concern that the northern part of the Sanyo site, which the SFRA shows as being subject to high hazard flooding, could act as a conveyance route in times of flood and therefore if this area was to be raised or defended from flood risk it could increase flood risk elsewhere.

Figure A1.3 Flood Depths in 1 in 200 Year Event with Climate Change Allowance (Flood Zone 3a) (Adapted from SFRA (2008))

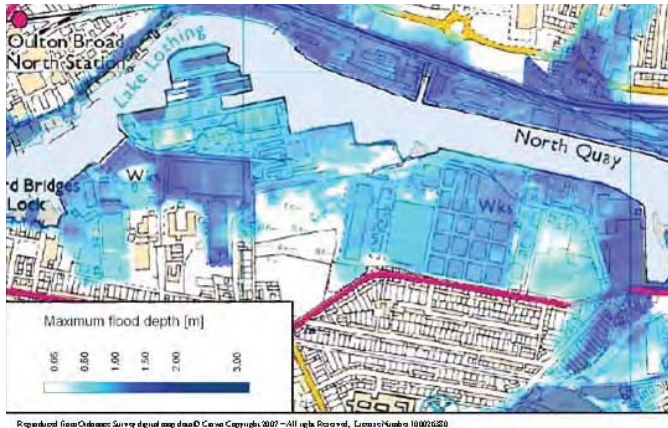
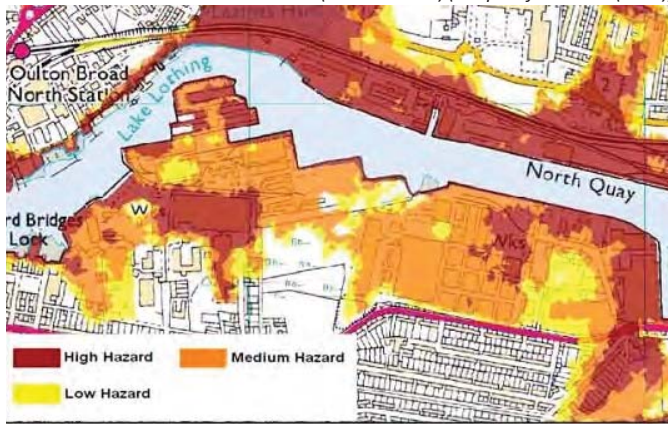


Figure A1.4 Flood Hazard Map in 1 in 200 Year Event with Climate Change Allowance (Flood Zone 3a) (Adapted from SFRA (2008))



²¹www.waveney.gov.uk/site/scripts/download_info.php?downloadID=116

A2.8 The development of this site does present some opportunities to reduce flood risk in the area. The Cumulative Land Raising Study²² showed that raising land on Brooke Peninsula and Riverside Road did not have a negative effect on flood levels or the speed at which flooding would occur. Additionally, new defences incorporated as part of the development may help protect existing properties from flooding.

A2.9 Part of the SUN area is taken up by the Brooke Yachts and Jeld-Wen Mosaic County Wildlife Site (CWS). The CWS is a semi-natural environment consisting of an open mosaic of habitats on previously developed land and a natural coastline including a small area of intertidal mudflat which links to scrubland to the south.

A2.10 The site is of high wildlife value and provides a habitat for reptiles such as the common lizard, birds including the song thrush and linnet and small mammals. The structural diversity of the site is very good with a mix of grassland, thick scrub and woodland.

- Allotments and Open Space 
- Common Land and Village Greens 
- Ancient Woodland 
- County Wildlife Sites 
- Local Nature Reserve 
- Site of Special Scientific Interest 
- Special Protection Area and Special Areas of Conservation 

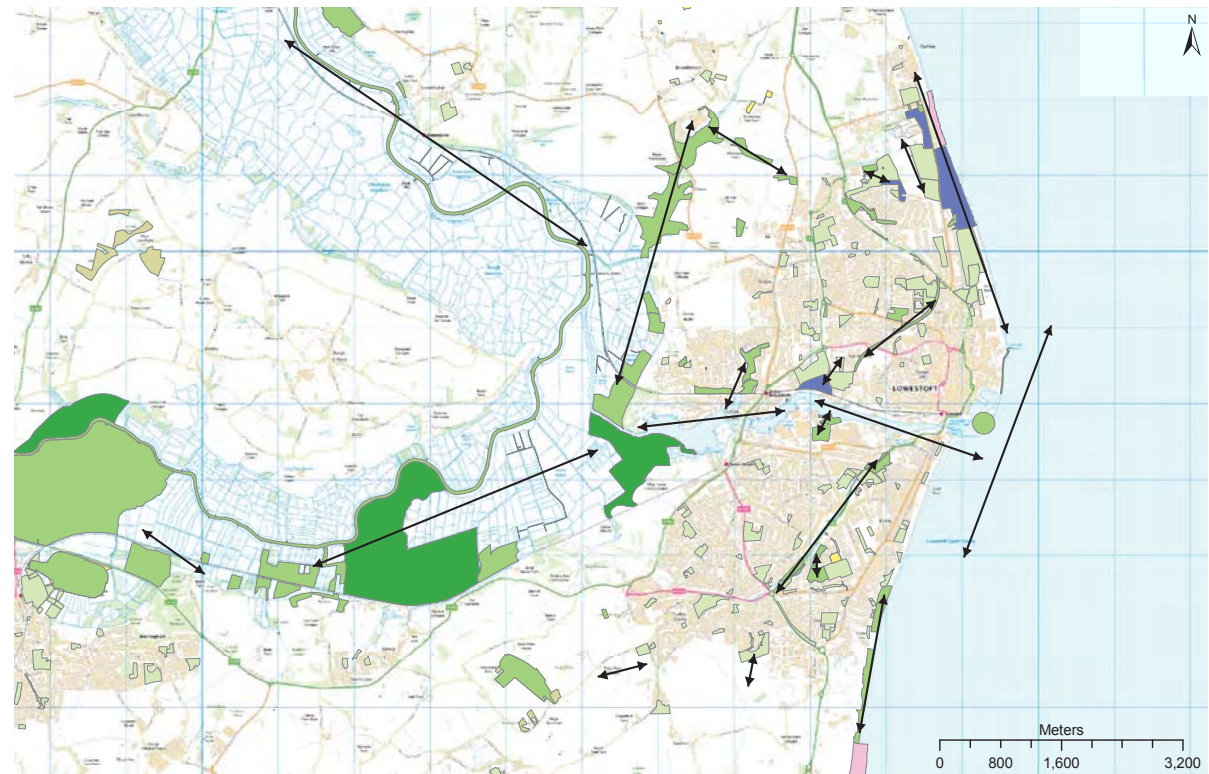


Figure A1.5 Ecological networks in Lowestoft

²²Waveney strategic Flood Risk Assessment Cumulative Land Raising Study www.waveney.gov.uk/site/scripts/download_info.php?downloadID=112

A2.11 The CWS is considered to be a valuable piece of nature in an urban setting and will need a level of protection from development. However, the location of the County Wildlife Site in the centre of the site could potentially restrict the connectivity between the western and eastern parts of the site. The CWS is also a constraint to delivering a new access road to service the western part of the site. Any loss of County Wildlife Site to improve accessibility will need to be mitigated with appropriately compensatory measures taken.

A2.12 The SUN development provides some opportunities for the enhancement of the CWS through extension of existing habitats and the creation of new ecological network linkages across the site and improving access to local nature and ecology for community enjoyment.

A2.13 Lowestoft has more designated areas associated with it than any other town in Suffolk, many of which support Biodiversity Action Plan habitats and species. The Suffolk Wildlife Trust Lowestoft Wildlife Audit (2007)²³ identified an ecological network of green spaces and links across Lowestoft. This network has been reproduced in Figure A1.5. There is an opportunity for this network to be enhanced by the provision of new open spaces and linkages within the SUN.

Ground Conditions and Physical Structures

A2.14 Given the past industrial use of the site it is likely there could be issues with ground contamination. Further investigation work will be required to ascertain the level and nature of any possible contamination on the site. Contamination studies will also need to identify required remediation solutions. Parts of the site, particularly around the Brooke Peninsula consist of 'made' ground associated with the construction of the boat building business in the mid 20th Century.

A2.15 Parts of the site have derelict or vacant buildings (some of which may contain asbestos) which will need to be removed prior to commencement of development.



Brooke Peninsula

Amenity

A2.16 The shores of Lake Lothing are still home to a number of industrial activities including the port operations on the opposite side of the river to the SUN. Noise travels well over open water therefore noise generated by port operations and other industries across Lake Lothing could be detrimental to the amenity of new residents. It is likely that conflicting land uses may be adjacent or in close proximity to each other therefore careful consideration of potential impacts on amenity will need to be made. This is particularly important where residential and outdoor public use areas in the vicinity of employment areas are proposed. Noise assessments will need to be prepared as part of planning applications. The SUN will be a mixed-use community and therefore regard will need to be had to compatibility of adjacent future uses.

A2.17 Whilst air quality is not a particular issue within the SUN itself, traffic emanating from the proposed development could have an impact on air quality elsewhere in the town, particularly around the Bascule Bridge. The potential impacts of this should be considered when preparing planning applications and supporting studies such as transport assessments.

A2.18 The development of the site represents an opportunity to improve the visual amenity of the area through the removal of derelict buildings, attractive design and planting.

²³www.waveney.gov.uk/site/scripts/download_info.php?downloadID=110

A3. LOCAL CHARACTER APPRAISAL

- A3.1 The purpose of this section is to briefly highlight the character of the built environment both on the site, immediately around it and in Lowestoft in general. It is important to consider key features of local character that relate to the SUN area during the planning and design stages of the development.
- A3.2 The existing character of the SUN is predominantly 20th Century industrial. Most of the site is covered by operational and vacant/derelict industrial buildings. Prior to the industrial development of the site the area was predominantly undeveloped consisting of open fields and marshland around Lake Lothing.
- A3.3 The Lake Lothing and Outer Harbour Area Action Plan Cultural Heritage Assessment (2006) noted few of the buildings on the site have any architectural or historical interest.
- A3.4 The ABP Haven Marina is located within the site and contributes to the wider maritime character of the area. This is complemented by a strong maritime character on the northern shore of Lake Lothing at the western end of the site.

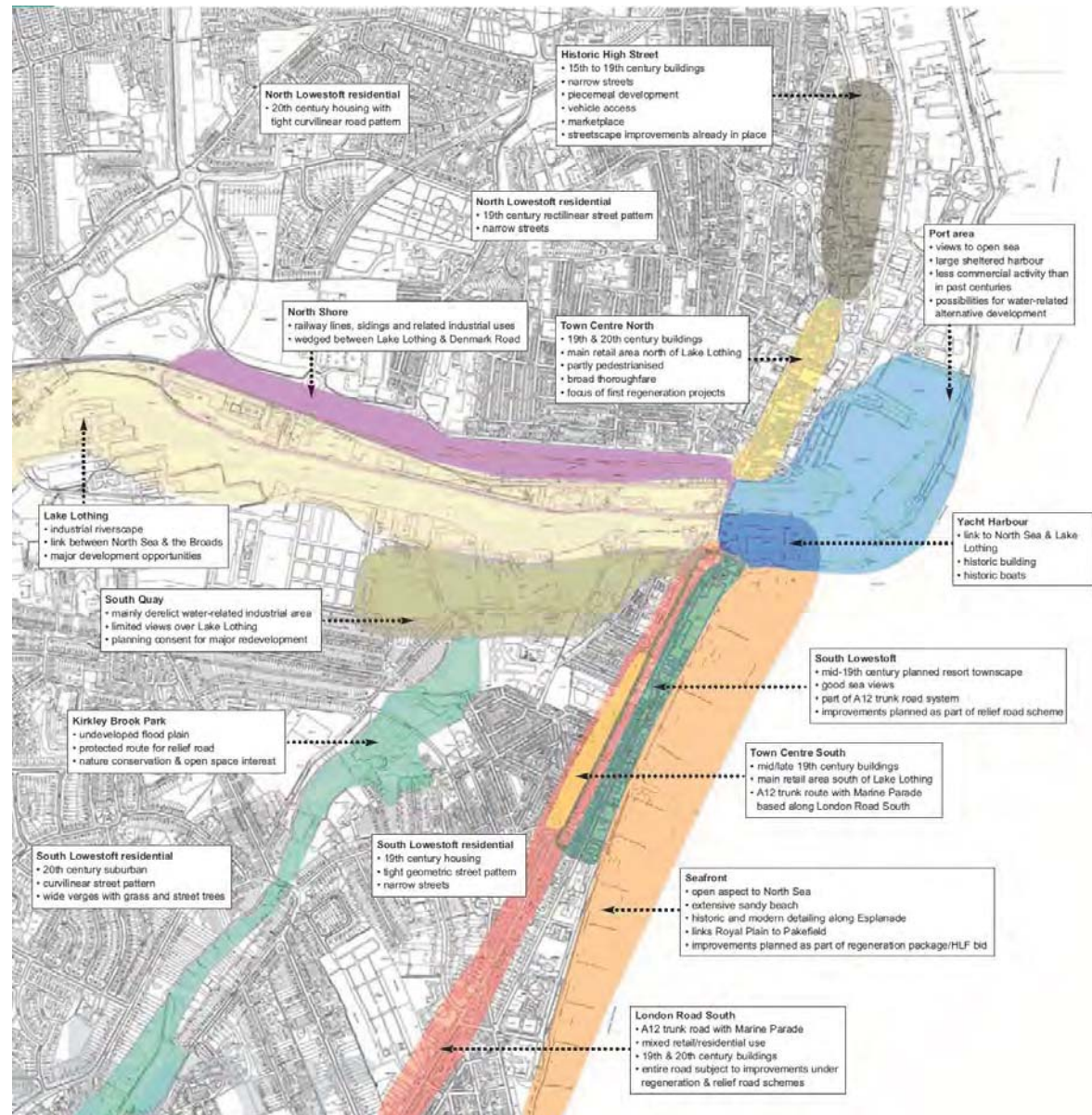


Figure A1.6 Lowestoft Character Areas (from Cultural Heritage Assessment (2006))

- A3.5 To the south of the site is a predominantly 20th Century residential area with some older houses along Victoria Road. The area is characterised by straight roads and crescents in a distorted grid format creating a relatively legible and permeable street pattern. The majority of the houses on Victoria Road are 19th Century terraced houses. Behind Victoria Road there is a mixture of semi-detached houses and bungalows which is mixed with some local authority semi-detached and terraced housing. The area around Waveney Drive consists of predominantly mid 20th Century semi-detached houses.
- A3.6 Figure A1.6 is an extract from the Lowestoft Design Guide (2004) and identifies 17 wider character areas in Lowestoft. A key feature of South Lowestoft is the resort town built by Sir Samuel Morton Peto in the mid-19th Century. Centred around London Road South and Wellington Esplanade, these two long straight roads which are lined with large Victorian townhouse terraces are a defining feature of the area.
- A3.7 North Lowestoft is home to the historic core of Lowestoft which is focused around the High Street. The High Street consists of buildings dating from the 15th to 19th centuries. A key feature of this character area are the narrow alleyways that link the High Street to the North Denes area of Lowestoft which used to be home to the town's fishing industry. These alleyways, known locally as 'scores', provide vantage points of the sea from the historic core of the town.



Appendix 2 Evidence Base

Community Infrastructure Levy

Waveney Community Infrastructure Levy Viability Study

BNP Paribas Real Estate, March 2012

This report tests the ability of a range of development types throughout the District of Waveney to yield contributions to infrastructure requirements through the Community Infrastructure Levy (CIL).

www.waveney.gov.uk/site/scripts/download_info.php?fileID=2676

Waveney Infrastructure Study 2012 - 2025

Waveney District Council, March 2012

The purpose of this study is to provide evidence to justify the need for a Community Infrastructure Levy in Waveney.

www.waveney.gov.uk/site/scripts/download_info.php?fileID=2675

Employment

Employment Land Evidence Base Report

DTZ, October 2009

This report presents the employment land evidence base underpinning the Lowestoft and Great Yarmouth Area Action Plans (AAPs).

www.waveney.gov.uk/site/scripts/download_info.php?fileID=358

Employment Land Study

Bone Wells and Associates, January 2006

Assessing future employment land needs for Great Yarmouth Borough Council and Waveney District Council, and employment land policy for the sub region as a whole.

www.waveney.gov.uk/site/scripts/download_info.php?fileID=218

Outline Inspection of Quay Walls at Lowestoft

Halcrow, February 2006

An overview of quay walls within the area designated for regeneration at Lowestoft as part of a baseline analysis to support the development of the URC master plan for Great Yarmouth and Lowestoft.

www.waveney.gov.uk/site/scripts/download_info.php?downloadID=173

Relocation Strategies: Brooke Peninsula

Roche Chartered Surveyors, March/October 2010

Relocation options for Brooke Peninsula area.

www.waveney.gov.uk/site/scripts/download_info.php?fileID=1199

Flood Risk Management

Cumulative Land Raising Study

Scott Wilson, June 2008

Addendum to the Strategic Flood Risk Assessment. An analysis of potential impacts on the tidal flood cell of Lake Lothing, Lowestoft as a result of proposed land raising scenarios for several regeneration sites.

www.waveney.gov.uk/site/scripts/download_info.php?downloadID=112

Strategic Flood Risk Assessment

Scott Wilson, February 2008

The purpose of the Strategic Flood Risk Assessment is to enable a more detailed understand of flood risk and identify areas vulnerable to flooding.

www.waveney.gov.uk/site/scripts/download_info.php?downloadID=116

Housing

Affordable Housing Viability Study

Levvel, September 2009

A study of the economic viability of affordable housing provision.

www.waveney.gov.uk/site/scripts/download_info.php?downloadID=117

Social Infrastructure Requirement

Aecom, October 2010

Investigating the level of social infrastructure required to support growth projections in the Area Action Plan, determining the scale of infrastructure needed and where and when it is required.

www.waveney.gov.uk/site/scripts/download_info.php?fileID=1205

Open Space and Biodiversity

Suffolk Biodiversity Action Plans

Suffolk Wildlife Partnership, ongoing

Conserving, enhancing and restoring the natural condition of habitats through action plans.

www.suffolkbiodiversity.org/biodiversity-action-plans.aspx

Open Space Needs Assessment

Waveney District Council, July 2006

Provides information about existing community needs and aspirations in relation to parks and green spaces, plus a set of local standards.

www.waveney.gov.uk/site/scripts/download_info.php?downloadID=114

Pitch and Non-Pitch Assessment

Knight, Kavanagh & Page, March 2002

Assessing the supply of, and demand for, pitch and non-pitch sports provision in Waveney.

www.waveney.gov.uk/site/scripts/download_info.php?fileID=220

Lowestoft Biodiversity Audits Part 1

Suffolk Wildlife Trust, December 2007

Audit of biodiversity in Lowestoft.

www.waveney.gov.uk/site/scripts/download_info.php?fileID=702

Lowestoft Biodiversity Audits Part 2

Suffolk Wildlife Trust, December 2007

Audit of biodiversity in Lowestoft.

www.waveney.gov.uk/site/scripts/download_info.php?fileID=703

Retail

Retail and Leisure Study

DTZ, August 2006

This study assesses the vitality and viability of the main shopping areas in Waveney and Great Yarmouth. It provides an indication of the likely future capacity and demand for additional floorspace.

www.waveney.gov.uk/site/scripts/download_info.php?downloadID=115

Retail Capacity Update

DTZ, September 2010

Update of the 2006 retail capacity forecasts, a key part of the evidence base, particularly in the light of changed economic conditions.

www.waveney.gov.uk/site/scripts/download_info.php?fileID=1202

Streets and Transport

Lowestoft Transport Strategy

Suffolk County Council, June 2011

Sets out the County Council's ambitions and objectives for transport in Lowestoft.

www.suffolk.gov.uk/assets/suffolk.gov.uk/Environment%20and%20Transport/Planning/2011-06-29%20Lowestoft%20Transport%20Strategy.pdf

Sustainable Urban Neighbourhood and Kirkley Waterfront Access Study, Lowestoft

Aecom, December 2012

An assessment of the access proposals to serve the Sustainable Urban Neighbourhood.

www.consult.waveney.gov.uk/gf2.ti/f/334338/8826437.1/PDF/-/SUN%20Access%20Study%20LOWRES.pdf

A12 Lowestoft Study - Lake Lothing Third Crossing Feasibility Study

Faber Maunsell Ltd / Highways Agency, February 2009

Preliminary work to help to determine whether a third river crossing and allied infrastructure identified in the Lowestoft Infrastructure Review have the potential to be progressed.

www.waveney.gov.uk/site/scripts/download_info.php?downloadID=167

Technical Note 1 - Lowestoft AAP Traffic Modelling Assumptions

Aecom, June 2010

Outlines the assumptions in undertaking the traffic modelling for the Area Action Plan (AAP). This note details how the modelling will be updated to a 2025 forecast.

www.waveney.gov.uk/site/scripts/download_info.php?fileID=1207

Technical Note 2 - Traffic Forecasts

Aecom, August 2010

Detailing the outcomes from traffic modelling undertaken for the Area Action Plan. This Technical Note is a follow up to Technical Note 1 which described the modelling assumptions that were to be used.

www.waveney.gov.uk/site/scripts/download_info.php?downloadID=443

Transport Evaluation for 1st East Regeneration Sites in Lowestoft - Stage 1 Report: Existing Situation and Scoping Note

Atkins, January 2010

Assessment of transport issues associated with four key Intervention Areas in Lowestoft.

www.waveney.gov.uk/site/scripts/download_info.php?fileID=368

Urban Design and Sustainable Construction

Lowestoft Design Guide

Waveney District Council, 2004

This design guide aims to improve and reinforce the identity of the town by promoting good urban design and developing a robust palette of materials, from surfacing and signage to bollards and benches.

www.waveney.gov.uk/site/scripts/download_info.php?downloadID=158

Baseline Report Lowestoft Ground Conditions

Halcrow, December 2005

The study aims to identify the ground conditions that may exist at the site of the URC redevelopment along the corridor of Lake Lothing and surrounding environment.

www.waveney.gov.uk/site/scripts/download_info.php?fileID=380

Renewable Energy and Sustainable Construction Study

Aecom, November 2009

Informing sustainable construction & renewable energy policies to ensure that core strategy objectives can be delivered in a sustainable, carbon efficient way.

www.waveney.gov.uk/site/scripts/download_info.php?fileID=226

Water Cycle Strategy - Scoping Study

Scott Wilson, March 2009

Ensuring development is constructed in a sustainable manner with respect to water environment and water infrastructure.

www.waveney.gov.uk/site/scripts/download_info.php?fileID=225

Other Planning and Supporting Documents

National Planning Policy Framework

CLG, March 2012

Sets out the Government's planning policies for England and how these are expected to be applied.

www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

National Planning Policy Framework: Technical Guidance

CLG, March 2012

Provides additional guidance to local planning authorities to ensure the effective implementation of the planning policy set out in the National Planning Policy Framework on development in areas at risk of flooding and in relation to mineral extraction.

www.gov.uk/government/publications/national-planning-policy-framework-technical-guidance

Suffolk Waste Core Strategy Development Plan Document

Suffolk County Council, Adopted March 2011

Establishes the overarching principles and policy direction for determining waste planning applications within Suffolk during this period. It also identifies strategic waste management sites across the County.

www.suffolk.gov.uk/environment-and-transport/planning-and-buildings/minerals-and-waste-development-framework/waste-core-strategy-dpd/

Suffolk Local Flood Risk Management Strategy

Suffolk County Council, Adopted January 2012

The main aim of the strategy is to reduce the risk of flooding and the misery and economic damage that flooding causes. The action plan outlines a range of actions, from small-scale local activities to long-term major plans and where possible identified who will be involved, when things might happen and how they might be paid for.

www.suffolk.gov.uk/assets/suffolk.gov.uk/Emergency%20and%20Safety/Civil%20Emergencies/2012-12%20Suffolk%20Flood%20Risk%20Strategy.pdf

Core Strategy Development Plan Document

Waveney District Council, Adopted January 2009

The document sets out the vision, objectives, spatial strategy and core policies that will guide development until to 2021 (2025 for housing).

www.waveney.gov.uk/site/scripts/documents_info.php?documentID=100&categoryID=856&pageNumber=1

www.waveney.gov.uk/site/scripts/documents_info.php?documentID=100&categoryID=856&pageNumber=1

Development Management Policies

Development Plan Document

Waveney District Council, Adopted January 2011

Sets out detailed policies to guide planning decisions to deliver the vision set out in the Core Strategy.

www.waveney.gov.uk/site/scripts/download_info.php?downloadID=497

Lowestoft Lake Lothing and Outer Harbour Area Action Plan Development Plan Document

Waveney District Council, Adopted January 2012

The Area Action Plan helps to guide development in the area surrounding Lake Lothing and the Outer Harbour in Lowestoft.

www.waveney.gov.uk/site/scripts/documents_info.php?documentID=117&categoryID=200140&pageNumber=1

Raising funds for infrastructure delivery: Draft Charging Schedule

Waveney District Council, Submitted December 2012

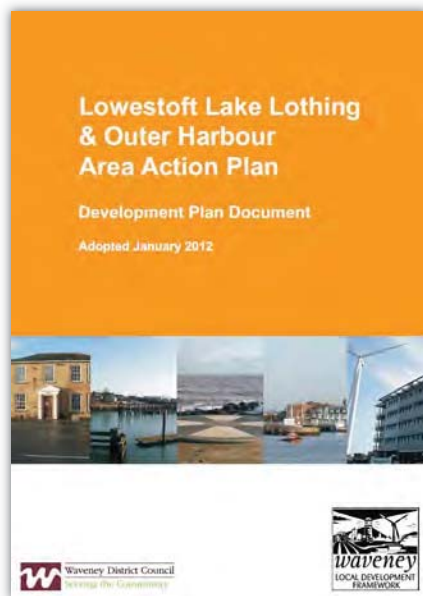
To support new development the proposed Community Infrastructure Levy will be payable by developers undertaking new building projects in an area to fund new infrastructure. The charge is set out in the Community Infrastructure Levy Charging Schedule.

www.waveney.gov.uk/site/scripts/documents_info.php?documentID=610&categoryID=200074&pageNumber=1



Appendix 3 Policy SSP3

Appendix 2 Policy SSP3 from Lake Lothing and Outer Harbour Area Action Plan



SSP3 - Kirkley Waterfront and Sustainable Urban Neighbourhood

The Council and developers will work in partnership with other relevant stakeholders to deliver a comprehensive approach to the development of Kirkley Waterfront and Sustainable Urban Neighbourhood (59.8ha). The following uses will be permitted within this area:

- i. Approximately 1,380 residential units will be developed to densities of broadly between 50 and 90 units/hectare. Lower and higher average densities will also be considered, taking account of site constraints and characteristics, and surrounding land uses which may limit the development area; and the comprehensive masterplanning of the area. This density range will ensure the provision of a wide range of residential accommodation for individuals, couples and families including terraces, mews and townhouse typologies semi and detached houses, and apartments;
- ii. Approximately 12 ha of reconfigured employment land comprising: Predominantly B1 office floorspace, research and development and workshop space in the area surrounding Riverside Road and adjacent to residential areas;
- iii. Waterfront industry to provide dock and mooring facilities and ancillary uses. (EMP1-4);
- iv. A minimum of 3 ha of Open Space (depending upon density), plus retention/reprovision of the existing playing fields adjacent to the Jeld Wen site (or a like-for-like provision in areas at higher risk of flood);
- v. Southern Access Routes;
- vi. Continuing care retirement community;
- vii. Primary School (1.7ha);
- viii. Marina facilities with the potential to provide permanent moorings for historic vessels;
- ix. Retail, restaurants, bars, cafes as active ground floor uses;

SSP3 - Kirkley Waterfront and Sustainable Urban Neighbourhood (continued)

x. Hotel.

xi. The site will be developed in accordance with the principles below and illustrated in Figure 4.3.3:

xii. Development of the site should seek to ensure that current employment activities within the Brooke Business Park can be relocated on site as far as practicable (EMP1);

xiii. Development should retain the existing business facilities and marina facilities on School Road (EMP1);

xiv. The full development of the site will require the construction of a series of new access routes. The Jeld-Wen Playing Fields provides an opportunity for a new access to the site from Waveney Drive to serve the entire Sustainable Urban Neighbourhood. Access arrangements will be primarily funded by the sites to which the access serves.

xv. The site should be configured around a legible street pattern that incorporates key views and provides good quality walking and cycling environments, using high quality materials consistent with the wider town. All residential streets will be designed in accordance with Manual for Streets principles and be integrated with existing neighbourhoods (EHC1, TML2, TML5);

xvi. New streets should be integrated with existing roads, in particular Heath Road, School Road, Nelson Wharf and Stanley Road. (EHC1, TML5);

xvii. Connections within the site should be designed to provide quick, safe and attractive access by bus, on foot and by cycle to the railway stations, town centre and employment sites. A central transport “node” should provide convenient access from and to the site. This will benefit from sheltered bus waiting facilities with real-time information, secure cycle parking and parking space for a potential car club (TML1,2,3, EHC1);

SSP3 - Kirkley Waterfront and Sustainable Urban Neighbourhood (continued)

xviii. Development should respect and connect with the existing residential community to the south and provide a high quality residential frontage along Waveney Drive (EHC1);

xix. Buildings should seek to provide active and attractive frontages along Waveney Drive and any access route facilitating development (EHC1);

xx. Large areas of surface car parking should be avoided if possible (TML6);

xxi. The area should provide appropriate wayfinding measures to assist in moving visitors between the seafront and Broads area (EHC1);

xxii. Employment development should consider neighbouring residential uses and should include appropriate landscaping and screening. Surface car parking should be appropriately screened through high quality site landscaping (EHC1);

xxiii. Development should not preclude a potential third crossing which could be constructed in the future and new vehicular routes should take into consideration potential for future widening;

xxiv. Development should provide activity along the waterfront. This may include the provision of parks, squares, play areas and active frontages such as cafes, shops and workspace (EHC1);

xxv. A community hub should be created at the heart of the development with primary school, local shops, community facilities and other residential amenities to which all development within the site should contribute. This should be accessible to new and existing residents living south of Lake Lothing. This should provide an activity focus at the centre of the site (HC3, RLT1);

xxvi. A new primary school should be included within the scheme to provide a central focus for development. The school should front the main access route and provide appropriate space for setting down/picking up. The school should be designed to enable out-of-hours activities. Appropriate play space should be provided in a secure area to the rear. All development will be expected to contribute to development of the school (HC3);

SSP3 - Kirkley Waterfront and Sustainable Urban Neighbourhood (continued)

xxvii. New open spaces should be included to provide a network linked to the waterfront and other areas of green space. This may be as part of a Sustainable Drainage System (SuDS) for the site (EHC3);

xxviii. Appropriate green infrastructure should provide structure to the detailed site masterplanning in accordance with principles set out in Figure 4.3.4. The open space adjacent to Jeld Wen should be retained, either in situ, or as a like-for-like provision in parts of the site at greater flood risk (EHC3);

xxix. The area provides potential to become a hub for tourism and should include hotel, restaurants, bars and marina to exploit the location between the North Sea and the Broads; LT2);

xxx. The construction of new access routes may affect the Brooke Yachts and Jeld Wen Mosaic County Wildlife Site. Construction of any new routes must minimise any loss of Wildlife sites, include appropriate mitigation of impacts and ensure like-for-like re-provision for any habitat loss within the Strategic Site. Development should include provision to encourage wildlife habitats such as green/brown roofs and natural areas within green spaces (EHC4);

xxxi. All development should contribute to the construction of a new pedestrian/cycle bridge to link Brooke Peninsula to the north of Lake Lothing (TML2);

xxxii. Secure cycle parking must be included throughout the site (TML2);

xxxiii. All new buildings will be designed to ensure energy, water and waste efficiency (WEW 1-3);

xxxiv. Where feasible buildings and streets should be orientated towards the south to maximise solar gain and energy efficiency (WEW1);

xxxv. Development must address sewage network capacity restrictions at Lowestoft Heath Road Pumping Station, Lowestoft Sunnyfield Pumping Station and Lowestoft Bridge Pumping Station.

SSP3 - Kirkley Waterfront and Sustainable Urban Neighbourhood (continued)

All new development will be subject to a site specific Flood Risk Assessment. A flood evacuation plan and details of appropriate mitigation measures must be submitted to the satisfaction of the Council's emergency planners. Residential and other 'more vulnerable' uses on site must be designed to ensure flood risk is mitigated with a safe means of escape. More vulnerable uses proposed on the site should be, as far as possible, located outside Flood Zone 3 or in areas of least flood risk. The design of buildings should promote resilience during flood events through appropriate use of materials and situation of habitable uses above the flood level. Development will be protected through measures such as land raising, incorporation of secondary defences and SuDS. Future pedestrian and vehicular access routes may offer potential to act as a further mode of defence. SuDS will be considered as part of the comprehensive development of the site, potentially including swales, green/brown roofs and living walls integrated within a wider network of open spaces/habitats, including the Brooke Yachts and Jeld Wen Mosaic County Wildlife Site.

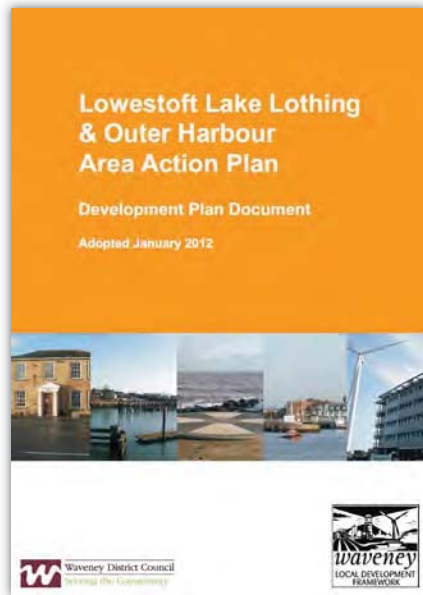
The following items of infrastructure will be required to support the development of the site:

- i. New primary school;
- ii. Southern access routes;
- iii. New pedestrian and cycle routes and facilities;
- iv. Public transport improvements;
- v. Pedestrian and cycle bridge link;
- vi. Flood defences;
- vii. Remediation of contaminated areas in accordance with PPS23;
- viii. On site renewable energy systems.



**Appendix 4
Policy WEW1 &
WEW2**

**Appendix 3 Energy and Water
Policy from the Lake Lothing and
Outer Harbour Area Action Plan**



WEW1 – Energy Requirements within the AAP Area

Within the main strategic sites (Kirkley Waterfront / Sustainable Urban Neighbourhood /Peto Square/ PowerPark) developers must deliver the equivalent of the energy requirements of Code for Sustainable Homes Level 5 (in residential buildings) and BREEAM excellent (in other buildings) unless these technologies can be proven technically unsuitable or commercially unviable. Investigations should be based on opportunities identified in the Renewable Energy and Sustainable Construction Study.

Within the strategic sites opportunities should be sought to provide linked district heating networks to serve development sites within the AAP area. These will be designed to take advantage of the diversity of energy loads from the different proposed building uses. This process will be supported by Waveney District Council. Where a CHP system is delivered on-site, all buildings are required to connect. These may be provided as self-contained systems on site, or link into a wider network incorporating other parts of the AAP area and beyond.

Smaller sites within the AAP should seek to integrate into new or existing networks, or provide self-contained on-site energy generation.

An energy strategy and delivery plan must be submitted alongside any planning application for development within the AAP area outlining expected carbon reductions and the viability of exceeding district-wide energy targets on-site.

WEW2 – Water Efficiency and Quality

Developers must explore the potential to implement water recycling measures on a building or site-wide scale to significantly reduce mains water demand as part of all new development within the AAP.

Within the main strategic sites (Kirkley Waterfront/Sustainable Urban Neighbourhood/Peto Square/PowerPark) developers must deliver infrastructure to reduce mains water consumption to the equivalent requirement of Code for Sustainable Homes Level 5 (in residential buildings) and BREEAM excellent (in other buildings) unless these strategies can be proven technically unsuitable or commercially unviable. Investigations should be based on opportunities identified in the area-wide Water Strategy for the AAP.

Opportunities should be sought to link together development within the AAP with site-wide recycled water networks, taking advantage of the diversity of water sources and uses on-site. This process will be supported by Waveney District Council. Where a recycled water network is delivered on-site, all buildings are required to connect.

All development must also consider implications upon the sewage network in Lowestoft, ensuring that capacity is sufficient. Where this is not the case, appropriate contributions will be required to upgrade the network. Development must ensure that no deterioration in water quality occurs and where possible an improvement will be sought.

A water strategy and delivery plan should be submitted alongside any planning application for development within the AAP area outlining expected mains water demand reductions and the viability of exceeding District-wide water targets on-site.

