

Wirral Environmental Sensitivity Study

A review of the Strategic Spatial Options

Final report

Prepared by LUC

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This report builds on the mapping carried out in the Wirral Environmental Sensitivity Study (ESS) in order to assess the three strategic spatial options identified by the Council for meeting local housing and employment requirements in the Borough.

Introduction

1.1 LUC was commissioned by Wirral Metropolitan Borough Council (Wirral MBC) in 2020 to undertake an independent and robust environmental sensitivity study (ESS) for Wirral's Peninsula. The study provides evidence for the emerging Wirral Local Plan and beyond on the environmental assets of the Wirral and their sensitivity to development.

1.2 As part of that work LUC were asked to assess the three strategic spatial options for meeting housing and employment requirements in the Borough as included in the Wirral Local Plan 2020-2035 Issues and Options Consultation Document (which was subject to "Regulation 18" public consultation between January and April 2020). These three strategic spatial options were identified as follows (and illustrated in **Figure 1.1**):

- Option 1a: Urban Intensification (Brownfield);
- Option 2a: Dispersed Green Belt Release; and
- Option 2b: Single Urban Extension.

1.3 This report sets out the findings of the assessment of these strategic spatial options and is intended to be read alongside the main ESS report, where details of the methodology and data sources can be found.

1.4 For each of these spatial options, a high-level assessment is included in this report, summarising:

- key environmental sensitivities and potential for mitigation;
- landscape sensitivity (excluding the urban areas);
- potential for carbon emissions;
- areas of potential lower sensitivity / summary of sensitivities.

1.5 Overall sensitivity and accessibility to services/open space maps are included for each Strategic Spatial Option and are presented alongside the assessments.

1.6 This assessment is necessarily high level and does not take into account more detailed site assessments and surveys that may have been undertaken by site promoters.

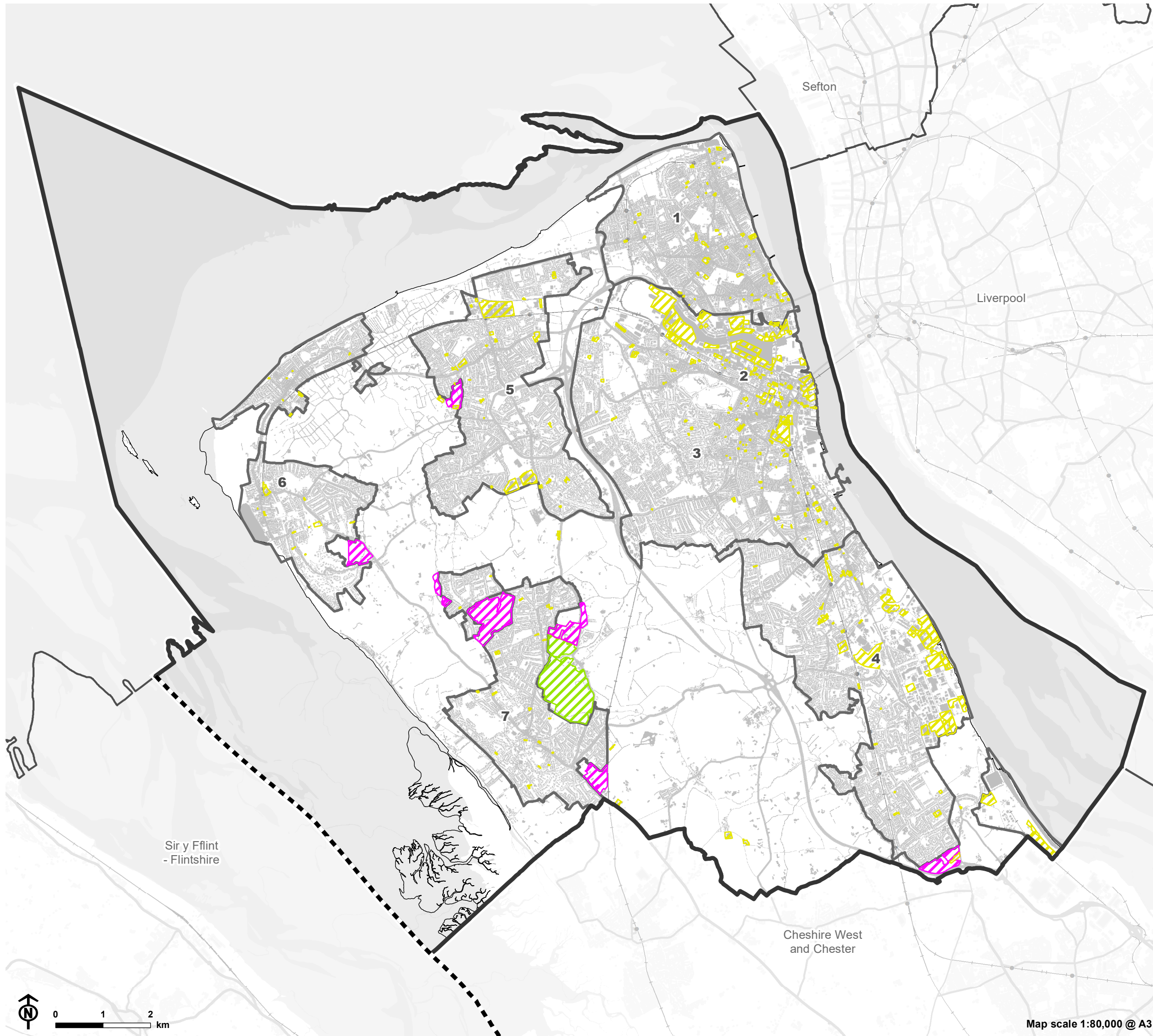
Use of the Document

The ESS is intended to be used by the Council to understand the sensitivity of Wirral's environmental assets.

This is a strategic level study and therefore should not be used to rank, or consider, the merits or development potential of individual sites. It only considers environmental sensitivity and should be used alongside wider evidence and additional assessments to help inform the Council's future decision making in relation to the potential suitability of areas within the Borough for development.

This study provides a view of environmental sensitivity across Wirral as a snapshot in time using available data. It is intended that the findings will be amended and updated accordingly as new and/or updated datasets become available.

Figure 1.1: Wirral's Strategic Spatial Options



- Wirral boundary
- Other Local Authority boundary
- England - Wales boundary
- Landform edge
- Settlement Area boundary
- Physical constraint
- Urban intensification Option 1a
- Green Belt Option 2a
- Green Belt Option 2b

Note
Physical constraints include roads, railways, buildings, water courses, waterbodies, flood defences, areas of coastal erosion and permitted waste sites.

1. Wallasey
2. Birkenhead Commercial Core / 3. Suburban Birkenhead
4. Bebington, Bromborough and Eastham
5. Leasowe, Moreton, Upton, Greasby and Woodchurch
6. West Kirby and Hoylake
7. Irby, Thingwall, Pensby, Heswall and Gayton

Map scale 1:80,000 @ A3

Strategic Option 1a Profile: Urban intensification

Summary of Environmental sensitivities and potential for mitigation

1.7 Option 1a (please refer to **Figure 1.2**) considers sites lying within existing settlement boundaries. Within these boundaries, there are some limited areas of Higher Sensitivity (marked in red) that overlap with some of the sites proposed under this Option. These areas of Higher Sensitivity include:

- Areas of Flood Zone 3, associated with the River Birket and Fender corridors, lie around the settlement areas of "West Kirby and Hoylake", "Leasowe, Moreton, Upton, Greasby and Woodchurch" and "Wallasey". A cluster of allocations under Option 1a within "Leasowe, Moreton, Upton, Greasby and Woodchurch" (housing allocations at areas of Moreton/Leasowe now in industrial use) lie within Flood Zone 3, as does a proposed allocation at Bromborough Pool. Development in Flood Zone 3 is generally considered inappropriate in line with the NPPF. There are also some areas of Flood Zone 3 within the broad Wirral Waters development area, however the strategic scale of this development area is likely to allow for greater flexibility in layout to mitigate this risk. Similarly, within the Land off Dock Road South (Bromborough), the small intersection within Flood Zone 3 allows room for mitigation through layout design.
- Conservation Areas at Port Sunlight and Birkenhead Park. One small allocation under this Option lies within the Birkenhead Park Conservation Area, which is considered as a highly sensitive location. However, the small scale of the site limits to an extent the impact on heritage assets, provided appropriate design parameters.

1.8 There are also scattered areas of heightened sensitivity (where 7-9 'moderately sensitive' assets overlap) within the site allocations under Option 1a include:

- Existing urban green space. Within the minority of sites which are urban greenfield sites rather than brownfield. In these cases, the impact of development would have to be mitigated through provision of alternative high-quality open space, in line with Wirral's draft Open Space Standards.
- A number of historic landfill sites, particularly around the former docklands, where the potential for contaminants would have to be properly mitigated through appropriate management plans.
- Heritage-related sensitivities, in those areas where small-scale sites are allocated within the Wellington

Road and Caldys Conservation Areas. Development proposals in these locations would have to be of high quality, sensitive design and carefully assessed for heritage impacts.

- Small areas of Priority Habitat, which would have to be retained (and potentially buffered) as part of site layout in the case of development;
- Noise pollution from nearby roads, particularly in the case of the A540 in West Kirby, which could be mitigated by site layout or by buffering using vegetation or other measures.

1.9 Considering the impact of developing these urban sites on the integrity of Wirral's habitat networks (particularly those supporting designated sites), a cautious approach must be taken, bearing in mind data limitations for this mapping exercise.

1.10 While the majority of priority areas identified by the WeBS data lie outside the Settlement Areas, there are some overlaps with settlement areas - particularly with some parts of "Leasowe, Moreton, Upton, Greasby and Woodchurch".

Summary of landscape sensitivity

1.11 N/A - the Landscape Sensitivity Assessment (LSA) does not cover urban areas of the Borough.

Summary of potential for carbon emissions assessment

1.12 Given the focus of this Option within existing urban areas, the accessibility mapping of the Borough indicates that these sites have better accessibility to key services, in part due to the presence of the existing Merseyrail network. As such, they are considered less likely to lead to car-dependent lifestyles, and to result in lower levels of carbon emissions from future residents. This Option is also likely to require less mitigation (in the form of service and infrastructure provisions) than other Options considered.

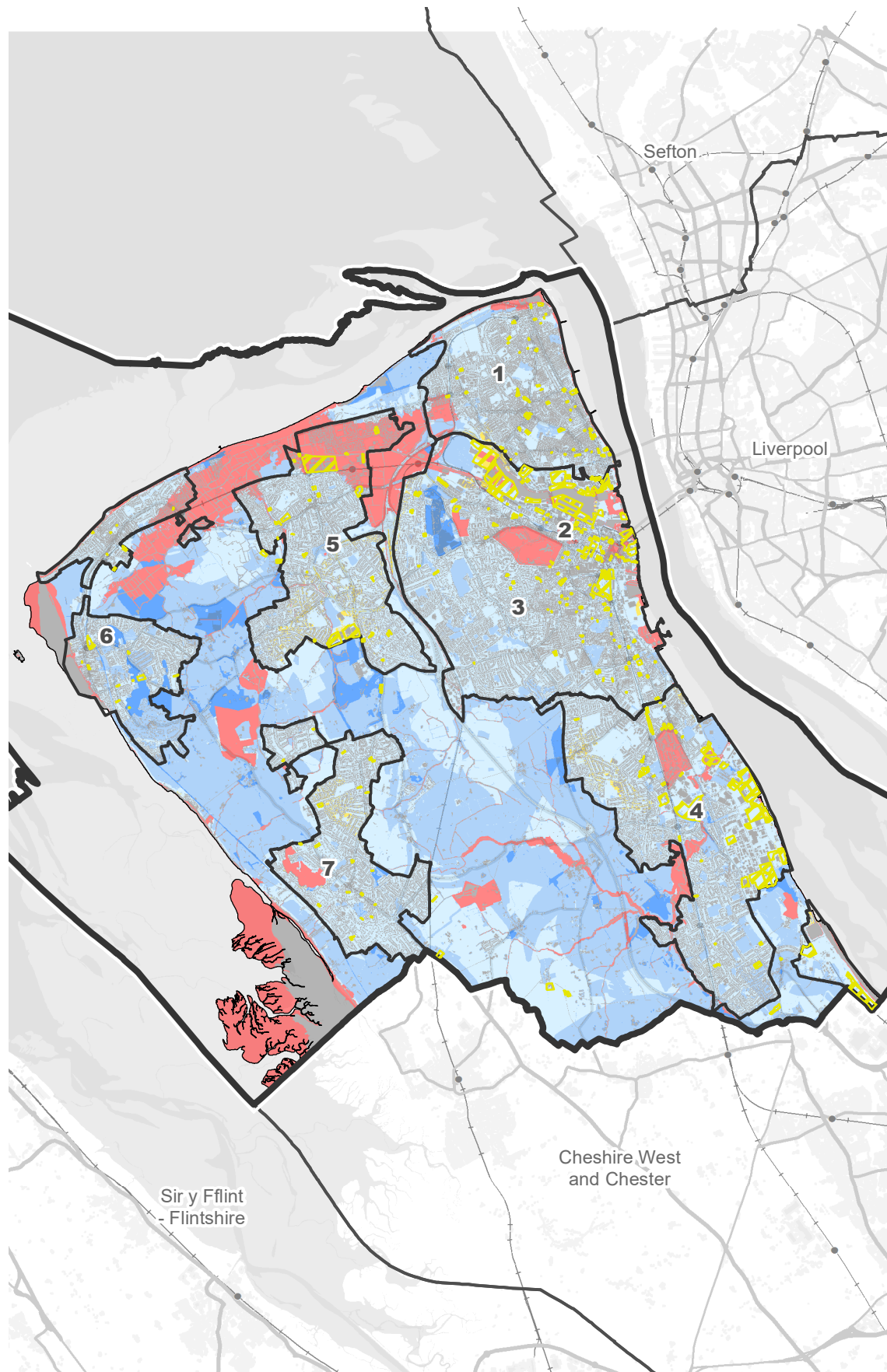
1.13 In addition, these locations are more likely to benefit from the availability of heat sources to supply energy to heat pumps as part of District Heat Networks, resulting in potential carbon savings from building stock. In particular, Wirral's emerging Heat Network Feasibility Study explores the potential to abstract water from the docks, transport tunnels and wastewater treatment works in Birkenhead, which could provide an opportunity for carbon savings.

Areas of potential lower sensitivity / Summary of sensitivities

1.14 With the exception of those areas highlighted above, the environmental sensitivities are generally lower than outside the settlement areas. There are extensive areas within these

sites where sensitivity is identified as being lower (i.e. where fewer than 3 'moderately sensitive' assets overlap), and as such where appropriate development is more likely to be possible with appropriate mitigation without leading to unacceptable environmental impacts.

Overall sensitivity



Accessibility

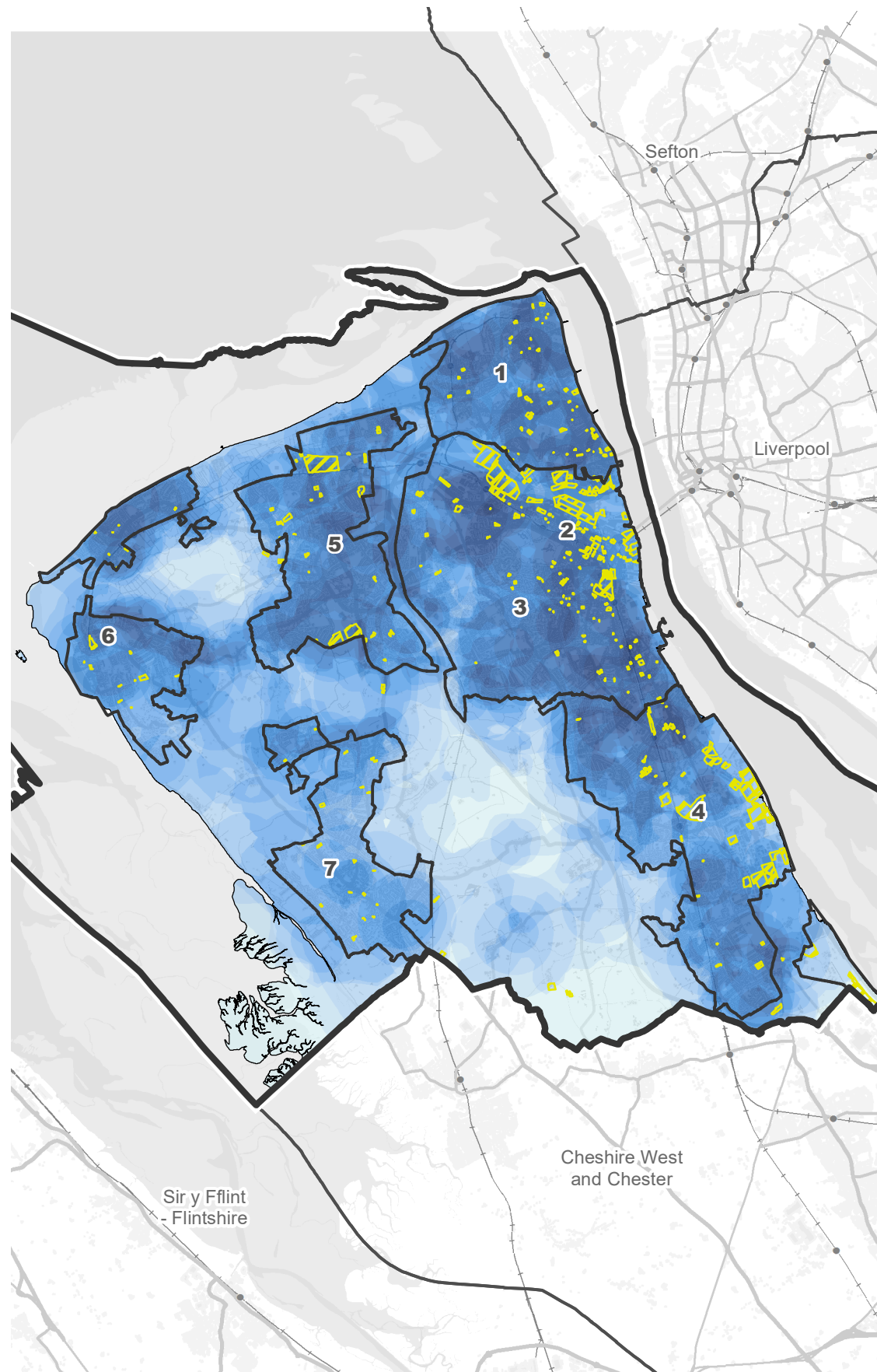


Figure 1.2: Strategic Spatial Option 1a (Urban Intensification)

- Wirral boundary
- Other Local Authority boundary
- Landform edge
- Settlement Area boundary
- Physical constraint

Overall sensitivity

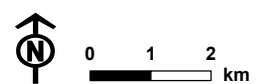
- High
- Moderate (13-15)
- Moderate (10-12)
- Moderate (7-9)
- Moderate (4-6)
- Moderate (1-3)
- Lower

Accessibility to key services and open space facilities rating

- Highest accessibility
- Lowest accessibility
- Brownfield site

Note
Physical constraints include roads, railways, buildings, water courses, waterbodies, flood defences, areas of coastal erosion and permitted waste sites.

1. Wallasey
2. Birkenhead Commercial Core / 3. Suburban Birkenhead
4. Bebington, Bromborough and Eastham
5. Leasowe, Moreton, Upton, Greasby and Woodchurch
6. West Kirby and Hoylake
7. Irby, Thingwall, Pensby, Heswall and Gayton



Map scale 1:125,000 @ A3

Strategic Option 2a Profile: Dispersed Green Belt release

Summary of Environmental sensitivities and potential for mitigation

1.15 Option 2a (please refer to **Figure 1.3**) consists of eight distinct sites, five of which surround Heswall; one in West Kirby, one in the settlement area of "Leasowe, Moreton, Upton, Greasby and Woodchurch" and one in the settlement area of "Bebington, Bromborough and Eastham".

1.16 None of the sites overlap with significant areas of identified Higher Sensitivity land (marked in red). The limited areas which are identified as Higher Sensitivity relate to Arrowe Brook within the site north of Saughall Massie. However, the commentary within Chapter 10 of the main Environmental Sensitivity report (relating to considerations of functionally linked habitat) should also be taken into account across all these sites.

1.17 Small parts of the site on the edge of West Kirby are identified as having relatively higher environmental sensitivity (i.e. where 7-9 'moderately sensitive' assets overlap). This land forms an important part of the West Wirral Heathlands and Arrowe Park Nature Improvement Area (NIA). It also overlaps with an area highlighted by Natural England as a 'Potential Network Join' in the habitat network. As such, the sensitivities largely stem from the role of this land in Wirral's wider ecological network.

1.18 Elsewhere, large parts of these sites overlap with areas of slightly lower sensitive i.e. where 4-6 'moderately sensitive' assets overlap. These largely relate to:

- The presence of Impact Risk Zones (IRZs) for nearby SSSIs.
- Areas of archaeological interest.
- The presence of Local Wildlife Sites, e.g. the cluster around Barnston Dale.
- Areas of recreational value.

Summary of landscape sensitivity

1.19 None of the sites under this Option intersect with areas of identified High landscape sensitivity. However, three sites intersect with areas of Moderate-High sensitivity - the site east of West Kirby (around Caldy Hill), the site west of Morton, and the larger site west of Irby.

Summary of potential for carbon emissions assessment

1.20 The locations considered within this Option all lie in areas identified as having relatively low accessibility to key services. As such, prior to any mitigation, development in

these locations is likely to result in relatively higher transport-related carbon emissions. Given the dispersed nature of the development proposed under this Option, mitigation through infrastructural provision is also likely to be more challenging - particularly when considering access to services such as secondary schools and local retail centres.

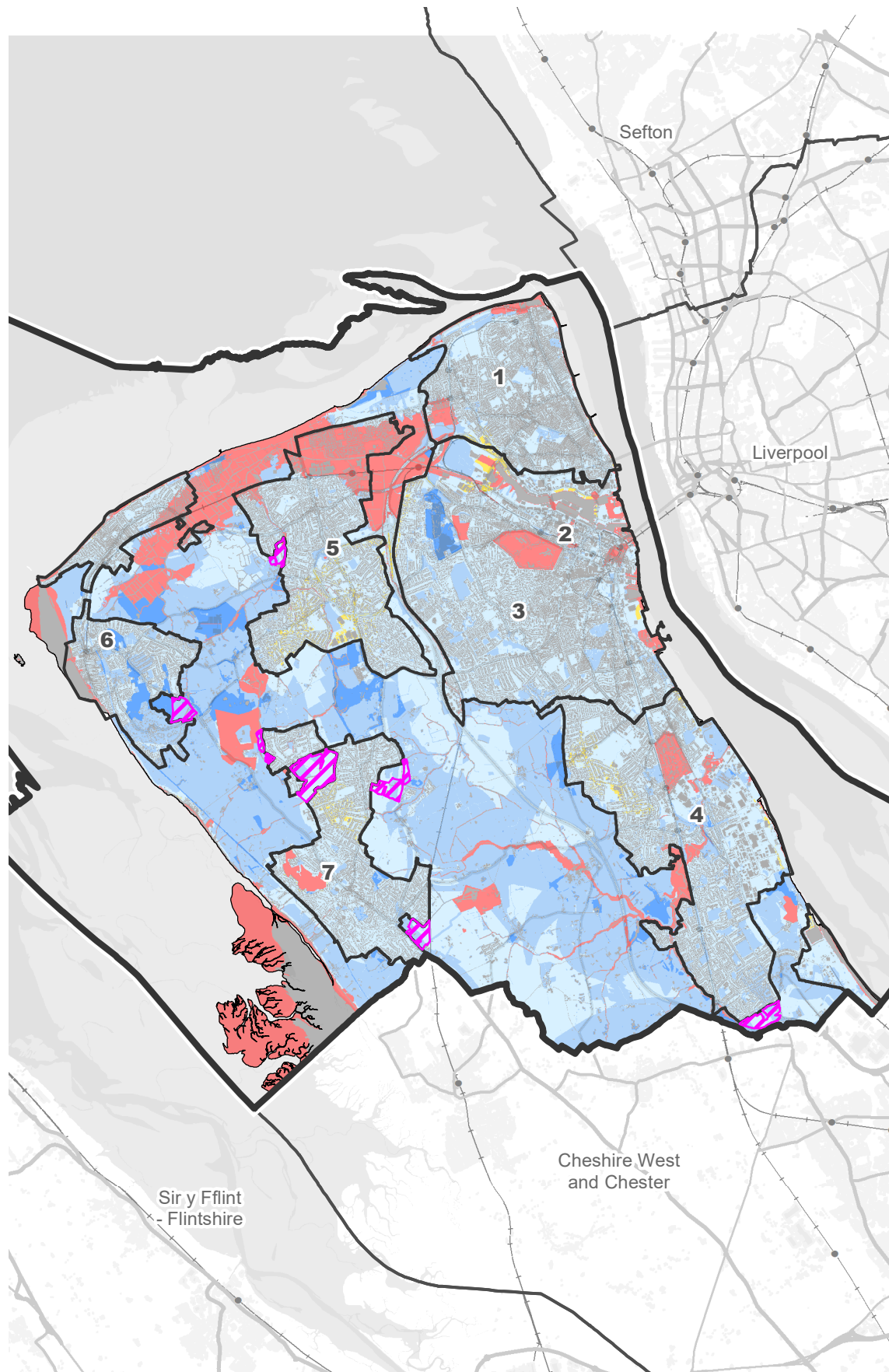
1.21 In addition, the dispersed development pattern proposed here may make the use of District Heat Networks unfeasible.

Areas of potential lower sensitivity / Summary of sensitivities

1.22 In general terms, the sites within this Strategic Option which have lower environmental and landscape sensitivity include:

- Land south of Irby (providing that constraints related to the water course and archaeological site are dealt with).
- Land north of Saughall Massie (providing that sensitivities associated with the waterway and surrounding habitats are appropriately managed).
- Land south of Bromborough (providing that deciduous woodland is retained, and sensitivities associated with the nitrate vulnerable zone (NVZ) are appropriately managed).
- Land at Chester High Road, Gayton (providing that existing woodland is retained, the impact on nearby SSSIs is appropriately managed, and that sensitivities associated with the nitrate vulnerable zone (NVZ) are appropriately managed).

Overall sensitivity



Accessibility

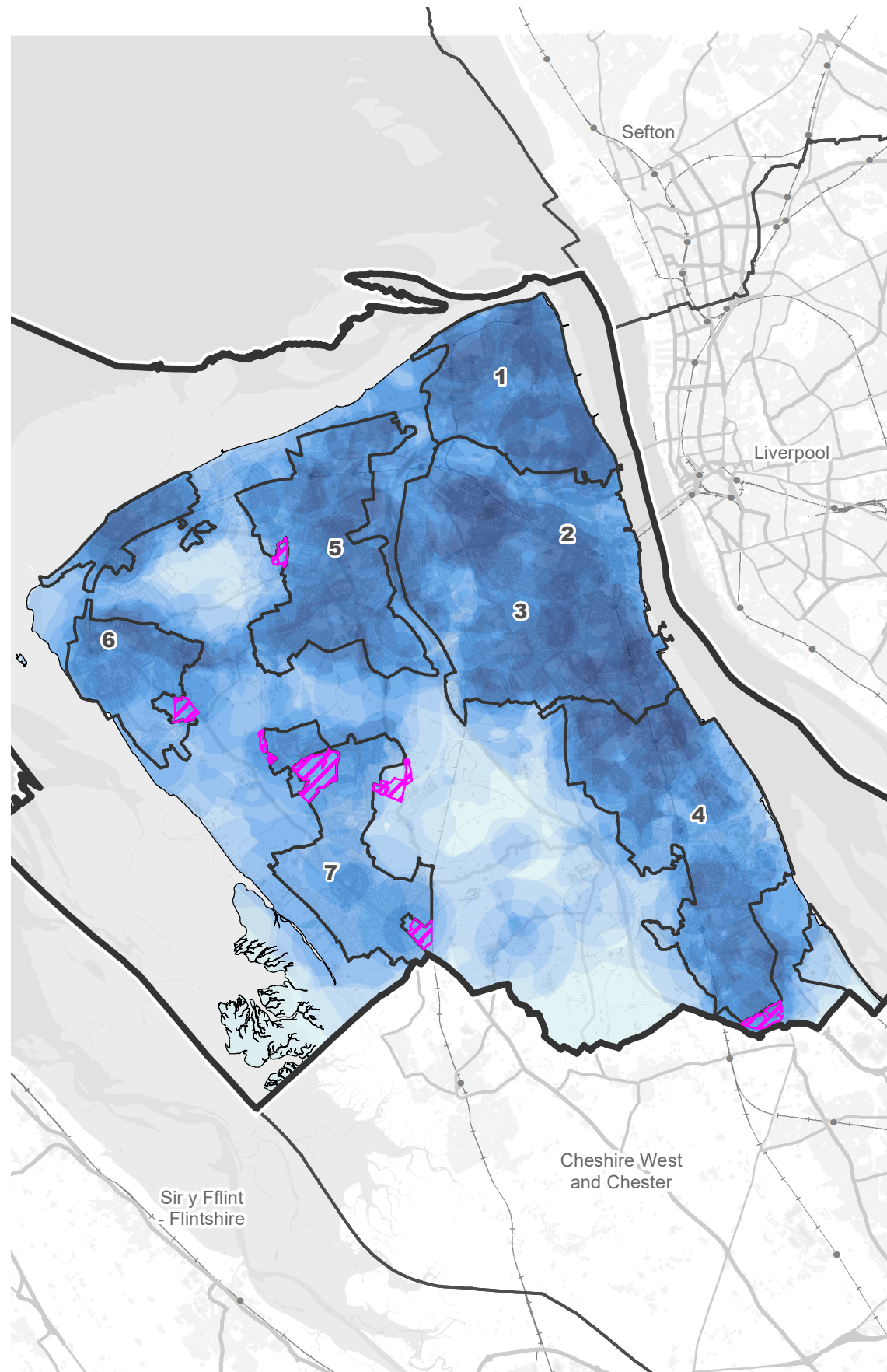


Figure 1.3: Strategic Spatial Option 2a (Dispersed Green Belt Release)

- Wirral boundary
- Other Local Authority boundary
- Landform edge
- Settlement Area boundary
- Physical constraint

Overall sensitivity

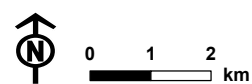
- High
- Moderate (13-15)
- Moderate (10-12)
- Moderate (7-9)
- Moderate (4-6)
- Moderate (1-3)
- Lower

Accessibility to key services and open space facilities rating

- Highest accessibility
- Lowest accessibility
- Green Belt Option 2a

Note
Physical constraints include roads, railways, buildings, water courses, waterbodies, flood defences, areas of coastal erosion and permitted waste sites.

1. Wallasey
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4. Bebington, Bromborough and Eastham
5. Leasowe, Moreton, Upton, Greasby and Woodchurch
6. West Kirby and Hoylake
7. Irby, Thingwall, Pensby, Heswall and Gayton



Map scale 1:126,280 @ A3

Strategic Option 2b Profile: Single urban extension

Summary of Environmental sensitivities and potential for mitigation

1.23 Option 2b (please refer to **Figure 1.4**) consists of one single site on the eastern urban edge of Heswall, lying in the gap with Barnston village and consisting largely of land in agricultural use. Aside from a very limited area alongside a waterway in the south of the site (designated as Flood Zone 3), there are no significant areas identified as having Higher Sensitivity (i.e. marked in red).

1.24 The highest sensitivity land within the site is found at those locations where 4-6 'moderately sensitive' assets overlap. These areas are concentrated in the east of the site, away from the urban edge. The sensitivities largely result from the presence of:

- a cluster of three Local Wildlife Sites (Lower Heath Wood, Barnston Dale, Murrayfield Hospital);
- scattered blocks of deciduous woodland Priority Habitat;
- a cluster of areas of archaeological importance around Barnston and Barnston Dale; and
- the Barnston Conservation Area and cluster of heritage assets associated with it.

1.25 The environmental effects of development in the surrounding areas could potentially be mitigated by measures such as: the buffering of vulnerable habitats; appropriate site layout to limit the impact on the most sensitive ecological and heritage assets in the east; and multi-functional GBI features bordering Barnston Dale, to provide linking and supporting habitat.

1.26 It is noted that the larger scale of this site allows more scope for flexible layout options to mitigate environmental impacts and to incorporate strategic GBI features and enhancements into the site.

Summary of landscape sensitivity

1.27 The entirety of the site has been identified as having a Moderate-High landscape sensitivity. This is in large part due to the presence on its borders of Prenton Brook and the associated enclosed wooded valley at Barnston Dale, which contrasts with the surrounding landscape and increases sensitivity. The heritage features around Barnston are also identified as further sources of landscape sensitivity.

1.28 It is noted that the M53 and railway line are intrusive features within this area, lowering sensitivity, but that there is greater tranquillity towards Landican and Barnston, away from

transport corridors and urban edges - signalling a higher sensitivity to development in these locations.

Summary of potential for carbon emissions assessment

1.29 The land under this Option is highlighted within this study's accessibility mapping as having - prior to any mitigation - low levels of accessibility to key services.

1.30 The larger scale and consolidated nature of the settlement proposed here suggests that mitigation through infrastructural provision as part of the site could to be more feasible.

1.31 However, it should also be noted that the mapping illustrates that the settlement area of "Irby, Thingwall, Pensby, Heswall and Gayton" performs more poorly on accessibility than Wirral's other Settlement Areas, suggesting an existing deficit in key services.

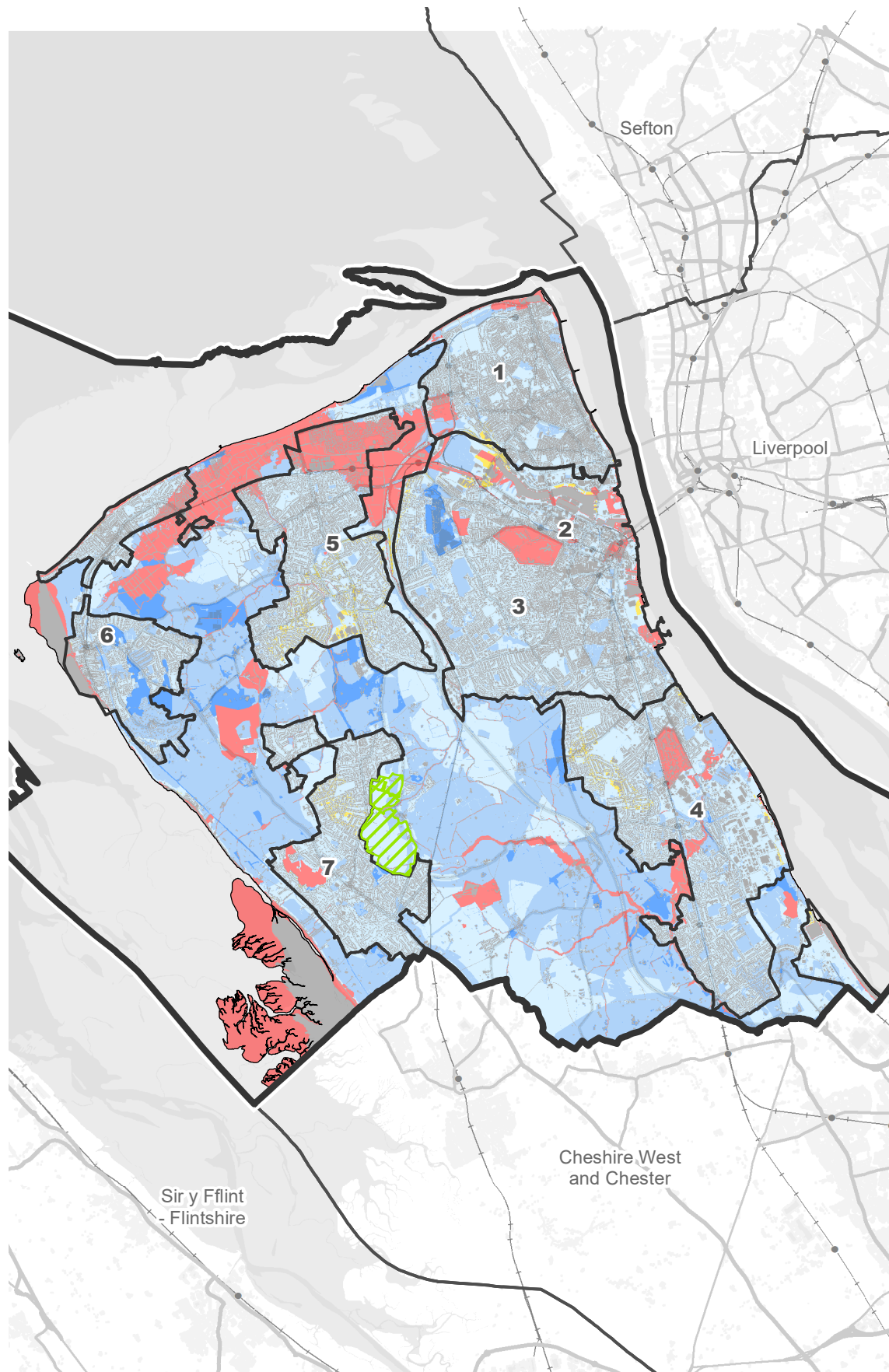
1.32 Similarly, the more consolidated nature of this proposal may indicate greater opportunities (compared to Option 2a) for district heat networks. However, studies to date have focussed on the wider Birkenhead Area as the major source of opportunity for these types of network and so further assessment would be required to determine the potential in this location.

Areas of potential lower sensitivity

1.33 Areas of relatively lower environmental sensitivity (i.e. where 1-3 'moderately sensitive' assets overlap) are more extensive here than within other site options. These areas are concentrated in the west closest to the urban edge of Heswall.

1.34 However, all areas of the site have been identified as moderate-high landscape sensitivity within the desktop LSA carried out as part of the main Environmental Sensitivity Study. A more detailed, site-specific LSA may highlight some variation in how sensitivity varies across different parts of the site and help to identify how development might minimise impacts on the most sensitive locations.

Overall sensitivity



Accessibility

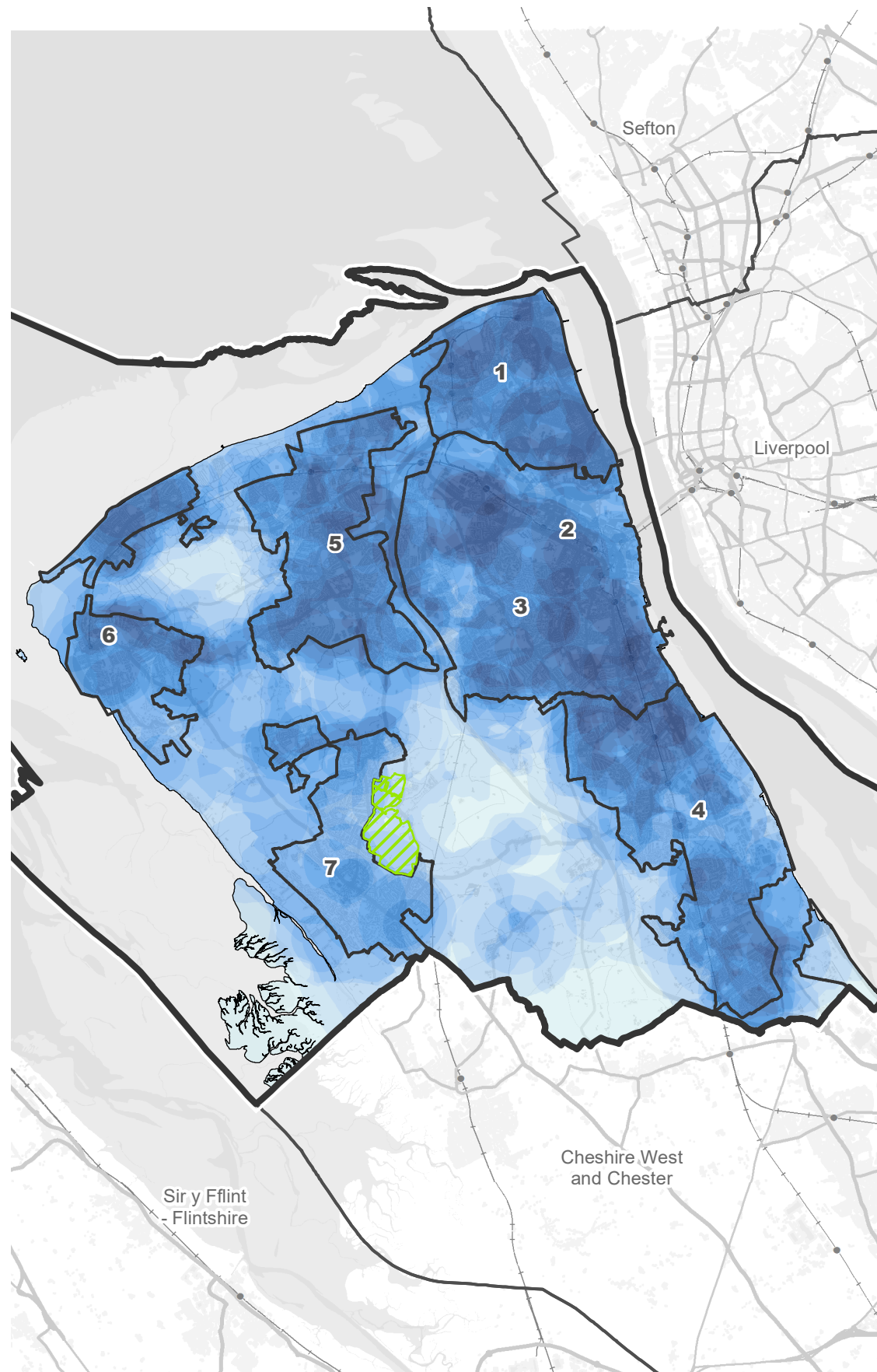


Figure 1.4: Strategic Spatial Option 2b (Single Urban Extension)

Wirral boundary
 Other Local Authority boundary
 Landform edge
 Settlement Area boundary
 Physical constraint

Overall sensitivity

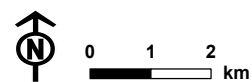
- High
- Moderate (13-15)
- Moderate (10-12)
- Moderate (7-9)
- Moderate (4-6)
- Moderate (1-3)
- Lower

Accessibility to key services and open space facilities rating

- Highest accessibility
- Lowest accessibility
- Green Belt Option 2b

Note
Physical constraints include roads, railways, buildings, water courses, waterbodies, flood defences, areas of coastal erosion and permitted waste sites.

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Map scale 1:125,000 @ A3

Conclusions from the assessment of Wirral's Strategic Spatial Options

1.35 In summary, this high-level assessment has found that Strategic Option 1a (Urban Intensification) has lower sensitivity in terms of potential impacts on environmental assets. The existing access of urban sites to key services and transport routes also mean that less ambitious mitigation would be required in order for new development to align with the Borough's carbon reduction goals. There is also greater scope than other options to potentially deliver district heat networks, given the urban setting of development. However, the sites considered under this Option are not free of environmental sensitivity in all cases, and some level of mitigation would still be required at most sites.

1.36 Strategic Option 2a (Dispersed Green Belt release) would affect a number of sensitive environmental assets, including both ecological and heritage assets. In some cases, mitigating these impacts may be challenging. These sites also perform poorly on accessibility to existing key services and public transport. Given the dispersed nature of this Option, investment in infrastructural provision would be required.

1.37 Strategy Option 2b (Single urban extension) contains fewer highly sensitive environmental assets than Option 2a, however it would encroach on sensitive landscapes, particularly further from the urban edge of Heswall. Investment would be required in terms of accessibility to key services and public transport. However, it is recognised that the scale of this site offers more scope for more ambitious infrastructural delivery to support development. Further studies would be required to assess whether district heat networks or other low carbon energy generation proposals would be feasible at the site.