

# Edmonton Leaside Area Action Plan

## Industrial Floorspace Study

### Final Report

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## Table of Contents

<b>1.</b>	<b>Introduction .....</b>	<b>6</b>
1.1	Context to the Study .....	6
1.2	Study Objectives and Scope .....	6
1.3	Report Structure.....	8
<b>2.</b>	<b>Planning Policy Context.....</b>	<b>9</b>
2.1	Introduction.....	9
2.2	Regional Planning Policy.....	9
2.3	Sub-regional and Local Planning Policy.....	11
2.4	Summary .....	14
<b>3.</b>	<b>Industrial Capacity to be Re-Provided .....</b>	<b>15</b>
3.1	Introduction.....	15
3.2	Industrial Capacity at Harbet Road SIL.....	15
3.3	Industrial Capacity at Montagu Road SIL/LSIS .....	16
<b>4.</b>	<b>Approach to Intensification Potential .....</b>	<b>20</b>
4.1	Introduction.....	20
4.2	Approach.....	20
4.3	Site Analysis: Harbet Road SIL .....	22
4.4	Site Analysis: Montagu Road SIL/LSIS.....	26
<b>5.</b>	<b>Illustrating Intensification Potential .....</b>	<b>29</b>
5.1	Introduction.....	29
5.2	Analysis of Scenarios 1, 2 and 3.....	30
5.3	Scenario 1: Harbet Road SIL Release of 50% .....	32
5.4	Scenario 2: Harbet Road SIL Release of 75% .....	36
5.5	Scenario 3: Harbet Road SIL Release of 100% to Montague Road SIL/LSIS.....	39
<b>6.</b>	<b>Conclusion.....</b>	<b>42</b>
6.1	Introduction.....	42
6.2	Summary of Findings.....	42
6.3	Development Viability .....	45
<b>Appendix A – Existing Businesses at Harbet Road SIL and Montagu Road SIL/LSIS.....</b>		<b>48</b>
Introduction .....		48
Businesses at Harbet Road SIL .....		48
Montagu Road SIL/LSIS .....		52
<b>Appendix B - Industrial Building Typologies.....</b>		<b>56</b>

## Figures

Figure 1-1 Location of Harbet Road SIL, Montagu Road SIL/LSIS and Meridian Water .....	7
Figure 3-1 Montagu Road SIL/LSIS: Four Site Redevelopment Categories .....	18
Figure 4-1 Harbet Road SIL Opportunities and Constraints .....	24
Figure 4-2 Harbet Road SIL Design Principles: Spatial Analysis .....	25
Figure 4-3 Montagu Road SIL/LSIS Opportunities and Constraints .....	27
Figure 4-4 Montagu Road SIL / LSIS Design Principles: Spatial Analysis .....	28
Figure 5-1 Scenario 1, Harbet Road SIL Release of 50%: Site / Building Layout .....	32
Figure 5-2 Scenario 1, Harbet Road SIL Release of 50%: 3D showing Building Massing....	33
Figure 5-3 Scenario 2, Harbet Road SIL Release of 75%: Site / Building Layout .....	36
Figure 5-4 Scenario 2, Harbet Road SIL Release of 75%: 3D showing Building Massing....	37
Figure 5-5 Scenario 3, Harbet Road SIL Release of 100%: Site / Building Layout.....	39
Figure 5-6 Scenario 3, Harbet Road SIL Release of 100% to Montagu Road SIL/LSIS: 3D showing Building Massing .....	40
Figure 6-1 Scenarios 1, 2 and 3 Plot Ratio Range (Low and High Value, and Median) .....	43
Figure A-1 Business Activities on Harbet Road SIL .....	49
Figure A-2 Site Types at Harbet Road SIL .....	50
Figure A-3 Building Types on Harbet Road SIL .....	51
Figure A-4 Business Activities in Montagu Road SIL/LSIS .....	52
Figure A-5 Site Types at Montagu Road SIL/LSIS .....	54
Figure A-6 Building Characteristics, Montagu Road SIL/LSIS.....	55

## Tables

Table 1-1 Harbet Road SIL Release Scenarios.....	7
Table 3-1 Harbet Road SIL Floorspace Capacity Calculation .....	16
Table 3-2 Montagu Road SIL/LSIS Potential Capacity Re-Provision .....	19
Table 5-1 Scenario 1, Harbet Road SIL Release of 50%: Intensification Potential .....	34
Table 5-2 Scenario 1, Harbet Road SIL Release of 50%: Higher Site Utilisation (x 1.2) .....	35
Table 5-3 Scenario 2, Harbet Road SIL Release of 75%: Intensification Potential .....	38
Table 5-4 Scenario 2, Harbet Road SIL Release of 75%: Higher Site Utilisation (x 1.2) .....	38
Table 5-5 Scenario 3, Harbet Road SIL Release of 100% to Montagu Road SIL/LSIS: Intensification Potential .....	41
Table 5-6 Scenario 3, Harbet Road SIL Release of 100% to Montagu Road SIL/LSIS: Higher Site Utilisation (x 1.2) .....	41
Table 6-1 Summary Comparison of Intensification Indicators.....	43
Table A-2 Floorspace of Business Activities in Harbet Road SIL .....	49
Table A-3 Servicing Needs for Business Activities .....	51
Table A-4 Floorspace of Business Activities in Montagu Road SIL/LSIS .....	53

# 1. Introduction

## 1.1 Context to the Study

- 1.1.1 This report assesses how Strategic Industrial Land (SIL) at Meridian Water could be consolidated while maintaining the quantum of industrial floorspace. The context is the transformational change at Meridian Water, and the new Draft London Plan policies on designated industrial land.
- 1.1.2 The vision of the Edmonton Leaside, as set out in the Proposed Submission Area Action Plan (ELAAP), is one of regeneration and development - creating new residential communities supported by community and social infrastructure, and stimulating new businesses and commercial investment. Within Edmonton Leaside, Meridian Water is the key location to deliver over 10,000 new homes and new 6,700 jobs.
- 1.1.3 The Proposed Submission ELAAP seeks the removal of all industrial land designations within Meridian Water, including the SIL at Harbet Road, to allow mixed-use development to achieve this transformational change. This would mean loss of industrial land at Harbet Road SIL.
- 1.1.4 The Draft London Plan (2017) sets out the Mayor's emerging approach to industrial land. While seeking to maintain the supply of designated industrial land, the policy position indicates that, in certain circumstances, intensification of industrial uses may allow the release of SIL land on the basis of no net loss of industrial floorspace.
- 1.1.5 The GLA's response to public consultation on the Proposed Submission ELAAP (2017) stated that the Plan was not in conformity with the London Plan due to the loss of designated industrial land at Harbet Road. The GLA's concerns were evidenced by the London Industrial Land Supply and Economy Study (2015) and the London Industrial Land Demand Study (2017) which together showed significant loss of Enfield's industrial land in recent years, combined with a high level of demand. As such the GLA assigned a 'provide capacity' category to the borough's long term industrial provision needs.
- 1.1.6 This study will model and assess the outcome of SIL release scenarios to provide understanding of how industrial floorspace could be maintained while releasing designated industrial land at Meridian Water.

## 1.2 Study Objectives and Scope

### Objectives

- 1.2.1 The overarching objective of this study is to examine how the release of industrial land at Harbet Road SIL could be accommodated through intensification of industrial uses, either within Meridian Water or the wider ELAAP area.
- 1.2.2 Three SIL release scenarios are tested in this report, as set out in Table 1-1.

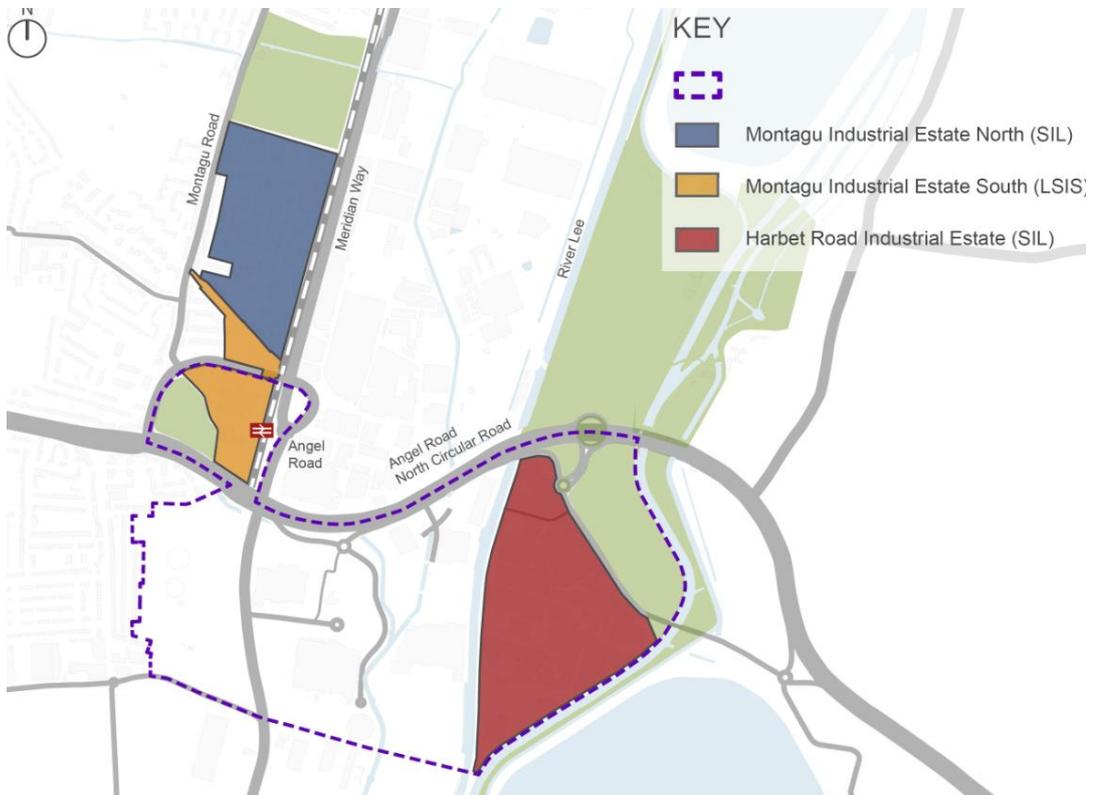
**Table 1-1 Harbet Road SIL Release Scenarios**

Scenario	Description
1. 50% SIL loss at Harbet Road with floorspace consolidated	Retain SIL at the northern part of Harbet Road and ensure no net loss of industrial floorspace through multi-level buildings
2. 75% SIL loss at Harbet Road with floorspace consolidated	Retain SIL at the northern part of Harbet Road and ensure no net loss of industrial floorspace through multi-level buildings
3. 100% SIL loss at Harbet Road with floorspace transfer to Montagu Road Industrial Estates (SIL and LSIS designated land)	All SIL to go to Harbet Road with no net loss of industrial floorspace through a transfer to the Council-owned Montagu Estates (SIL and LSIS), with development of multi-level buildings at this location.

**Scope**

1.2.3 The location of Harbet Road and Montagu Road industrial estates with respect to Meridian Water is set out below in Figure 1-1. Montagu Road industrial estates are divided in to two: the SIL lies to the north and the Locally Significant Industrial Site (LSIS) to the south. Hereafter this area will be referred to as 'Montagu Road SIL/LSIS'.

**Figure 1-1 Location of Harbet Road SIL, Montagu Road SIL/LSIS and Meridian Water**



Source: (AECOM, 2018)

1.2.4 The scope of work assesses intensification of industrial uses only and does not consider co-location with other uses, for example residential.

- 1.2.5 The term 'industrial' is used throughout this report to define premises designed for light industrial, R&D and laboratory activities (planning use classes B1c and B2); and premises designed for storage and distribution activities (planning use class B8).
- 1.2.6 The assessment is primarily a quantitative exercise – a calculation of the potential industrial floorspace capacity at Harbet Road SIL and how that space could be accommodated within a smaller area of Harbet Road SIL or at Montagu Road SIL/LSIS. The assessment is also concept based – that multi-storey or multi-level industrial accommodation is applicable to the London context. The analysis is not constrained by development viability or market demand, as this is not considered in detail in this report.

## 1.3 Report Structure

- 1.3.1 Following this introduction the report is structured as follows:
- Chapter 2: A review of key planning policy including the adopted London Plan and the Draft London Plan (2017), which indicates how industrial capacity should be provided, maintained and designed. This will guide the approach to estimating capacity transfer on site and off site, and any design principles which could guide how new capacity is provided. An assessment of Enfield's Local Plan documents and policies is also made
  - Chapter 3: A calculation of existing floorspace capacity at Harbet Road SIL and Montagu Road Industrial Estates to provide the starting position of the potential these areas have for intensification
  - Chapter 4: By each scenario, floorspace analysis and modelling to examine how intensification of industrial provision at Harbet Road and/or Montagu Road SIL/LSIS could accommodate floorspace on a no net loss position; and
  - Chapter 5: A conclusion including a high-level view on viability associated with the scenarios modelled.
  - Appendix A, which provides a review of existing occupiers at Harbet Road SIL and Montagu Road SIL/LSIS, which informs a view on re-provision needs which is factored into site design principles.

## 2. Planning Policy Context

### 2.1 Introduction

- 2.1.1 This chapter provides a brief review of the key industrial policies (adopted and proposed) relating to the adopted London Plan and LB Enfield's borough specific planning policy, as set out in the Core Strategy and Development Management Documents, and proposed supplementary planning policy. These policy documents have informed and shaped the approach to this study.

### 2.2 Regional Planning Policy

#### Adopted London Plan (2016) on Industrial Land

- 2.2.1 The adopted London Plan (2016) seeks to protect industrial land to ensure there is sufficient stock of land for future industrial uses. The Plan seeks to ensure that each borough can demonstrate that the existing stock of industrial land will be appropriately planned and managed. It supports the managed release of surplus industrial land to meet wider growth objectives of delivering housing, providing social infrastructure and contributing to town centre renewal.
- 2.2.2 In recognition of the potential for more efficient use of industrial land, each borough is assigned groupings in the recognition of where release of industrial land to other uses is most appropriate. LB Enfield is identified as a borough that can release limited amounts of industrial land, including SIL.
- 2.2.3 Strategic Industrial Locations (SIL) are designated as London's main reservoirs of industrial land and exist to ensure London provides a sufficient number of quality sites to meet the needs of industrial and related sectors, logistics, waste management and transport functions. SILs are given strategic protection as they are identified as critical to the effective functioning of London's economy. Whilst Policy 2.17 seeks to protect the strategic functions of SIL it does allow for a strategic co-ordinated process of consolidation, which could be through an opportunity area planning framework of local plan document.
- 2.2.4 Locally Significant Industrial Sites (LSIS) are designated by boroughs by presenting a base of evidence to show its local demand and significance the industrial land has on the borough.

#### Draft London Plan on Industrial Land Provision

- 2.2.5 The Draft London Plan (2017) demonstrates new approaches to industrial land which will be used to inform this study. Whilst the Plan is not expected to be adopted until 2019, it is a material consideration in the planning decisions process and, whilst policies may evolve, it does reflect a changed approach and way of thinking around industrial land, and hence it is important consideration for this study.
- 2.2.6 A key driver underpinning the step change in policy is the over release of industrial land above benchmark rates. The Draft London Plan sets a principle of

no overall net loss of industrial floorspace in designated locations. Policy E4.C states '*no net loss of industrial floor space capacity within designated SIL*'.

- 2.2.7 Paragraph 6.4.5 of the Draft London Plan defines floorspace capacity as '*existing industrial and warehousing floorspace on site or the potential industrial warehousing floorspace that could be accommodate on site at a 65 per cent plot ratio*<sup>1</sup>' (Draft London Plan, 2017, p.254). This is an important detail which will shape calculations of capacity re-provision, where SIL boundaries are redefined.
- 2.2.8 Whereas previous benchmarks within the London Plan mostly supported the release of industrial land in accordance with a contracting long term demand forecast, within the Draft London Plan the majority of boroughs are for retention<sup>2</sup>, and four boroughs are required to provide industrial capacity. LB Enfield is now categorised as a borough that needs to provide capacity for industrial land, as it is identified as a borough where strategic demand for industrial, logistics and related uses is anticipated to be the strongest.
- 2.2.9 Paragraph 6.4.7 states that boroughs such as LB Enfield which are identified to 'Provide capacity' '*should seek to intensify industrial floorspace capacity*', on the basis presumably that increases in capacity is less likely to come from land supply (e.g. designation of non-industrial land for industrial uses). The Draft London Plan requires intensification to be either existing and/or new locations accessible to the strategic road network and in locations with potential for transport of good by rail and/or water.
- 2.2.10 Policy E7 *Intensification, co-location and substitution of land for industry, logistics and services to support London's economic function*, is the primary policy to consider in relation to intensification of industrial land. The policy seeks to provide guidance on how the process of intensification, co-location and consolidation should be applied to facilitate any release of industrial land.
- 2.2.11 The Plan states that whilst the majority of land in SILs should be retained and intensified for the industrial-type functions, there may be scope for selected parts of SILs or LSI S to be consolidated. This however must come through a co-ordinated plan-led approach to deliver an intensification of industrial uses in the consolidation SIL or LSIS and facilitate the transfer of some land for a mix of uses, including residential.
- 2.2.12 Policy E7 provides categories for development proposals for the "*intensification of industrial land as follows*:"
- *development of mezzanines*
  - *introduction of small units*
  - *development of multi-storey schemes*
  - *addition of basements*

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<sup>1</sup> The Draft London Plan indicates that the 65% plot ratio figures is informed by the London Employment Sites Database (GLA Economics, 2017)

<sup>2</sup> Three boroughs are for limited release: Havng, Newham and Barking and Dagenham

- *more efficient use of land through higher plot ratios having regard to operational requirements (including servicing) and mitigating impacts on the transport network where necessary” (Draft London Plan, 2017, p.265).*
- 2.2.13 As set out within Policy E7 Part E, any intensification within SIL or LSIS should to be deliver an increase (or at least no overall net loss) of capacity in terms of industrial, storage and warehousing floorspace with appropriate provision of yard space for servicing.
- 2.2.14 The policy states that intensification of SIL or LSIS could be to facilitate the consolidation of the identified SIL/LSIS to support the delivery of residential and other uses. However, this approach should only be considered as part of a plan-led process of SIL intensification and consolidation, or as part of a co-ordinated master planning process in collaboration with the GLA and relevant borough. Intensification of SIL should not be as part of an ad hoc planning application.
- 2.2.15 In the case of LSIS, but not SIL, Policy E7 Part D states that in addition to intensification, sites could be co-located with residential or other uses such as social infrastructure. This also must form part of the plan-led process.
- 2.2.16 Intensification and/or co-location must ensure that any industrial activities on-site or in the surrounding area are not compromised. In the case of co-located uses, the appropriate design mitigation must be considered, and any industrial uses should be completed and operation prior to residential components being occupied.
- 2.2.17 As with all development proposals coming forward, and intensification or co-location will need to meet the requirements of the Draft London Plan design policies. Policy D1 ‘London’s form and characteristics’ seek to ensure that all building are positional and of a scale, appearance and shape that responds successfully to the character of the locality. Any intensification proposals will need to ensure that the character and context of the local area is considered and informs the proposal.
- 2.2.18 Policy H1 Increasing Housing Delivery recognises that industrial sites, including SIL and LSIS do offer a source of brownfield land for housing delivery. Based on the difference in values between industrial and residential development, Policy H6 sets a threshold approach to affordable housing and a requirement for 50 percent of affordable housing for SIL or LSIS sites which are deemed appropriate for release.

## 2.3 Sub-regional and Local Planning Policy

### LB Enfield Core Strategy (2010)

- 2.3.1 The Enfield Core Strategy was adopted in November 2010. It sets out the spatial planning framework for the long term development of the Borough for the period 2010 -2025. It provides direction on the scale and distribution of development including core policies for delivering the spatial vision for economic development which includes supporting and strengthening those sectors which rely upon the provision of industrial land.

- 2.3.2 The Core Strategy has two complementary strands. The first is to *'build on Enfield's current economic strengths, seeking to maintain the competitiveness of the Upper Lee Valley, to support and grow sectors and businesses that are already established and successful in Enfield'*. The second is to *'diversify Enfield's economy and facilitate the establishment of new growth sectors. This should help to ensure that Enfield's economy grows in a sustainable way'*. It goes on to say that *'The challenge is to identify those locations that are best placed to take advantage of potential growth sectors and the interventions that are required in order to achieve success.'* (Core Strategy, p74).
- 2.3.3 Core Policy 13 'Promoting Economic Prosperity' states the aim to create 4,000 new jobs in the Upper Lee Valley and up to 6,000 across the Borough by 2026. It highlights the need to diversify Enfield's economy Central Leaside to reverse declines in employment and to bring about transformational change *'in order to position the area as somewhere attractive to growth sectors such as business services, creative industries, hospitality and retail'* (page 75).
- 2.3.4 The Core Strategy the quality and future viability of employment sites is greatest in the north east of the Borough and gradually declines moving south to Central Leaside. Core Policy 14 'Safeguarding Strategic Industrial Locations' identifies those areas to be protected which includes Montagu Industrial Area (northern section) and Harbet Road Industrial Area, both of which are designated as Preferred Industrial Locations (PIL). The total area designated as SIL measures 309ha.
- 2.3.5 Core Policy 15 'Locally Significant Industrial Sites' identifies those LSISs which will continue to support the needs of modern industry and include Montagu Industrial Area (includes the former rail sidings at Rays Road and Kennighall Estate). The policy goes on to say *'where sites are designated as LSISs and are no longer suitable for industrial uses or have been identified through the Council's place shaping programme as opportunities to contribute to wider regeneration benefits, a progressive release of land will be achieved through the development of comprehensive masterplans, in order to facilitate urban regeneration'* (page 79).

#### **LB Enfield Development Management Document (November 2014)**

- 2.3.6 The Development Management Document (DMD) was adopted in November 2014 and provides criteria and policies by which planning applications will be determined. It is a key document in delivering the vision and objectives as set out in the Core Strategy.
- 2.3.7 Chapter 4 of the DMD 'Enfield's Economy' states the importance of supporting businesses and facilitating sustainable economic growth by protecting SIL and LSIS. Building on Core Strategy Policies 13 and 14, Policy DMD 19.1 'Strategic Industrial Locations' lists those land uses which are acceptable on SIL, and states that *'proposals involving the loss of industrial capacity will be refused'* (page 38).
- 2.3.8 Building on Core Strategy Policies 13 and 15, DMD 20 'Locally Significant Sites' states that *'proposals involving the loss of industrial uses within LSIS will be refused unless it can be demonstrated that the development site is no longer*

*suitable and viable for its existing or alternative industrial use in the short, medium and long term'* (page 39).

2.3.9 DMD 23 'New Employment Development 1. Industrial development within SIL and LSIS' sets out the conditions by which new development will be allowed. This includes:

- *'a. There is no adverse impact as a result of noise and disturbance, access, parking and servicing in the area;*
- *b. The accommodation provided is flexible and suitable to meet future needs and requirements of businesses and small firms, where appropriate;*
- *c. The scale, bulk and appearance of the development is compatible with the character of its surroundings;*
- *d. On-site servicing and space for waiting goods vehicles is provided to an adequate standard'* (page 42).

### **Upper Lee Valley Opportunity Area Planning Framework (OAPF) (2013)**

2.3.10 Upper Lee Valley Opportunity Area Planning Framework (ULVOAPF) (2013) provides supplementary planning guidance to the London Plan. The document set out the main policies and overarching objectives and vision for Meridian Water, within Edmonton Leaside.

2.3.11 The ULVOAPF identifies that Meridian Water is one of the key schemes that will help deliver a substantial proportion of this growth. Meridian Water is identified as one of the developments which will play a key role in delivering the growth aspirations of 117,000 new dwellings and 170,000 new jobs within the LSCC by 2034.

2.3.12 Of particular relevance to this study, within the ULVOAPF document, it is recognised that Harbet Road SIL (covering Lee Valley Trading Estate, Hastingwood Trading Estate and Stonehill Business Park) has the potential to become an area for mixed-use development. Formal changes will be explored through an AAP.

### **LB Enfield Edmonton Leaside Proposed Submission Area Action Plan (2017)**

2.3.13 The Edmonton Leaside Proposed Submission Area Action Plan (AAP) was published in January 2017. Whilst the Edmonton Leaside AAP is not yet adopted, it forms the most recent context and direction in terms of planning policy.

2.3.14 Edmonton Leaside AAP sets a vision for 2032 which is one of regeneration and development, creating new communities, stimulating new businesses and sectors and providing new resources to the wider community. Meridian Water forms one of the key areas of growth within the Edmonton Leaside AAP area and is identified as a starting point for regeneration of the area. Meridian Water is identified as having the potential to provide around 10,000 new dwellings and 6,000 to 7,000 net new jobs on the site over the next 20 years.

- 2.3.15 Policy EL2 'Economy and Employment in Meridian Water' states that the potential for transformational change is currently restricted by SIL and LSIS land use designations which *'are not compatible with the economic and employment objectives, or the wider aims of transformational change'*. Development proposals and supplementary planning documents are required to demonstrate how they will support *'Intensification of land uses and the introduction of higher density development, including multistorey buildings, that increases employment and job growth'* (page 49).
- 2.3.16 Policy EL14, 'New Strategic Industrial Locations in Edmonton Leaside', identifies new SIL to safeguard and section 6.5 the approach to managing industrial land. The section references the Industrial Estates Strategy, *'the aim of which is to ensure that the industrial estates of the borough are used to their full potential to achieve economic growth and prosperity for businesses'*
- 2.3.17 Paragraph 6.5.19 refers to how the Council will *'work with occupiers to and owners to help relocate existing businesses as part of a Council led regeneration and rationalisation of industrial land, including within the Meridian Water boundary'* this is reflected in Part B of Policy EL15.
- 2.3.18 Policy EL15, 'Improving Existing Industrial Area': Part A sets out the potential for new development to drive prosperity and growth. The policy includes recognition that *'a coordinated approach is required to ensure that the existing industrial estates meet the demands of businesses'*. Part B identifies the priorities for action which includes at Montagu Estate (north and south) permitting new industrial development; upgrading infrastructure, ensuring new buildings meet the needs of modern occupiers including energy efficiency; and supporting regeneration through joint venture working. Part D, 'Relocation of Businesses', is also of note, as referenced above.

## 2.4 Summary

- 2.4.1 The Draft New London Plan policies on industrial land represent a step change in how policies makes will need to plans for future provision. Policy E7 Intensification, co-location and substitution of land for industry, logistics and services is the primary policy to consider in relation to intensification of industrial land and to facilitate any industrial land release to accommodate other uses.
- 2.4.2 Policy E4.C on *'no net loss of industrial floor space capacity within designated SIL'* and Paragraph 6.4.5 on the requirement to provide capacity which *can be 'accommodate[d] on site at a 65 per cent plot ratio'* are key to maintaining industrial capacity across London. Moreover some boroughs including LB Enfield have been categorised as areas to provide industrial capacity with the view that existing sites should accommodate intensification.
- 2.4.3 These draft London Plan policies have implications for LB Enfield, with its large areas of industrial land, and for the Council's regeneration plans. For the borough's largest regeneration site, Meridian Water, this study will examine the potential impact of these policies on the existing areas of designated industrial land.

## 3. Industrial Capacity to be Re-Provided

### 3.1 Introduction

3.1.1 This chapter calculates the industrial capacity of the Harbet Road SIL in terms of floorspace and the re-provision requirement arising from a reduction in the area of the SIL, as per the three scenarios tested (Table 1-1).

3.1.2 The Draft London Plan E7 proposes that redevelopment of a SIL/LSIS designated site results in no net loss of industrial floorspace capacity. Paragraph 6.4.5 of the Draft London Plan clarifies that '*Floorspace capacity is defined ... as either the existing industrial and warehousing floorspace on site or the potential industrial and warehousing floorspace that could be accommodated on site at a 65 per cent plot ratio (whichever is the greatest)*'. In line with Policy E7 and paragraph 6.4.5 the potential capacity lost under the three scenarios, as a consequence of a reduced SIL area at Harbet Road, will be the largest figure determined by one of three methods:

- Capacity calculation 1: Existing floorspace provision
- Capacity calculation 2: Potential floorspace capacity calculated by applying a 65% plot ratio of floorspace to site area; and
- Capacity calculation 3: A combination of calculations 1 and 2 above – under point 1 the floorspace of existing provision for the area of the SIL currently built out and supporting industrial / other activities; plus under point 2 the potential floorspace capacity of land currently vacant / with derelict buildings assuming 65% plot ratio.<sup>3</sup>

### 3.2 Industrial Capacity at Harbet Road SIL

3.2.1 Currently land at Harbet Road SIL comprises:

- A northern half of mostly vacant land which has been cleared with a number of derelict buildings remaining; and
- A southern half with industrial premises and open storage site supporting small businesses involved in manufacturing, distribution, vehicle repair and construction plus a bus depot and utility infrastructure.

3.2.2 Given the large amount of vacant and derelict land at Harbet Road SIL, it is appropriate to apply all three capacity calculations listed above to estimate the potential floorspace capacity of the SIL and its re-provision requirement. The results are set out in the following table.

3.2.3 The potential floorspace capacity of the SIL is therefore approximately 124,500sqm, as per capacity calculation 2.

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<sup>3</sup> This third method was mentioned as a suitable way to calculate site capacity when AECOM discussed the emerging industrial land related policies of the Draft London Plan with the GLA in March 2018.

**Table 3-1 Harbet Road SIL Floorspace Capacity Calculation**

<b>Area of land</b>	<b>Capacity 1:</b>	<b>Capacity 2:</b>	<b>Capacity 3:</b>
	<b>Existing floorspace on site</b>	<b>Floorspace based on a 65% plot ratio</b>	<b>Existing floorspace plus floorspace based on a 65% plot ratio</b>
<b>(sqm)</b>	<b>(sqm)</b>	<b>(sqm) See note 1</b>	<b>(sqm) See note 2</b>
191,500	39,700	124,475	101,445

**Sources:**

- Area of Land: 'LB Enfield Employment land Review' (AECOM, Draft Report February 2017). We note that the Local Plan Core Strategy (Adopted November 2010) records Harbet Road Industrial Area at 18ha ('to the nearest hectare'). For the purposes of this assessment the larger of the two figures is used, which generates a larger potential capacity floorspace figure.

- Capacity calculation 1: Existing floorspace estimated using 'Industrial Land in Enfield: Study of Type, form and Activity' (AECOM; LB Enfield, 2017) and Google Earth (2018) to identify existing buildings and their footprints/storey heights.

**Notes:**

1: Calculated by total area (191,500sqm) multiplied by a plot ratio of 0.65, as per Draft London Plan paragraph 6.4.5

2: Vacant land and land with derelict buildings measures 9.5ha. Capacity 3 is calculated by 95,000sqm x 0.65 plus the existing floorspace of 39,700sqm.

Note: Figures may not sum due to rounding.

### 3.3 Industrial Capacity at Montagu Road SIL/LSIS

#### Quantity of Industrial Land

3.3.1 The site area of Montagu Road SIL/LSIS totals c.15.8ha, comprising:

- Montagu Industrial Estate North (SIL) measuring 9.6ha; and
- Montagu Industrial Estate South (LSIS) measuring 6.2ha, of which 4.45ha lies within the boundary of Meridian Water or is designated as undevelopable land and as such considered not suitable / able to support industrial intensification.<sup>4</sup> The remaining 1.75ha lies directly to the south of the SIL and is considered suitable for supporting industrial uses (as it does currently).

3.3.2 11.35ha of land at Montagu Road SIL/LSIS are therefore considered as being suitable to accommodate relocation of industrial uses from Harbet Road SIL.

#### Industrial Floorspace Capacity

3.3.3 Under Scenario 3, if Montagu Road SIL/LSIS is to accommodate industrial capacity displaced from Harbet Road then the area will need to be redeveloped. The same approach to establishing the potential industrial floorspace capacity at Harbet Road SIL is therefore applied to the Montagu Road SIL/LSIS. In addition to the accommodation of relocated Harbet Road SIL capacity, the existing / potential industrial capacity of Montagu Road SIL/LSIS would also need to be maintained / provided for.

3.3.4 All sites have the potential to be intensified. Some sites however will be more suitable than others, which may be constrained by a number of factors such as environmental considerations, surrounding land uses, site size, existing

<sup>4</sup> As per evidence set out in the LB Enfield Draft Employment Land Review (AECOM, Feb 2017)

infrastructure and development viability. A high level assessment of the characteristics of individual sites within Montagu Road SIL/LSIS is presented here to establish the potential capacity of sites to support the intensification of industrial uses. This analysis is informed by Industrial Land in Enfield: Study of Type, form and Activity (AECOM; LB Enfield, 2017) and Google Earth imagery (2018). The individual sites of Montagu Road SIL/LSIS are assessed in qualitative terms according to four categories:

**Redevelopment Category 1: Sites with vacant and derelict land and buildings**

Land which is vacant, cleared or have derelict buildings and so are not marketable are considered the most likely sites to attract redevelopment (sites identified by the LB Enfield Study Report on 'Type, Form and activity' (AECOM, 2017) and corroborated by Google Earth (2018).

**Redevelopment Category 2: Sites with poor grade industrial buildings and sites**

Defined as those with poor quality of buildings or sites. The Enfield 'Study of type, form and activity' (AECOM, 2017) identifies buildings in Montagu Road SIL/LSIS that are of lower quality. The Employment Land Review (AECOM 2017) also provided a view on site quality including view on general environment and public realm. Judgements were corroborated by analysis from Google Earth (2018).

**Redevelopment Category 3: Sites which are inefficiently used**

Sites with a plot ratio of less than 0.4.

**Redevelopment Category 4: Sites which enable comprehensive redevelopment**

Sites not identified categorised under prospects 1, 2 and 3 above include sites which by their inclusion would enable comprehensive change across the SIL/LSIS industrial estates thereby enabling greater levels of intensification that would otherwise be afforded. Sites themselves may include buildings which have high plot ratios or have good quality sites / premises.<sup>5</sup>

- 3.3.5 Figure 3-1 illustrates the outcome of this site category analysis. The conclusion of this process is that a large proportion of sites fall under the first three categories. The better quality sites and premises lie central to the SIL; however their inclusion would allow a masterplanning of the industrial site and greater site utilisation. Under Map 4, comprehensive redevelopment would maximise the potential capacity provision on the sites by giving flexibility to layout and design.
- 3.3.6 As a sense check the comparative industrial capacity of Harbet Road SIL to Montagu Road SIL/LSIS (19.1ha to 11.35ha – a ratio of 1:0.6) suggests that a significant area of the Montagu Road SIL/LSIS will need to undergo redevelopment to accommodate the industrial capacity transfer from Harbet Road SIL.
- 3.3.7 Measurements indicate that, were Montagu Road SIL and the developable area of the Montagu Road LSIS to be comprehensively redeveloped, the provision requirement arising from the loss of on-site activities would be 73,775sqm.

<sup>5</sup> The assessment did not identify any undevelopable site on the SIL or LSIS, for instance a site supporting utility infrastructure with significant sunk costs.

3.3.8 Under Scenario 3, assuming a comprehensive site wide redevelopment of Montagu Road SIL/LSIS is taken forward, the estates would need to support 198,250sqm: 124,475sqm from Harbet Road (see Table 3-1 previously) plus 73,775sqm from Montagu Road SIL/LSIS loss (see Table 3-2 below).

**Figure 3-1 Montagu Road SIL/LSIS: Four Site Redevelopment Categories**

Map 1. Vacant sites



Map 2. Vacant and poor quality sites



Map 3. Vacant, poor quality and inefficient sites



Map 4. Vacant, poor quality, inefficient sites and sites remaining for comprehensive development



**Key**

- Meridian Water boundary
- Montagu Industrial Estate SIL/LSIS

- Vacant and derelict sites
- Inefficient sites
- Poor quality sites
- Site remaining for comprehensive development

Source: (AECOM, 2018)

Note: This analysis is based on a high level assessment of sites informed by Industrial Land in Enfield: Study of Type, form and Activity' (AECOM; LB Enfield, 2017) and Google Earth imagery (2018)

**Table 3-2 Montagu Road SIL/LSIS Potential Capacity Re-Provision**

<b>Site Redevelopment Category</b>	<b>Area of land (sqm)</b>	<b>Capacity 1: Existing floorspace on site (sqm)</b>	<b>Capacity 2: Potential floorspace, 65% plot ratio of land (sqm)</b>	<b>Capacity 3: Existing floorspace plus potential floorspace (sqm)</b>
Vacant and derelict	11,000	-	7,150	7,150
Poor grade buildings	9,700	5,800	6,305	5,800
Sites used inefficiently	48,700	9,900	31,655	9,900
Comprehensive redevelopment	44,100	16,100	28,665	16,100
<b>Total</b>	<b>113,500</b>	<b>31,800</b>	<b>73,775</b>	<b>38,950</b>

*Source:*

- Capacity 1: Existing floorspace estimated using 'Industrial Land in Enfield: Study of Type, form and Activity' (AECOM; LB Enfield, 2017) and checked / added to using Google Earth (2018).

*Site redevelopment capacity:*

- 'Vacant and derelict' comprises vacant sites and sites with derelict buildings

- 'Area of Land': LB Enfield Employment land Review (Draft Report; AECOM, 2016)

- 'Comprehensive redevelopment': Includes road network internal to the SIL/LSIS.

## 4. Approach to Intensification Potential

### 4.1 Introduction

4.1.1 This section sets out an approach to determining intensification potential which considers:

- Site development opportunities and constraints
- Design principles, taking into account and building on analysis of the sites' spatial opportunities/constraints; and
- Building typologies.

4.1.2 The sector also presents plans showing how an intensification could look showing the location of sites and buildings and the internal road layout, and details on storey height, site utilisation and floorspace capacity.

### 4.2 Approach

4.2.1 An overview of the key inputs to the layout and massing assessment are set out below.

#### Site Analysis

4.2.2 Identification of development opportunities and constraints, with respect to industrial capacity intensification, including:

- Surrounding land uses, type, location and heights (particularly residential and community use)
- Access to strategic road network
- Potential adverse effects such as noise and visuals
- Potential positive effects such as view lines, location to River Lee
- Infrastructure routes such as rail lines and overhead power cables; and
- Public rights of way (existing and proposed).

#### Industrial Building Typologies

4.2.3 Consideration of building typologies which could enable potential industrial floorspace intensification were informed by:

- The existing industrial provision on site at Harbet Road SIL and Montagu Road SIL/LSIS, which is actively used and which would need to be accommodated following relocation / redevelopment. This builds on AECOM's work 'Industrial Land in Enfield: Study of Type, Form and Activity' (AECOM, 2017), with details being set out in Appendix A. The main businesses identified were wholesale warehousing, manufacturing, vehicle sale and repair and construction all of which could be accommodated in the new provision typologies of large and small industrial units (see Appendix B for details on premises type).

- In considering the proportion of floorspace given to small and large units and space which could support manufacturing and distribution, consideration was given to the longer term projected demand for industrial floorspace in LB Enfield, as informed by the LB Enfield Employment Land Review (Draft Report; AECOM, 2017). The demand forecast projects growth for warehousing space (to support businesses involved in supply chain processing and distribution) compared with a relatively static or contracting manufacturing employment base.<sup>6</sup>
- Research regarding industrial building typologies, notably: Industrial Intensification Primer (GLA, 2017); LB Enfield Co-Location and Intensification Case Studies Draft Report (AECOM, 2018); and case study examples of building recently built or with planning permission for high site utilisation for multi-storey provision.
- Appendix B provides details regarding building typologies applied.

## Design Principles

4.2.4 Building on the site analysis, a set of design principles were applied:

- Site and building layout designed to best fit with the opportunities and constraints identified in the site analysis
- Location of existing residential and community uses at site perimeters, for instance sites next to existing residential support lower density industrial uses and intensity of sites with good access to road networks are maximised.
- Multi-storey industrial units. Typically units for light industrial uses or small scale distribution (above larger warehousing units) enable intensification. Multi-storey buildings consist of more than one floor, which increases the usable floorspace per area of land. Access to upper floors is via ramp or cargo lift.
- Building typologies which support industrial uses only (co-location, whereby industrial is provided alongside residential or commercial within the same building or within the same site, are not considered).

## Higher Site Utilisation

4.2.5 The case study examples of industrial sites with buildings offering multi-storey provision suggest a footprint to site area ratio (site utilisation) of 0.37 to 0.46 (see Appendix A). Site utilisation ratio reflect those typically seen and are supported by relevant studies (see for instance 'Guidance on Employment Land Reviews', ODPM, 2004; p.101)<sup>7</sup>. The site utilisation used in testing these scenarios will be in the range of 0.45-0.65. This ratio does not include space supporting the circulation roads.

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<sup>6</sup> The scale of net additional demand for industrial uses estimated by AECOM in the Employment Land Review is in line with that set out in the London Industrial Land Demand Study (GLA, October 2017).

<sup>7</sup> Box D.7 p.101 states that typical plot ratios (assuming single storeys) are in the range of 0.35 – 0.45 for industrial uses and 0.4 – 0.6 for warehousing. Though this guidance is withdrawn it is still a useful source of information.

- 4.2.6 Comparatively, the utilisation ratio guided by the above and applied may be considered conservative in the context of intensification need. It is also anticipated that over time as the balance between supply and demand come in line, land values will rise and drive higher site utilisation ratios.
- 4.2.7 Redevelopment will seek to extract value from sites through horizontal intensification as well as vertical. Indeed, due to a combination of viability, site size / layout / configuration and constraints of surrounding land uses (e.g. residential adjacent to a site boundary limiting storey building upwards) maximising horizontal over vertical intensification may be the preference.
- 4.2.8 International examples of locations with higher land values indicate that higher site utilisation rates (horizontal intensification) are important in land constrained cities such as Hong Kong, Tokyo and South Korea. The following points are of note:
- In these cities with high land values, footprint to site area can measure at over 90% with many examples of over 75% plus.
  - Plot ratios of up to 9.5 (equivalent to 75% site utilisation over 12 storeys) have been recorded. To access these multi-storeys, ramps and lifts are used to enable multi-storey access by vehicles for loading / unloading.
  - Loading dock ratios (the number of docks to the buildings floorspace is estimated at 1:10,000sqft (or approx. 1,000sqm). A lower ratio indicates higher throughput.
  - Research by CBRE in 2016 identified cities with multi-storey warehouses. Their land values per annum were: Hong Kong \$32.4 per sqft (c.£251 per sqm), Tokyo \$18.2 sqft (c.£141 per sqm); compared to London of \$17.9 sqft (c.£139 per sqm). Hong Kong provided an example of a 55% land utilisation and 12 floors; Tokyo provided an example of 75% utilisation over five floors.<sup>8</sup> These figures suggests that multi-storey provision in London could be close to being financially viable and supports the view that site utilisation could be higher than rates typically seen at present and perhaps more in line with those seen in Asian cities i.e. 75%.<sup>9</sup>
- 4.2.9 For illustrative purposes, an additional intensification capacity assessment is made for each of this study's three scenarios with site utilisation ratios are increased by a factor of 1.2 (i.e. 20%). This pushes site utilisation ratios up to a maximum of 0.78, 0.71 and 0.72 for Scenarios 1, 2 and 3, respectively.

### 4.3 Site Analysis: Harbet Road SIL

- 4.3.1 The analysis in this section relates to both Scenario 1 and 2. Figure 4-1 illustrates the development opportunities and constraints at Harbet Road SIL, which input to considerations around the potential site layout, massing and density.

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<sup>8</sup> Or Multi-Storey Warehouses 2016 (CBRE, May 2016). It is not clear from the analysis what area of London land value per sqm / pa refers to, though it is thought to be locations within the Central Activities Zone.

<sup>9</sup> A caveat to this view is that the supply – demand dynamic of industrial land and competitive pressures from other land uses could be in these examples different to those of London. For instance, some examples are from cities where the potential land area of the city is smaller and more constrained and are from locations more central, hence land value are higher than those of London / LB Enfield.

#### 4.3.2 At Harbet Road SIL, the following points are of note:

- Currently access to Harbet Road is mainly by road, off the strategic road network (north circular). The SIL's perimeter comprises the north circular (A-road) to the northern edge and the River Lee both of which act as a significant / impenetrable barrier to non-vehicular access to / from the SIL.
- Intensification of Harbet Road could increase demands on the internal road network and access to the north circular.
- The north area of SIL that connects to Angel road and the east link to Harbet Road provide access points for industrial activities. Maintain access to these strategic road links for new industrial provision.
- The proposed Causeway (as per Edmonton Leaside AAP, 2017) will connect Harbet Road to Meridian Water providing walking and cycling provision, in addition the Lee Valley path gives access to the outer boundary of SIL.
- Visually, more negative views are had north towards the north circular compared with more favourable positive views are had towards the open/green space east of Harbet Road.

#### 4.3.3 Building on the above, Harbet Road SIL has the following spatial design opportunities:

- Use the strategic road network to create a high quality gateway
- The areas along the canal are highly attractive for residential use
- The area along the north circular lacks natural ambience for residential development, however it holds a value for multi-storey industrial use due to site – A-road elevation differences and accessibility
- Within the area along Causeway building uses and heights should be sensitive and public realm should be high quality to provide an attractive experience to the people walking and cycling.
- The Causeway, proposed for cycling and walking, provides an opportunity and guide to how the 50% and 75% loss of SIL boundary is drawn.

#### 4.3.4 Figure 4-2 presents this analysis.

Figure 4-1 Harbet Road SIL Opportunities and Constraints

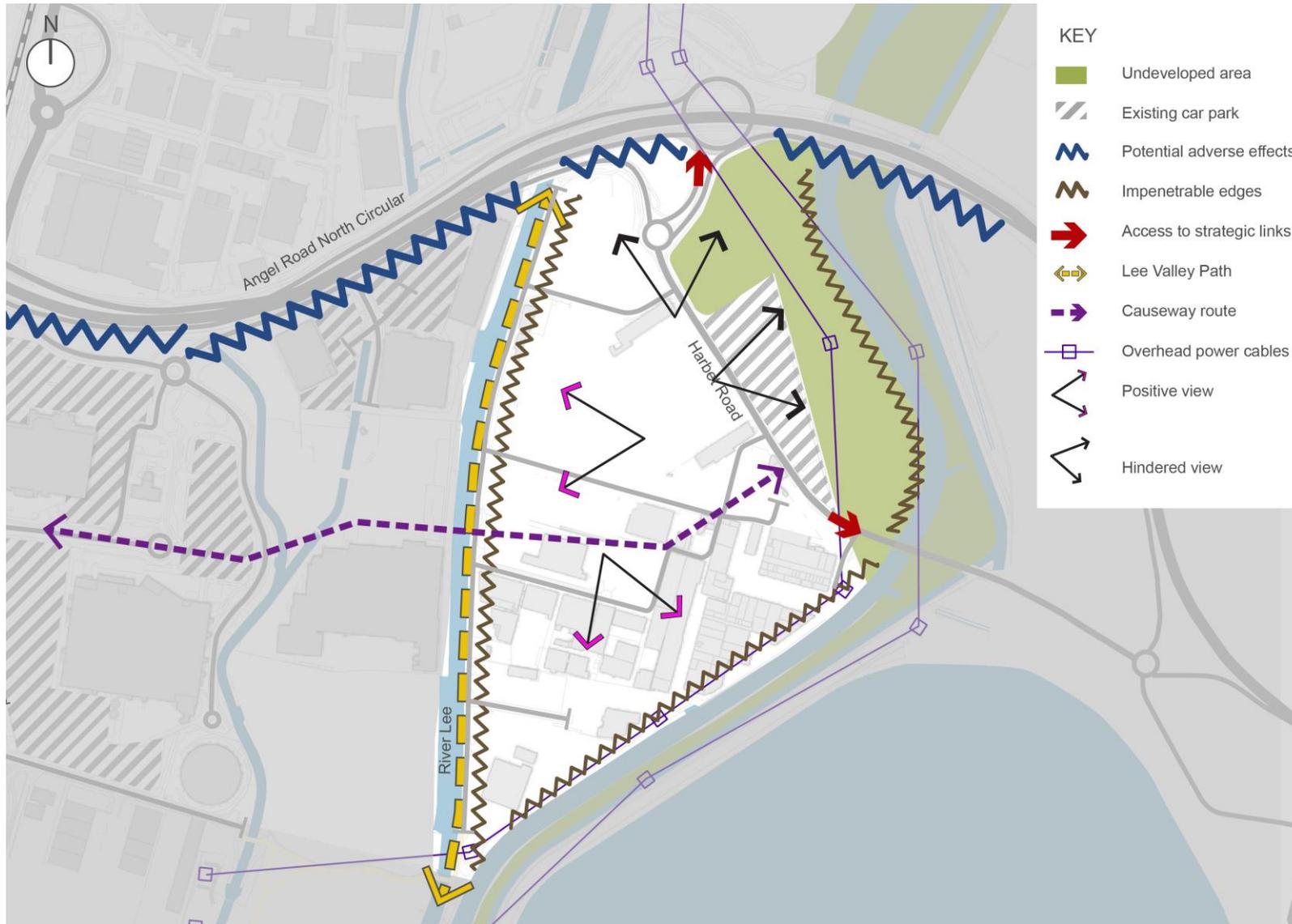


Figure 4-2 Harbet Road SIL Design Principles: Spatial Analysis



## 4.4 Site Analysis: Montagu Road SIL/LSIS

4.4.1 Figure 4-3 illustrates the development opportunities and constraints of Montagu Road SIL/LSIS sites. These factors input to considerations around the potential site layout, massing and density.

4.4.2 At Montagu Road SIL / LSIS, the following points are of note:

- Montagu Industrial Estates has three main access points from the west boundary.
- The east side of Montagu Industrial Estate is very hard to access due to the railway link creating impenetrable hard edges. The north and south of Montagu Industrial Estate is divided by physical and visual barriers.
- The proximity to residential use on the west boundary of Montagu Road SIL/LSIS means that light industry should be considered as opposed to outside industrial activity that could cause disruption for neighbours.
- Angel Gardens is open land and is therefore not considered suitable for industrial relocation or intensification.
- Land south of Conduit Lane, which lies within the Meridian Water boundary, supports the wider Meridian Water housing growth plans and is therefore not considered suitable for industrial relocation or intensification.

4.4.3 Montagu SIL/LSIS has the following spatial design opportunities for development:

- The key access to the site points can be used to create a new street with high quality public realm, as well as a new route to maximise the employment land and reduce the land take of circulation.
- The open spaces north of Montagu Estate can be used to create active frontages for industrial land.
- To the east lies the railway link which cuts of accessibility, this could be an opportunity to maximise the massing of industrial floorspace.
- Provide a sensitive approach towards the rear of the residential units by having light general industry.

4.4.4 Figure 4-4 presents this analysis.

**Figure 4-3 Montagu Road SIL/LSIS Opportunities and Constraints**

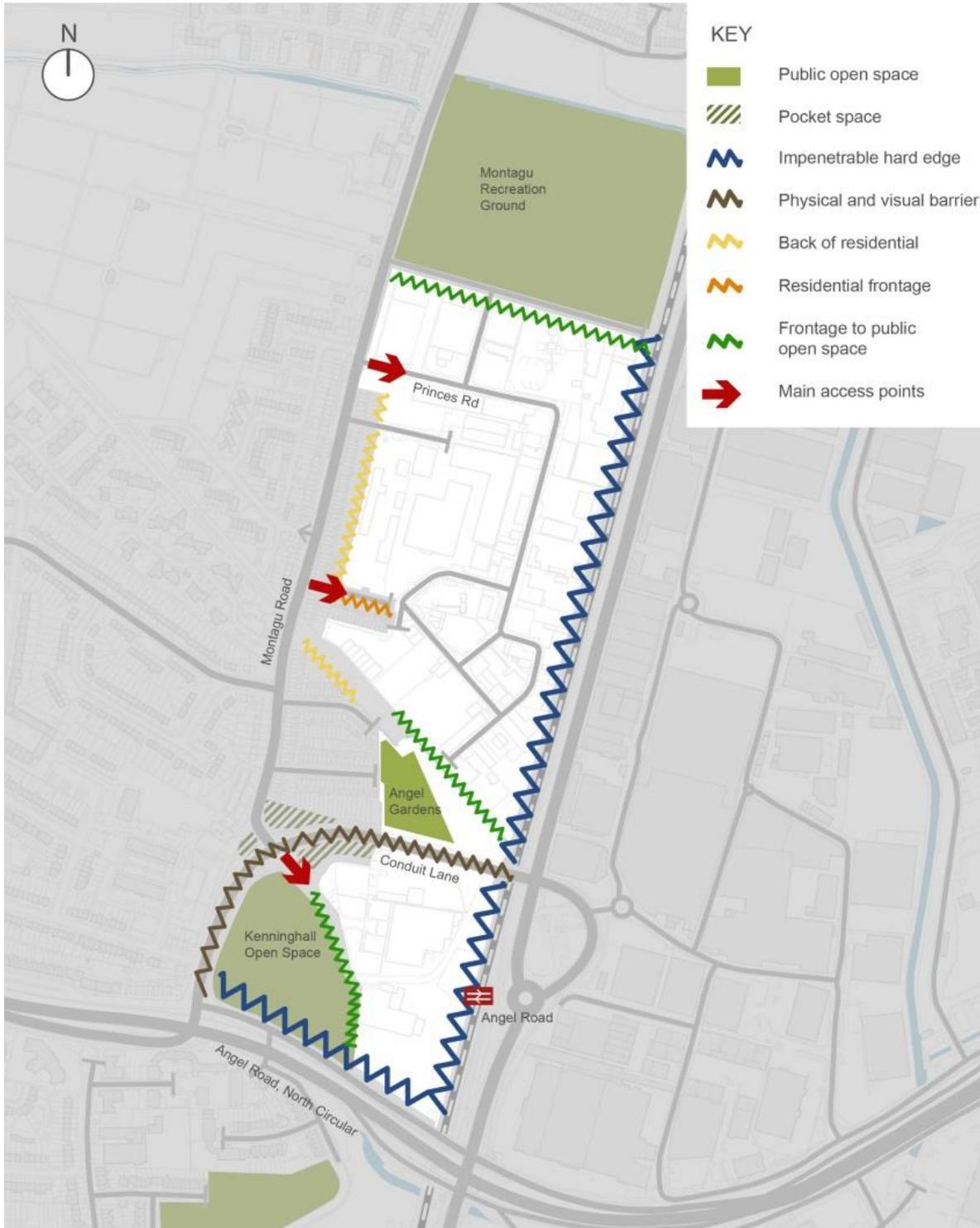
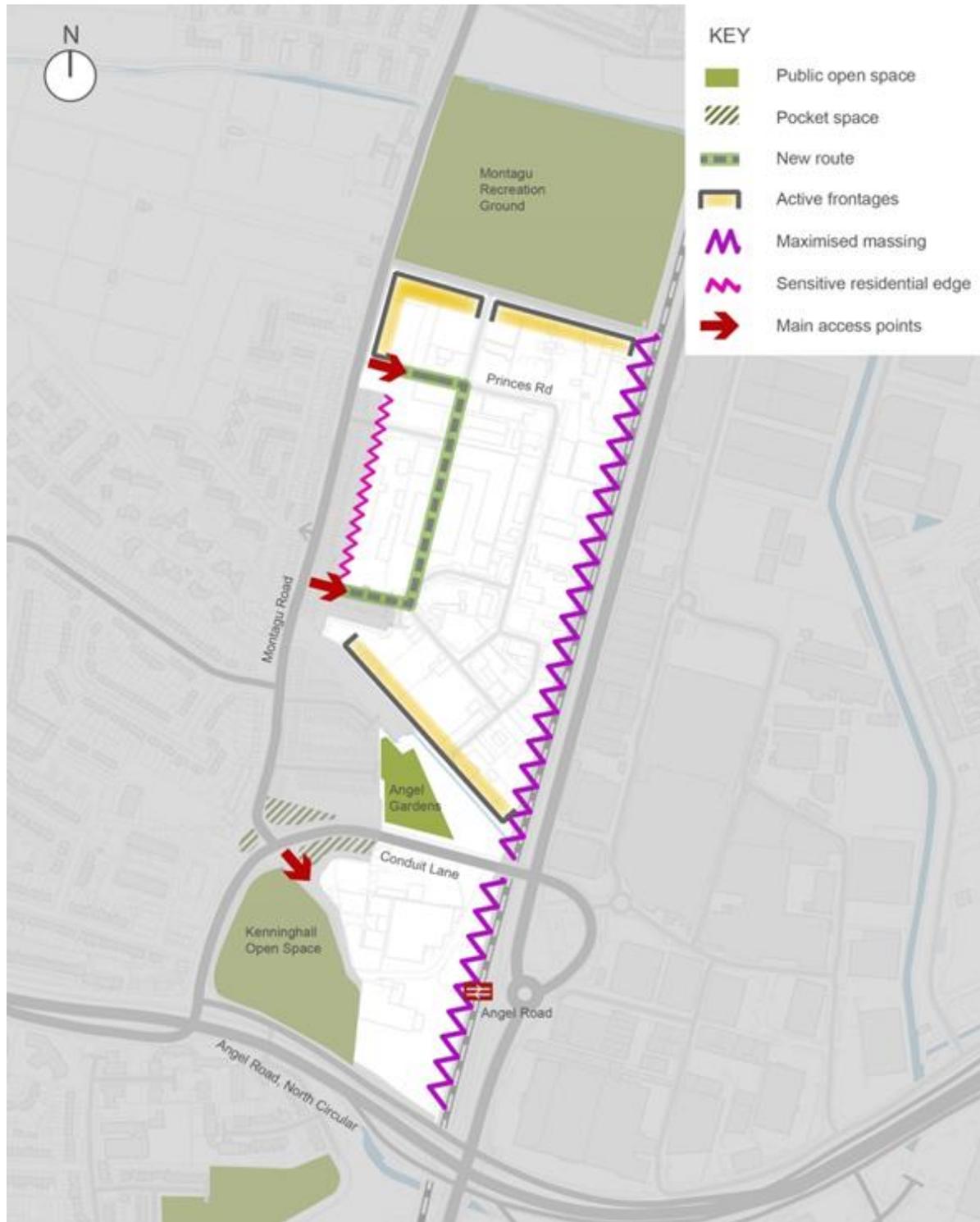


Figure 4-4 Montagu Road SIL / LSIS Design Principles: Spatial Analysis



## 5. Illustrating Intensification Potential

### 5.1 Introduction

- 5.1.1 Based on the preceding analysis this chapter presents, for each of the three scenarios tested, illustrative plans showing how the industrial capacity re-provision requirement could be met.
- 5.1.2 Each scenario's layout and massing has been informed by analysis of:
- Site opportunities and constraints analysis, taking into account existing land uses in proximity, physical barriers, neighbouring uses, existing access and internal circulation routes (see sections 4.2 and 4.3, Figure 4-1 and Figure 4-3).
  - Industrial building typologies, with consideration of the mix of how industrial building types and sizes which could allow intensification (Appendix B); and
  - Design principles which aim to promote best use of site and building layout; take into account surround uses, when considering the height of uses; and enable multi-storey / level industrial uses (Figure 4-2 and Figure 4-4).
- 5.1.3 For each scenario, the follow is presented:
- An illustration of the potential layout of sites and premises
  - An illustration of the potential massing of buildings
  - Two tables illustrating how the total floorspace re-provision requirement could be provided based on different levels of site utilisation (the proportion of a site taken up by a building's footprint) and number of storeys of premises.
- 5.1.4 By way of introduction to the tables, the following points will help the reader understand how data is presented:
- Each building shown in the layout and 3D drawings is identified by a letter ('Block identification' letters A to M) presented in the table by row.
  - The definition of 'small' and 'large' units has been guided by the 'Industrial Intensification Primer' (GLA, 2017). Small units have floorspace under 500sqm and large units have floorspace over 500sqm. There are two related points of note: 1) the internal space of large units could be arranged so that they support multiple small units, and so a large unit may equally be suitable for supporting smaller businesses; and, 2) it has been assumed that small units would be more suitable for industrial activities and large units for storage and distribution activities. This influences the design in that loading bay are typically included for large units whereas cargo lifts are consider suitable for smaller units on the second or third floors and upwards.
  - 'Storeys' refers to the number of floors of a building.
  - The building's 'footprint' which refers to the ground floor external area of a block (building) and so 'footprint to site area' refers to the ratio of the building's ground floor area to the wider site area. This is known as

'site utilisation'. A high site utilisation figure indicates that a high proportion of a site is taken up by a building.

- For each scenario, data presented in the first table is based on the 'standard site utilisation rates' as identified by design principles (see para 4.2.4); and the second table is based on a 'higher level of site utilisation' (a factor of 1.2 times the standard site utilisation rate). The levels of utilisation applied are considered possible and appropriate when considering the tightening position of supply – demand and policy support for intensification (paragraphs 4.2.5 to 4.2.9, and Section 2).<sup>10</sup>
- Plot ratio is defined as the ratio of floorspace to site area and is calculated by multiplying the 'footprint to site area' by the storey height.
- As previously established the floorspace provision requirement for Scenarios 1 and 2 is 124,475sqm and for Scenarios 3 it is 198,250sqm (see Section 3). In each table the column 'Total Floorspace (sqm)' records the total area of floorspace provided.

5.1.5 By way of example in Table 5-1, building F (block F) provides 13,700sqm of floorspace over a site area of 9,400sqm, comprising one single large ground floor unit of 6,100sqm and two upper floors of 3,800sqm. With the building's footprint comprising 65% of the site, the plot ratio of the site is 1.45 (13,700sqm / 9.400sqm).

## 5.2 Analysis of Scenarios 1, 2 and 3

5.2.1 Analysis of the three scenarios' illustrations and data identifies the following points:

- For both Scenario 1 and 2, the site analysis suggested that the northern part of Harbet Road SIL is best suited for industrial use and warehousing activities as this is bounded by the north circular which could generate potential adverse noise, air quality and visual effects. These effects would typically not impact significantly on industrial activities but could impact on residential provision. The north circular also enables the Harbet Road SIL direct access to the strategic road network which greatly facilitates the efficient movement of goods via road. Montague Industrial Estate SIL/LSIS is bounded (to the east side) by rail and though there is existing residential the size and shape of the site would support multi-storey development.
- The spatial context, size, existing assets, infrastructure and surrounding uses at Harbet Road SIL and Montague Industrial Estate SIL/LSIS lend themselves well to intensification of industrial provision.
- Under all three scenarios the total floorspace re-provision requirement is met, though the degree of intensification differs significantly with more high rise, multi-storey development required under Scenario 2 and less under Scenario 1 and 3:
  - Under Scenario 1, sites total 73,900sqm and would support c.125,000sqm of floorspace – a plot ratio of 1.7 (1.7sqm of floorspace to every one square metre of land)

<sup>10</sup> For example a 0.5 standard utilisation rate would increase to 0.6 under the higher utilisation rate (0.5 x 1.2).

- Under Scenario 2, sites measure a total of 40,900sqm and would need to support c.124,500sqm of floorspace – a plot ratio of over 3.0; and
- Under Scenario 3, sites measuring 98,100sqm<sup>11</sup> would need to support c.198,000sqm – a plot ratio of over 2.0.
- There is a trade-off between site utilisation and storey heights – higher site utilisation means that re-provision can be met by lower storey heights, or vice-versa. Provision via a higher site utilisation is considered preferable, as long as the site is still able to maintain its operational needs, e.g. for access, loading, car parking, etc., as the cost of building upwards is higher than horizontally. (This is expected to change over time as the availability of land becomes constrained relative to demand and the price of land becomes comparable to the cost of building upwards).
- Scenario 1 (SIL land area reduction of 50%) is able to re-provide floorspace capacity by lower building heights compared with Scenario 2 (SIL land area reduction of 75%). Scenario 2, which seeks to re-provide all capacity within a 25% area of the existing Harbet Road SIL, requires the highest buildings of all scenarios. Scenario 3, which involves intensification of Montague Road SIL/LSIS is comparable to Scenario 1 in terms of site utilisation and building heights (storeys).
- Following from the point above and based on the intention to seek a reduction in land area at Harbet Road SIL, a combination of Scenario 1 and 3 or Scenario 2 and 3, which are not tested in this scope of work, could provide an alternative solution to industrial capacity re-provision.

5.2.2 The following pages set out the layout and 3D illustrations, and data on development intensity.

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<sup>11</sup> This figure does not include land required for internal road network / circulatory space.

### 5.3 Scenario 1: Harbet Road SIL Release of 50%

Figure 5-1 Scenario 1, Harbet Road SIL Release of 50%: Site / Building Layout

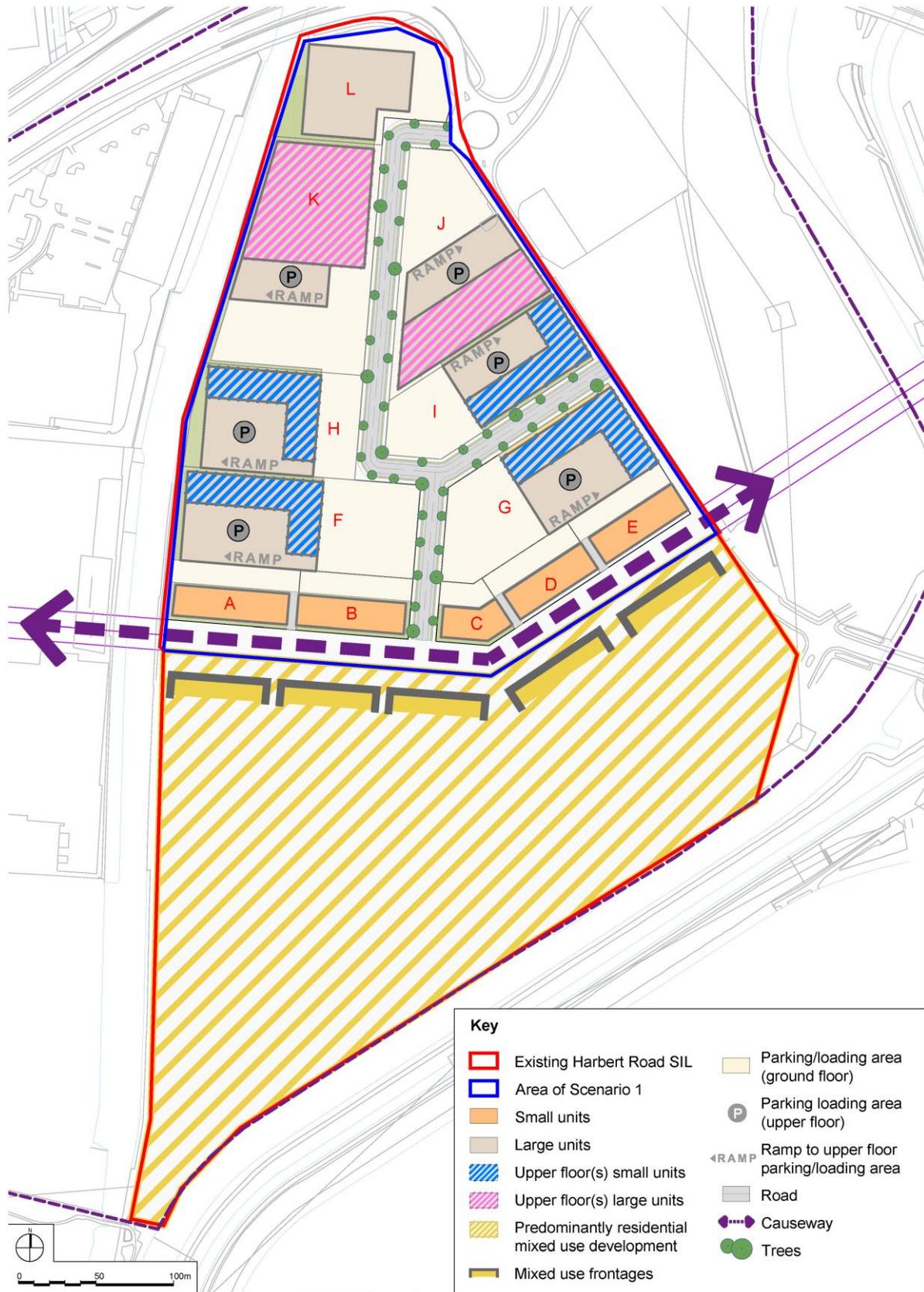
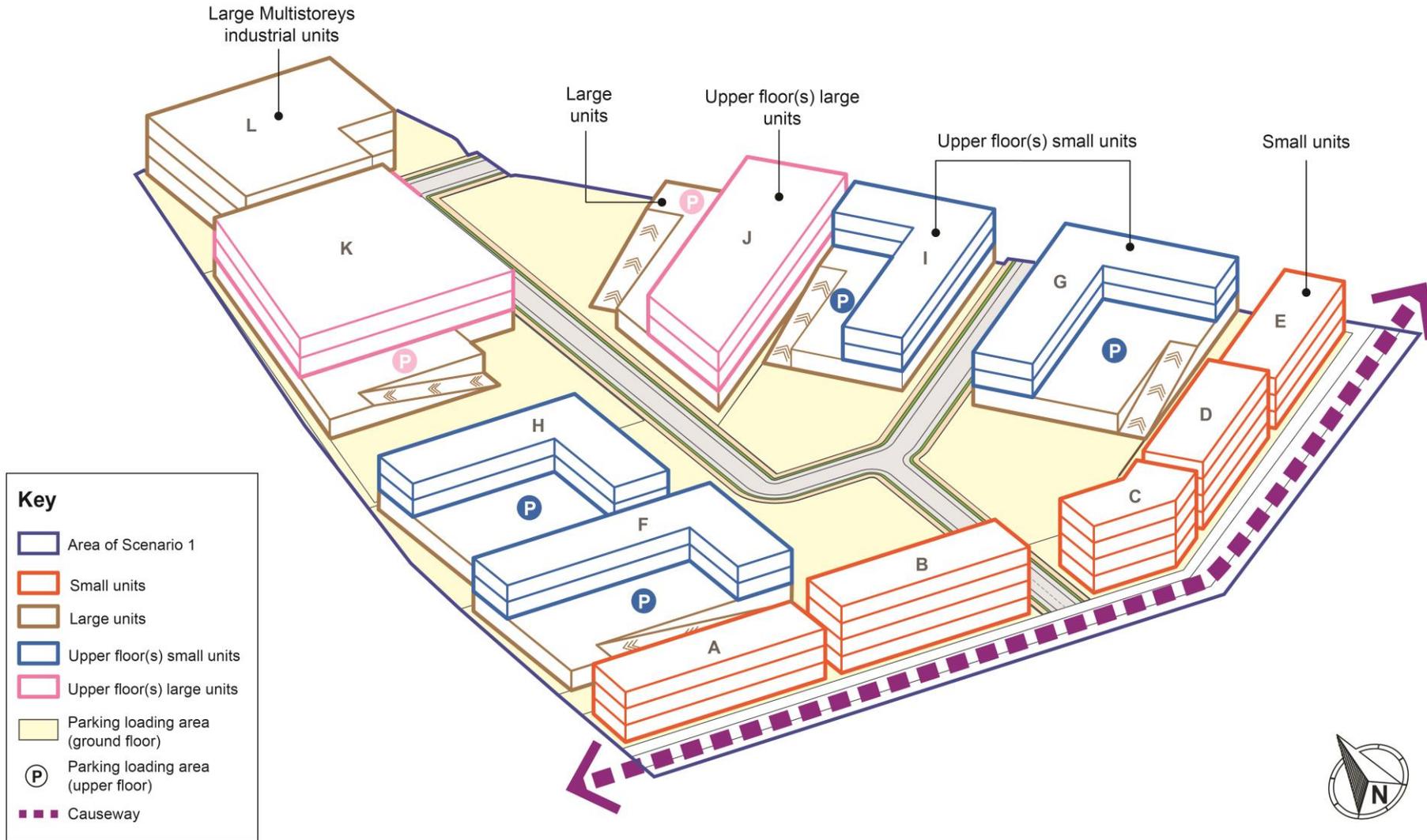


Figure 5-2 Scenario 1, Harbet Road SIL Release of 50%: 3D showing Building Massing



**Table 5-1 Scenario 1, Harbet Road SIL Release of 50%: Intensification Potential**

Block Identifier	Site Area (sqm)	Footprint (sqm)				Storey				Total Storeys	Floorspace (sqm)		Total Floorspace (sqm)	Foot print to site area	Plot ratio
		Small		Large		Small		Large			Small	Large			
		Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)						
A	3,200	1,500	0	0	0	7	0	0	0	7	10,300	0	10,300	0.46	3.19
B	2,800	1,400	0	0	0	7	0	0	0	7	9,700	0	9,700	0.49	3.44
C	1,600	800	0	0	0	7	0	0	0	7	5,900	0	5,900	0.53	3.72
D	2,600	1,200	0	0	0	7	0	0	0	7	8,400	0	8,400	0.47	3.27
E	2,700	1,300	0	0	0	7	0	0	0	7	9,000	0	9,000	0.47	3.29
F	9,400	0	3,200	5,100	0	0	2	1	0	3	6,300	5,100	11,400	0.54	1.21
G	8,800	0	2,900	5,400	0	0	2	1	0	3	5,900	5,400	11,300	0.62	1.29
H	7,300	0	2,400	4,800	0	0	2	1	0	3	4,700	4,800	9,500	0.65	1.30
I	6,700	0	2,200	4,000	0	0	2	1	0	3	4,500	4,000	8,400	0.59	1.25
J	13,100	0	0	7,100	5,500	0	0	1	2	3	0	18,000	18,000	0.54	1.38
K	9,400	0	0	5,600	3,400	0	0	1	2	3	0	12,400	12,400	0.59	1.32
L	6,300	0	0	3,500	0	0	0	3	0	3	0	10,600	10,600	0.56	1.69
<b>Total</b>	<b>73,900</b>	<b>6,200</b>	<b>0</b>	<b>35,400</b>	<b>8,900</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>64,800</b>	<b>60,300</b>	<b>125,000</b>	<b>0.56</b>	<b>1.69</b>

Note: See paragraph 5.1.4 for an explanation of column naming.

**Table 5-2 Scenario 1, Harbet Road SIL Release of 50%: Higher Site Utilisation (x 1.2)**

Block Identifier	Site Area (sqm)	Footprint (sqm)				Storeys				Total Storeys	Floorspace (sqm)		Total Floorspace (sqm)	Foot print to site area	Plot ratio
		Small		Large		Small		Large			Small	Large			
		Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)						
A	3,200	1,800	0	0	0	3	0	0	0	3	5,300	0	5,300	0.55	1.64
B	2,800	1,700	0	0	0	4	0	0	0	4	6,700	0	6,700	0.59	2.36
C	1,600	1,000	0	0	0	4	0	0	0	4	4,100	0	4,100	0.64	2.55
D	2,600	1,400	0	0	0	4	0	0	0	4	5,800	0	5,800	0.56	2.24
E	2,700	1,500	0	0	0	3	0	0	0	3	4,600	0	4,600	0.56	1.69
F	9,400	0	3,800	6,100	0	0	2	1	0	3	7,600	6,100	13,700	0.65	1.45
G	8,800	0	3,500	6,500	0	0	2	1	0	3	7,100	6,500	13,500	0.74	1.55
H	7,300	0	2,800	5,700	0	0	2	1	0	3	5,700	5,700	11,400	0.78	1.56
I	6,700	0	2,700	4,800	0	0	2	1	0	3	5,400	4,800	10,100	0.71	1.51
J	13,100	0	0	8,500	6,600	0	0	1	2	3	0	21,600	21,600	0.65	1.66
K	9,400	0	0	6,700	4,100	0	0	1	2	3	0	14,900	14,900	0.71	1.58
L	6,300	0	0	4,300	0	0	0	3	0	3	0	12,800	12,800	0.67	2.02
<b>Total</b>	<b>73,900</b>	<b>7,400</b>	<b>12,900</b>	<b>42,500</b>	<b>10,700</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>52,100</b>	<b>72,300</b>	<b>124,500</b>	<b>0.68</b>	<b>1.68</b>

Note: See paragraph 5.1.4 for an explanation of column naming.

## 5.4 Scenario 2: Harbet Road SIL Release of 75%

Figure 5-3 Scenario 2, Harbet Road SIL Release of 75%: Site / Building Layout

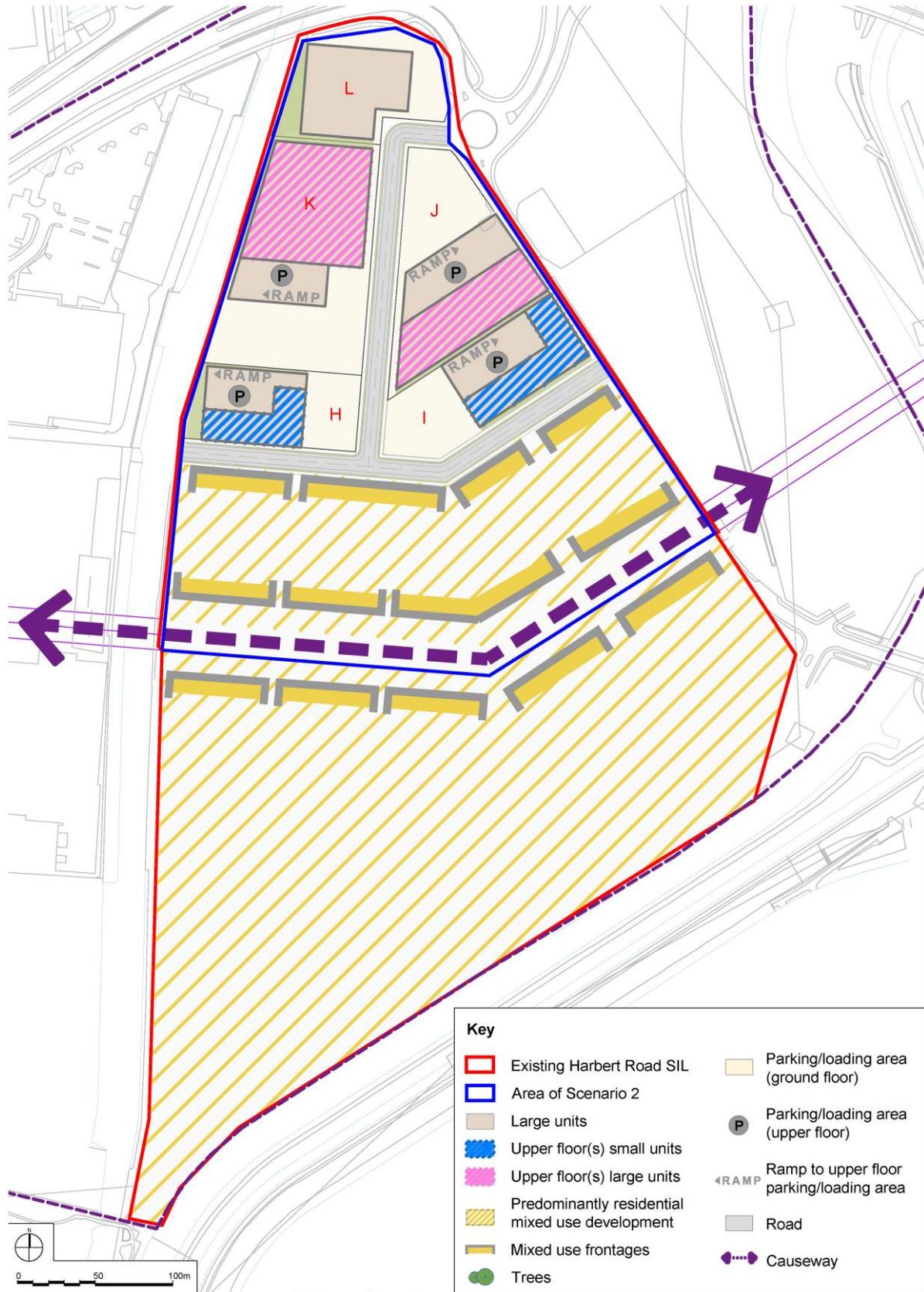
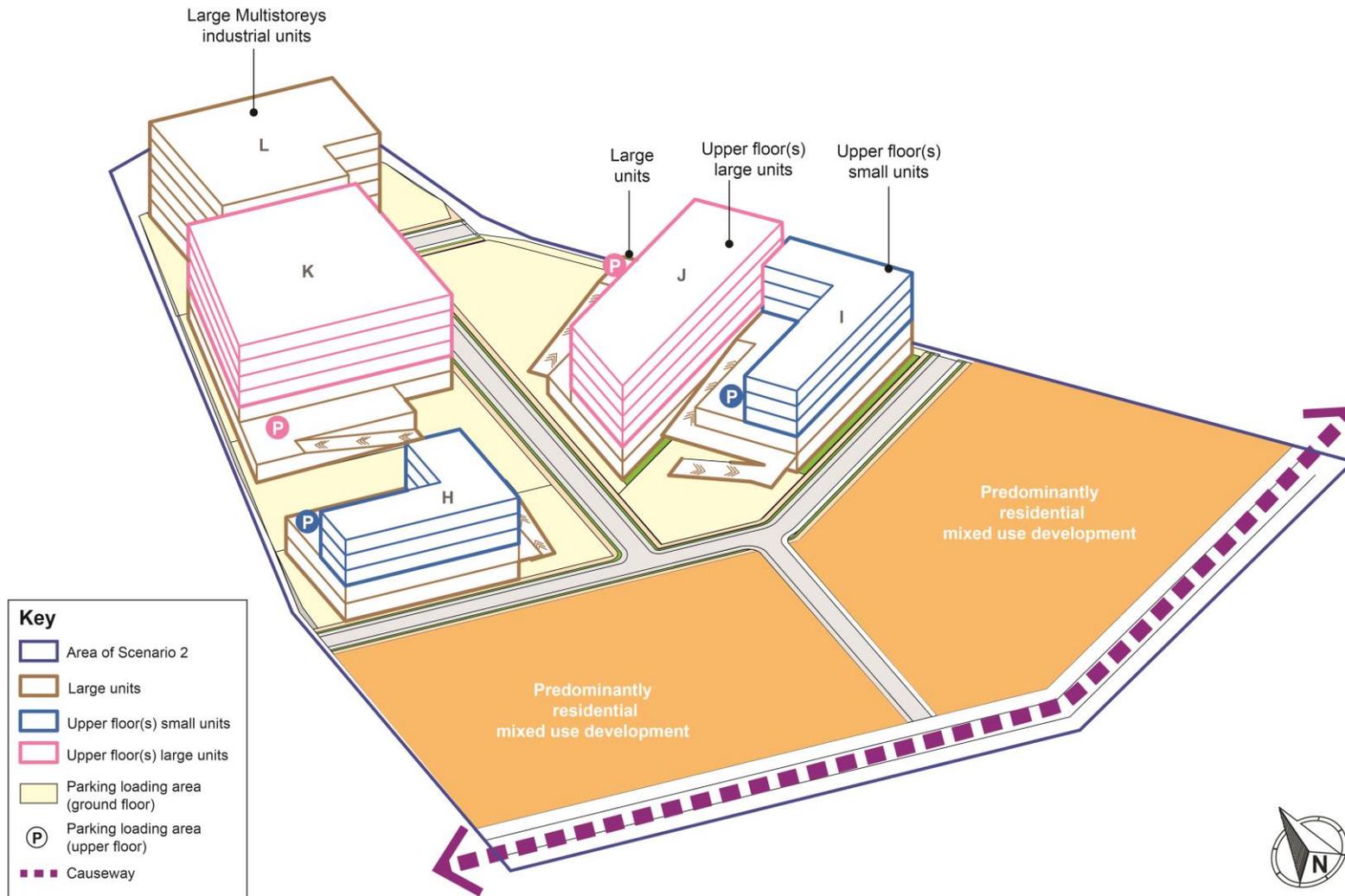


Figure 5-4 Scenario 2, Harbet Road SIL Release of 75%: 3D showing Building Massing



**Table 5-3 Scenario 2, Harbet Road SIL Release of 75%: Intensification Potential**

Block Identifier	Site Area (sqm)	Footprint (sqm)				Storeys				Total Storeys	Floorspace (sqm)		Total Floorspace (sqm)	Foot print to site area	Plot ratio
		Small		Large		Small		Large			Small	Large			
		Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)						
I	5,400	1,800	0	3,100	0	10	0	2	0	12	18,500	6,200	24,600	0.92	4.57
J	6,700	2,200	0	4,000	0	9	0	2	0	11	20,100	7,900	28,000	0.92	4.17
K	13,100	0	0	7,100	5,500	0	0	1	4	5	0	29,000	29,000	0.54	2.22
L	9,400	0	0	5,600	3,400	0	0	1	4	5	0	19,200	19,200	0.59	2.04
M	6,300	0	0	3,500	0	0	0	7	0	7	0	24,800	24,800	0.56	3.93
<b>Total</b>	<b>40,900</b>	<b>4,100</b>	<b>0</b>	<b>23,300</b>	<b>8,900</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>38,500</b>	<b>87,100</b>	<b>125,600</b>	<b>0.67</b>	<b>3.07</b>

Note: See paragraph 5.1.4 for an explanation of column naming.

**Table 5-4 Scenario 2, Harbet Road SIL Release of 75%: Higher Site Utilisation (x 1.2)**

Block Identifier	Site Area (sqm)	Footprint (sqm)				Storeys				Total Storeys	Floorspace (sqm)		Total Floorspace (sqm)	Foot print to site area	Plot ratio
		Small		Large		Small		Large			Small	Large			
		Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)						
H	5,400	0	2,200	3,700	0	0	3	2	0	5	6,600	7,400	14,100	0.69	2.61
I	6,700	0	2,700	4,800	0	0	3	2	0	5	8,000	9,500	17,500	0.71	2.61
J	13,100	0	0	8,500	6,600	0	0	1	5	6	0	41,300	41,300	0.65	3.17
K	9,400	0	0	6,700	4,100	0	0	1	5	6	0	27,200	27,200	0.71	2.88
L	6,300	0	0	4,300	0	0	0	6	0	6	0	25,500	25,500	0.67	4.05
<b>Total</b>	<b>40,900</b>	<b>0</b>	<b>4,900</b>	<b>27,900</b>	<b>10,700</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>14,700</b>	<b>111,000</b>	<b>125,600</b>	<b>0.68</b>	<b>3.07</b>

Note: See paragraph 5.1.4 for an explanation of column naming.

## 5.5 Scenario 3: Harbet Road SIL Release of 100% to Montague Road SIL/LSIS

Figure 5-5 Scenario 3, Harbet Road SIL Release of 100%: Site / Building Layout

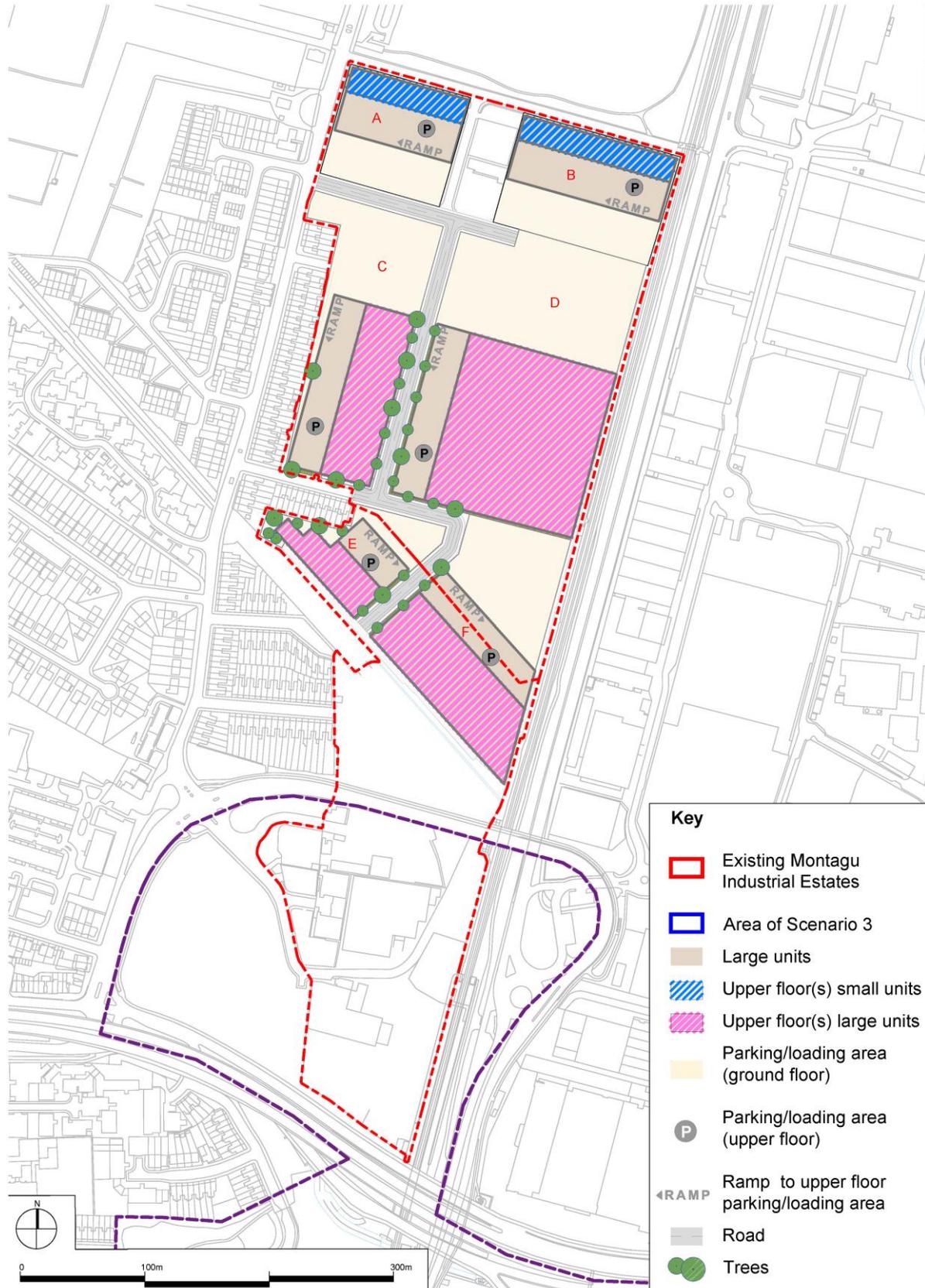
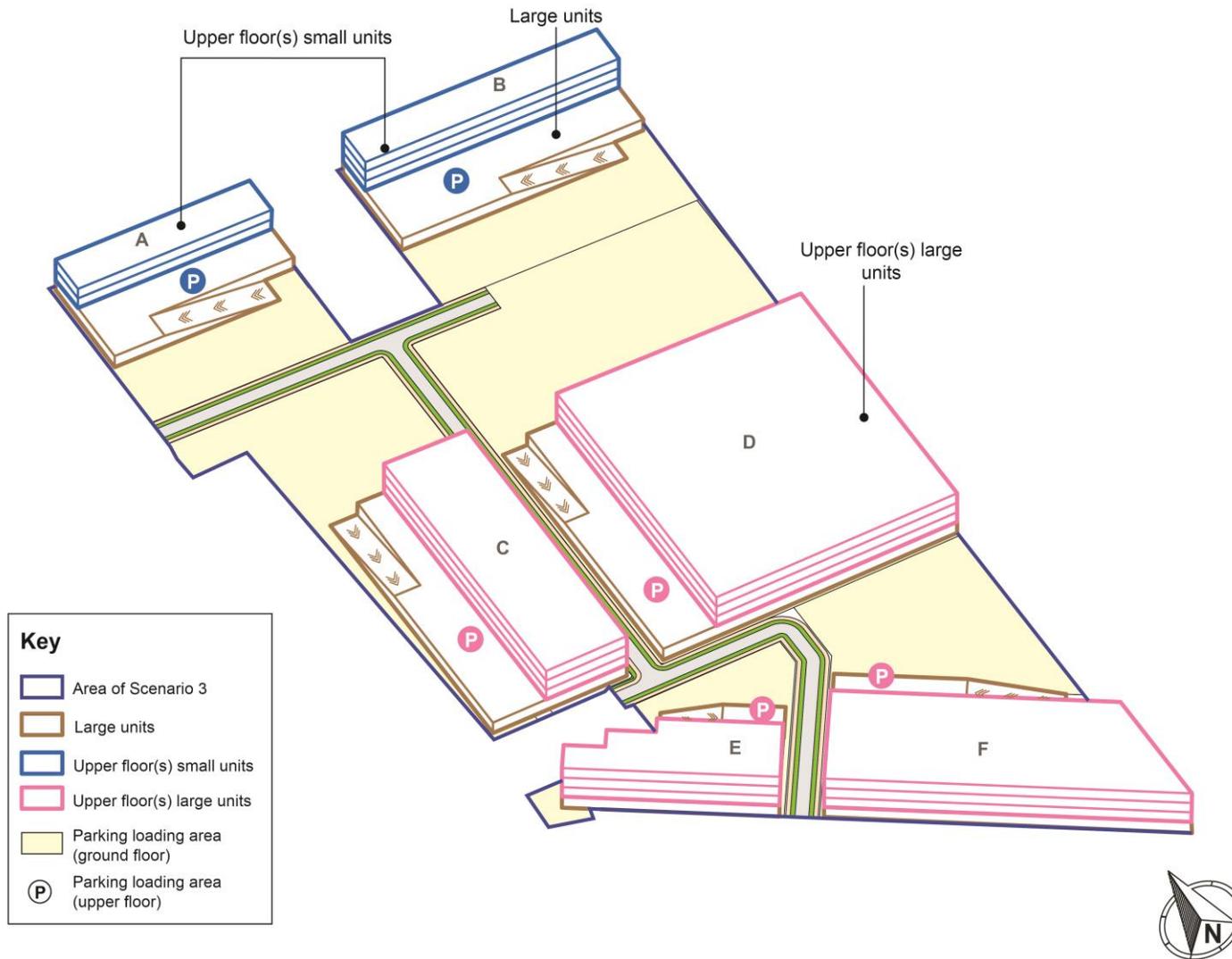


Figure 5-6 Scenario 3, Harbet Road SIL Release of 100% to Montagu Road SIL/LSIS: 3D showing Building Massing



**Table 5-5 Scenario 3, Harbet Road SIL Release of 100% to Montagu Road SIL/LSIS: Intensification Potential**

Block Identifier	Site Area (sqm)	Footprint (sqm)				Storeys				Total Storeys	Floorspace (sqm)		Total Floorspace (sqm)	Foot print to site area	Plot ratio
		Small		Large		Small		Large			Small	Large			
		Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)						
A	9,200	0	1,900	5,200	0	0	6	1	0	7	11,700	5,200	16,800	0.56	1.83
B	12,000	0	2,500	6,700	0	0	6	1	0	7	15,200	6,700	22,000	0.56	1.83
C	17,500	0	0	9,700	5,800	0	0	1	3	4	0	27,200	27,200	0.55	1.55
D	34,600	0	0	20,800	17,000	0	0	1	4	5	0	88,800	88,800	0.60	2.57
E	6,900	0	0	4,000	2,500	0	0	1	3	4	0	11,600	11,600	0.59	1.70
F	17,900	0	0	10,800	7,600	0	0	1	3	4	0	33,700	33,700	0.60	1.88
<b>Total</b>	<b>98,100</b>	<b>0</b>	<b>4,500</b>	<b>57,200</b>	<b>33,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>26,900</b>	<b>173,200</b>	<b>200,100</b>	<b>0.58</b>	<b>2.04</b>

Note: See paragraph 5.1.4 for an explanation of column naming.

**Table 5-6 Scenario 3, Harbet Road SIL Release of 100% to Montagu Road SIL/LSIS: Higher Site Utilisation (x 1.2)**

Block Identifier	Site Area (sqm)	Footprint (sqm)				Storeys				Total Storeys	Floorspace (sqm)		Total Floorspace (sqm)	Foot print to site area	Plot ratio
		Small		Large		Small		Large			Small	Large			
		Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)	Ground Floor	Upper Floor(s)						
A	9,200	0	2,300	6,200	0	0	2	1	0	3	4,700	6,200	10,900	0.68	1.18
B	12,000	0	3,000	8,100	0	0	3	1	0	4	9,100	8,100	17,200	0.67	1.44
C	17,500	0	0	11,600	7,000	0	0	1	3	4	0	32,600	32,600	0.66	1.86
D	34,600	0	0	25,000	20,400	0	0	1	3	4	0	86,200	86,200	0.72	2.49
E	6,900	0	0	4,800	3,000	0	0	1	3	4	0	13,900	13,900	0.70	2.03
F	17,900	0	0	13,000	9,100	0	0	1	3	4	0	40,400	40,400	0.72	2.25
<b>Total</b>	<b>98,100</b>	<b>0</b>	<b>5,400</b>	<b>68,700</b>	<b>39,600</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>13,800</b>	<b>187,400</b>	<b>201,200</b>	<b>0.70</b>	<b>2.05</b>

Note: See paragraph 5.1.4 for an explanation of column naming.

## 6. Conclusion

### 6.1 Introduction

6.1.1 This report has assessed three scenarios for industrial land release from Harbet Road SIL and has considered how industrial capacity could be maintained through intensification on site at Harbet Road SIL or off site at Montagu Road SIL/LSIS. This final section summarises the key findings and discusses briefly the role of viability and the factors which determine whether intensification, to the scale as that required to maintain capacity, is possible or not.

### 6.2 Summary of Findings

6.2.1 Preceding sections of this report have presented a primarily quantitative and conceptual assessment of how industrial capacity could be maintained were the quantity of land at Harbet Road SIL to be reduced.

6.2.2 If the total land designated for industrial activity were to be reduced then, to maintain capacity, industrial capacity on site or off site would need to support higher levels of utilisation.

6.2.3 Following our analysis two key questions arise, which we will look at in turn:

- 1) 'Is one scenario better than the others, in terms of accommodating the capacity transfer from Harbet Road SIL?'; and
- 2) 'Is the level of intensification calculated possible under existing conditions or within the medium term?'

#### **Is one scenario better than the others, in terms of accommodating the capacity transfer from Harbet Road SIL?**

6.2.4 Our analysis shows that, under all three scenarios, the level of intensification required to maintain industrial capacity would be significant. Scenario 1, which sees the lowest proportion of SIL reduction (50%), requires the lowest level of intensification with c.124,500sqm of floorspace provided over a collection of sites measuring 73,900sqm – a plot ratio average of 1.7. This intensity of development is comparable to Scenario 3 (100% reduction in Harbet Road SIL, with the need to re-provide c.198,000sqm over 98,100sqm – a plot ratio of 2.0), but significantly lower than that required for Scenario 2 (40,900sqm of sites supporting c.124,500sqm – a plot ratio of over 3.0).

6.2.5 Table 6-1 compares Scenarios 1, 2 and 3 by three key measures: site utilisation, storey height of buildings and plot ratio. The low, high and median values of these measures are given. These three measures are presented for each scenario by the standard site utilisation rates, as per designs principles ('a'); and the higher site utilisation rates, based on a ratio uplifted by a factor of 1.2 ('b'). A comparison of scenarios' plot ratios is also given in Figure 6-1.

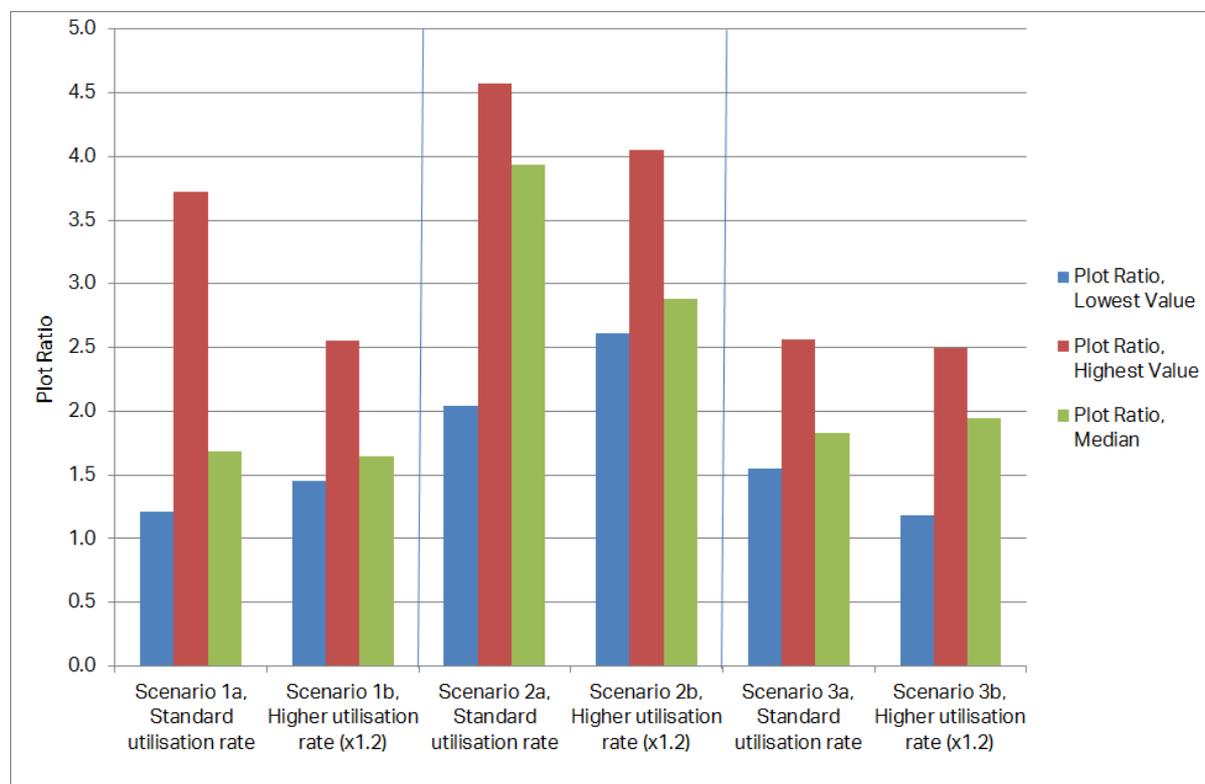
**Table 6-1 Summary Comparison of Intensification Indicators**

	Design Principle Applied	Footprint to Site Ratio (Range)			Storey Height (Range)			Plot Ratio (Range)		
		Low	High	Median	Low	High	Median	Low	High	Median
Scenario 1a	Standard utilisation rate	0.46	0.65	0.54	3	7	3	1.2	3.7	1.7
Scenario 1b	Higher utilisation rate (x1.2)	0.55	0.78	0.65	3	4	3	1.5	2.6	1.7
Scenario 2a	Standard utilisation rate	0.54	0.59	0.57	5	12	7	2.0	4.6	3.9
Scenario 2b	Higher utilisation rate (x1.2)	0.65	0.71	0.69	5	6	6	2.6	4.0	2.9
Scenario 3a	Standard utilisation rate	0.55	0.60	0.57	4	7	5	1.5	2.6	1.8
Scenario 3b	Higher utilisation rate (x1.2)	0.66	0.72	0.69	3	4	4	1.2	2.5	1.9

Note:

- Site utilisation: Proportion of site covered by building footprint
- Plot ratio: Site utilisation multiplied by storey height
- The plot ratio range expresses the lowest and highest ratios measured across all sites. Note that the Median is not the average but the 'middle value' of the range.

**Figure 6-1 Scenarios 1, 2 and 3 Plot Ratio Range (Low and High Value, and Median)**



### 6.2.6 The key findings illustrated in the table are:

- Scenario 1a and 1b have the lowest plot ratios, which range between 1.2 and 3.7 for Scenario 1a and 1.5 to 2.6 for 1b. Scenario 3a and 3b are comparable to Scenario 1a and 1b, but require higher levels of intensification due to additional re-provision requirements arising from the displacement of existing capacity on site at Montagu Road SIL/LSIS. Furthermore, Scenario 3 (a and b) assumes that a large proportion of the existing SIL/LSIS area is redeveloped to maximise layout and massing efficiency. Scenario 2a and 2b show the need for the greatest level of intensification (with median plot ratio values 3.9 and 2.9, respectively). Figure 6-1 clarifies this by comparing the plot ratios by scenario.
- For all three scenarios the application of a higher site utilisation rate ('b'), as recorded in the 'Footprint to Site Ratio', translates as a reduced number of storeys and lower plot ratio, as can be expected. However, what is noticeable is the significant difference in storey heights and plot ratios when the higher site utilisation rates ('b') are applied, compared to the standard site utilisation rates ('a'). Scenario 2 for instance which has the highest intensification requirement – on site provision of 124,500sqm in an area reduced to 25% of its current land – sees its highest buildings drop from 12 storeys to 6 storeys and the plot ratio fall from 3.9 to 2.9. Under Scenario 1 a higher site utilisation ratio of between 0.55-0.78 would enable capacity requirements to be met via 3 and 4 storey buildings. For Scenario 3b, this range is 0.66-0.72. As a sense check, site utilisation ratios of existing industrial sites in London are typically around 0.4 - 0.6. These ratios are perhaps now more reflective of a past environment when there was less market / economic imperative to develop higher densities. The higher ratios applied here are considered to be achievable and would adequately meet a typical industrial business's operational needs (access, loading, open storage, parking etc.).

Subject to technical and developer / commercial market interest an objective could be, irrespective of the scenario pursued, to seek to maximise horizontal intensification; that is build out at high site utilisation rates. Higher site utilisation rates could be achieved through ensuring internal circulatory space is well laid out; installing traffic signalling; potentially building multi-storey car parking provision for multiple businesses across the wider cluster; working with key tenant businesses and designers to maximise assets / reduce land use conflicts.

- Whilst the comparison of site utilisation rates ('a' and 'b') shows that working to higher levels is important, the key difference between scenarios is building height as there is, conceptually, greater potential to vary this. As a calculation, assuming a similar capacity requirement and holding site utilisation broadly similar across scenarios, storey height is determined by the area available for development – smaller areas mean higher buildings and vice-versa. On this basis a combination of Scenario 1 and 3, or Scenario 2 and 3, which would allow re-provision of capacity at Harbet Road SIL within a reduced designated area plus intensification at Montagu Road SIL/LSIS, would be more favourable than a single scenario as this increases the potential to work with larger developable area. A caveat to this is that compared with Scenarios 1 and 2, which sees re-provision taking place on sites, the re-provision on Montagu

Road SIL/LSIS could have the added complexity of businesses needing to be decanted from their accommodation to make way for clearance and wholesale redevelopment, as this would be required to maximise the areas re-provision potential and give flexibility to layout and massing.

Subject to constraints (policy, financial and property market and developer, etc.) an aspiration may be to try and use other designated sites in the proximity of Harbet Road to partly support the re-provision of industrial capacity, whilst intensifying industrial provision at Harbet Road SIL.

- 6.2.7 A point to note is that trends towards higher levels of utilisation are expected and will occur if the property market is operating correctly and efficiently. Current GLA projections show industrial employment in London declining at a much slower rate than previously recorded which, coupled with industrial land being released at faster than the London Industrial Land Benchmark guidance (2012), suggests that over time increasingly levels of site utilisation are expected. As the availability of land contracts, land values will increase and new development will seek to extract comparatively more capacity from less land.

### 6.3 Development Viability

**Is the level of intensification calculated possible under existing conditions or within the medium term?**

- 6.3.1 This second question posed relates to development viability – whether a large scale multi-storey industrial scheme could be financially and commercially deliverable and whether developers, operators and end users would have confidence in such a model.
- 6.3.2 Implicit within those examples of developments which have been delivered or are in the planning pipeline, drawn upon to guide the design principles, is technical and commercial viability. Examples from Asian cities in particular illustrate how high rise multi-storey industrial units are technically and operationally feasible. However, a key question is whether multi-storey industrial buildings are commercially viable in the context of LB Enfield.
- 6.3.3 Presently there are few examples of multi-storey industrial buildings in London. This does not mean that multi-storey developments are not viable. Viability is a factor of property market supply and demand dynamics, developer and occupier attitudes to risk and return, and is influenced by market attitudes and confidence. Anecdotal evidence from industrial property market agents suggest that once multi-storey industrial builds start coming forward they will become an accepted product.
- 6.3.4 It is worth considering what factors influence development viability and how these are changing over time and their long term direction. Factors driving the change in viability, and which are all applicable to the context of LB Enfield and Harbet Road, include:
- A strengthening demand for logistics space

The demand for urban logistics space is being driven by a range of societal, economic and business factors: population increase; e-commerce growth; supply chain fragmentation; reductions in stock holding and an emphasis on Just In Time delivery and the throughput or flow of goods; the growth of the service sector which requires distribution companies to support their needs, such as food and drink, waste collection, printing services. Final mile distribution has become increasingly important to customer responsiveness and cost efficiency.

Parcel volume is growing strongly placing pressures on distribution companies to locate in highly accessible location close to their markets. London's e-commerce market requirement is expected to increase 42% by 2017 - 2021<sup>12</sup>.

There is strong demand from commercial and residential for businesses that can serve inner London. Demand for sites located along strategic roads which offer good connectivity and access to inner London markets is therefore strengthening.

- A tightening of industrial land supply

Whilst demand has strengthened, supply has weakened. The loss of industrial land over the last decade or more to residential /residential led mixed-use development primarily has been substantial and well in excess of the intended rate of release expressed in the GLA's suggested benchmarks (Land for Industry and Transport; GLA, 2012). This contraction is well documented in the GLA's London Industrial Land Supply and Economy Study (2015). A large proportion of London's industrial capacity is not protected through land use planning designations so even if new proposed policy acts to halt the loss of industrial capacity from SIL/LSIS total stock is likely to fall given the strong demand from alternative competing land uses.

As an expression of the rapid contraction in supply there has been a decrease in London's industrial availability since 2010, so that in a number of locations the industrial property market is operating close to or below its optimum frictional vacancy levels. Availability has dropped by 60% since 2010 and vacancy rate from 9% in 2010 to 3.5% in 2017.<sup>13</sup>

Recently Hounslow Council granted developer Formal Investments planning permission for a 2m sqft (185,000sqm) underground warehouse, which in part reflects the lack of sites availability for large scale industrial development.<sup>14</sup>

- Limited grade-A quality stock

As supply tightens the level of Grade A stock has also fallen in 2017, down 50% from 2016. High levels of demand coupled with a limited supply of grade A space put upwards pressure on prime rents.<sup>15</sup>

There are clear signs that developers and financiers are willing to invest in high quality industrial, and occupiers are willing to pay higher rental values for quality provision. SEGRO Park Enfield is one of the newest developments of

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<sup>12</sup> 'UK logistics & Industrial Regional outlook Winter 2018' (Cushman&Wakefield, 2018)

<sup>13</sup> 'London Industrial Supply Snapshot 2017' (Colliers, 2017)

<sup>14</sup> <https://www.egi.co.uk/news/hounslow-approves-2m-sq-ft-underground-warehouse/>

<sup>15</sup> The 'Big Shed Briefing Logistics Report' on London and South East (Savills, 2017)

industrial and warehouse space in London and achieved a BREEAM rating of Excellence and carbon neutral status.

- Rising rental prices and improving viability

The implication of tightening demand – supply conditions, particularly in locations which are highly accessible and well connected, is that rental values will rise and returns to developers investors will increase. This will raise development viability and land values which will necessitate an increase in site utilisation. Developer Grazeley has announced plans to build a 426,000 sqft (40,000sqm) three-storey warehouse in Peruvian Wharf. The development is speculative supported by the estimated end value of the scheme, which is driven by the rising price of warehousing rents, particularly for locations within or with good access to Central London which have increased in recent years due to demand for last mile distribution centres from online retailers.<sup>16</sup>

6.3.5 Aside from this backdrop of demand - supply dynamics there are other mechanisms by which viability levels could be improved, for example through cross-subsidising industrial development with residential. This is potentially an opportunity on Meridian Water given the scale of the residential proposals.

6.3.6 A key recommendation from this report is that the longer term viability context relating to industrial buildings in Meridian Water area be considered in more detail. This research could, for example, assess the market's appetite for multi-storey industrial units in LB Enfield and more specifically at Harbet Road SIL / Montagu Road SIL/LSIS with consideration of:

- Trends in key property market indicators.
- Residual land value calculations with a view to establishing the threshold values for speculative development, and compare these with existing rental values / end values of a scheme. This analysis would need to take into account costs associated site preparation including demolition and remediation. Over a larger site with old infrastructure in need of renewal (such as that on Harbet Road SIL and Montagu Road SIL) the cost of replacing infrastructure should also be considered.
- Investor and developer interest in supporting such formats and typologies presented in this report.
- End-users view on location for multi-storey industrial provision, and their view on layout, design and operational requirements that end-users have relating to multi-storey units and any place limiting issues.
- Potentially, soft market testing (property market demand – supply analysis supported by expert property market insight involving consultation and identification of interest).

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<sup>16</sup> <https://www.egi.co.uk/news/gazeley-buys-peruvian-wharf-for-three-storey-inner-city-warehouse/>. This development would be the first three-storey facility in the UK.

# Appendix A – Existing Businesses at Harbet Road SIL and Montagu Road SIL/LSIS

## Introduction

Changes to the boundary and area of industrial land provision at Harbet Road SIL under Scenario 1 and 2 and, under Scenario 3, the use of Montagu Road SIL/LSIS to accommodate relocated businesses will affect existing businesses.

It is important then to understand the types of businesses currently at Harbet Road and Montagu Industrial Estates and their operational requirements to support relocation and retention of these businesses.

Harbet Road SIL and Montagu Road SIL/LSIS are considered in terms of:

- existing business activities and their floorspace
- existing site types and building characteristics; and
- operational needs of existing businesses.

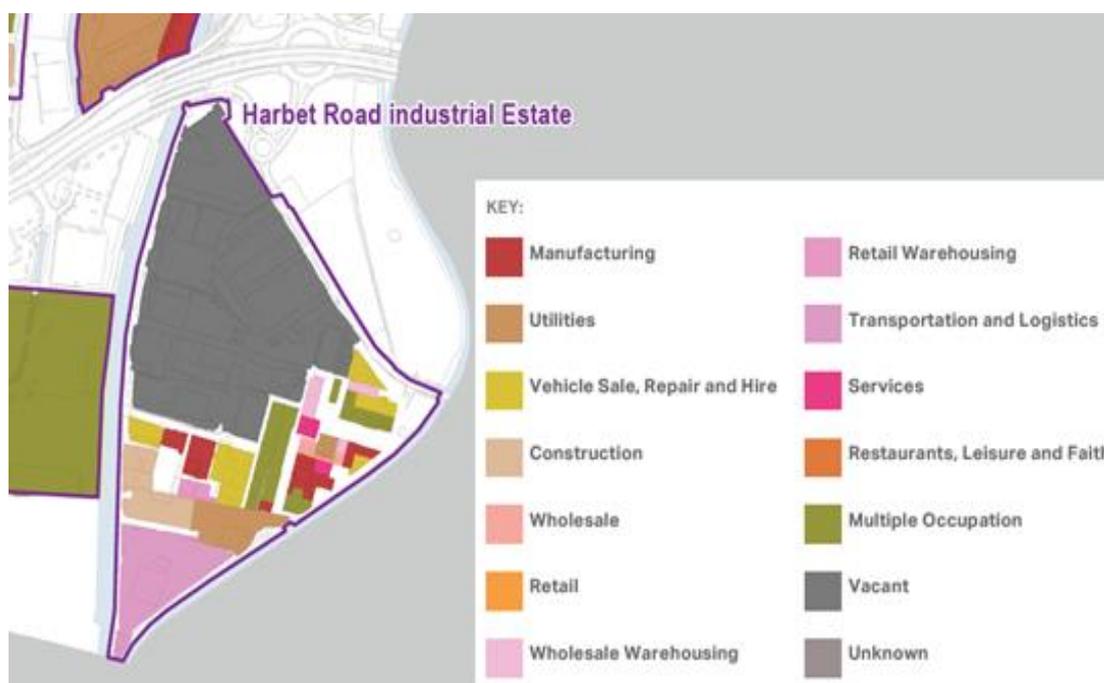
The analysis draws upon on Industrial Land in Enfield: Study of Type, Form and Activity (AECOM, 2017).

## Businesses at Harbet Road SIL

### Activities and Floorspace

Figure A-2 maps existing business activities at Harbet Road SIL. More than half of the land on area is vacant with some derelict building awaiting clearance. Across the southern half of the SIL lie industrial site and premises still in use. There are a range of business activities present: businesses include wholesale warehousing; manufacturing; vehicle, sale and repair services; construction, open storage and a bus depot. Not all businesses located on the SIL require an industrial site: the multiple occupations category records businesses involved in providing space for parties and weddings.

**Figure A-2 Business Activities on Harbet Road SIL**



Source: *Industrial Land in Enfield: Study of Type, Form and Activity* (AECOM, 2017)

The total amount of existing floorspace at Harbet Road SIL is estimated at 39,700 square metres (sqm). Floorspace by business activity is presented below.

**Table A-2 Floorspace of Business Activities in Harbet Road SIL**

<b>Business Activity</b>	<b>Floorspace of existing business (sqm)</b>
Vehicle Sale, repair and Hire	11,900
Manufacturing	7,100
Construction	4,800
Wholesale	4,100
Transportation and Logistics	2,300
Retail Warehousing	800
Utilities	100
Multiple Occupation	8,600
<b>Total</b>	<b>39,700</b>

Source: *Industrial Land in Enfield: Study of Type, Form and Activity* (AECOM, 2017)

There are some open storage sites dealing in waste collection (mapped as utilities) and to the southern corner lies a bus depot measuring 1.4 hectares (ha).

### Site Types and Building Characteristics

Figure A-3 shows the different site types in Harbet Road. Large warehouses occupied by multiple businesses with shared yard space dominate the area, and

are classified as 'industrial estates'. There are only two standalone warehouses each occupied by a single business. These warehouse are supported by large external yard space and parking provision. There are two dense estates comprising small older industrial premises, which typically have little external space for loading or parking. Bespoke industrial are sites that typically have yard space, especially for waste management. Open industrial land which makes up most of the southern corner of Harbet Road SIL.

**Figure A-3 Site Types at Harbet Road SIL**

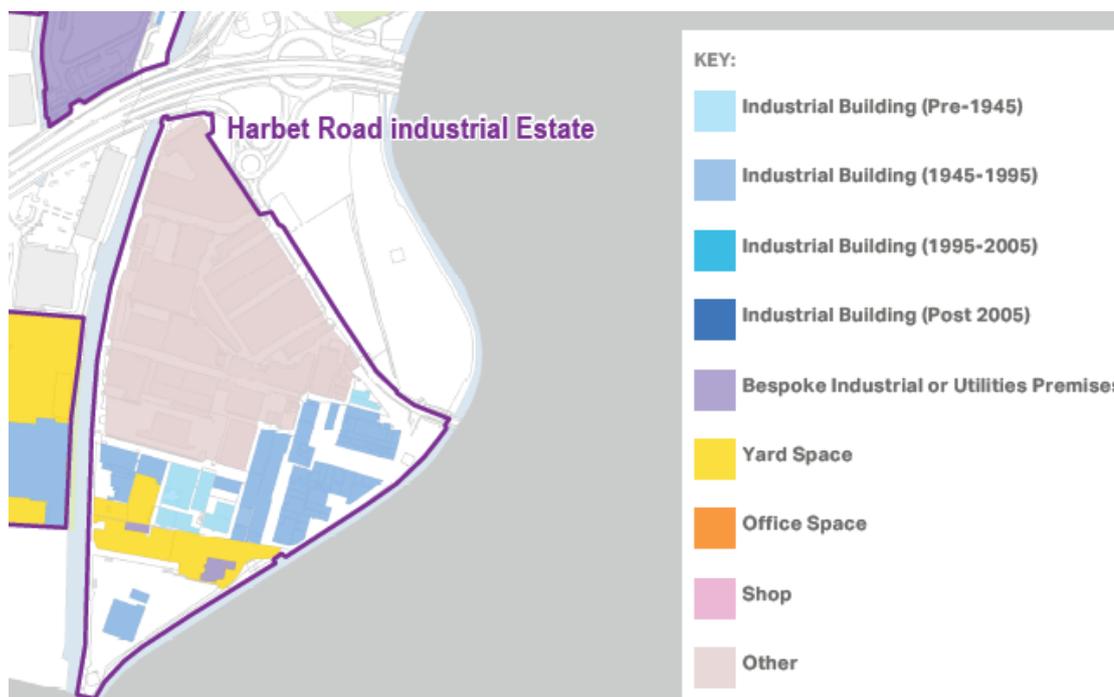


Source: *Industrial Land in Enfield: Study of Type, Form and Activity* (AECOM, 2017)

The majority of businesses operate from premises of one or two floors, though one building in the SIL is four storeys high. The largest building has a building footprint of 0.72 hectares (ha); however the average business has a footprint of 0.24 hectares.

Figure A-4 presents a map on building types. Most of the buildings are industrial and fall into the 1945-1995 age category, or are older, and there are no newer buildings. The open storage / yard space towards the south of the SIL is also clear to see.

**Figure A-4 Building Types on Harbet Road SIL**



Source: *Industrial Land in Enfield: Study of Type, Form and Activity* (AECOM, 2017)

### Servicing Needs of Businesses

The table below sets out some of the additional spatial needs of businesses active at Harbet Road SIL. Space which enables ease of access, and dedicated areas for parking, loading and storage of materials supports the efficient operation of a site.

**Table A-3 Servicing Needs for Business Activities**

Business Activity	Servicing Needs
Retail and Wholesale Warehousing, Transportation	Parking, loading bays, access space, space planned to enable movement of larger vehicles, e.g. turning circles
Construction	Yard space / open air storage for materials and plant
Vehicle, Sale, Repair and Hire, Services, Multiple Occupations	Parking, access space
Utilities	Parking, loading bays, access space, open air storage

Source: *Industrial Intensification Primer* (GLA, 2017)

For the southern area of Harbet Road SIL which comprises the industrial premise and open space storage, and which is actively used, the ratio between land and existing floorspace is 1:0.41.

## Montagu Road SIL/LSIS

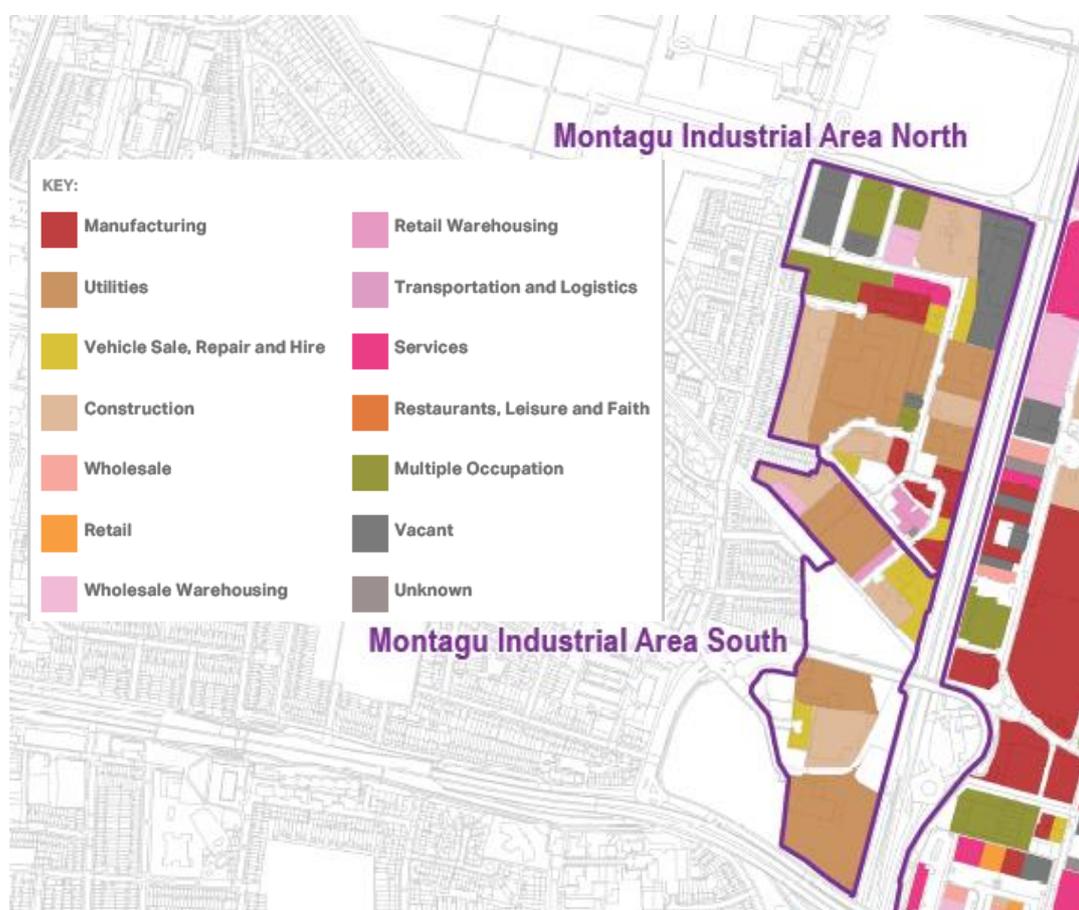
This section looks at the business activities present on site at Montagu Industrial Estate SIL and LSIS, the site types and building characteristics and operational needs of existing businesses.

The Employment land Review (2017) assesses the quality and performance of the SIL/LSIS. Similarly to Harbet Road, Montagu Road SIL/LSIS ranks poor in overall quality of environment and poor on overall condition of its buildings.

### Business Activities and Floorspace

Business activities at Montagu Road SIL/LSIS are mapped in Figure A-5.

**Figure A-5 Business Activities in Montagu Road SIL/LSIS**



Source: *Industrial Land in Enfield: Study of Type, Form and Activity* (AECOM, 2017)

By employment, the manufacturing sector supports the most jobs on site (c.130 employees), followed by wholesale warehousing (c.110 employees) and vehicle sale, repair and hire (c50 employees). The 11 businesses in the wholesale warehousing sector represent 22% of all businesses in the cluster.

Table A-4 presents the estimated floorspace of premises in the SIL/LSIS, which is measured at 28,800sqm.

**Table A-4 Floorspace of Business Activities in Montagu Road SIL/LSIS**

<b>Business Activity</b>	<b>Floorspace of existing business (sqm)</b>
Utilities	10,500
Construction	4,900
Multiple Occupation	4,900
Manufacturing	3,900
Vehicle, sale, repair and hire	2,400
Retail Warehousing	1,300
Services	900
<b>Total</b>	<b>28,800</b>

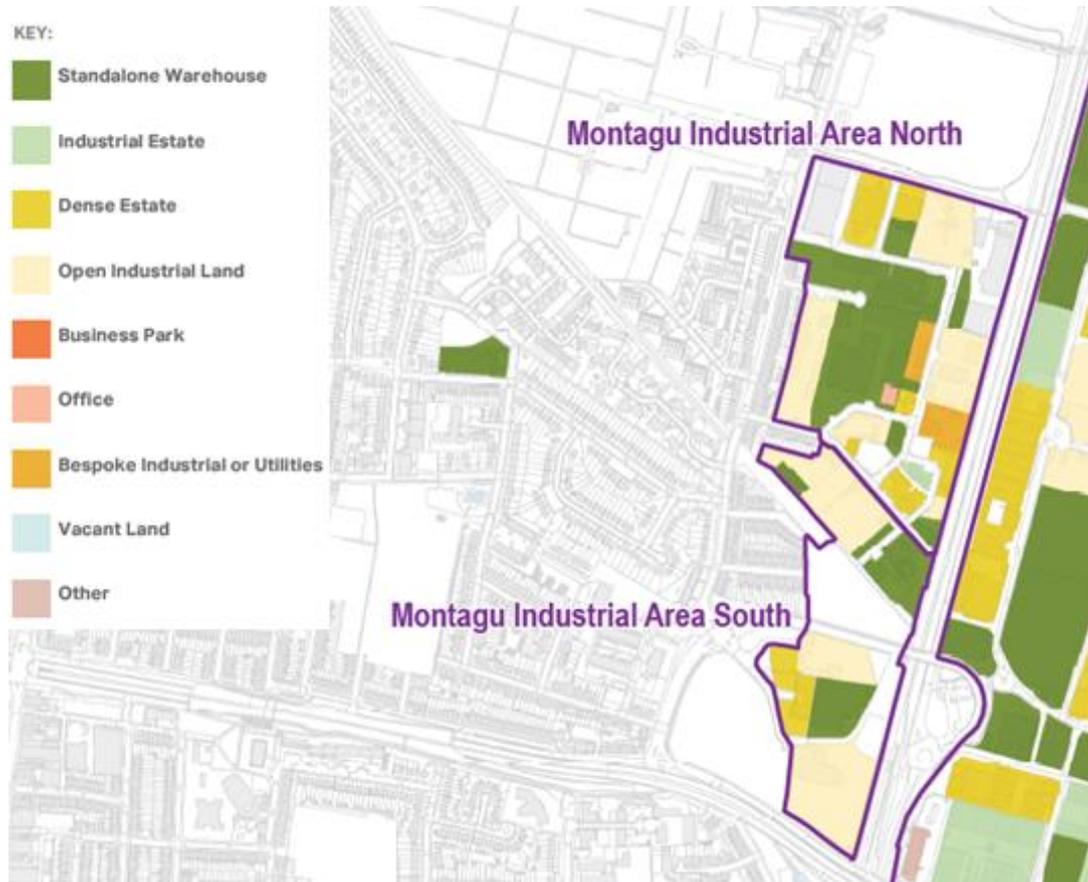
*Source: Industrial Land in Enfield: Study of Type, Form and Activity (AECOM, 2017)*

### **Site Types and Building Characteristics**

The majority of site types on Montagu Road SIL/LSIS are open industrial land with only a few small buildings occupying the space and standalone warehouses typically occupied by one single business as seen in Figure A-6.

There are also some areas of vacant land and derelict buildings shown in grey in the north area of Montagu Road SIL/LSIS.

**Figure A-6 Site Types at Montagu Road SIL/LSIS**

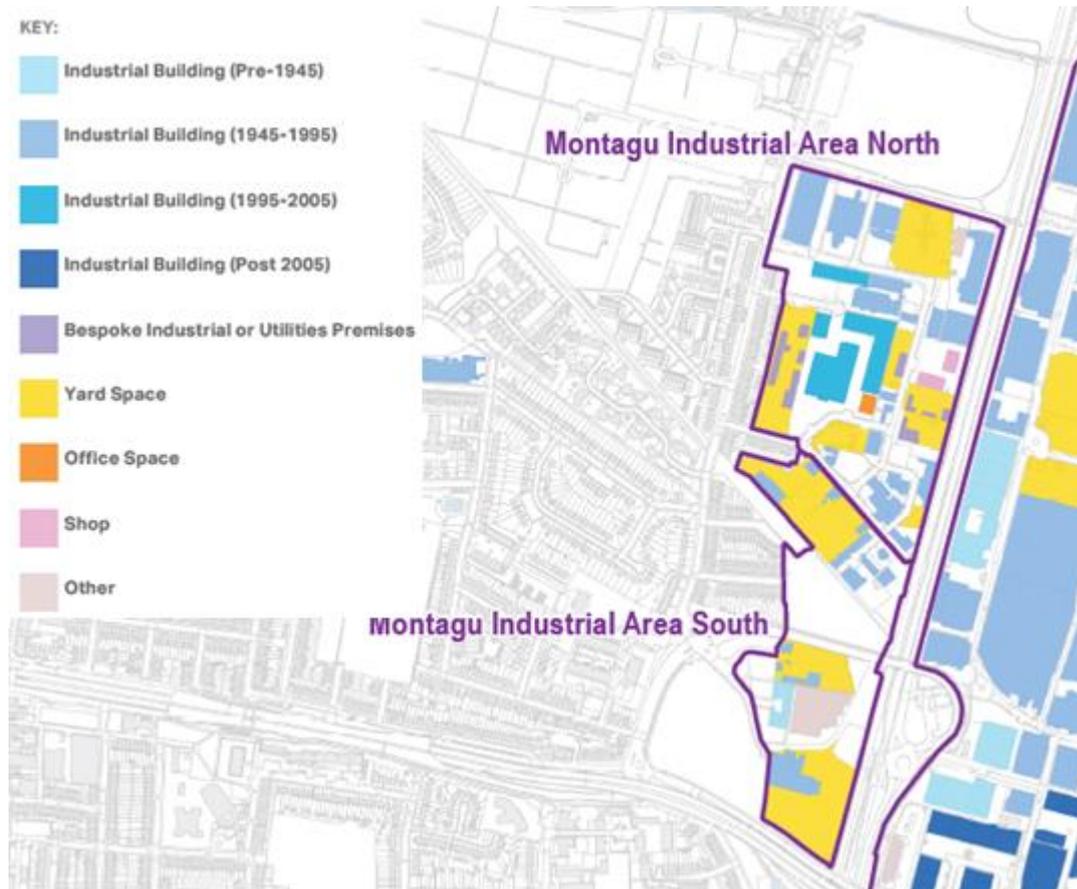


Source: *Industrial Land in Enfield: Study of Type, Form and Activity* (AECOM, 2017)

As already discussed, the quality of buildings is generally poor. Figure A-7 shows that most buildings date to 1945-1999. There are four buildings in the middle of the SIL which are newer and better quality – these are the standalone warehouses. However the rest of the surrounding industrial buildings are of a poorer quality.

The industrial estates also support a large proportion of yard space.

**Figure A-7 Building Characteristics, Montagu Road SIL/LSIS**



Source: *Industrial Land in Enfield: Study of Type, Form and Activity* (AECOM, 2017)

### **Spatial Operational Needs of Businesses**

Similar types of business activities occupy Montagu Road SIL/LSIS as Harbet Road SIL. The same spatial operational needs identified in Table A-3 apply here.

The amount of land used for servicing is measured at 5.31 ha or 53,100 sqm. This means that the ratio between floorspace and wider site area is low, which suggests opportunities for intensification.

## Appendix B - Industrial Building Typologies

### Industrial Building Typologies

The employment space typologies applied draw on the 'Industrial Intensification Primer' (GLA, 2017), which specify the following spatial requirements for each typology.

#### Ground floor typologies:

Smaller industrial units (GLA, 2017; pp.6-8):

- <500sqm of unit floorspace
- Ceilings of 4.5 to 8 metres
- 4m loading bay and 16 metres access to deep yard space for van or small truck deliveries
- Typical uses are food and drink manufacturing, small scale storage and wholesale and servicing and repair business

Larger industrial units (GLA,2017; pp.8-9)

- >500sqm of unit floorspace
- Ceiling of 6 to 8 metres
- Yard space allows 12 clear metres for Heavy Good Vehicles (HGV) turning, 15m for local bay (allows for min of 27m turning space for HGV turning, even when ramps are accounted for) and a clear min. height of 5.03m for approach routes
- Typical uses are distribution and logistics, larger manufacturing and wholesale warehousing

#### Upper floor typologies:

Smaller industrial units stacked on small units (GLA,2017; p.14)

- <500sqm of unit floorspace
- Shared yard space can give smaller businesses the flexibility of occasional HGV access
- Shared HGV loading bay may be sufficient for a number of smaller businesses
- Goods lifts enable smaller businesses to operate on upper floors
- Access to first floor more suitable for Light Good Vehicles (LGVs) rather than Heavy Good Vehicles.

Smaller industrial units above larger units (GLA, 2017; p.15)

- <500sqm of unit floorspace
- Smaller industrial units can be stacked on top of larger warehouses
- Smaller businesses share loading bays

- Goods lifts enable smaller businesses to operate on upper floors
- Ramped access provides direct vehicular access to upper level units. Straight two way ramps provide for efficient operation. It may be possible to take advantage of site level changes to accommodate ramps.
- The loading bay area on the ground floor unit roof could be used as yard space for the smaller units
- Shared HGV access is provided at ground level
- Access to first floor more suitable for Light Good Vehicles (LGVs) rather than Heavy Good Vehicles.

## Examples of Industrial Buildings

In addition to the guidance provided by the Industrial Intensification Primer (GLA, 2017), examples of industrial buildings recently completed / with planning permission were identified to given insight into how industrial floorspace capacity was intensified on site. Examples include the following<sup>17</sup>:

- *Amazon Warehouse, Tilbury, England: multi-storey industrial units*<sup>18</sup>  
Four storeys providing 185,900 sqm floorspace on a site of 188,695 sqm. The building footprint is 51, 280 sqm and the site of building, loading and parking is 136, 351 sqm. The building footprint to site ratio is 0.37 and the floorspace to plot ratio is 0.98.
- *Wildspace Warehouse, Rainham, England: large multi-storey industrial units*<sup>19</sup>  
A single storey unit with a foot print and floorspace of 3,622 sqm on a site of 7,857 sqm. The building footprint to site ratio is 0.46 and the floorspace to site plot ratio 0.46.
- *Gewerberhof Laim, Munich, Germany: multi-storey small industrial units*<sup>20</sup>  
Three storeys providing 11,000 sqm of floorspace. In addition, the site supports 1,500 sqm of loading and marshalling space; and 100 car parking spaces (surface and underground). The site measures 9,900 sqm and the building footprint 3,700 sqm providing a building footprint to site ratio of 0.37, and a plot ratio of 1.1.
- *Prologis George Town, Seattle, USA: large multi-storey industrial units*<sup>21</sup>  
Three storeys providing 54,800 sqm floorspace on a site of 57, 687 sqm. The building footprint is 23,656 sqm providing a building footprint to site ratio of 0.4, and a floorspace to plot ratio of 0.9.

<sup>17</sup> Floorspace measurements have been estimated by AECOM based on site images / plans unless otherwise stated in reports listed.

<sup>18</sup> Thurrock Council's website (Thurrock, 2017)

<sup>19</sup> 'LLCD Employment Space Study' (AECOM, 2015)

<sup>20</sup> Industrial Intensification Primer (GLA, 2017)

<sup>21</sup> <https://www.prologis.com/industrial-logistics-warehouse-space/united-states/seattle/prologis-georgetown-crossroads> (Prologis, accessed March 2018)

