3. Intensification and Colocation

Introduction and Industrial Intensification

This final section presents the UK context for industrial intensification and colocation schemes, in the form of market summary, precedents, analysis and plot studies for various typologies, as background to the design guidance in the previous section, and as information to help inform assessment of future plot designs.

According to data from the Valuation Office Agency over the last 20 years (2000-01 to 2020-21) total industrial floorspace in London declined by approximately 24%, and in the inner London boroughs it was more significant than this and declined by 44%.

In the Industrial Land Commission Report: Making Space: Accommodating London's Industrial Future from the Centre For London, there is a reference to London's industrial vacancy rates which dropped from 16% in 2001 to 4% in 2021. The declining vacancy rates indicate the strong demand for floorspace in the capital, and that not enough new industrial floorspace has been brought forward in recent years.

This loss of industrial land in London has increased demand for space across the city in all size brackets, and led to the need to consider implementing the protection of industrial land in London and the encouragement of Industrial Intensification. As the strategic planning authority, the Greater London Authority (GLA) has to set out robust, evidence based, land use planning policies and supplementary planning policy guidance to accommodate the growing demand for housing, whilst protecting the supply of industrial land required by companies to provide logistics and other services.

Industrial Intensification is still a relatively new concept, but the principals are gradually being adopted by developers, as the market continues to face a severe supply and demand imbalance. At this time we are aware of over 70 industrial intensification or co-location schemes being proposed across London at various stages of the planning process, some of which are illustrated over the following pages.

In recent months the changes in the economy and the price inflation impacting construction costs is putting a delay on many projects and we are not expecting to see all of these schemes coming forward at the same time, but we believe that the underlying factors of policy, land pressure and demand for industrial space will not go away, and that we will see more and more multi-level industrial schemes coming forwards over time.

Multi Level Industrial Typologies - London Examples

The projects on this page illustrate the range of projects illustrate the range of multi-level industrial projects coming forwards across London, including flatted factories and micro-multilevel warehouses serviced by good lifts, and large scale ramped vehicular multilevel light industrial and logistics buildings. Of those shown 3 are completed, 1 on site and 4 at planning stage.

Barking Industria, Barking

Developer: Be First

Completed: 2023

X2 Hatton Cross, Heathrow

Developer: Brixton

Completed: 2008

G Park London Docklands,

Developer: GLP

Paused: Planning staged

The Ideas Factory, Albert Island

Developer: London & Regional

planning: approval 2021

Bugsby's Way, Greenwich

Developer: GLA / JV

Design: stage 2

SEGRO V-Park, Wembley

Developer: St George & SEGRO

On site: Completion 2024

Bloom Hackney, Hackney Wick

Developer: Bloom Developments

On site: completion 2023/4

BLOOM BRIXTON, BRIXTON

DEVELOPER: BLOOM DEVELOPMENTS

Charlton the Workstack Unit 9

Developer: Greenwich Enterprise Board

Complete: 2023

SEGRO V-Park, Barking

Developer: SEGRO

Design: Planning stage

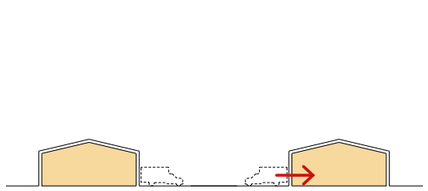
Intensification Typologies - Small and Medium Plots

There are 5 or 6 distinctly different typologies of multilevel industrial space, each with different servicing strategies, spatial parameters and target tenants.

The fairly small plot sizes and fragmented ownership within the South Acton LSIS mean that large scale stacked logistics 'big box' schemes are very unlikely, and even the smaller ramped typologies would require several plots to be combined. We consider smaller multlevel warehousing or flatted factory blocks with goods lifts to be more likely. Similarly, any resi colocation schemes brought forward are likely to be stacked vertically with podium rather than a 'side-by-side' typology.

Tradiational Industrial

Segro V Park, Tottenham

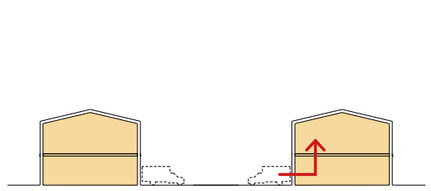


Single storey on ground

- Shared yard
- Simple storage terraced units
- Potential for mezzanine - (25% max)

Micro Multi-Level

Bloom, Brixton

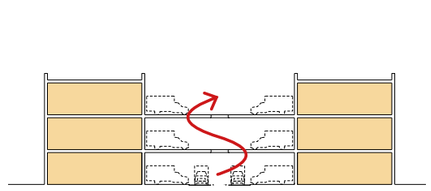


2 storey small warehousing

- Terraces of two storey, smaller warehouse units, each with goods lift
- Separate demised yards with shared access
- Servicing mainly by vans and trucks, occasional HGV

RAMPED MULTI-LEVEL

Industria, Barking

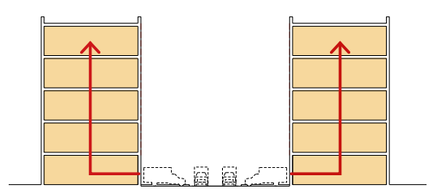


Vehicle ramps to upper level yards

- Multi-storey units accessed off a central shared ramp
- Units capable of having individual yards
- Suitable for light industrial, smaller logistics, maker & incubator space

Flatted Factory

Meistermeile, Hamburg

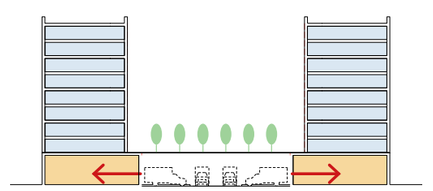


Shared yard on ground, goods lifts to upper floors

- Multi-storey units each with goods lift servcing
- Stacked units capable of hosting multiple tenants
- Suitable for light industrial, maker space, incubator
- Shared yard on ground floor

Stacked Co-Location

Hallsville Quarter, Canning Town



Shared yard on ground, with resi above

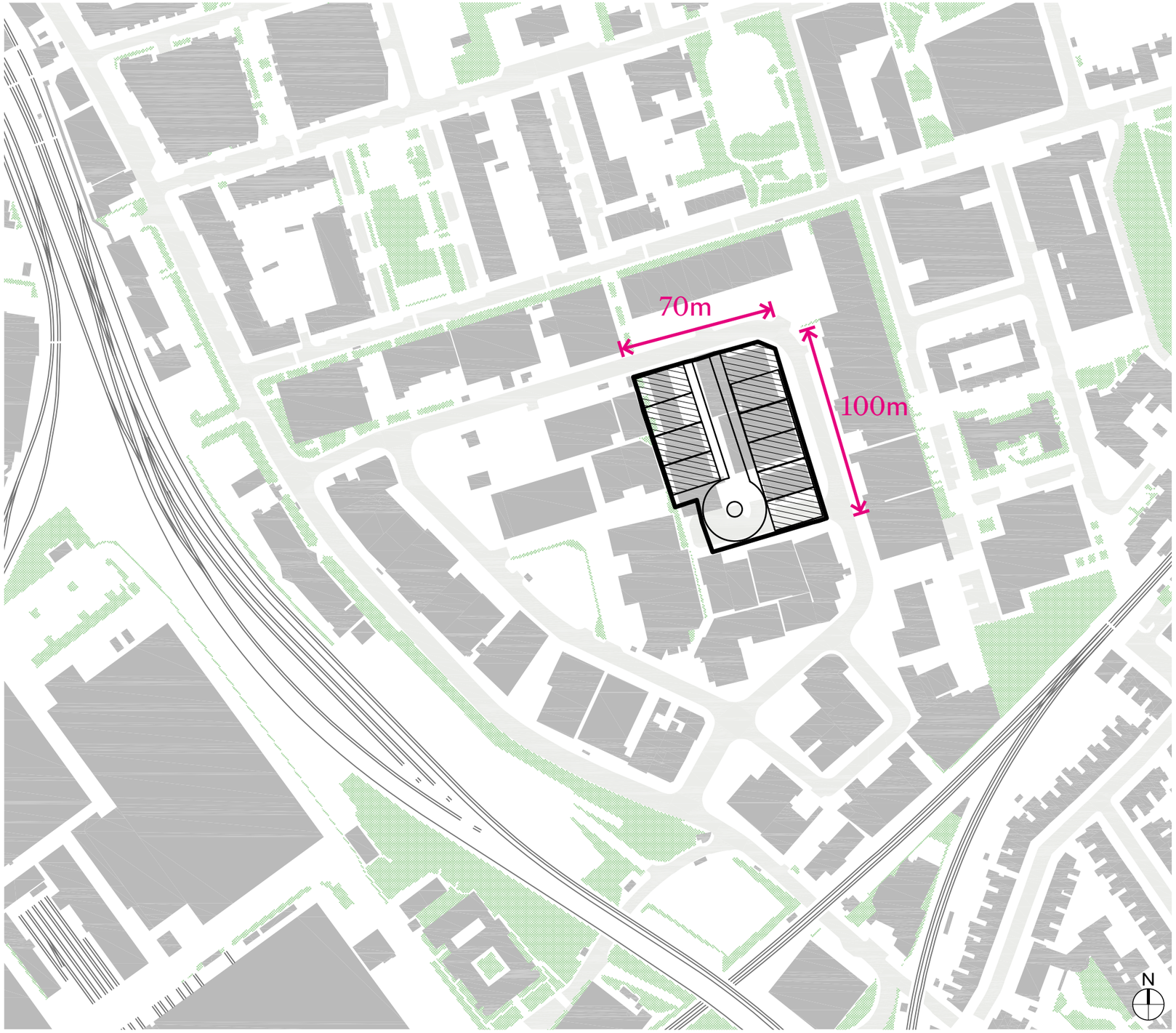
- Typically lighter Class E Industrial workspace, on ground and first floors, with residential stacked above
- Industrial space serviced via loading bays / ground floor yards, either open or covered
- Yards may act as shared surface, combining industrial servicing alongside resi parking / amenity space
- Residential amenity provided fully or partially on landscaped podium, which can cover vehicle yards.
- On South Acton sites, smaller plot size means some resi amenity likely to be off-sited

Intensification Scale Test 01 - Ramped Multi-Level

The following 3 pages illustrate scale tests of known multi-level typologies, to illustrate the potential to fit such developments onto plots within the LSIS site without disrupting the overall road structure.

'Industria' type

- Ramped multi-level light industrial building
- 75m x 100m footprint
- 3 x 8m storeys, subdivisible into mezzanines, approx 25-30m height overall
- 3 levels of vehicle decks with demised loading bays, served helical van-ramp
- Provides approx 12000m2 GEA at plot ratio 150%



Intensification Scale Test 02 - Linear ‘Flatted Factory’

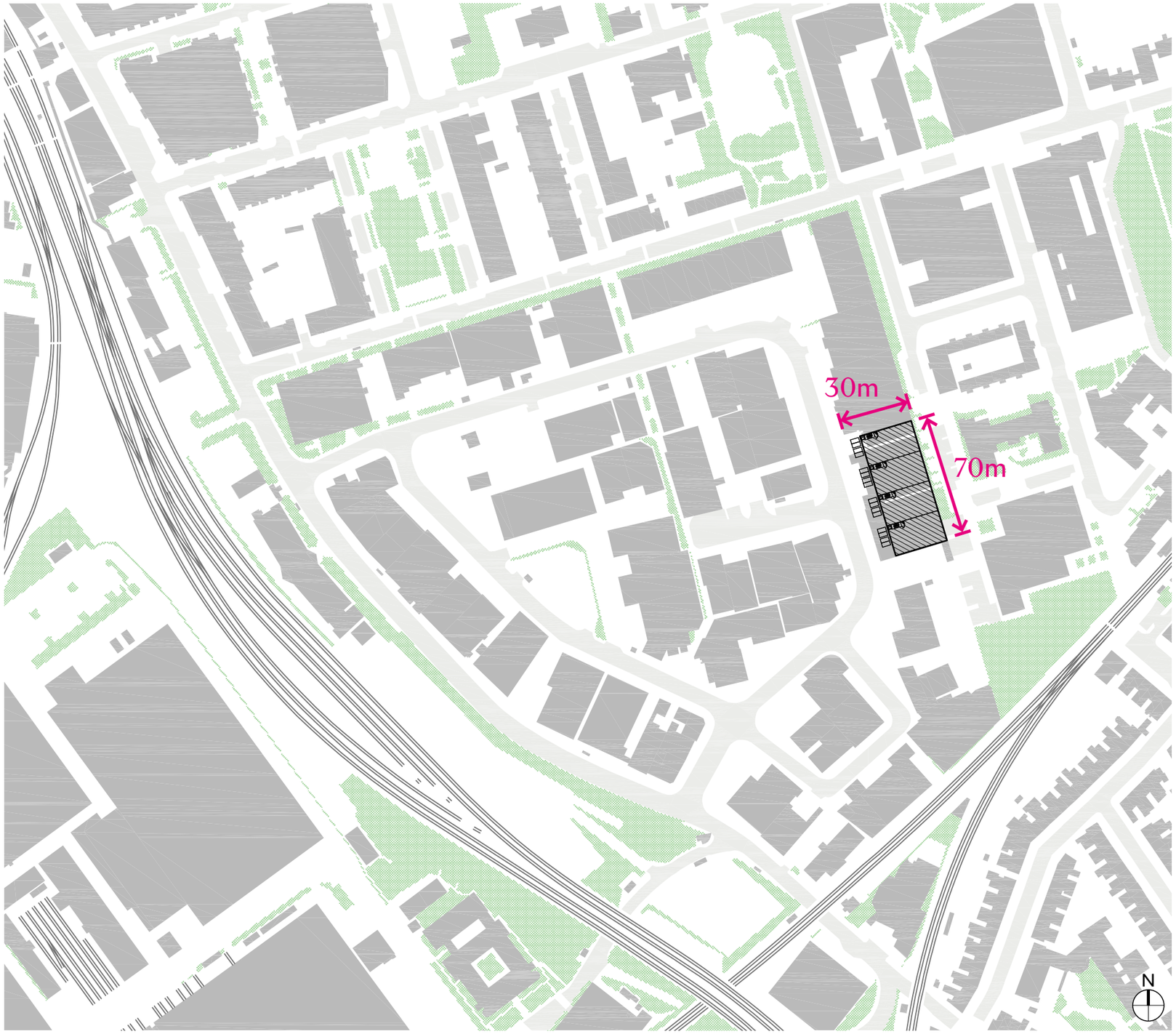
Linear ‘flatted factory’ type

- Mixed light industrial B2/B8 + Class E uses
- Footprint 30m x 100m
- 1x8m +4x4m storeys = 25m tall approx
- = approx 15000m2 GEA at plot ratio 300%
- Larger van serviced units at ground, smaller units served by goods lift above

Intensification Typology 3 - ‘Micro Multilevel’

‘Micro multilevel’ type

- Terraces of 2-storey small warehouses,
- Each approx 800-900m2 across 2 levels
- 5-6m storeys, overall height 10-12m
- Van/truck parking to face of units in demised yard
- Provides approx 4200m2 GEA at plot ratio 100-120%



Market Summary

Market Commentary

Economic

1.1. On the 3rd August the Bank of England increased the Base Rate to 5.25%, an increase of 0.25%, in response to increased inflation.

1.2. The latest figures published by the ONS show that The Consumer Prices Index including owner occupiers' housing costs (CPIH) rose by 6.4% in the 12 months to July 2023, down from 7.3% in June. RPI All Items percentage change over the last 12 months to July 2023 was at 9.00%.

1.3. Falling gas and electricity prices provided the largest downward contributions to the monthly change in CPIH and CPI annual rates; food prices rose in July 2023 but by less than in July 2022, also leading to an easing in the annual inflation rates. Of note, the construction sector fell by 0.6% in April 2023, following growth of 0.2% in March 2023.

Residential – Market Overview

1.4. Average UK house prices increased by 1.7% in the 12 months to June 2023 (provisional estimate), down from a revised 1.8% in May 2023. The average UK house price was £288,000 in June 2023, which is £5,000 higher than 12 months ago, but £5,000 below the recent peak in November 2022.

1.5. The RICS July 2023 RICS UK Residential Survey results are symptomatic of a market losing further ground in the face of higher mortgage rates. Indeed, indicators tracking activity continue to exhibit firmly negative readings, while widespread falls in house prices are being reported.

1.6. Nationwide's August 2023 press release reported that in the past month, house prices have fallen by 0.8% month on month and compared with last year. House prices are now 5.3% below the August 2022 peak. The softening is attributed to increased borrowing costs in recent months. An examination of the transactions reveals that cash purchases, though down from the 2021 highs, have been resilient, while purchases involving a mortgage have slowed much more sharply.

Residential - Development Market

1.7. The residential sales market continues to experience challenges with prices continuing to fall (albeit marginally) as a result of increased borrowing costs. Higher development finance costs coupled with rising build costs are also putting pressure on the viability of redevelopment schemes. This is especially prevalent for more complex small-scale development where cost efficiencies are lower.

1.8. In December 2022, the National Fire Chiefs Council (NFCC) published their Single Staircase Position Statement stating that all new high-rise residential buildings taller than 18 meters (or seven stories) must include more than one staircase. In the same month, the Department of Levelling Up, Housing & Communities ('DLUHC') published a consultation on proposed changes to Building Regulations Approved Document B (Fire Safety). This introduced a threshold whereby residential buildings above 30 metres in height (10 storeys) should be designed and built with 2 staircases. In February 2023, the Mayor of London mandated a second staircase in all new buildings above 30m with immediate effect.

1.9. The uncertainty of this potential dual standard led most developers to adopt the conservative approach of the NFCC and proceed to revise schemes not yet under construction (or in some cases, where construction had already started) to include provisions for second stairs to ensure final products would comply with anticipated building regulations and insurance changes that would occur during the construction period. This proved to be fortuitous as indeed on 24 July 2023, the Government relented and agreed to adopt the NFCC's position, lowering the requirement for second stairs to all high-rise residential buildings taller than 18 metres or 7 stories.

1.10. This design change puts upward pressure on both general scheme build costs and reduces the efficiency of floor plates with the loss of saleable floor space having to make way for unproductive non-net area in additional staircases and fire lobbies. The significant increase in the base rate has affected not only the overall cost of borrowing for schemes approaching investment committees with funding close to being committed, but has also decreased the attractiveness of real estate lending to institutions as less risky investments are currently offering better returns. The base rate change has also impacted mortgage availability and affordability, reducing the confidence in private for sale products and leading to downward price pressure. Whilst Build to Rent (BTR) is considered to be the natural pivot for private for sale schemes looking to move away from a less certain 'for sale' product, the attractiveness of BTR schemes is highly location dependent, with many of the principal actors in this space also suffering from the same base rate changes, yield expansion and decrease in attractiveness of returns as the high street bank lenders for development finance.

1.11. The cumulative impact of these downward pressures: construction cost increases, net to gross ineffectiveness, uncertain end values, increasing finance costs, challenges with securing finance and planning delays has led to a slowdown in development activity, a weakening of land prices and fluctuations in return requirements

1.12. In addition, the affordable housing market is experiencing further headwinds. In the last half- decade, there has been a notable increase in mergers of the largest housing associations as the sector considers its consolidation. Peabody and Catalyst completed their merger in April 2023 and broke into the 100,000+ homes category, creating a landlord with an equivalent number of tenants as the city of Norwich. Riverside and One Housing Group joined in January 2022 to form a 75,000-home association. Sovereign Housing Association and Network Homes are currently in merger talks which expect to complete on 1 October 2023 creating another super-landlord of 82,000 homes.

1.13. Previous mergers were widely reported to be approaches to maximise future development pipelines. However now, the principal reasons for these large scale mergers are cost increases as a result of the Building Safety Act changes to fire safety regulations, weakening of development pipelines and the cross-subsidy model, increased consumer advocacy, high-profile cases of failing to care for tenants and the pressure of decarbonisation. With these high cost headwinds and government control on rental increases with an overall reduction on grant provision, Housing Associations are taking a much more cautious approach to acquiring

1.14. New opportunities and are therefore offering much lower rates for new affordable accommodation which creates an additional viability problem.

1.15. The reverberations of the Covid-19 pandemic and being required to stay indoors in high-rise buildings, or work for long periods from them has also adjusted buyer expectations about the desirability of high-rise living. Having access to nearby green space (whether privately accessed via rooftop spaces or the more desirable public open spaces) and space within their accommodation to work are key driving factors.

1.16. To promote residential redevelopment and attract investment, a balance needs to be struck between heights, densities, and onsite provision of affordable housing.

1.17. Industrial accommodation and more specifically logistics space has been a high-profile and generally over-performing asset class over the last couple of years

1.18. Inner city industrial land has been lost to residential developers and housing need at an ever- increasing rate, with 24% of all of London's industrial land released in the last 20 years. However, with a shortage of industrial land supply, continuing shift away from high-street retail towards e-commerce and the need for last mile logistics to service existing and future residential development, industrial land values and investment values in general have grown exponentially since 2020. So much so, that at the peak of the market large industrial sites with planning permission for residential schemes have been purchased by industrial developers. Whilst this is more common in areas where residential values are lower / less established it shows there has been a clear shift in the market back towards industrial, to a position where in some circumstances, industrial redevelopment value (or even existing use value) can compete against alternative uses such as residential.

1.19. In addition to industrial redevelopment, with the current challenging market conditions, we are also seeing increased activity in the refurbishment/repurposing of dated industrial stock to meet the needs of more current occupiers serving emerging supply chains, particularly those seeking to attract occupiers with high ESG credentials and those looking to decarbonise. In areas such as South Acton where there is competing pressure for industrial land release for residential development and limited planning security on protecting that industrial use, an uncertain landscape prevails where landowners are unsure whether they should commit to refurbishing their stock to acquire better rental value or cash-in for a more complex redevelopment play.

1.20. The opposite is observed in Acton Vale, an industrial estate to the north-east of South Acton which has so far resisted residential or co-location redevelopment. Whilst there is still a prevalence of low quality industrial stock including some non-compliant industrial uses, the absence of co-location has led Segro to invest heavily, including in 16-18 Acton Vale where refurbished units are obtaining a premium of 300% compared to similar sized stock in South Acton. With high build and finance costs for comprehensive redevelopment, greater planning protection through clarified zoning can provide an attractive option to investor landlords.

1.21. Despite a tumultuous year, rents across the industrial sector have generally continued to rise. Prime headline rents in many locations have posted double-digit growth over 2022. Whilst lower quality stock is less in demand, best-in-class stock, especially Grade A space has remained resilient. The rise in rents can partly be attributed to continued tight supply in the market with vacancy rates broadly unchanged over the last year.

1.22. In 2021 and 2022 the changing market conditions brought about by the Covid-19 pandemic, the market saw an accelerated need for warehouse and logistics space. This coupled with a history of key industrial sites being lost to residential uses / alternative uses and very low interest rates squeezed the supply of industrial development land. This caused consecutive record years for industrial accommodation in both land values being achieved and yield compression in the investment market. Prior to this period, prime industrial land was traditionally valued between £3m to £4m per acre. During this period transactions in prime locations such as Park Royal and Wembley saw prices achieve upwards of £10m per acre for prime sites of a good size in the 2 – 6-acre range.

1.23. Current market conditions are not as favourable. Consumer trends are returning to normal (although facing further headwinds in the current cost-of-living crisis), borrowing rates have risen on the back of rising interest rates to tackle inflation and build costs have significantly increased. Whilst the occupier market remains strong, recent poor financial results in online-only offerings such as Boohoo and Made.com have cast some doubt on the health of big box operators. The increase in transactions in 2023 following the bond-crisis has also demonstrated a softening of land values from their pandemic peaks.

1.24. We note that more recently there have been shifts of prime industrial yields over the last 12 months as interest rates have risen. In September 2023 JLL reported prime industrial yields in London at 4.75%. LSH reported prime industrial yields at Q2 2023 in the south-east at 5.25% (a 1.50% shift from 12 months prior), with distribution warehouses at 4.92%. Cushman and Wakefield report Q1 2023 prime yields at 4.50%. These yields are generally 1.00 – 1.50% higher than where they were 12 – 18 months ago. Whilst these figures may not be entirely reflective of a prime new build development in north-west London, they do give an indication as to the current market sentiment for industrial investments. More recently this shift seems to have settled from the initial shock in 2022.

1.25. For example, LSH report Q2 West London Industrial & Logistics land values at £7.75m per acre, this represents a -33% year-on-year change. Whereas Colliers show H1 prime land values in Park Royal at £6.00m per acre (a reduction from six months prior). Whilst land values can be highly sensitive on characteristics it is generally accepted that new levels are being set from the peaks seen in 2021 / 2022

1.26. Newsteer have explored the question of: in the absence of strong planning policy preventing dense, co-location development, what form of co-location and intensified industrial development is required to meet broadly accepted viability metrics and what are the policy implications?

1.27. Whilst the consented schemes have set precedents for height and density, it does not logically follow that the achieved heights and densities for the consented schemes were 'necessary' to achieve the policy aims i.e. that the consideration paid for land and the expected return metrics of the consented schemes are within parameters that accord with the wider development market.

1.28. This masterplan is proposed to ensure the management of a high-quality place evolves at South Acton. A co-ordinated approach across plots is required to achieve this which necessitates a zoning approach rather than a plot-by-plot approach. However, individual sites will have different constraints to others and so a blanket approach cannot be appropriately applied to all plots. The traditional approach to this conundrum is the viability- tested route for agreeing variance to established policy.

1.29. Newsteer have carried out benchmark land value analysis for industrial land in South Acton and run development appraisals based upon the form of co-location development that has already achieved consent to delivery a policy compliant level of affordable housing. We have also carried out appraisals of an intensified industrial product within the estate which would require land assembly and coordination with multiple landowners. Different height co-location schemes have been tested in accordance with the proposed height parameters set out in this document.

1.30. Existing plot density is a key influencing factor in establishing redevelopment viability. Generally speaking, the greater the plot density, the higher the existing use value of the plot and therefore the higher Benchmark Land Value a development has to contend with. Our testing showed that higher plot densities generally required denser redevelopment to achieve a viable scheme with density of over 90% the most challenging.

1.31. However, viable schemes could all be delivered at 35% affordable housing within the height guidance set out in this document.

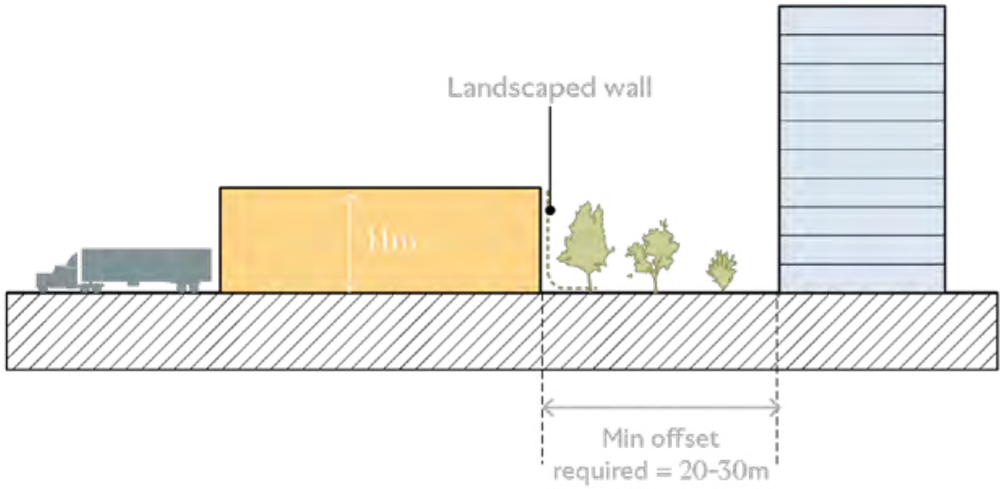
1.32. Intensified industrial redevelopment on a multi-storey typology is more challenging and is most successful when sufficiently sized low-density plots could be assembled.

Colocation Strategies

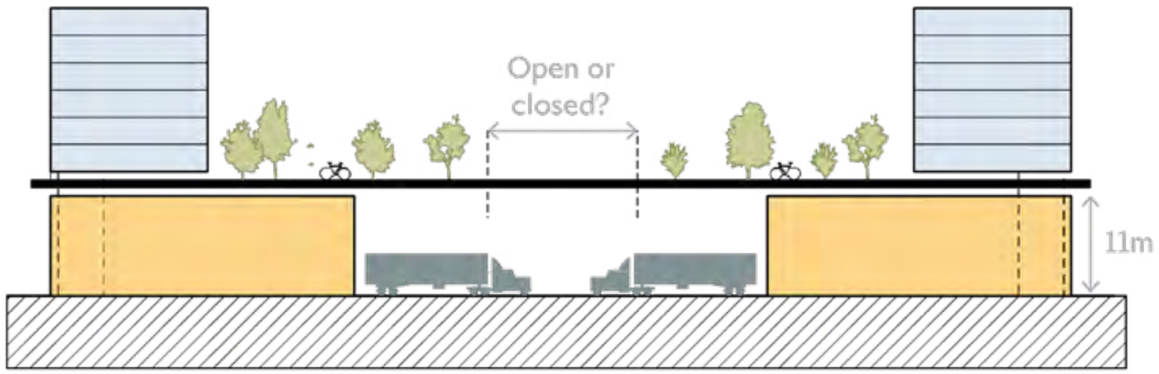
Two primary spatial arrangement strategies exist for the co-location of industrial and residential uses, shown as 01 and 02 below. Further hybrid arrangements exist such as 03 and 04 illustrated. In the South Acton LSIS resi colocation schemes brought forward are likely to be type 02 or 03, stacked vertically with podium rather than a 'side-by-side' typology – this can be seen in the consented schemes. Any colocation developments will need to be mindful of Agent of Change Principles, and should include design measures to mitigate against negative impacts on nearby businesses including elements such as acoustic mitigation, MVHR, buffer zones, visual screening and so on.

Primary Strategies:

01. Side-by-side industrial and residential

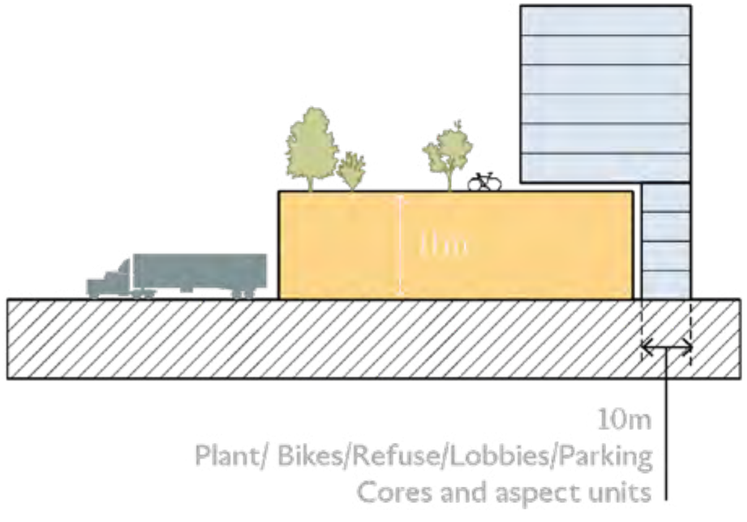


02. Tabletop with residential above industrial

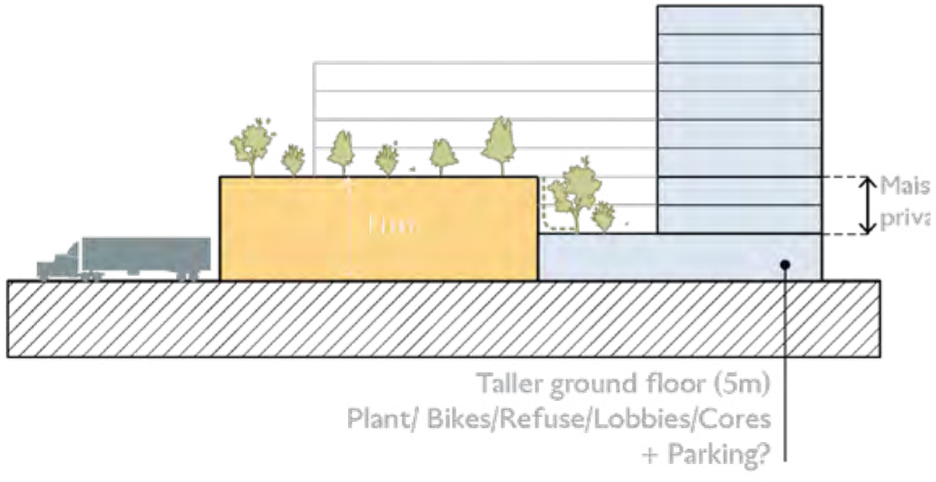


Hybrid Strategies:

03. Residential oversails industrial



04. Residential abuts industrial



Emerging Colocation Schemes in LSIS

The colocation schemes coming through planning within the LSIS are generally compliant with planning requirements, of decent architectural quality and will improve the street frontage once built and occupied. However they have certain restrictions in terms of the types of industrial space they provide, as can be seen from these illustrated examples:

- Units generally relatively small and ceiling height 4m or less
- Units generally do not have roller shutters, access via doors
- Typically no off-street vehicle yards, or loading bays dedicated to individual units – loading generally on street and shared between units

67 - 81 Stirling Road

- Plot size: 1910sqm
- Industrial area: 2430sqm
- Residential area: 5821sqm
- Ratio: 1 to 2.4

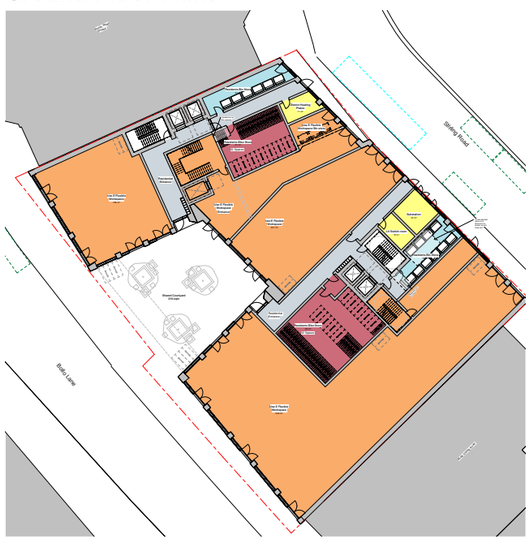
1 - 9 Colville Road

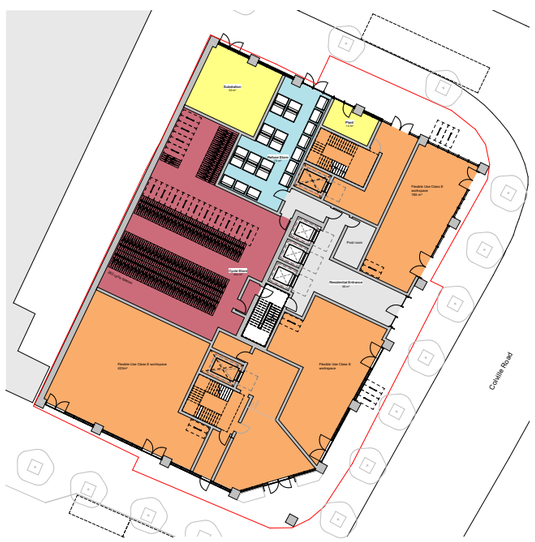
- Plot size: 138W0sqm
- Industrial area: 1664sqm
- Residential area: 9219sqm
- Ratio: 1 to 5.5

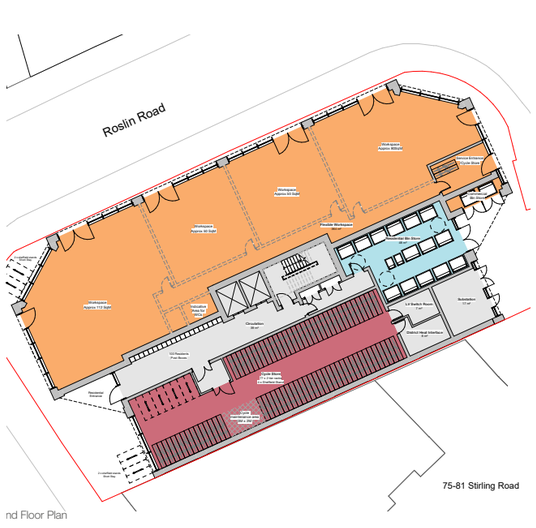
2 - 10 Roslin Road and 29 - 39 Stirling Road

- Plot size: 2269sqm
- Industrial area: 2552sqm
- Residential area: 14760sqm
- Ratio: 1 to 5.8

Ground Floor Plans



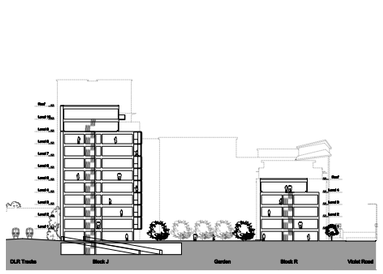




Colocation Precedents – Stacked, London with Vehicle Servicing

Below are examples of residential and industrial colocation schemes within London that exhibit proper vehicular servicing requirements for units, good yard sizes and off-street servicing / loading areas:

Bow Enterprise Park, Tower Hamlets



Architect: ORMS Architectural Design
Client: Workspace Group
Year: 2011, complete
Contents:

- 3 to 20 storeys
- 557 residential units
- Resi stacked above 6000m2 of industrial/ class E double height units facing railway
- Vehicle servicing via open service yard to rear adjacent railway, roller shutters and mezzanine to units

12 Thames Road, Barking

Architect: BPTW
Client: McLaren Construction
Year: 2023, on site
Contents:

- 4 to 17 storeys
- 156 residential units, stacked above
- 5,086 sqm of industrial floorspace with double height units
- Separated yards to accommodate noisier served industrial

Travis Perkins, St. Pancras Way, Kings Cross

Architect: Cooley Architects
Client: Unite Group and Travis Perkins
Year: 2014, complete
Contents:

- 7 - 8 storeys stacked colocation
- 3,877 sqm builders merchant on ground
- Student accommodation above, 564 beds
- Vehicle servicing via covered yard space within ground floor
- Active facade onto street

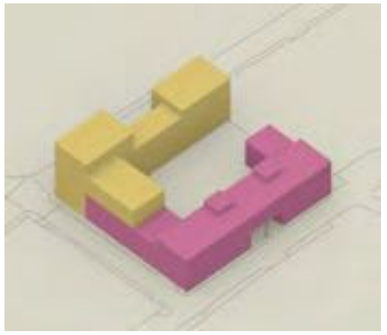
Colocation Schemes Recommendations

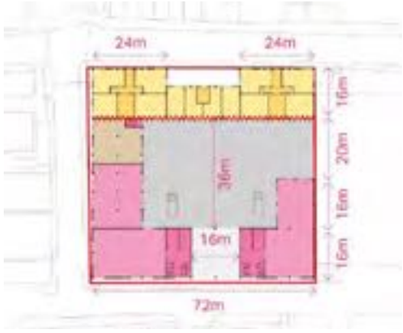
The LBE planning department has existing guidance for policy and local characteristics regarding colocation schemes, that are used to assess schemes being brought forwards covering use classes, tenure mix, floor space reprovision and so on. There is additional published GLA guidance, the 'Designing Industrial Intensification and co-location' study which provides further guidance and design principles that developments should seek to integrate into design, such as typologies, heights, loadings, active frontages, yard sizes etc. This latter is currently being consulted upon and updated, below is an excerpt from the new guidance emerging from the GLA, in regards to the specification of colocation unit types.

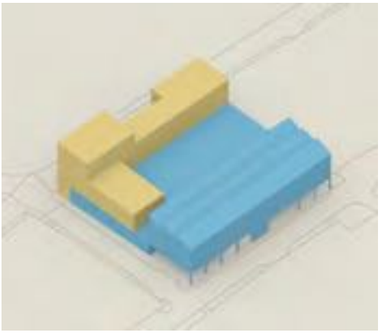
The size of plots within the LSIS means that colocation schemes are likely to be stacked vertically, putting significant pressure on ground floor space from competing uses.

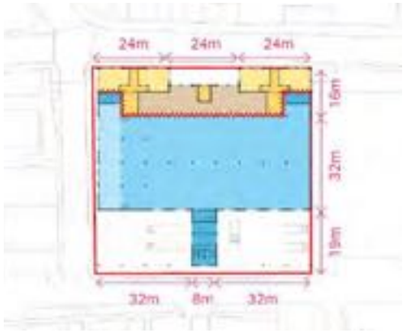
In addition to the above existing LBE policy and guidance, we would also recommend the following design parameters are followed:

- Off street loading bays / vehicle servicing is provided for industrial units
- Schemes comply with the height and density parameters set out in this report
- Facade character is considered to align with principles in this report
- Suitable spaces for shared amenity uses, open space amenity, street greening and SUDs are integrated into schemes at street frontages, as described in this report









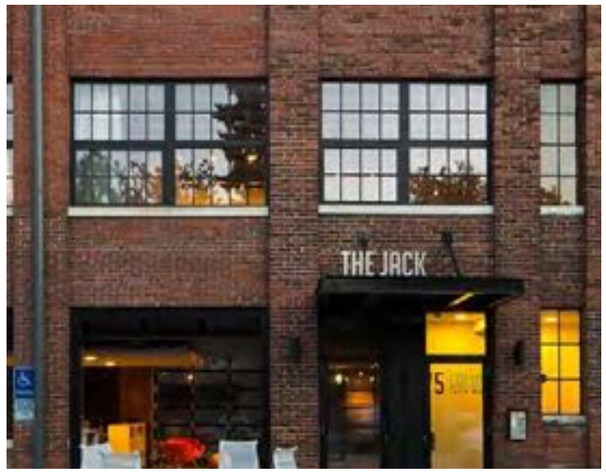
	Planning Use Classes	Min. Site Size	Indicative Structural Grid (Portal Span)	Floor to Ceiling/Haunch Heights	Slab Loadings (Single Racking Leg (SRL), Uniform Distributed Load (UDL) and Surface Uniformity (FM))	Unit Entry Opening Heights	Unit Entry Opening Widths	Corridor / Aisle Width (Premises with Shared Services/Cores)	Grade Level Loading Doors (Incl. Roller Shutter Access) (See Opening Height/Width Dimensions)	Acoustic Performance and Separation (DnT,w+Ctr) between Units and Use Classes (Focus on Intensified and Co-located Schemes)	Mezzanines	Goods Lifts (Where there is no upper floor vehicular access)	Circulation Cores (Goods Lift to double as Passenger Lift where constrained)	Separation of Operations Access from Visitor Access (Subject to Site Constraints)	Separation from Operations Access from Residential Access (Subject to Site Constraints)	Yard Space (Excluding Access Road and Parking)	Ramped Access (Size and Gradient can Vary, but Min. 1:12 Gradient)	Lighting (Natural Where Possible, and Rooflights at 10% Roof Area)	Extraction Flues	Drainage	Heating (Office Plus Core Heating and Cooling, Air Handling)	Loading Area (To include Marshalling Space at 18m between loading bays and racking)	Development Density (Footprint /Site Footprint)	Fire Requirements
Stacked (Small) Industrial	E(g)iii,B8	1.2-1.4 Ha	Ground/Lower Level 10-15m Clear Span	4-8m (Ind)	SRL: 80-120kN SRL: 80-120kN (12.5-18m)	Min 3.5m	2.4-4m	Min. 900mm	Yes	> Rw 34-43dB	Possible	500-	Min.	Yes	Yes	9-25m	N/A	Shell provision for warehouse	Flue Positioning away from	Yes	Radiators	Shared for	130-150%	Sprinklers,
Stacked Workshops/Studios with Residential Above	E(G)iii, B8	1.2-1.4 Ha and 2 Elevations Min. (Zones 1/2/3 where supply is low and demand high, with high rents and limited choice)	Ground/Lower Level 10-15m Clear Span (Ideally >10x12m Grid at GF-1F) Upper Levels Hit and Miss (Ideally 8x8m for Resi)	4-8 (Ind) 3m (Resi)	UDL: 25-50kn/m2 (GF) 7.5-25Kn/m2 (Upper) 2.5Kn/m2 (Resi) FM: FM2 (GF), FM3 (Upper)	3.5-6m	2.4-4m	900-3500mm 3500mm by Lift Zones for Forklift and Passing Place	Yes	> Rw 50dB+	Possible (Potential for Future Addition)	500-6000kg Loading	Min. Primary Core: Stair and Goods Lift + Secondary Escape Stair for Offices + Residential Circulation Cores and Emergency Escapes	Yes	Yes	9-25m (16m Depth for LGV, Shared Yardspace)	N/A	Shell provision for warehouse and office spaces (Localised and High Bay where Required)	Flue Positioning away from Residential and Main Street Frontage	Yes (From Floor or Siphonic)	Radiators (Offices) + Blow Air (Workspace)	Shared for Occasional HGV with Demised Loading Areas	130-150%	Sprinklers, Wet/Dry Risers, Fire Tracks
Stacked Medium Industrial with Residential Above	B2,B8	2.4- 4 Ha and 2 Elevations Min. Space for secure loading bays away from kerbsite required, Considerations for offsetting Industrial Space should be considered	Ground/Lower Level 10-15m Clear Span (Ideally >10x12m Grid at GF-1F) Upper Levels Hit and Miss (Ideally 8x8m for Resi)	6-12m (Ind) 3m (Resi)	SRL: 80-120kN (12.5-18m) UDL: 25-50kn/m2 (GF) 7.5-25Kn/m2 (Upper) 7.5Kn/m2 (Resi) FM: FM2 (GF), FM3 (Upper)	3.5-6m	2.4-4m	900-3500mm 3500mm by Lift Zones for Forklift and Passing Place	Yes	> Rw 50dB+	Possible (Potential for Future Addition)	500-6000kg Loading	Min. Primary Core: Stair and Goods Lift + Secondary Escape Stair for Offices + Residential Circulation Cores and Emergency Escapes	Yes	Yes	18-55m (27m Depth for HGV Ideally 40-50% of Site Area)	N/A	Shell provision for warehouse and office spaces (Localised and High Bay where Required)	Flue Positioning away from Residential and Main Street Frontage	Yes (From Floor or Siphonic)	Radiators (Offices) + Blow Air (Workspace)	Shared for Occasional HGV. Dock Levellers for premises >2300m2 with Demised Loading Areas	130-150%	10m Fire Track around part or all of building (Fire Boundary Conditions)

Architectural Character - Guidance

Alongside are a selection of images illustrating industrial architectural charaterstics, something which is encouraged within the emerging colocation zone. These characteristics include:

- Robust materials
- Use of brick, concrete and metal
- Corrugated metal
- Large format gridded facades and openings
- Regular gridded facades
- Roller shutters
- Robust/functional metalwork detailing,
- Expressed metal stairtcases
- Large format graphics, colour and Signage
- Active frontage at ground floor
- Simple greening to facades / street
- Retention of existing brickwork
- Characterful, simple roof forms

Active street frontage



Retention of existing brickwork


Robust gridded openings


Large openings


Large format colour


Characterful roof forms


Expressed, functional metal staircases & detailing


Simple greening to facades / street


Functional metalwork detailing

HaworthTompkins
110 GOLDEN LANE
LONDON EC1Y 0TL