4.2 Existing Building Challenges

1. Selkirk House - Structural Elements

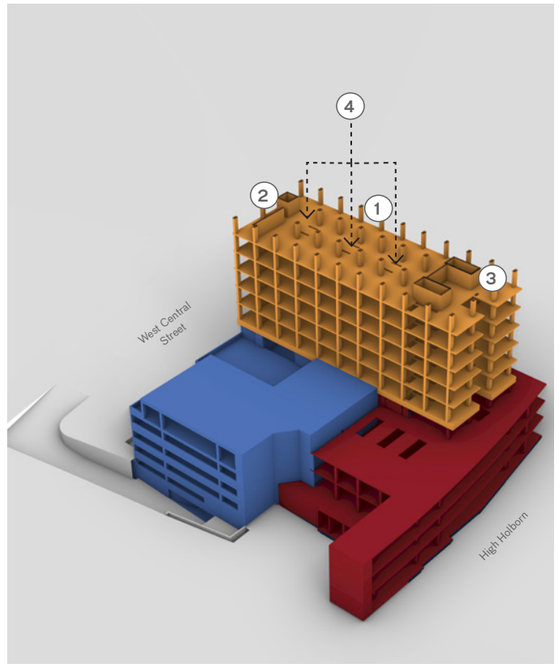
Existing structural grid - Typical Upper Floors

1. Typical floor columns are at 13' 6" (4.11 m) x 16' 8" (5.08 m) centres between levels 4 and 14. The BCO recommended grid spacing for a building of this scale is between 6m - 9m and multiples of 1.5 meters to work with contemporary office space planning.

2. The northern core provides structural stability to the tower. The location of the core in this area is associated with significant stretches of blank facade along the North/West Central Street restricting the opportunities for views and cross ventilation.

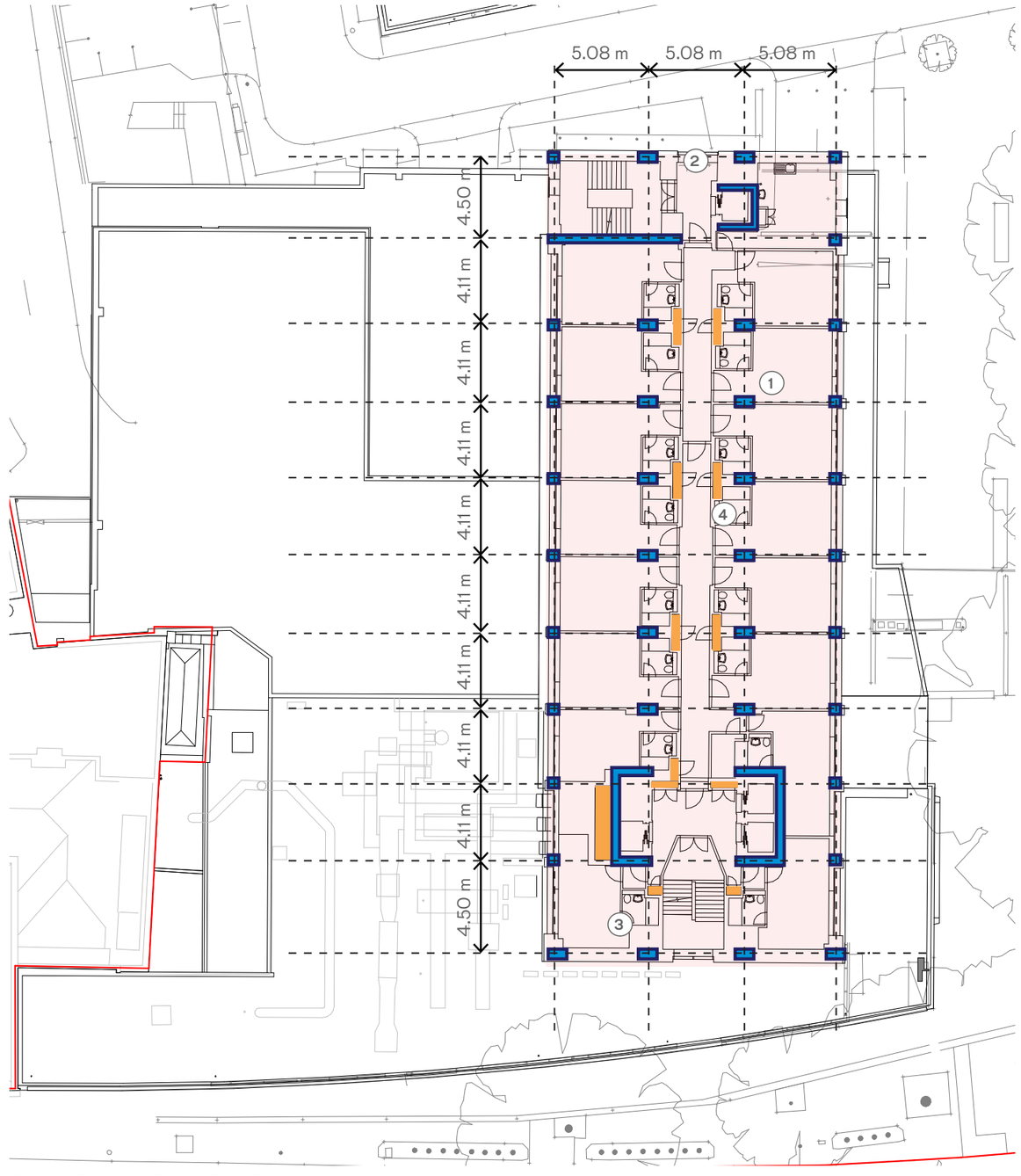
3. To the south, the relationship of the core to the perimeter is also poor, with no viable connected lettable space between core and building perimeter. This existing lift core incorporates 3no. lifts, which would not accommodate the greater building occupancy required. Re-coring the building is likely to be a prerequisite to meeting modern safety standards.

4. Mini-risers have been punched through the original structure to service the typical floors of the hotel creating a series of openings through the main transfer structure between hotel and car park grids. This restricts flexibility of use and suits only a cellular layout with central corridor which is not suited for commercial use. Cutting larger openings in the transfer structure would require significant strengthening works, and temporary works that require temporary materials as well as adding to the complexity of the construction.



Axonometric Diagram of Existing Structure - Typical Floor

View of existing corridor / typical floor



Existing Building - Typical Floor Plan

4.0 Existing Condition Appraisal

4.2 Existing Building Challenges

2. Ground Floor Condition / Inactive Frontages

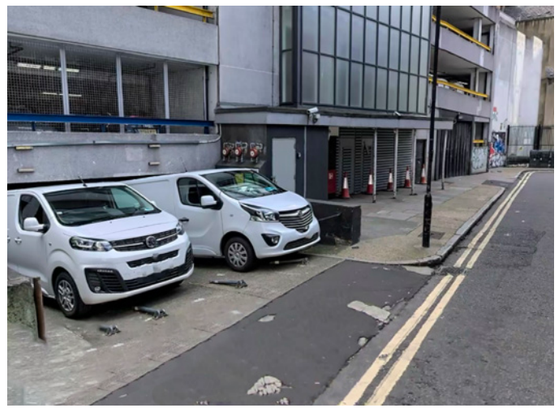
The existing ground floor has a fragmented street frontage disrupted by extensive areas of structure, and service arrangements. The adjacent plan and photos highlight the areas of inactive frontage.

On High Holborn, the building has a retail front with a number of ventilation louvres in between. The street frontage is mostly inactive with blank walls and multiple vehicle entrances on Museum St. and West Central St.

- Inactive frontage
- Pedestrian entrance
- Vehicle entrance
- Structure

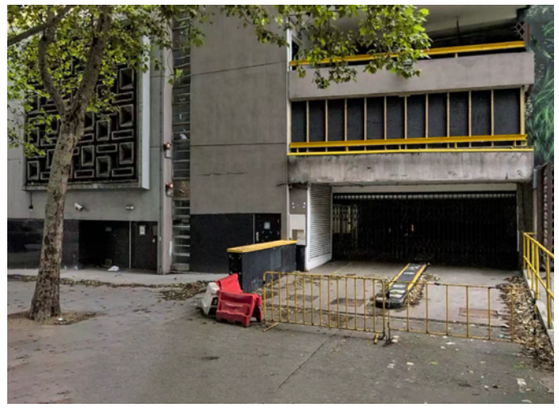
High Holborn elevation with Travelodge hotel entrance

High Holborn elevation with ventilation louvres to existing UKPN substation and basement area

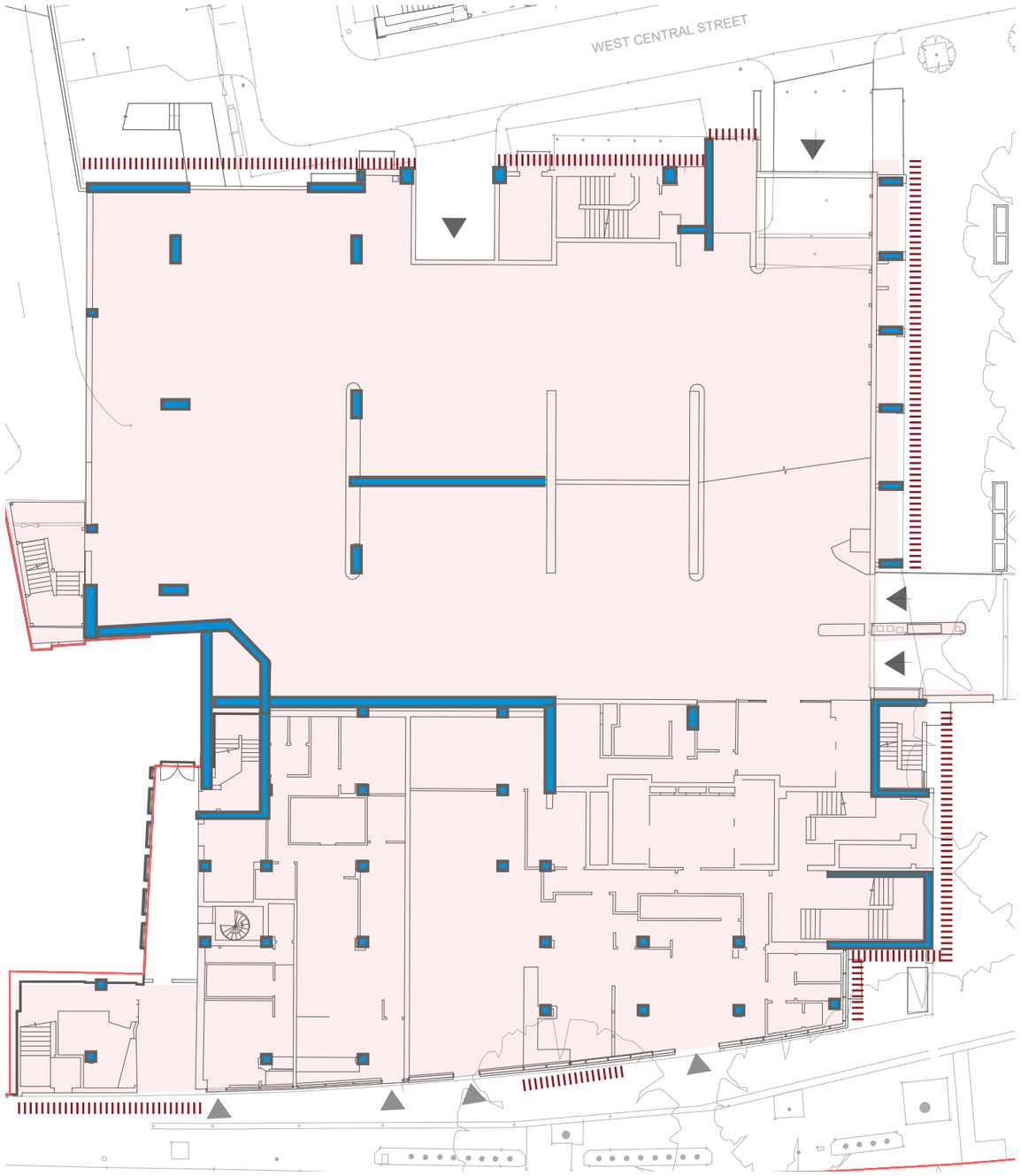


West Central Street inactive frontage - access to existing NCP car park and ventilation grilles

Museum Street - reccessed corner is not activated



Museum Street - access to NCP car park



Existing Building - Ground Floor Plan

Structure

4.0 Existing Condition Appraisal

4.2 Existing Building Challenges

3. Existing Car Park Constraints

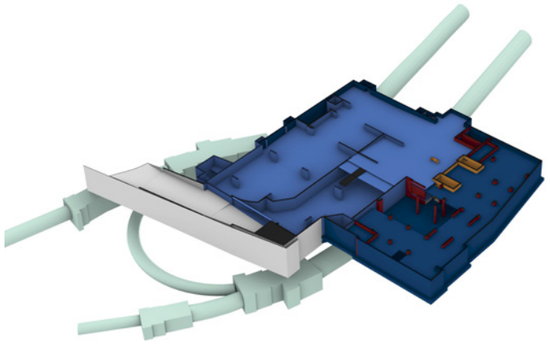
Structure

The columns in the lower floors and basement are typically at 9.7 x 8.2m centres in the car park area.

1. The car park would likely have been designed for a live load of 2.5kN/m2 (1). Residential and hotel uses could work with this capacity with a very lightweight floor build-up (i.e. no screed as the car park do not have a floor build-up at the moment). Offices with a very lightweight partitions allowance would come in at around 3.0-3.5kN/m2 and therefore just exceed this capacity. Any communal and civic uses would not be feasible without significantly strengthening and replacing the existing structure.

A typical modern office building of this scale would be designed for an imposed load 2.5kN/m2 + 1.0kN/m2 for partitions. A hotel would be designed for an imposed load of 2.0kN/m2 + 1.0kN/m2 for partitions.
This factor has implications for the buildings' use and capacity.

2. The 'H-wall' (2) and 'Perimeter Wall' (3) would both require retention in order to keep the tower supported above, acting as significant barriers to activating the ground floor along Museum Street and West Central Street, as well as incorporating outward facing new uses.

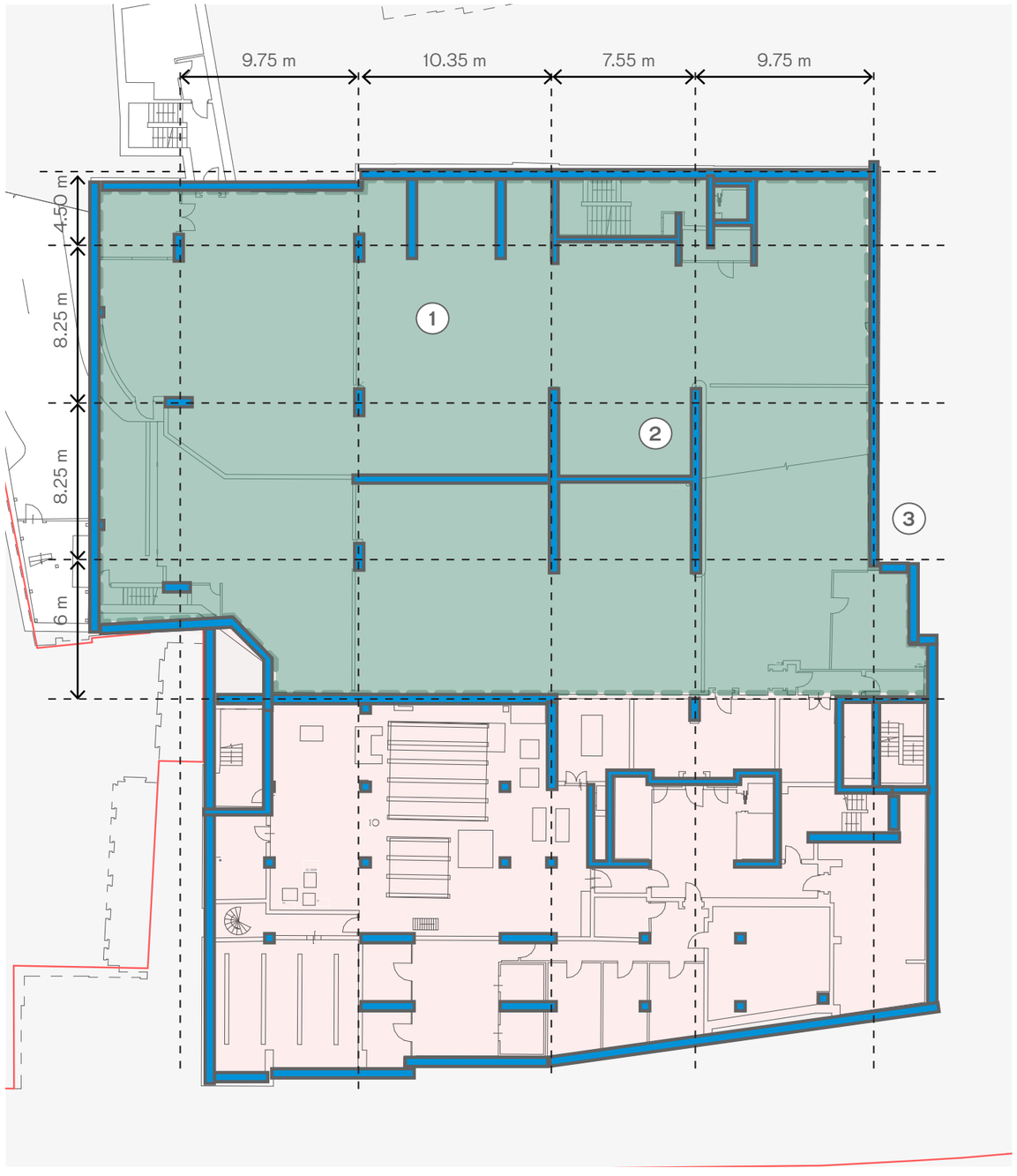


Axonometric Diagram of Basement Existing Structure

Existing car park ramped slabs

Existing car park restricted floor to ceiling heights

Existing car park deep floorplates



Existing Building - Second Basement Floor Plan

Structure
Car park

4.2 Existing Building Challenges

3. Existing Car Park Constraints

Ramped Floor Plates

Fragmented floor plates within the car park area result in disjointed spaces and limit its potential reuse. The existing ramps are 18m (2), 10m (4) and 18m (6) long and have a slope of 1:22. The ramps' long span and relatively high gradient will limit the access of wheelchair users.

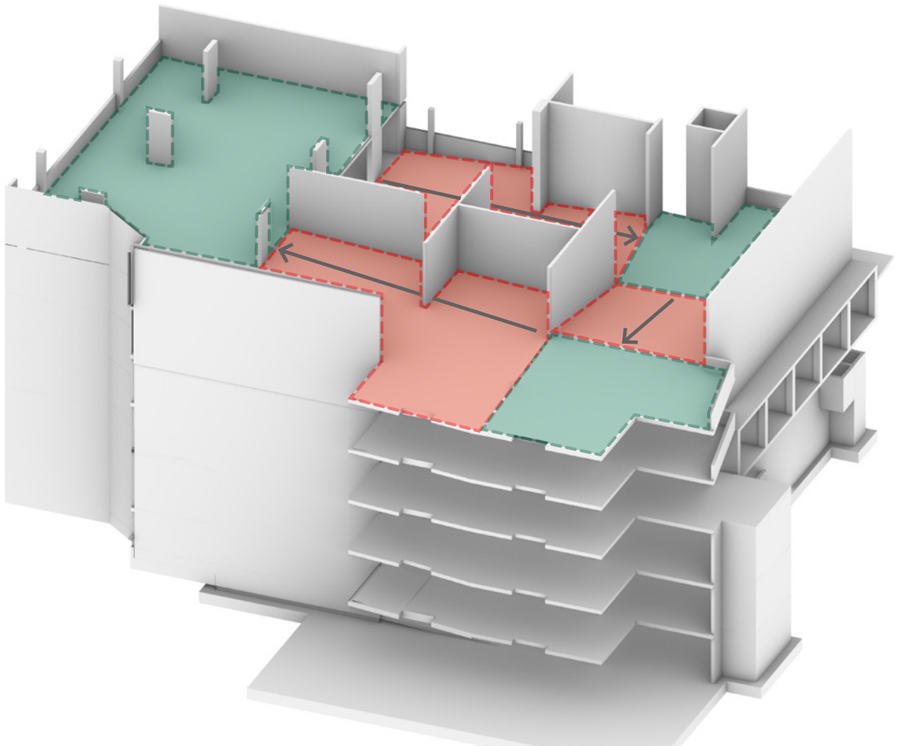
The total GIA of the ramped area per typical floor is 620 sqm, which represents 54% of the total GIA per typical car park floor.

The remaining areas of flat slab are set at three different levels preventing them from being connected to form a single usable floorplate.

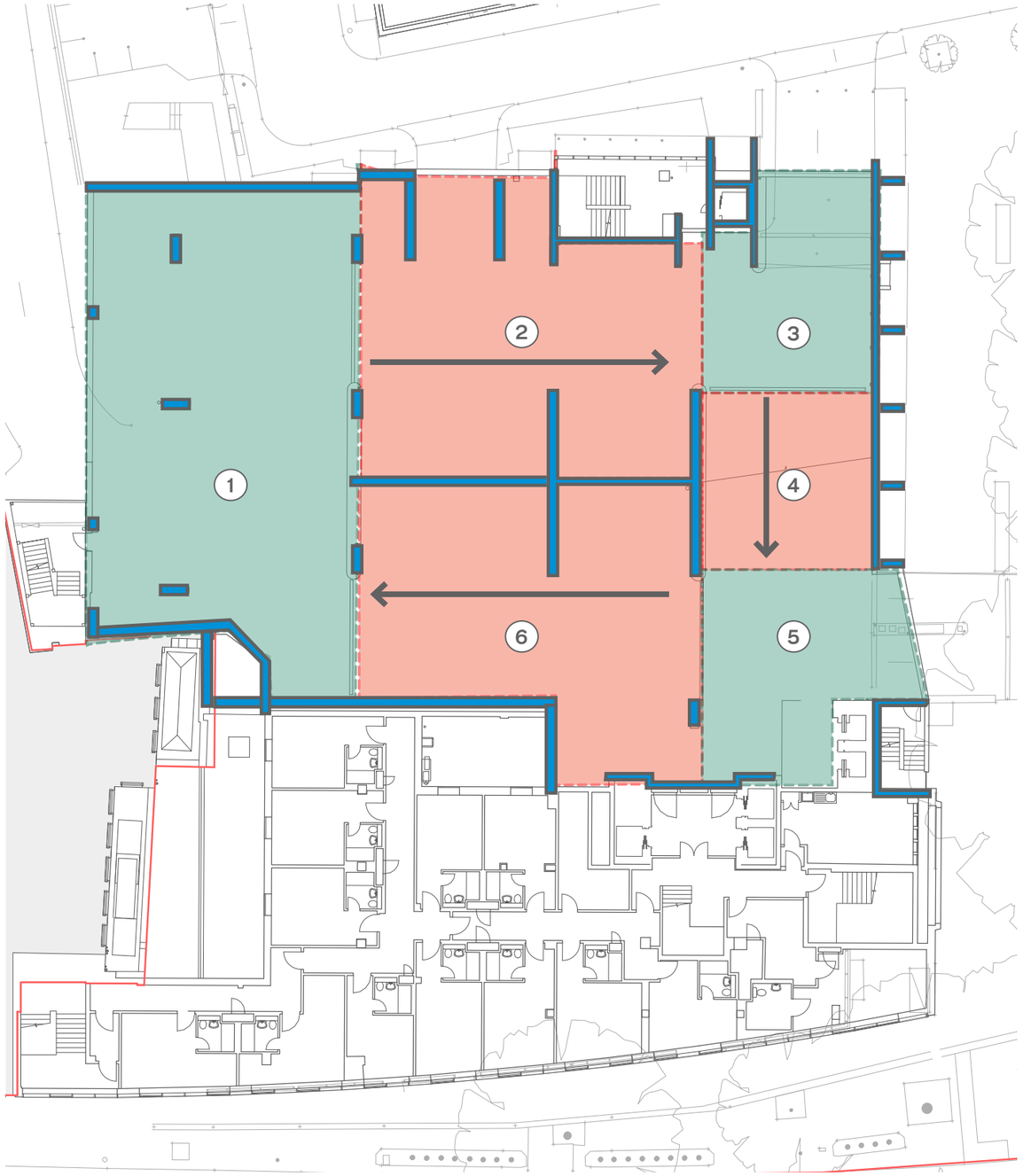
Structure

Flat slab areas

Ramped slab areas



Existing Building - Car Park Structure Axonometric View



Existing Building - Car Park Second Floor Plan

Structure

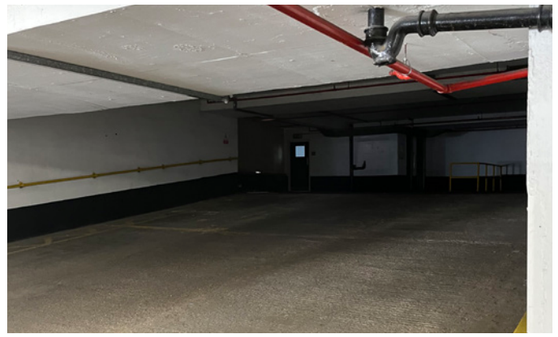
4.2 Existing Building Challenges

3. Existing Car Park Constraints

Poor Daylight

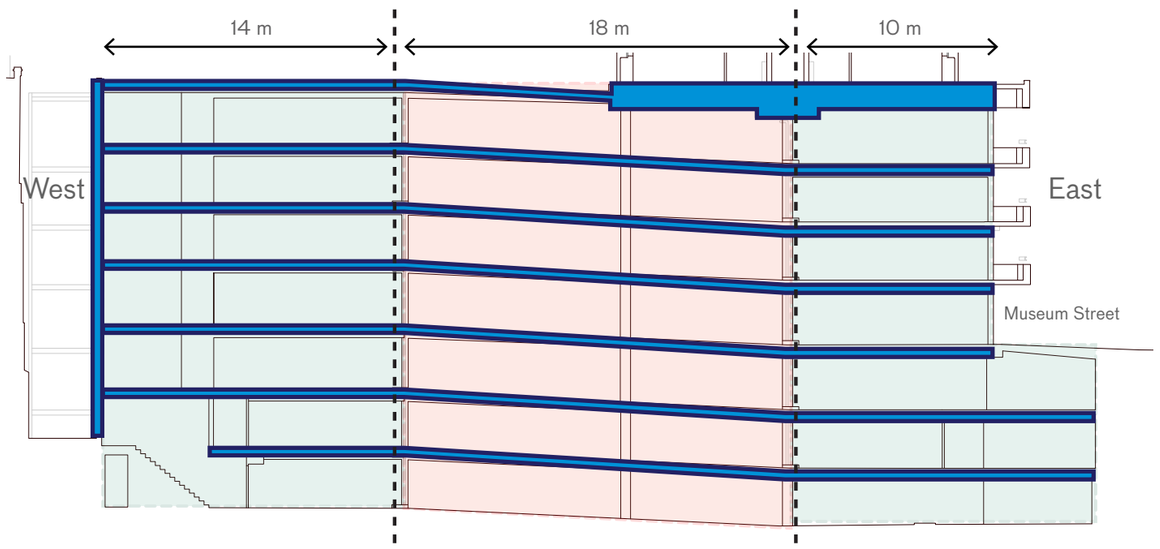
The existing car park structure incorporates four facade areas with openings - two of these openings are located on the northern facade (1) (2), one on the eastern facade (3) and one on the western facade (4). Small areas of openings combined with shallow floor to ceiling heights and deep floor plates result in poor levels of daylight and a reliance on artificial light. This leads to negative health and wellbeing impacts on building users.

Existing facade opening on the north east corner

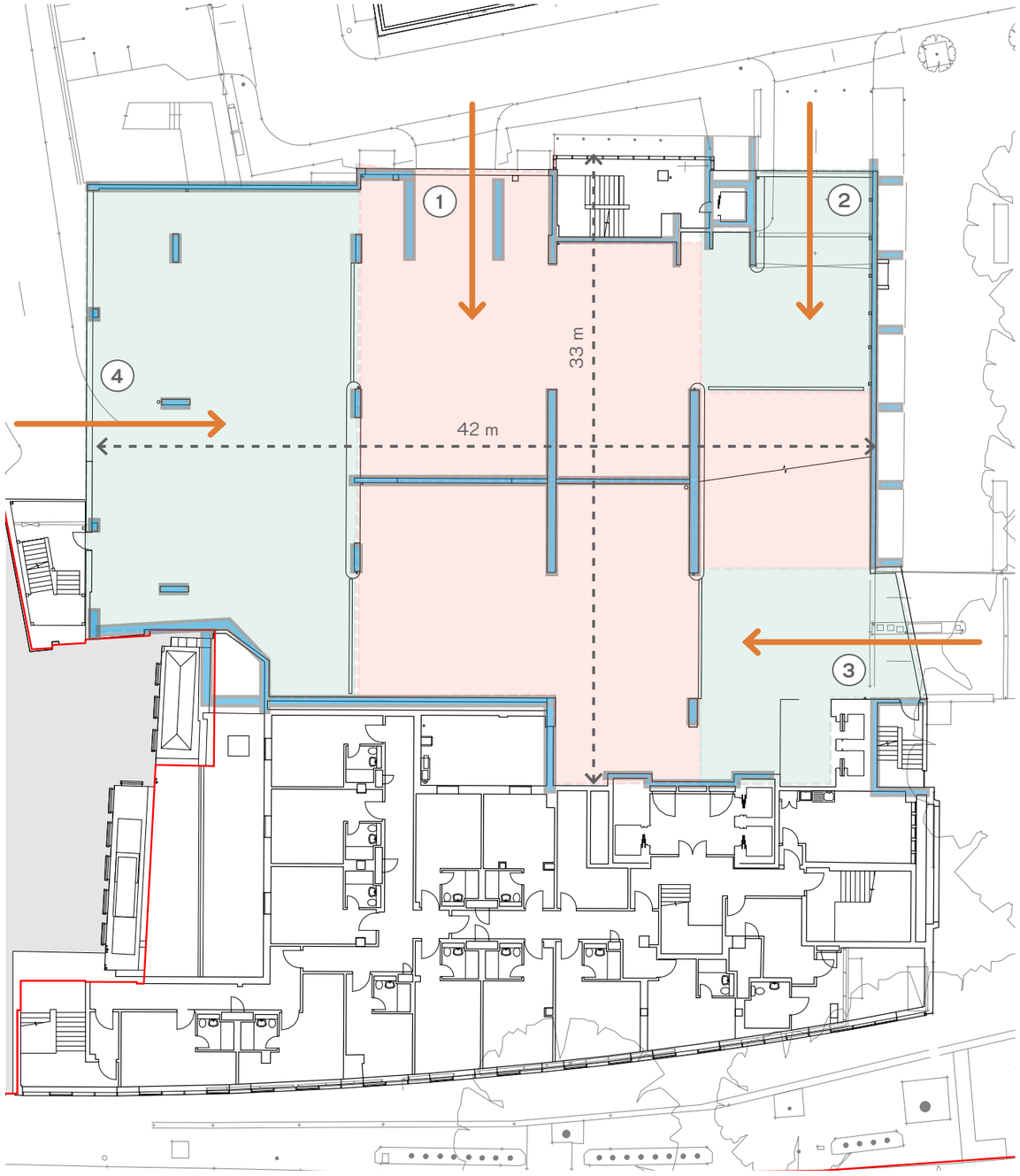


Existing deep floor plates and unlit places

The existing car park relies heavily on artificial lighting



Existing Building - Section through existing car park



Existing Building - Car Park Second Floor Plan

4.0 Existing Condition Appraisal

4.2 Existing Building Challenges

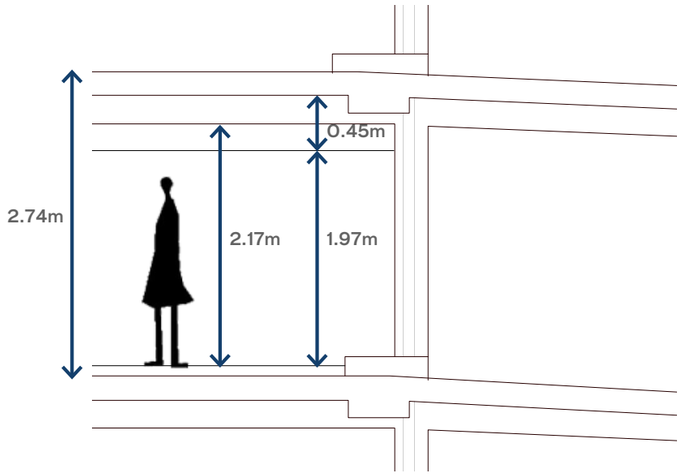
3. Existing Car Park Constraints

Floor to Ceiling Heights

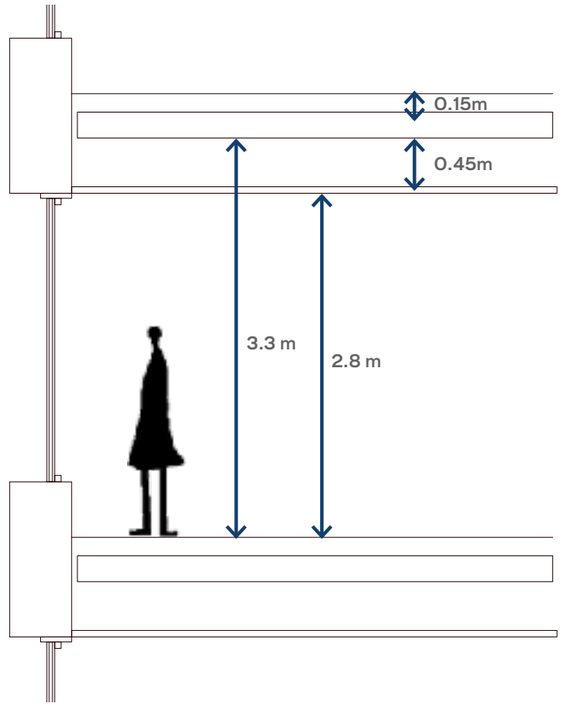
On the limited areas of flat slab, typical slab to slab heights are spaced at 2.74m with circa 220mm thick slab. Application of a comparable 100mm floor zone and circa 450mm flexible services zone leaves achievable floor to ceiling heights of around 1.97m. which is well below typical floor ceiling heights for workspace, residential and cultural/civic uses.

A perimeter servicing strategy could be used in order to reduce the ceiling zone to 200mm, and raise the resultant floor to ceiling height to 2.2m (althought this would reduce the flexibility on how the space could be used). This would result in still compromised head heights; which, alongside the compromised layouts due to the structural frame, this presents considerable challenges to repurposing of the space.

BCO guidance recommends clear head heights between 2.45m to 2.8m for refurbishments and between 2.6m to 2.8m for new builds.



Existing building - carpark typical section



Market expectations - typical section (in line with BCO guidelines - clear head heights for new build between 2.6 to 2.8m)

Existing Car Park

4.0 Existing Condition Appraisal

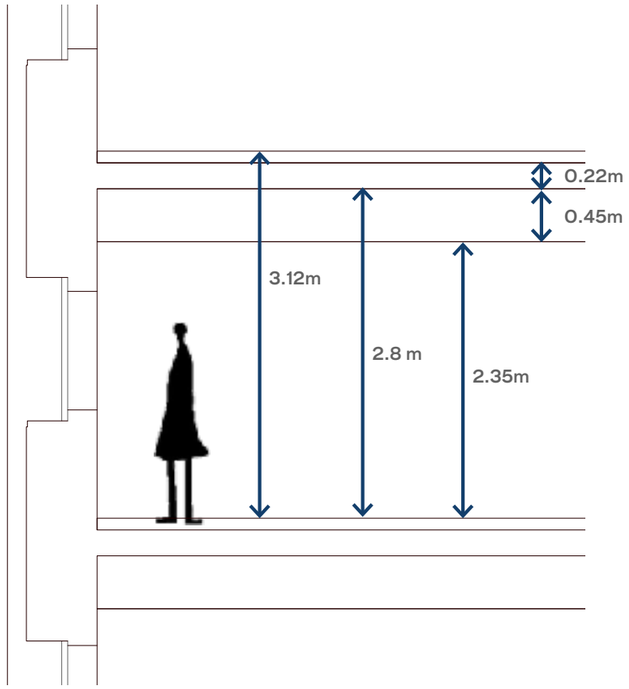
4.2 Existing Building Challenges

4. Floor to Ceiling Heights - Typical Floors

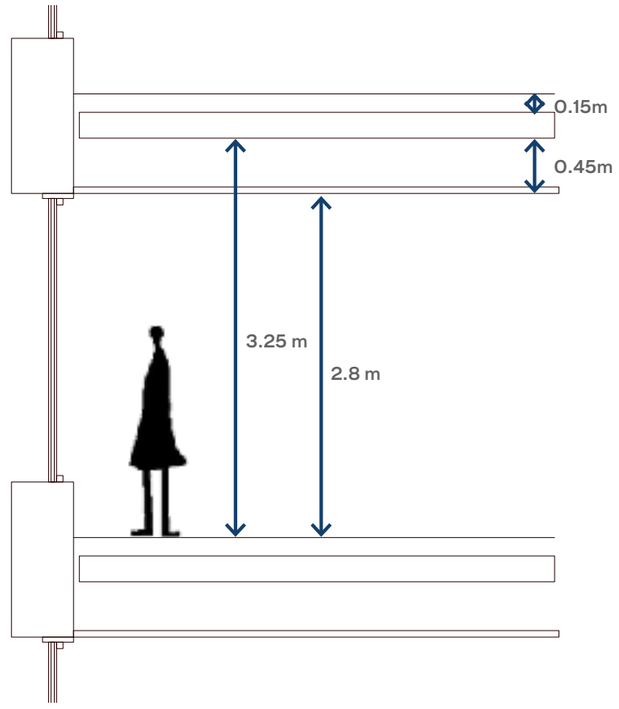
Typical tower floor (1) slab to slab heights are spaced at 3.12m with a circa 220mm slab. Application of a comparable 150mm BCO compliant floor zone and circa 450mm flexible services zone leaves achievable floor to ceiling heights of around 2.35m.

A perimeter servicing strategy could be used in order to reduce the ceiling zone to 200mm, and raise the resultant floor to ceiling height to 2.55m (althought this would reduce the flexibility on how the space could be used). This still falls notably below BCO guidance and would also result in compromises to the flexibility of the floorplates.

This factor, alongside the compromised layouts due to the structural grid and core location, severely limits the ability of Selkirk House to offer attractive and comfortable office space.



Existing building - typical section for office use



Market expectations - typical section (in line with BCO guidelines)

Existing Typical Floor

Existing Typical Floor - hotel bedroom

The Hickman, commercial development completed in 2020, DSDHA

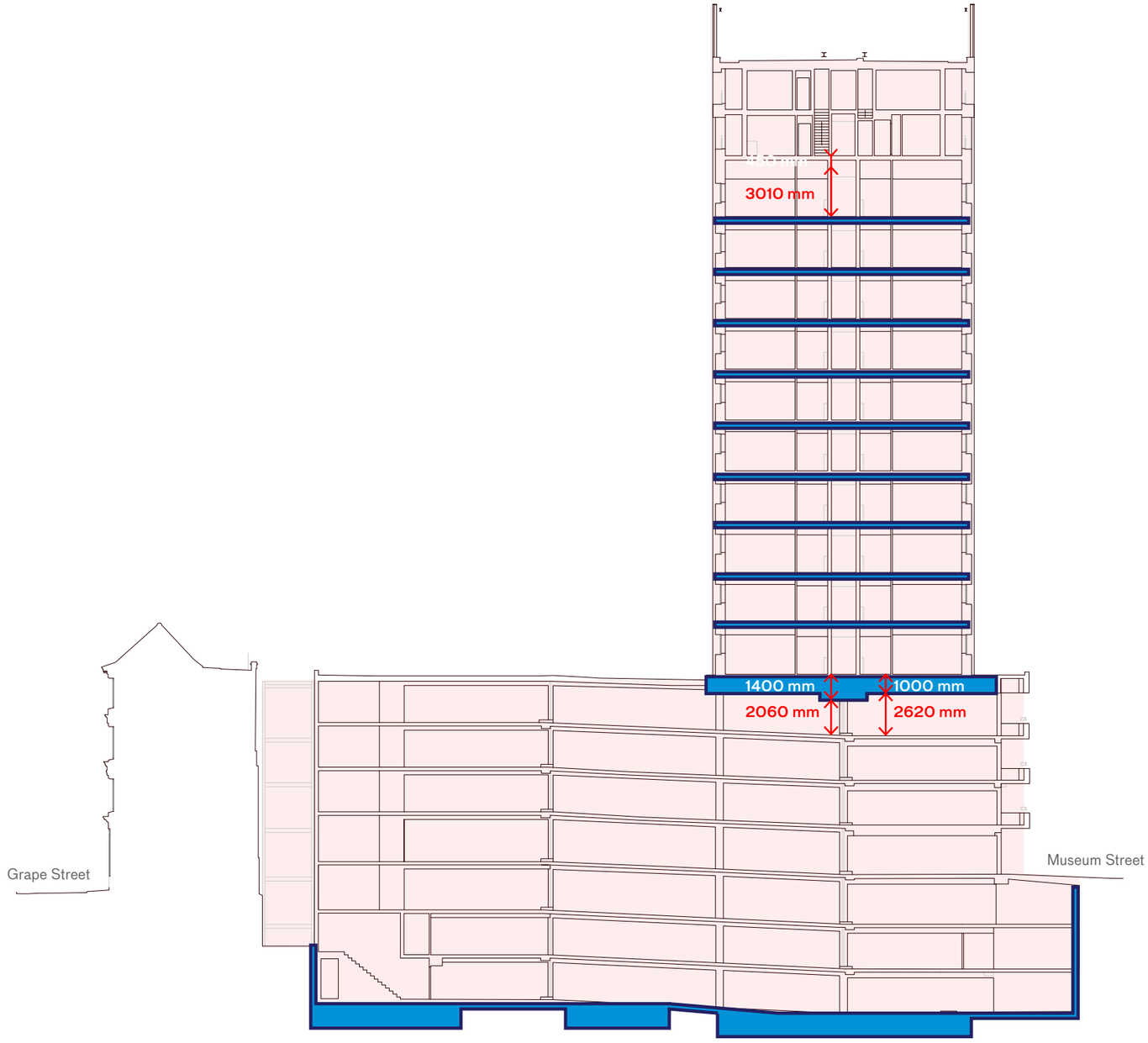
4.2 Existing Building Challenges

4. Floor to Ceiling Heights - Floor Transfers

Additionally, the depth of the transfer structure restricts the floor to ceiling height of level 3 substantially, as shown in the adjacent section. The level 4 slab has a 1.4m deep beam down the middle which supports a 1m deep slab.

The transfer slab is critical to the stability of the existing building and this restricts the opportunity for any new service penetrations. This is likely to result in a less efficient services strategy also requiring a highly visible plant room at the upper levels of the building in order to service the building from above, as well as from below.

The upper two storeys (Floors 14 and 15) utilise a shear wall structural arrangement. These span onto the columns on 13th floor, requiring structural transfer through 'dropheads' which locally thicken the slab to 450mm. The existing 14th floor localised slab thickening is worked into the lower central corridor zone within the hotel floor plan, which is not something that would be proposed in a commercial scheme with cores set at either end on a floor plate of this size.



Existing Section

4.0 Existing Condition Appraisal

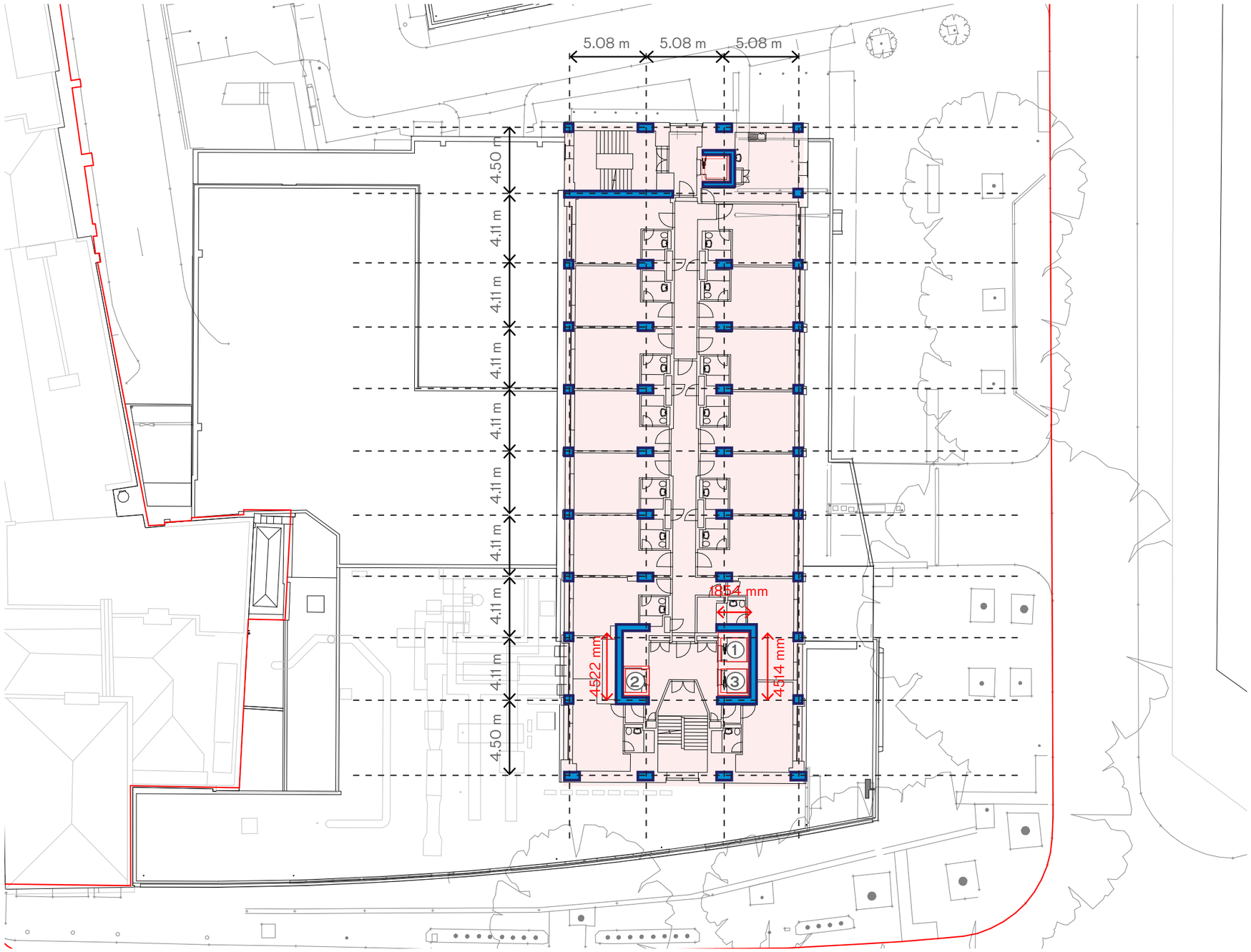
4.2 Existing Building Challenges

5. Substandard lift provision

The existing shaft sizes give an indication that the existing lifts are 12 persons, 900kg but there is no indication of the speed of the existing equipment.

Although there are 4no. existing lifts in total the occupancy of the floorplates calculation would need to be based on 3no. lifts (due to the location of the 4th lift not forming part of the main group of lifts).

Based on modern standards, the existing lift capacity for commercial use would only allow a safe floor occupancy of 1 person per 20sqm GIA (1:20). This reduces to 1:27 when modern occupational expectations are taken into account, which results in an average lift waiting time of 25 seconds. This occupancy level compares extremely poorly to the BCO guidance standard occupancies of 1:8 to 1:10. In order to occupy the existing Selkirk House building at a modern occupancy ratio of 1:10 it is anticipated that a total of 3no. passenger lifts would be required.



Existing Building - Typical Floor Plan

4.3 Summary of challenges and their implications

There are a number of issues with the existing Selkirk House and the NCP car park as summarised in the previous pages which currently makes the building unlettable.

These issues were also identified in a successful Change of Use from Office to Hotel Use submitted in 2002, where the Applicant in that case noted " The tower and podium office floorspace comprises secondary office accommodation. The building has significant physical constraints with small floorplates, low floor to floor heights and intrusive internal columns... we consider that the physical characteristics of the building, namely sub-optimal floor plates and internal concrete columns, make it unattractive to other office occupiers..."

This existing situation will continue to worsen as time goes on. Issues with the existing building are summarised in table below as well as the predicted and/or known consequences or implications.

	Challenges	Implications
Selkirk House Structure - Upper Floors	The existing upper two storeys (Floors 14 and 15) house 11 no. of single aspect flats of 57-65sqm in size. The current residential configuration on these floors as duplex units is non-compliant with the London Housing Design Standards in terms of min. area of 70sqm for duplex 2-bedroom homes.	Existing residential units do not meet LHDG standards Shear wall arrangement makes these floors unusable for commercial purposes, and deeply inflexible for any other use.
	Floor 14-15 utilise a shear wall structural arrangement meaning that they cannot be removed to open up the floorplate for non-residential use.	Floor 14th localised slab thickening is worked into the lower central corridor zone, which is not something that would be proposed in a commercial scheme with cores at either end of a floor plate this size.
Selkirk House Structure – Typical floors *- Structural grid*	Typical floor structural grid / columns are set at 4.11m x 5.08m centres between levels 4 and 14.	A grid this dense is not considered competitive in the modern commercial market being a long way off the BCO recommended smaller grid spacing of 6m - 9m. This will also restrict the building's use and future flexibility. A standard space planning grid of 1.5m cannot be accomodated.
	The facade to the north would be heavily influenced by the location of the core retained for stability.	This would retain significant stretches of blank façade along the North/West Central Street restricting the opportunities for views and cross ventilation. This restricts flexibility of use and suits more a cellular layout with central corridor. Cutting larger openings in the transfer structure will require significant strengthening and temporary works that will add to the complexity of the works required.
- Mini risers	Mini-risers have been punched through the slab to service the typical floors of the hotel, These create a series openings through the main transfer structure	
Selkirk House Ground Floor	The existing ground floor has a fragmented street frontage disrupted by extensive areas of structure, service arrangements and multiple car park vehicle entrances on Museum St. and West Central St. The only activation is along High Holborn.	The existing condition of the ground floor with substantial amount of inactive frontages supports the existing anti-social behaviour due to the lack of active surveillance and 24 hour uses.
Existing Car park - structure	Car park structure and loading constraints - The car park would likely have been designed for a live load of 2.5kN/m2.	Residential and hotel uses could work with this capacity with a very lightweight floor build-up (i.e. no screed as the car park do not have a floor build-up at the moment). Offices with a very lightweight partitions allowance would come in at around 3.0-3.5kN/m2 and therefore just exceed this capacity. Any communal and civic uses would not be feasible without significantly strengthening and replacement of the existing structure.
	Existing structural elements like the ‘H-wall’ and ‘Perimeter Wall’ would both require retention in order to keep the Selkirk House tower supported above.	Retaining H-wall and perimeter wall would act as significant barriers to activating the ground floor along Museum Street and West Central Street.
Existing Car park - ramps	The existing ramps are 18m, 10m and 18m long and have a slope of 1:22. The total GIA of the ramped area per typical floor is approx. 54% of the total GIA per typical car park floor.	Restricted use due to the ramped slabs in most of the floor plates of the car park. One option tested would be to level these areas (i.e. with a raised floor) but this would restrict even more the head heights.

Existing Car park - Floorplates	Existing car park has substantially deep floor plates that restrict the building reuse; also areas of openings are restricted by the existing structure	This results in poor levels of daylight and a reliance on artificial light which severely limits potential uses and is associated with negative health and wellbeing impacts on building users.
Existing Car park - Head Heights	On the limited areas of flat slab, typical slab to slab heights are spaced at 2.74m with circa 220mm thick slab. Application of a comparable 100mm floor zone and c. 450mm services zone results in floor to ceiling/services height of around 1.97m, which is not feasible. A perimeter servicing strategy could be used to reduce ceiling zone to 200mm /raise the resultant floor to ceiling height to 2.2m. This would result in still very compromised head heights.	Existing car park with constrained heights and ramped slabs is impractical for other uses other than car park.
Selkirk House Typical Floor plates - Head Heights	Typical tower slab to slab heights are spaced at 3.12m with a circa 220mm slab. Application of a comparable 150mm BCO compliant floor zone and circa 450mm flexible services zone leaves achievable floor to ceiling heights of around 2.3m. If floor zone is reduced to 100mm a floor to ceiling height of 2.35m could be achieved. A perimeter servicing strategy could be used in order to reduce the ceiling zone to 200mm, and raise the resultant floor to ceiling height to 2.55m.	With a typical servicing strategy, the head heights would fall considerably short of the lower end of BCO guidance for refurbishments (min. 2.45m). Even with a perimeter strategy, notwithstanding the other challenges associated with this approach, the head heights would only just fall within this guidance. These compromised floor to ceiling heights, which, alongside the compromised layouts due to existing structural grid and core location, does not represent a compelling Grade A office offer.
Selkirk House - Structural Transfers	The depth of the transfer structure restricts the floor to ceiling height of level 3 substantially. The level 4 slab has a 1.4m deep beam down the middle which supports a 1m deep slab. The transfer slab is critical to the stability of the existing building and this restricts the opportunity for any new service penetrations. The upper two storeys (Floors 14 and 15) utilise a shear wall structural arrangement, which span onto the columns on 13th floor requiring structural transfer through 'dropheads' which locally thicken the slab to 450mm.	Level 3 reduced floor to underside of structure is along centre of plan is 2060mm and the rest of the plan 2620mm; when 100mm floor zone and circa 450mm flexible services zone is introduced this would result in floor to ceiling/services height of approx. 2.07m. Level 13 reduced floor to underside of structure is 3010mm; when 100mm floor zone and circa 450mm flexible services zone is introduced this would result in floor to ceiling/services height of approx. 2.45m. In these cases only perimeter servicing would ever be considered.
Selkirk House Lifts provision	Although there are 4no. existing lifts the occupancy of the floorplates calculation would need to be based on 3no. lifts (due to the location of the 4th, it would not form part of the main group of lifts).	Existing lift provision is substandard to achieve current standards of floor occupancy expected for office use. Based on modern standards, the existing lift capacity for commercial use would only allow a floor occupancy of 1:20. This occupation density is not commercially viable necessitating a new core strategy.
Existing Facades	The facade of Selkirk House is in poor condition, presenting a significant area of blank, and ill-proportioned frontage. When the building was refurbished in 2002 for its conversion to the current (Travelodge) hotel use, the original facade of concrete panels was overclad with aluminium insulated panels.	Given the age and condition of the existing building, the existing façade would need to be removed and replaced with a new facade due to non-compliance with current safety and building regulations.

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5.0 Development Options Sustainability Assessment

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5.0 Development Options Sustainability Assessment

Assessment Criteria

Based on the site context and development principles (chapter 1.0) and on the analysis of the existing building challenges and implications (chapter 4.0) the below criteria have been established to evaluate the five development options considered.

We have set out within each section the rationale for choosing the criteria, the factors considered in making an assessment and any relevant commentary that applies to the options.

Efficient use of land
Assessing the site against current planning policies and its location, acknowledging the economic, social and cultural activity that should be supported through development.

The Selkirk House site is identified within the emerging 'Holborn Vision and Urban Strategy' as a 'Key Project' for potential redevelopment - its location makes it ideally situated to benefit from increased transport capacity and wider connectivity.

Construction Impacts
Assessing the options in terms of building complexity and construction impacts is also included. The building complexity will increase construction impacts - this includes programme and site disruption to residents and workers in the area.

Space Quality
Assessing the options in terms of overall space quality and flexibility to support office use, namely:
- clear head height / floor heights
- space planning and constraints of the structural grid
- plan depth
- access to natural daylight

Ground Floor Activation
Review options against the existing condition of inactive street frontages and relationship with the surrounding public realm and how the options would improve the existing condition.

Floorspace provision and Employment capacity uplift
Review of the options in terms of the extent of additional floor area created, the direct employment capacity uplift generated and indirect benefits of this.

Public Realm enhancements
Ability to address the current challenges and contribute to the local and wider area including public realm enhancements, increased site permeability and biodiversity.

Housing offer
Ability to address the current challenges and contribute to the local and wider area to provide more new homes and affordable housing delivered on site.

Circular Economy, Future flexibility, adaptability and resilience to climate change
To evaluate future proofing the full life cycle of a building should be considered alongside the six circular economy principles. Assess how the options would offer future flexibility in terms of adaptability and reuse; as well as overall offering a resilient design - addressing ecology / biodiversity, heath & wellbeing, etc.

Long-term economic sustainability and planning benefits
Review of the quality and quantum of space provided for creating an attractive and economically sustainable building which supports active management and maintenance. Ability of the option to support compliance with planning contributions.

Carbon Assessment
An assessment of the carbon impacts of each of the five options This has been worked through in detail for each of the options following the RICS methodology.

This assessment also explores carbon associated with additional factors we believe is worth consideration when comparing the development options. The scope and methodology used is described in chapter 5.10.

5.0 Development Options Sustainability Assessment

5.1 Efficient use of land

National, regional and local policy all promote the use of brownfield sites in locations with strong transport infrastructure to deliver the development required for meeting London's development needs. London Plan Policy GG2 (Making effective use of land) identifies an underlying principle to prioritise the development of brownfield sites which are well connected by public transport, and to intensify land uses to support additional homes and workspaces. This approach accords with the principle set out in National Planning Policy Framework Chapter 11, which emphasises the importance of the re-use of under-utilised, brownfield land to meet identified development needs.

London Plan Policy H1 (Increasing Housing Supply) states that boroughs should optimise the potential for housing delivery on all suitable and available brownfield sites, particularly through housing intensification on appropriate low-density commercial sites where these are well connected to public transport.

The Camden Local Plan 2017 states that the Council will seek to make the most efficient use of Camden's limited land and seeks to prioritise mixed-use development in the most accessible parts of the borough, thereby driving growth in sustainable locations.

The two main benefits of this overall approach are that 1) relieves pressure on greenfield and green belt sites, thereby improving the retention of green, undeveloped land in the south-east; and 2) that new development is prioritised in more well-connected, sustainable locations, thereby reducing carbon emissions which can be caused by locating development in more remote locations.

Factors to consider when assessing this criteria include:

- Connectivity to sustainable transport networks including underground, buses and cycle infrastructure (as assessed via a PTAL rating)
- Current building capacity and overall site capacity
- Ability to deliver public benefits, and a mix of uses for all communities in line with Camden's policy (covered in more detail in section 3.0)

The site is consistent across all options, therefore in assessing this criteria we're considering how the proposed option has optimised the use of the site in terms of development capacity.

The site is also identified as a development site within the Council's Draft Site Allocations Plan (2020) under Policy HCG3 ('1 Museum Street'). The draft allocation supports the comprehensive redevelopment of the site with a mix of commercial and residential uses, emphasising the requirement for enhancing the public realm, permeability through the site and ground level experience. In particular, the public benefits identified for the site allocation include:

- Housing provision
- Commercial floorspace
- Improved public realm through increased activation at ground floor level
- Improved public realm through increase passive surveillance
- Provision of public space on Museum Street and West Central Street
- Provision of new public route through site on the axis with Coptic Street, creating a new route from the British Museum.
- High-quality urban greening

Policy HCG3 also recognises the site's highly accessible location and therefore its appropriateness for comprehensive mixed-use redevelopment. Its central location makes it ideally situated to benefit from increased transport capacity and wider connectivity due to the recent opening of Crossrail at Tottenham Court Road station, which has increased the station's capacity to 170,000 passengers on the Elizabeth line station every day.

The site has a PTAL rating of 6B – indicating the highest possible level of public transport connectivity in London.

In addition, the Draft Holborn Vision and Urban Strategy identifies Selkirk House and the associated properties on West Central Street and Museum St as a 'Key Project' for potential redevelopment. The draft vision highlights Holborn's central location as well-suited to capitalising on major transport investments, including new Elizabeth Line Stations at Tottenham Court Road and Farringdon, and further planned works including a major tube station capacity upgrade at Holborn.

The Draft Holborn Vision and Urban Strategy also sets out public benefits for the site which accord with those set out in the Council's Draft Site Allocations Plan.
In particular, the public benefits identified for the site include:

- New homes (including affordable homes)
- Attraction of new economic activity, jobs, retail and other uses
- Active frontages that support more lively and active streets, drawing on the area's proximity to Covent Garden and Theatreland.
- Through route on axis with Coptic Street

London Plan (2021) Policy SD4 highlights the role the CAZ plays in providing a rich mix of strategic function and local uses and that this should be promoted and enhanced. The London Plan acknowledges the nationally and internationally significant role office functions play within the CAZ and seeks to support the intensification and provision of sufficient office space within the area. Policy SD5 builds upon this, noting that offices and other CAZ strategic functions such as leisure and retail are to be given greater weight relative to new residential development within the CAZ.

LB Camden Local Plan Policy E1 supports and encourages economic growth within the borough and the provision of further commercial and retail space in this location.

Options 4 (submitted proposal) and Option 5 seek to optimise this brownfield site, in an area well connected by public transport and in close proximity to jobs, services and infrastructure. The loss of the existing NCP car park (supported by the Council's Local Plan Policy T2) will greatly encourage more sustainable forms of transport to and from the site.
Both options would also result in increased site capacity with the provision of up to date and high-quality commercial and retail floorspace, combined with the provision of homes, including affordable homes.

In addition these would also allow for improved public realm surrounding the site and, fundamentally, provide the opportunity to incorporate a new pedestrian route through the site to enhance connectivity in the area (and responding to the council's Allocation Plan and the Draft Holborn Vision).

Option 1 would only have a very limited increase to the current site capacity as there typical floor plates served by the existing cores would have restricted floor capacity.

Options 2-3 would have a slight increase to the current site capacity in a central London location well connected to jobs, services, infrastructure and amenities by public transport, walking and cycling.

For these options the ability to deliver public benefits would be constrained by the condition of the existing building and site explained in more detail under the different criteria assessment that follows.

5.0 Development Options Sustainability Assessment

5.2 Construction Impacts

Another criteria to compare the different options is related with the project complexity and specifically the construction impacts.

Programme
Retention options will have a reduced programme on site when compared with a new build that includes demolition works and rebuilding.

All of the options will require temporary works to different extents. These add to the overall demolition and construction programme (as well as being associated with additional carbon emissions). We estimate that Option 3 would require the most amount of temporary works to retain the existing tower and demolish the lower podium of Selkirk House and the car park.

For option 4 it has been estimated that the demolition and construction programme will have a duration of approximately 3.5-4 years including mobilisation and site set-up. We have not undertaken a detailed construction programme analysis for options 1-3 but would expect options 1 - 3 to have a shorter programme.

Site Disruption
In terms of disruption for residents and workers in the area similarly there will be a longer period of the works associated with options 4 and 5. Therefore disruption and inconvenience associated with construction such as hoardings would be present for less time with options 1, 2 and 3 than 4 & 5.

All of the options would require some demolition works (i.e. existing car park) with associated impacts such as site traffic, noise, vibration, dust, pedestrian and vehicular access.

It is anticipated that there would be greater noise and associated construction impacts associated with a new build approach (Options 4 and 5) as that includes additional demolition works and the anticipated additional piling required to support the new structure. Potentially disruptive work would also be expected to be carried out over a longer period than for options 1 and 2 given their level of retention. The additional construction of the new build basement for option 5 is likely to make this option the most disruptive.

Nevertheless any development is required to produce and adhere to a Construction Management Plan (CMP) that sets out how disturbance and impacts will be limited and mitigated as part of development activity.

An outline CMP has been submitted as part of this planning application for Option 4 and the applicant is committed to working with neighbours to minimise and mitigate disruption where possible throughout the build programme.

5.3 Space Quality

2. Space Quality

The quality of the space provided by the development is an important factor in its appeal to occupiers and ultimately it's viability; delivering high quality space that occupiers demand supports the rental assumptions in the Financial Viability assessment (FVA) that underpin the scheme's ability to deliver wider benefits such as affordable housing.

Our development objective for 1 Museum Street is to produce high quality, adaptable space that meets occupier needs now and is able to do so in the future.

The British Council for Offices (BCO) are the leading forum for the discussion and debate of issues affecting the office sector. They represent organisations involved in creating, acquiring or occupying office space and produce guidance for the industry on best practice in office design.

In assessing the options in terms of overall space quality and flexibility for mainly office use, we're considering to following factors:

a) Clear Head heights - level of clear head height and overall floor to ceiling heights based on BCO guidance recommendations:

- New-build typical floor: 2.6 to 2.8 m.
- New-build deep plan floor: 2.8 to 3.2 m – for example, trading floors or spaces more than 18 m in depth.
- Refurbishment: 2.45 to 2.8 m

A more generous head height supports futureproofing and adaptability to other uses. The analysis that follows reviews the typical sections for the different options considered and their constraints. The amount / levels of natural daylight will also be affected by overall floor height.

b) Column Grid
The structural grid affects the openness of floor plates to enable flexible space planning. Key qualities sought by office occupiers include limited constraints such as columns and walls and clear site lines across floorplates.

For many years the BCO Guide has recommended a standard space planning grid of 1.5 m as a means of coordinating components of the structure, fabric, envelope, services and finishes. This enables efficient planning of circulation and open-plan workspace, while allowing a range of standard room widths to be created in the office space. A desire to create flexible, relatively column-free, open-plan spaces led to market adoption of structural spans of 9–15 m (all divisible by 1.5), and this was reflected in the 2019 BCO Guide. In the 2022 update the BCO has also added structural span dimension of 7.5 m and 6 m span option which facilitates timber solutions.

When assessing the column grid we are also assessing the flexibility of floor plates to support different office layouts and futureproofing changes of tenants and market trends and needs.

c) Plan Depth
Similar to the above, the quality of office floorplates is a balance between the scale/depth and influence the ability to plan the space in different configurations for different uses and users. The depth of the floor plan can affect:

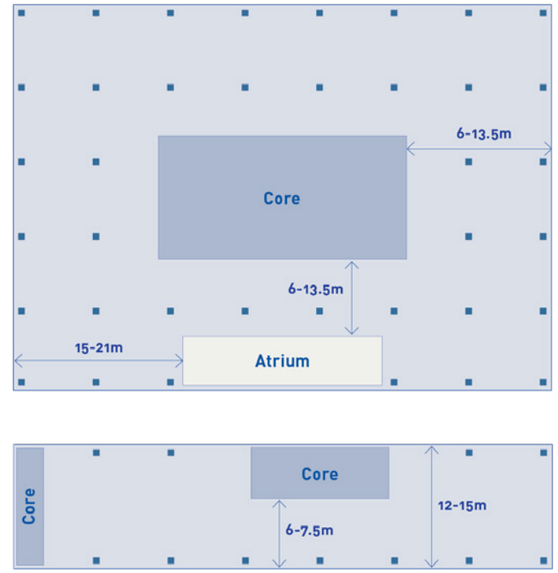
- The opportunity to use natural or mixed mode cooling and ventilation.
- Levels of natural light over a greater proportion of the office floorplate
- Improved views to the outside for a greater proportion of occupiers
- Space planning flexibility and opportunities for subdivision
- Efficiency of wall-to-floor ratio.

d) Access to natural daylight - typically larger/deep floorplates require a greater floor to ceiling height in order to allow access to natural daylight across the floor area.

The delivery of high-quality, viable, desirable commercial and residential floorspace will contribute towards the provision of public benefits set out for the site by the Council, namely:

- Provision of new homes (including affordable homes) in a sustainable location
- Provision of commercial floorspace in a sustainable location
- Attraction of new economic activity, jobs, retail and other uses

The assessment of the options is summarised on the following pages.

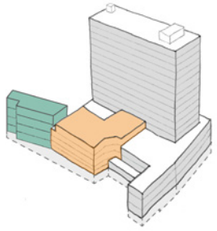


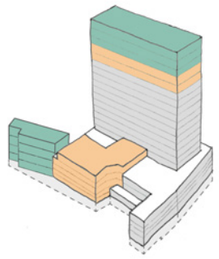
Deep & shallow plan building diagrams - extract from 2021 BCO

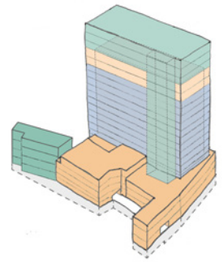
Components of Building Form - extract from 2021 BCO

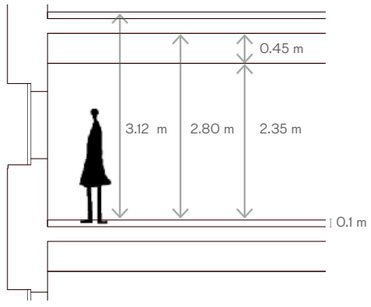
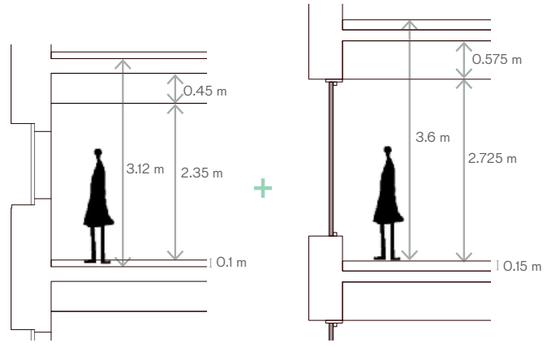
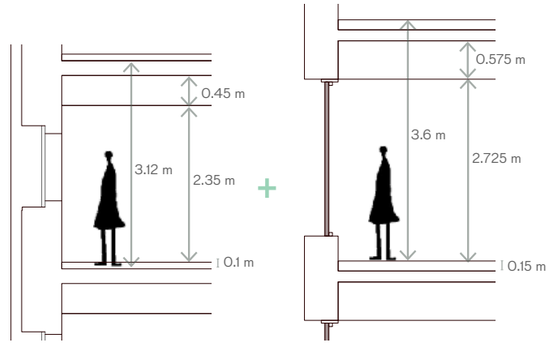
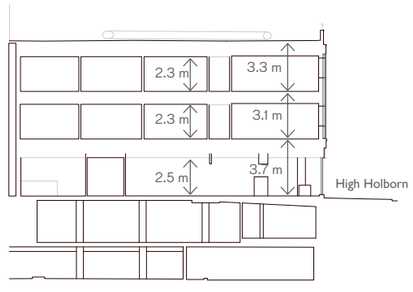
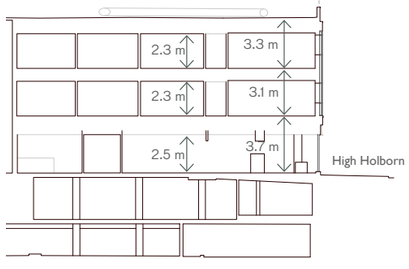
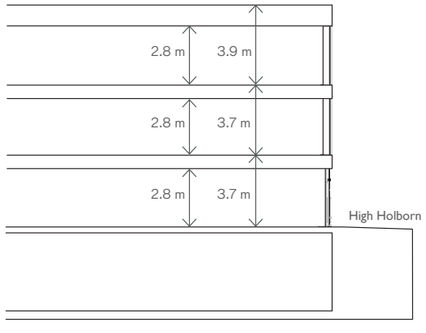
5.0 Development Options Sustainability Assessment

5.3 Space Quality



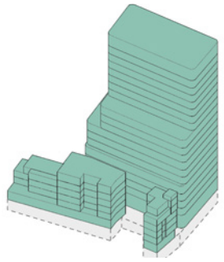


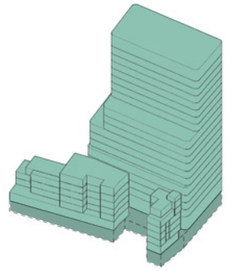


2. SPACE QUALITY	Option 1 - Maximum Retention & Retrofit	Option 2 - Maximum Retention & Extension	Option 3 - Partial Retention & Extension
Head heights	- The heights of the existing concrete slabs limits head heights which would be very constrained (2.35m). This falls below BCO guidance for refurbishments of 2.45m-2.8m - The low floor to ceiling heights contribute to poor natural light.	- The heights of the existing concrete slabs limits head heights which would be very constrained on FL3-FL13. - The low floor to ceiling heights contribute to poor natural light on FL3-FL13. - Lower floors would still have constrained head heights due to having to connect to retained floors levels. - New floors would meet BCO guidelines in terms of clear head heights for office use	- The heights of the existing concrete slabs limits the potential for improving the head height on FL3-FL13. - The low floor to ceiling heights contribute to poor natural light on FL3-FL13. - The extension would result in deeper floorplates that would exacerbate poor daylight levels. - New floors FL14-FL18 would meet BCO guidelines in terms of clear head heights for office use
Upper Floors	 Retained floors	 Retained floors New floors	 Retained floors New floors
Lower Floors	 Retained floors	 Retained floors	 New floors

5.0 Development Options Sustainability Assessment

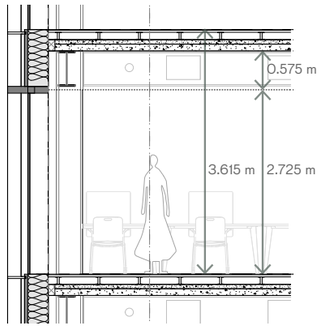
5.3 Space Quality



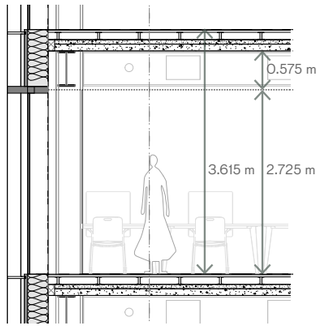


2. SPACE QUALITY	Option 4 - Basement Retention & New Build	Option 5 - New Build
Head heights	- Design can achieve good floor to ceiling heights of 2.725m. This meets BCO guidelines in terms of clear head heights for office use and provides good daylight levels for users - Lower floors would have deeper floorplates and head heights of 2.725m providing good daylight levels	- Design can achieve good floor to ceiling heights of 2.725m. This meets BCO guidelines in terms of clear head heights for office use and provides good daylight levels for users - Lower floors would have deeper floorplates and head heights of 2.725m providing good daylight levels

Upper Floors

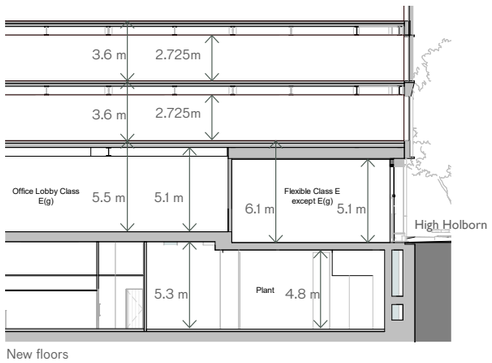


New floors

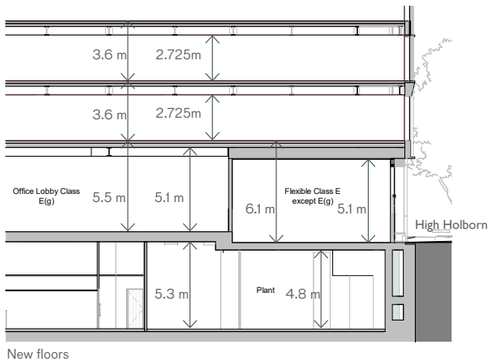


New floors

Lower Floors



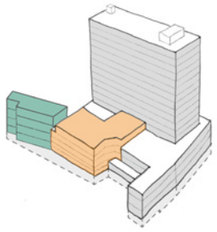
New floors

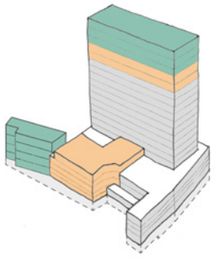


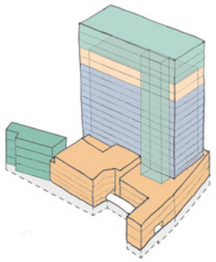
New floors

5.0 Development Options Sustainability Assessment

5.3 Space Quality





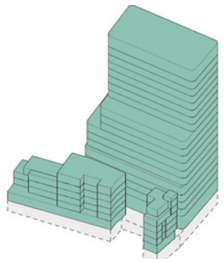


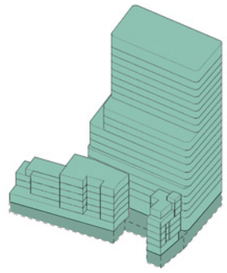
2. SPACE QUALITY	Option 1 - Maximum Retention & Retrofit	Option 2 - Maximum Retention & Extension	Option 3 - Partial Retention & Extension
Structural Grid & Flexibility **Floor plans depth**	- Existing columns spacing (4.11m x 5.08m) results on compromised floorplates and inflexible space planning - Shear walls in 14 & 15 mean that the space would need to remain compartmentalised. This limits flexibility as office space - Lower floors (first to third floor) would have extremelly deep floorplates with poor daylight [approx. 41m west-east and 46m north-south]	- Existing columns spacing results on compromised office floorplates and inflexible space planning in retained floors FL4-FL13 - Lower floors (first to third floor) would have extremelly deep floorplates with poor daylight - New floorplates / upper levels would be compromised by core location on retained floors	- Existing columns spacing results on compromised office floorplates and inflexible space planning in retained floors FL4-FL13 - The retained upper floors would become deeper which would contribute to better floor efficiency and space planning. However the structural challenges of the existing floorplate areas would remain. - New floorplates / upper levels would be compromised by core location on retained floors

**for indicative typical floor plans for Options 1-3 refer to Appendix 1,*

5.0 Development Options Sustainability Assessment

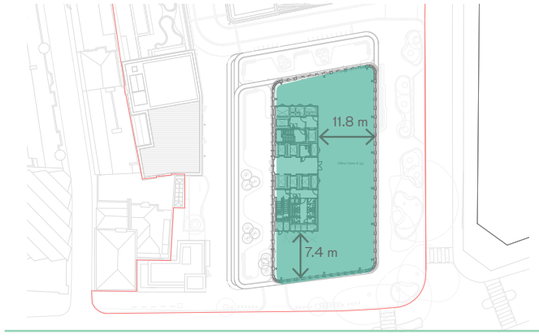
5.3 Space Quality

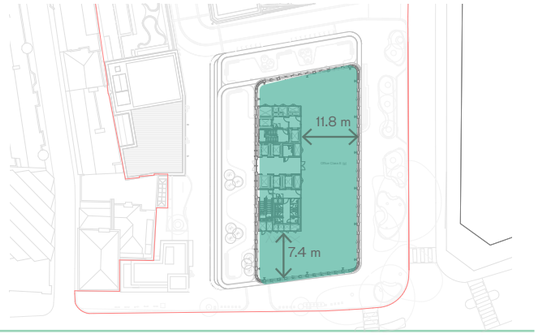




2. SPACE QUALITY	Option 4 - Basement Retention & New Build	Option 5 - New Build
Structural Grid & Flexibility **Floor plans depth**	- Open plan and new structural grid provides flexibility for space planning - Column free floor plans with the exception of 2no columns on the lower levels. - Proposed floorplates offer both shallow floorplates on the upper levels and deep floorplates of up to 10.5m between facade and core.	- Open plan and new structural grid provides flexibility for space planning - Column free floor plans with the exception of 2no columns on the lower levels. - Proposed floorplates offer both shallow floorplates on the upper levels and deep floorplates of up to 10.5m between facade and core.

Upper Floors





Lower Floors