CARTWRIGHT PICKARD

Cambridge Halls
Design & Access Statement

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UNITE STUDENTS

Manchester Metropolitan University

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Introduction

1.1 Introduction

This Design and Access Statement ('DAS') **has been prepared by Cartwright Pickard** Architects ('CPA') on behalf of Unite Students **and Manchester Metropolitan University ('Man** Met') in support of a full planning application for the demolition of existing buildings and the **development of a purpose-built 2302 bed student residential scheme with associated landscaping** and access on land bound by Cambridge Street, **Chatham Street, Boundary Street and service** road, Manchester (hereafter referred to as 'the site').

The report explains the constraints, design rationale and key decisions made which resulted in the development proposal as subject to the planning application.

The context of the site has been carefully considered and we have identified key constraints and opportunities - this proposal reflects our response to this analysis.

The design statement starts with a summary of the project brief followed by a summary of the site location and context.

The application proposal has been subject to extensive pre-application consultation with Manchester City Council planning. An Environmental Impact Assessment was submitted alongside a public consultation.

We have also worked closely with a team of consultants to develop the application proposals - this statement should be read in conjunction with the documents/drawings contained within the planning application submission pack.

The structure and content of this statement has been informed by 'Design and Access Statements: how to write, read and use them' (CABE, 2006). The statement also refers to the design guidance set out in the statutory development plan (Manchester Local Plan), associated design guidance (SPDs) and the National Planning Policy Framework ('NPPF'). The National Design Guide is also an important reference for the development and articulation of the scheme.

Client Team

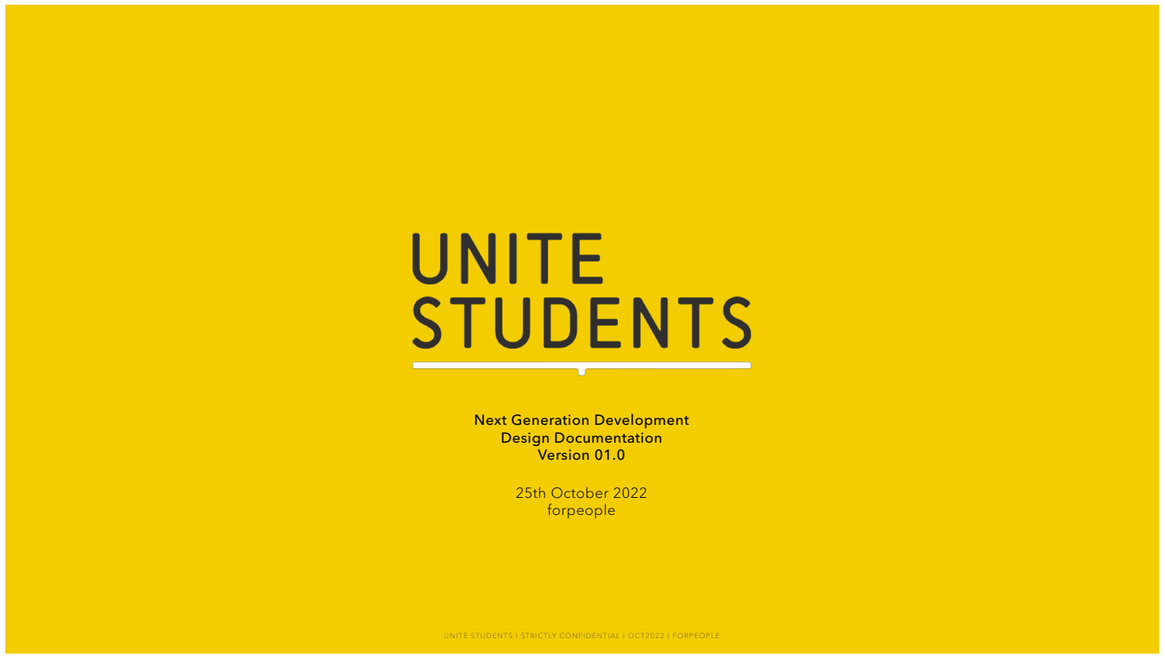
With a strong pedigree and vast experience in this sector, Unite Students are committed to delivering the proposed development in a joint venture ('JV') with Man Met, which will see the re-development of a key site in Manchester city centre into a first-class student residential accommodation.

Project team

- Cartwright Pickard (Architect)
- Turley (Planning Consultant)
- Cumming Group (Project Managers / QS)
- Waterman Group (MEP/Utilities/Sustainability)
- Arup (Structures/Civils/Carbon)
- Ashton Fire (Fire)
- Reform (Landscape Design)
- Arup (Transport)
- Atkins Realis (CDM)
- Cartwright Pickard (Principal Designer) BRegs



1.2 Introduction



Unite Students

Who we are.

Founded in 1991, Unite Students was the UK's first private provider of purpose-built student accommodation. Since then, we've provided a home for over 600,000 students as they make their way through university.

We provide a home for around 70,000 students, in 162 properties, across 23 leading university cities in England and Scotland. Unite works in partnership with more than 60 Higher Education institutions and also lets rooms directly to students.

Our 1,900 people are driven by a common purpose: to provide the students who live with us a 'Home for Success' and to be the most trusted brand in the sector. We do this through great service, great people and great properties, all designed on the basis of an unrivalled insight into students' needs and preferences.

Unite's accommodation is high quality, safe and secure, and located close to university campuses, transport links and local amenities. Students live predominantly in en-suite study bedrooms with rents covering all bills, insurance, 24-hour security, fortnightly cleaning services and high-speed Wi-Fi. MyUnite, our mobile app, provides practical support such as instant messaging and maintenance requests.

Our commitment to customer service is powered by an innovative, in-house operating platform. It provides a wide range of benefits to our students, such as an optimised online booking process, as well as providing us with a unique ability to drive value from our portfolio through scale efficiencies and revenue management.

Unite manage two co-investment vehicles – £3 billion Unite UK Student Accommodation Fund (USAF), a specialist fund, and £2 billion London Student Accommodation Vehicle (LSAV), a 50:50 joint venture Unite is the founder of and major donor to the Unite Foundation, a charitable trust established to support talented students facing challenging financial circumstances through the provision of free accommodation and annual scholarships. The Foundation has so far provided scholarships for 718 young people, working in close collaboration with 28 universities.

For more information, please visit Unite's corporate website www.unite-group.co.uk,

the student site www.unite-students.com or the Unite Foundation www.unitefoundation.co.uk.

1.3 **Design drivers & overview**

The Brief

The brief for the design team was to create a dynamic student residential building that provides a broad mix of accommodation types and support facilities and amenity to meet Man Met's student requirements, whilst also actively contributing positively to the wider community.

The building should be BREEAM Excellent and look to target the RIBA 2030 benchmark target for operational energy and water use and embodied carbon performance.

Phasing

The 2 separate buildings will be completed in 2 phases. The first phase providing circa 1100 bedrooms by September 2029. Phase 2 of an additional circa 1200 bedrooms will be complete for September 2030.

The Architecture

The building's form and massing were developed initially through detailed environmental analysis, The proposals respond to the existing street scape and site constraints and the need to make a positive contribution to the surrounding context with a varying scale and footprint.

Both building blocks step up and away from Cambridge Street, reducing impacts of overshadowing on surrounding streets, with the tallest elements set to the north east and set within the University campus.

The Accommodation

Internally the buildings will provide a highly varied mix of accommodation for the students with cluster bedrooms, post grad bedrooms, studios and fully accessible bedrooms. The students are provided a mix of study spaces, social spaces, gyms, and wellness facilities including external amenity and recreation areas within lower courtyards and also roof top areas.

Two flexible units (Use Classes E/F1/F2) - over two storeys in Phase 02 - are proposed at ground floor fronting onto Cambridge Street.

Design Programme

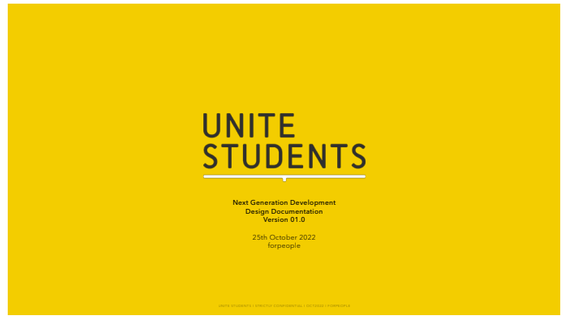
- RIBA workstage 2 until end of February 2025
- Planning submission target for April 2025 (RIBA Workstage 3)

Mix options

- Phase 1 Turnkey solution -TKS (Unite)
- Phase 2 mix options - affordable cluster/super kitchen, post-grad clusters and TKS
- Scope for short-term summer lets

References

Key Documents and built schemes have been referenced throughout the design process in order to achieve a high quality design in-line with Unite Standards. In particular, the Unite Common Areas design guide document, which studies the types of spaces required for student amenity and the Unite branding document, which gives us an insight in how United intended to redefine student living. The Man Met Estate strategy and developing masterplan was referenced to inform the building plots and associated public realm strategies.



Unite branding document intended to **redefine student living (WIP)**



Unite common areas document intended to study the types of spaces required for student amenity, including examples of Unite projects quantum



University framework document setting out Manchester Metropolitan **University strategy** for existing and future **development**

2.0

Site

2.1 Site location

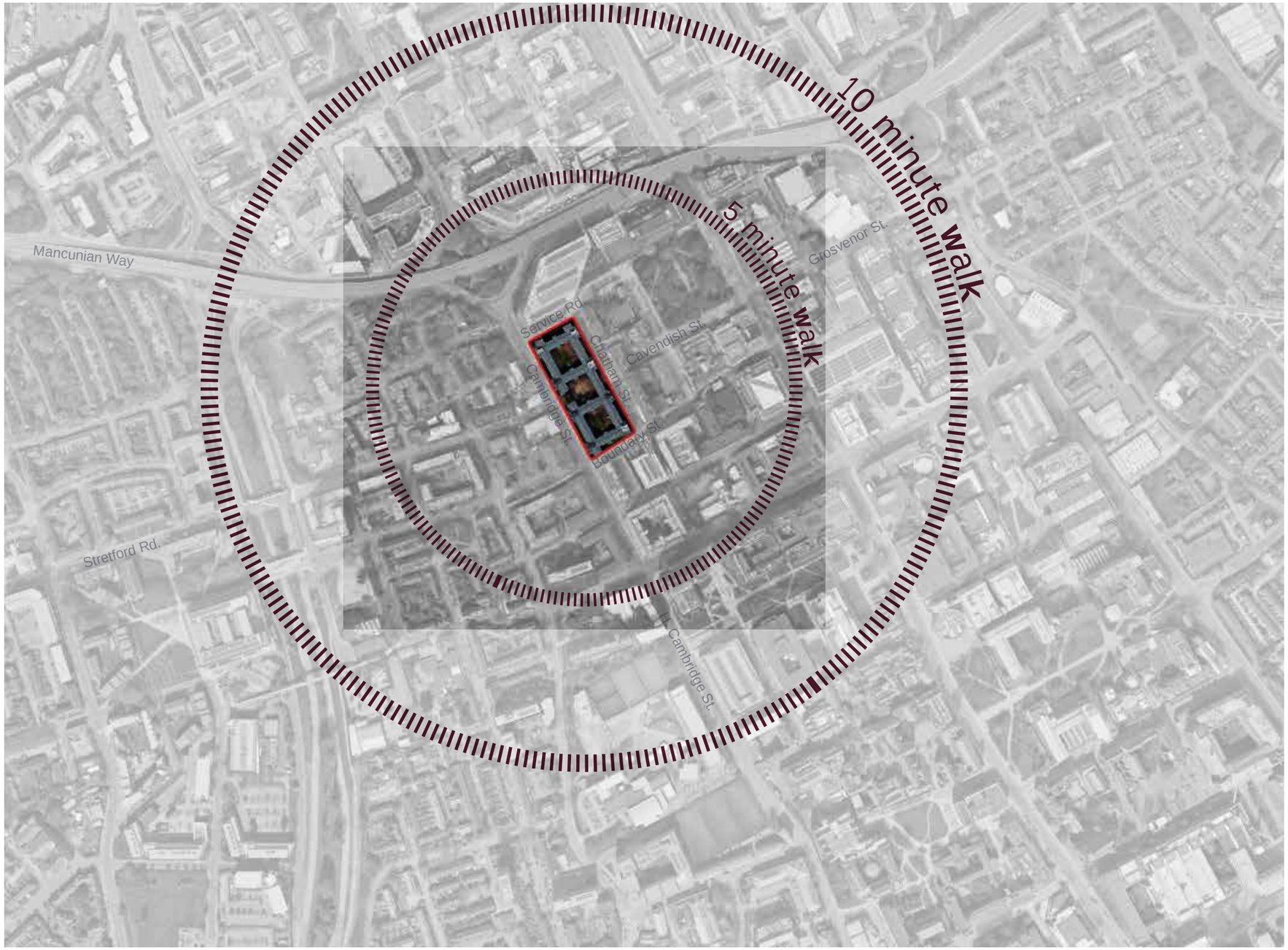
The application site is located south of Manchester City centre and the A57 'Mancunian Way'. It covers approximately 0.82 hectares. To the east of the site is the All Saints Man Met Campus and Oxford Road corridor. To the west of the site is the residential community of Hulme.

The site is on the location of the current Cambridge Halls student residences and within the Man Met Campus. It forms an integral part of the developing Man Met Campus masterplan.

The site is surrounded by an array of key amenities including bus stops, and train stations.

Local residential areas bounded by Princess Road to the west and Cambridge Street to the east are within 500m of the proposed development.

It is within close proximity of some of Manchester's important transport hubs, Oxford Road Station to the north and the Oxford Road transport corridor to the east. These enable the site to be extremely accessible by public transport.



Site

2.2 Site context

- Site is located within the Manchester Metropolitan University All Saints Campus and is bounded by Cambridge Street, Chatham Street, Boundary Street and a service road to Business School to the north
- The site is connected to the wider university Birley Fields Campus by a pedestrian and cycle route from Boundary Street
- The site has pedestrian, cycle and public transportation (such as bus links) to Manchester city centre
- To the north is the Business School and city centre
- To the east is Cavendish Halls
- To the south is Man Met student union and the Salutation public house.
- To the west is the neighbourhood of Hulme and Birley Fields campus (Man Met)



- Site
- Student accommodation
- Principle vehicular routes into City Centre
- Key busy vehicular routes
- Primarily vehicular routes
- Cycle friendly routes
- Pedestrian and cycle routes

2.3 Heights existing

- Point blocks of height surrounding site
- Low to medium height developments immediately adjacent to site (4-9 storeys)
- Tall student residential further north (Student Castle, etc)



Key - no. of storeys

- 22+
- 19-21
- 16-18
- 13-15
- 10-12
- 7-9
- 4-6
- 1-3
- Site

2.4 Comparable footprints - nearby developments

Nearby Developments

1. Man Met John Dalton Building
2. Man Met Business School and Sandra Burslem Building
3. UoM Nancy Rothwell Building (formerly Engineering Building A)
4. UoM Alliance Manchester Business School (AMBS)
5. UoM Stopford Building
6. Man Met Library
7. Upper Brook Street Masterplan



Future Developments

Existing Developments

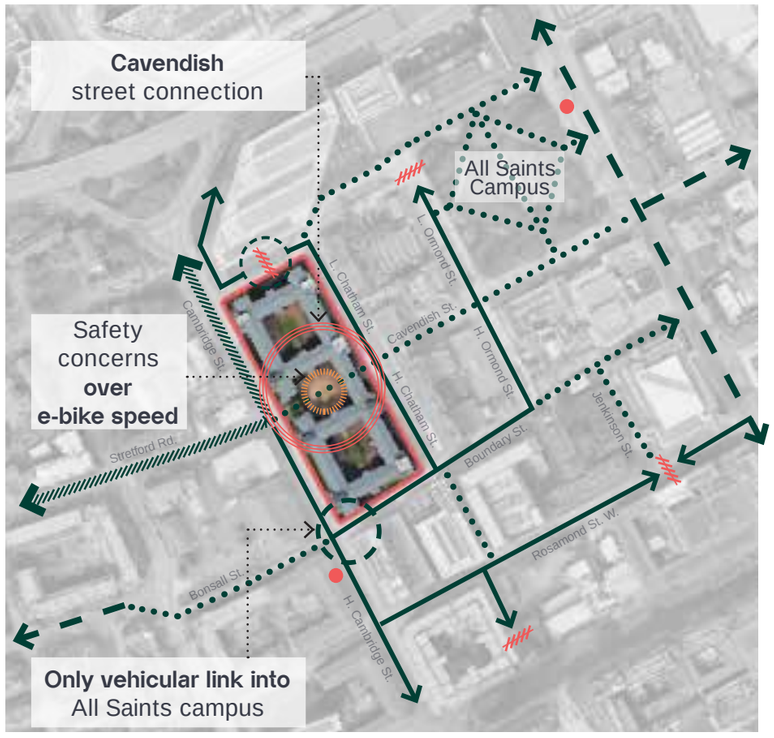
Site

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2.5 Site opportunities & constraints

01.
General Site Access

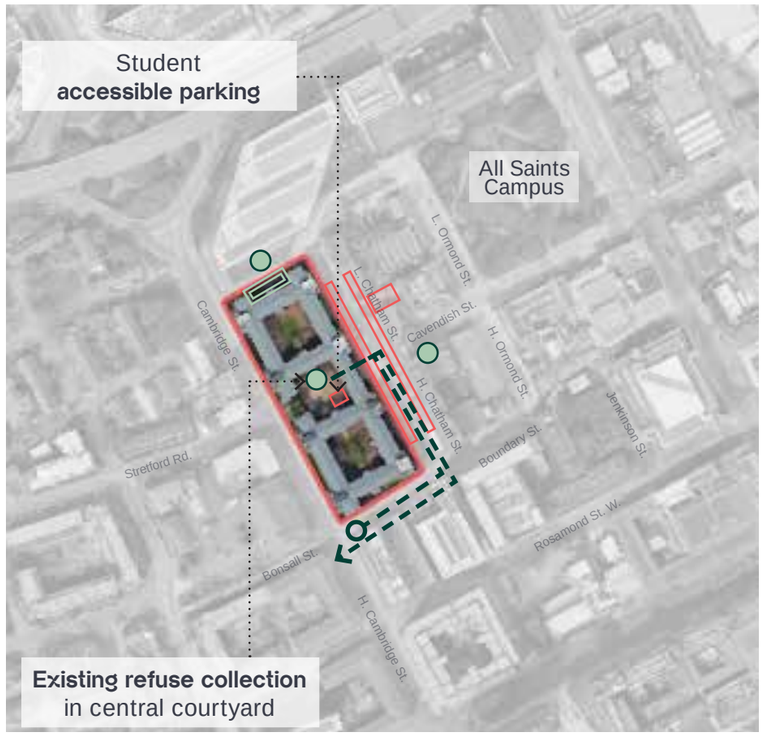
Vehicles are routed down Boundary Street from Cambridge Street, with 2-hour on-street parking down Chatham Street. Controlled access to back of Business school on north end of site. Man Met move in / move out route currently a one-way system from back of Business School around and out Cambridge Street. An existing turning circle outside the Business School allows for egress back onto Boundary St.



- Key busy vehicular routes
- Primarily vehicular routes
- Cycle friendly routes
- Pedestrian and cycle routes
- Bus stops
- No entry for vehicles
- Site

02.
Servicing

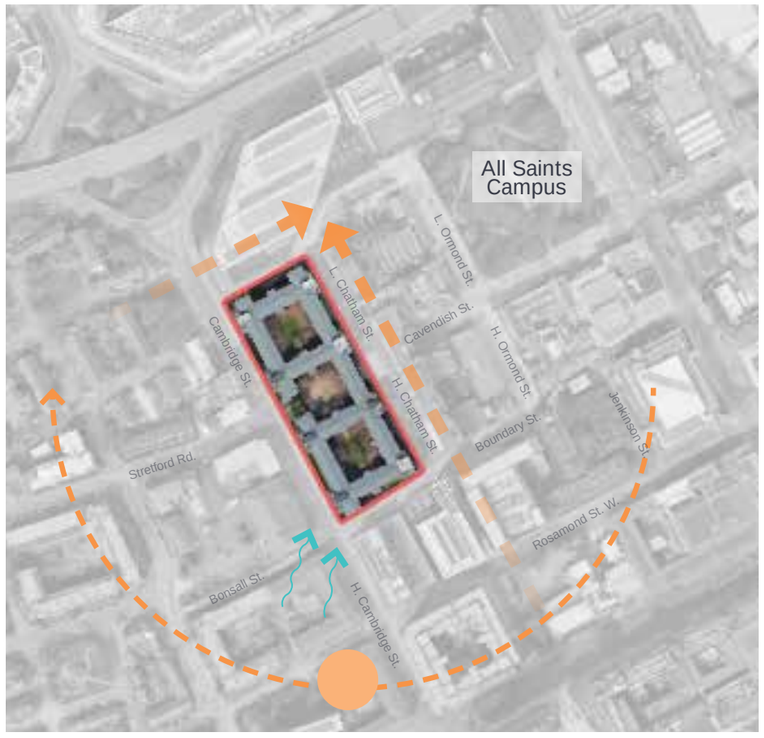
Existing refuse collection in central courtyard.



- Parking
- Man Met storage yard
- Refuse store
- Refuse vehicle
- Site

03.
Environmental Factors

The Business school and existing Cavendish Halls to the north and east of the site are of significant scale and footprint.



- Building height potential gradient
- Sun path
- Site
- Prevailing windpath

N

2.6 Public realm masterplan

The aims of the public realm masterplan for Manchester Metropolitan University is to unify existing, new and proposed faculties and create a sense of character in each area. Pedestrian, vehicular and cycle access are all key considerations, as well as maintenance and servicing to the campus.

Planit have been working alongside Arup's and Placemarque to develop the vision for the MMU campus. The public ream masterplan is a proposed phased programme of works to transform the public highways within the curtilage of the estate.

It aims to create a pedestrian priority, safe and secure public realm within All Saints campus, whilst establishing a greater link between All Saints and Birley, to reinforce a single campus for Manchester Metropolitan University whilst providing a positive impact for the wider residential community.



2.7 History

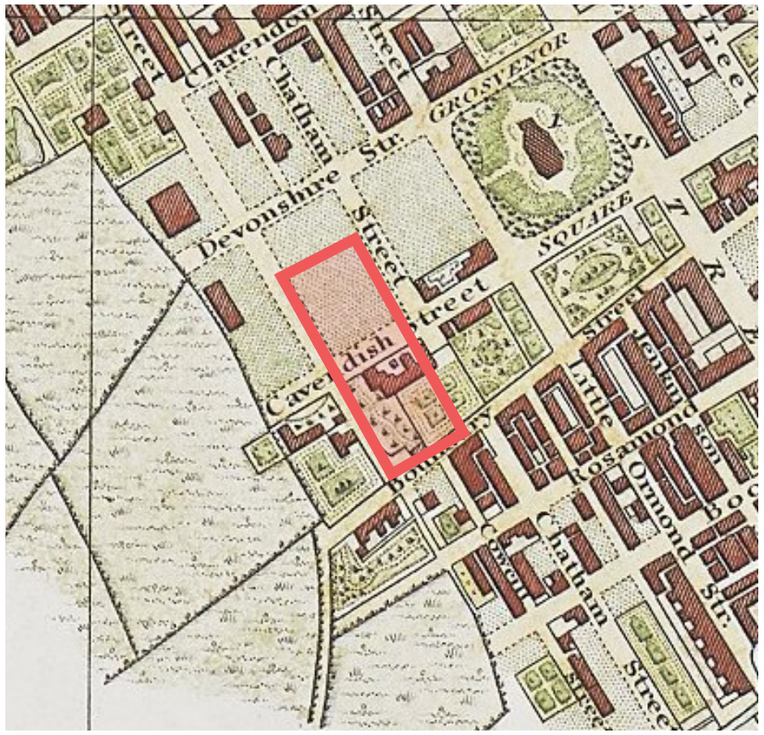
Chorlton-on-Medlock was once a bustling residential area which included industrial buildings, pubs, technical schools and houses ranging from grand Georgian villas to 'slums' on banks of the River Medlock. Life revolved around churches, which provided both a religious and social aspect for many families in the area.

The arrival of Owens College in 1873 was the beginning of a different kind of development leading to the academic campus of today. Between the arrival of Owens College in 1873 and the 1940s the college and the university slowly expanded into the adjacent residential areas

Following the war, a slum clearance programme in the 1960s began to clear entire housing estates and businesses, making way for the 'Knowledge Corridor' which would form modern-day universities down Oxford Road.

Evidence of the density of housing and associated civic buildings can be seen in all three maps below, covering the 19th and 20th centuries of development prior to the slum clearance.

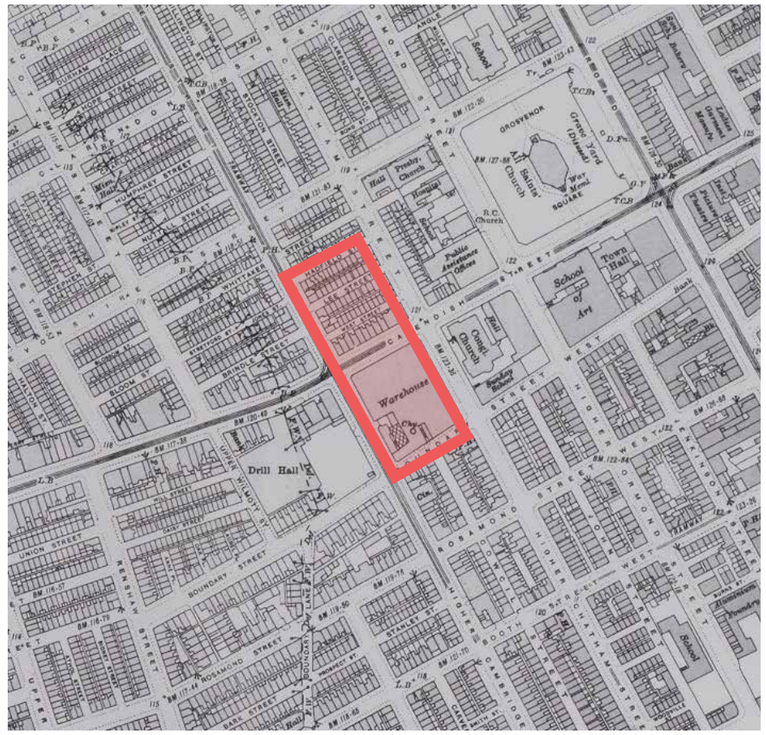
Site



1834 Map of Chorlton-on-Medlock



1896 Map of Chorlton-on-Medlock



1943 Map of Chorlton-on-Medlock

2.8 Context & heritage

Context & heritage

Manchester Metropolitan University's All Saints Campus contains both historic listed buildings as well as modern buildings.

Grade II Listed Buildings such as the Chorlton-on-Medlock Town Hall are all currently used for various faculties within the university. Neoclassical and gothic styles in stone and brick are the main features of these buildings.

In contrast, contemporary buildings have been built in the last 15 years which reflect modern materials such as metal and glass. These buildings reflect the university's aspirations and growing student presence which required more space for the various faculties on campus.

Recent renovations to All Saints Park and a wider masterplan aims to clearly define pedestrian and cycle routes and encourage their use within the campus.

There is a broad mix of materials across the Man Met Campus and Cambridge Street context, from faïence, stone and brick to metal and glass on the Business school and Benzie buildings.



Chorlton-on-Medlock Town Hall, 1831



Grosvenor Building, 1880



Ormond Building, 1881



Arts & Humanities, 2020



Benzie & Chatham, 2013



Business School, 2011

2.9 Heritage listed buildings

Listed buildings

1. Macintosh Mill
2. Chorlton Mill & Cambridge Mill
3. Chatham Mill
4. St. Augustine's Church
5. Bellhouse Building
6. Ormond Building
7. Righton Building
8. Grosvenor Building
9. Former Grosvenor Picture Palace
10. 94-98 Grosvenor Street
11. Oddfellows Hall
12. Drill Hall
13. Former Unitarian Chapel
14. The Mawson Hotel
15. Waterloo Place
16. Manchester Museum & Rutherford Building
17. Multiple University of Manchester Buildings
18. Samuel Alexander Building
19. 323-7 Oxford Road
20. Holy Name Presbytery
21. Roman Catholic Church of the Holy Name of Jesus
22. UoM Faculty of Economic and Social Studies
23. Hulme Hippodrome & Playhouse

Listed Buildings

Site



2.10 **Existing building**

Existing building

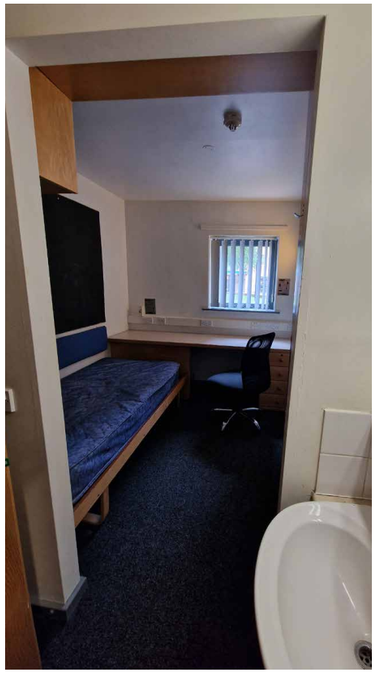
- Under supply of student accommodation in the City
- Low scale – lack of density
- Dominant physical barrier between the University campus and Higher Cambridge Street
- Lack of ground floor activity / sterile – does not engage with the surrounding context
- Of limited architectural merit
- Does not meet modern performance standards (thermal, energy usage, acoustics, etc)
- Requires extensive refurbishment
- Student experience and expectations falls short of other more modern facilities



View of entrance into existing central courtyard



Existing Cambridge Halls student accommodation





Existing central courtyard and primary entrance



View from central courtyard towards Stretford Road

3.0

Planning

3.1 Planning Context key policy

Strategic Context and Need for PBSA Development

Manchester has one of the largest student populations in Europe with over 112,215 people enrolled on courses at one of its three main universities (University of Manchester, The Manchester Metropolitan University and The University of Salford) in 2022/23, a 26% increase since 2014. This is set to grow to 120,000 in 2028/29. Approximately, 64,000 students in 2022/23 had a term time address in the City, a 62.5% increase since 2014.

In the 2022/23 academic year, Manchester Metropolitan University had a total of 3,150 students residing in provider-maintained properties, 4,375 students in private sector halls, and 9,870 students living in other rented accommodation2. This data reflects a diverse range of accommodation options available to students, with the majority living in privately rented or other accommodation outside of university-managed properties. Over 50% of first-year students require accommodation and all international students require a place to live close to the university.

According to the latest Higher Education Statistics Agency data, Manchester has more than twice as many students as it has bed spaces to accommodate them. Manchester Metropolitan University in particular requires around 5,700 beds a year to accommodate students, but has only 2,500 under its permanent control at the moment, meaning there is a shortfall of around 3,200 beds every year.

Manchester is renowned as one of the top global destinations for studying, offering a combination of exceptional and diverse educational opportunities alongside the dynamic atmosphere of one of Europe's fastest-growing cities. Its attractiveness to students is unmatched. Consequently, the City's universities are integral to Manchester's economy and play a significant role in enhancing its international reputation.

The long-term success of the City relies on its ability to attract students and produce a skilled graduate workforce for the future. Both major universities operate in a competitive environment and must continually adapt and innovate to sustain and enhance their position in the market.

It is critical to the City's long-term success that it continues to attract students to study in Manchester as outlined above. Both main universities are operating in a competitive market-place and must evolve and innovate to maintain and improve their market position. This means investing in research, course content and critical infrastructure.

A report to the City's Executive Committee in November 2019 summarised contextual changes in the PBSA market and presented a series of additional criteria against which applications for PBSA could be considered whilst still recognising the primacy of Core Strategy Policy H12 criteria. The proposed criteria were the subject of public consultation.

The report identified a number of issues in the PBSA market, including a low level of dedicated stock relative to the size of the City's student population and that the stock that was available was generally of a lower quality and expensive.

The report noted that this was resulting in students relying on the mainstream housing market in Manchester to meet their accommodation needs, with very high incidences of HMOs in the southern suburbs of the City and students also occupying city centre build to rent apartment schemes in and around Oxford Road. The City Council was able to point to high incidences of Council Tax exemption and a significant loss of income for the City Council. Further it was noted that the high reliance on the mainstream housing market was having a detrimental impact on affected communities and the private rental market, pushing up rents and preventing dwells more suited to families and other 'permanent' households from occupying these dwellings.

In December 2020, a further report was presented to the Executive Committee providing a summary of the consultation responses and recommending that members endorse the additional criteria for use as material considerations in the determination of PBSA schemes by the Planning and Highways committee. The Executive Committee resolved to support the recommendation whilst acknowledging that the additional criteria do not affect the primacy of the development plan, Policy H12.

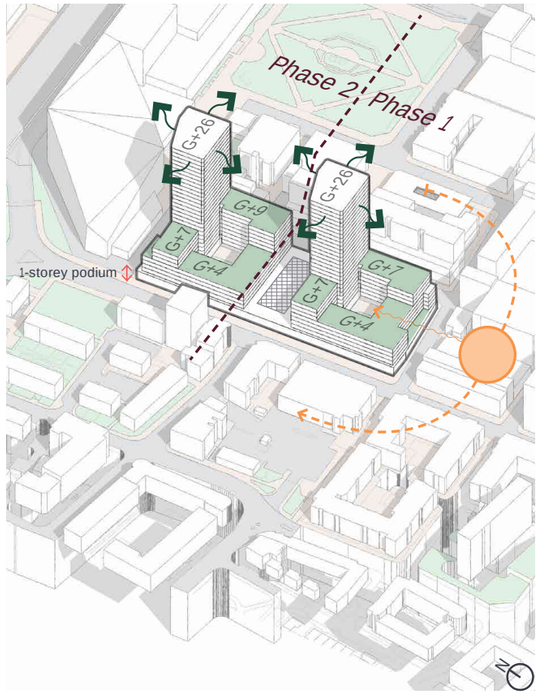
Policy H12 is a permissive policy in that it lends its support to PBSA development within the City provided it satisfies the criteria of the policy. It therefore follows that if each of the criteria are met, the proposals benefit from the support of H12.

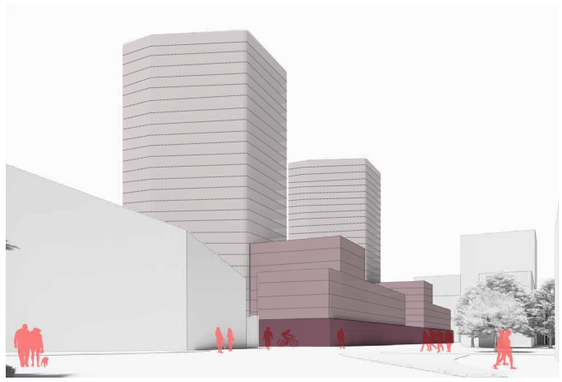
Planning Policy Position

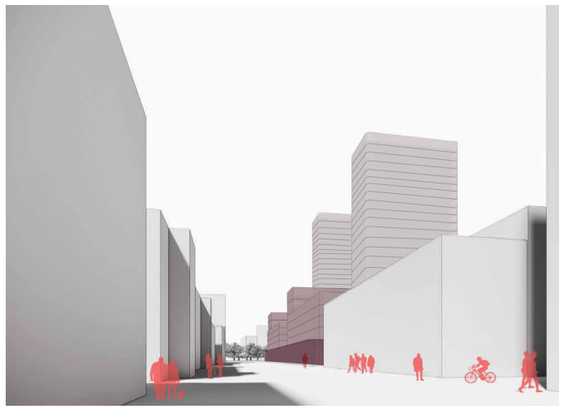
As assessment against the criteria set out in Policy H12 if presented below:

1. 1. Sites should be in close proximity to the University Campus or to a high frequency public transport route which passes the area.
2. 2. The Regional Centre, including the Oxford Road Corridor, is the strategic area for low and zero carbon decentralised energy/infrastructure. Proposed schemes that fall within this area will be expected to take place in the context of the energy proposals plans as required by Policy EN 5.
3. 3. High density development should be sited in locations where this is compatible with existing developments and initiatives, and where retail facilities are within walking distance. Proposals should not lead to an increase in on-street parking in the surrounding area.
4. 4. Proposals that can demonstrate a positive regeneration impact in their own right will be given preference over other schemes. This can be demonstrated for example through impact assessments on district centres and the wider area. Proposals should contribute to providing a mix of uses and support district and local centres, in line with relevant Strategic Regeneration Frameworks, local plans and other masterplans as student accommodation should closely integrate with existing neighbourhoods to contribute in a positive way to their vibrancy without increasing pressure on existing neighbourhood services to the detriment of existing residents.
5. 5. Proposal should be designed to be safe and secure for their users, and avoid causing an increase in crime in the surrounding area. Consideration needs to be given to how proposed developments could assist in improving the safety of the surrounding area in terms of increased informal surveillance or other measures to contribute to crime prevention.
6. 6. Consideration should be given to the design and layout of the student accommodation and siting of individual uses within the overall development in relation to adjacent neighbouring uses. The aim is to ensure that there is no unacceptable effect on residential amenity in the surrounding area through increased noise, disturbance or impact on the streetscene either from the proposed development itself or when combined with existing accommodation.
7. 7. Where appropriate proposals should contribute to the re-use of Listed Buildings and other buildings with a particular heritage value.
8. 8. Consideration should be given to provision and management of waste disposal facilities, that will ensure that waste is disposed of in accordance with the waste hierarchy set out in Policy EN 19, within the development at an early stage.
9. 9. Developers will be required to demonstrate that there is a need for additional student accommodation or that they have entered into a formal agreement with a University, or another provider of higher education, for the supply of all or some of the bedspaces.

3.2 Pre-application summary quantum & massing

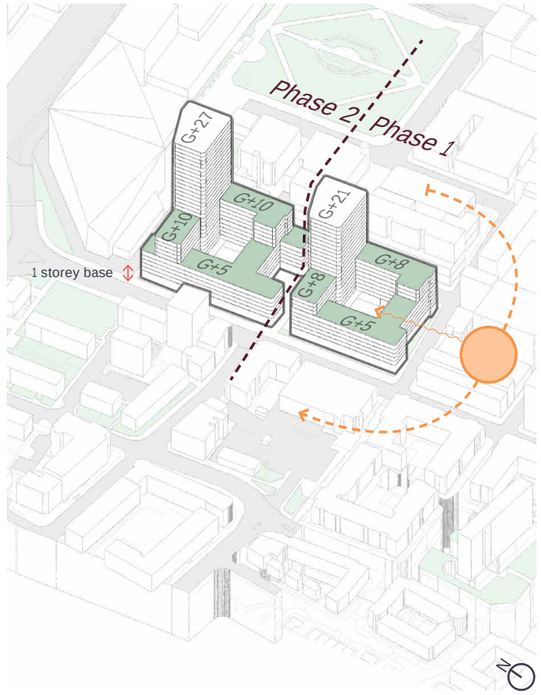


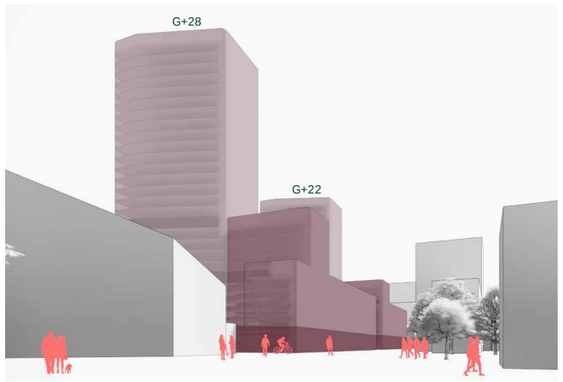




MCC pre-app 01

- Meeting on 30th August 2023
- 5no. massing options presented with GF strategy and accommodation schedules
- Hulme is a sensitive area, any design would need to avoid the feeling of a 'wall' between the university and the wider neighbourhood
- Existing controversial link along Cavendish St. which is resulting in collisions of pedestrians, electric scooters, cyclists, etc.



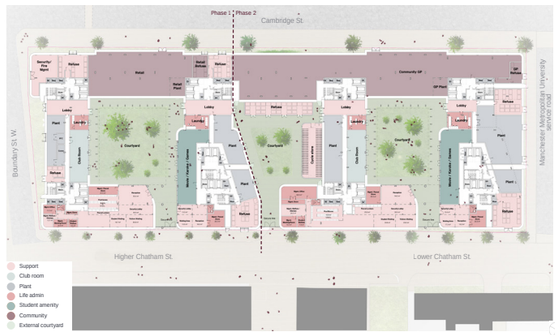




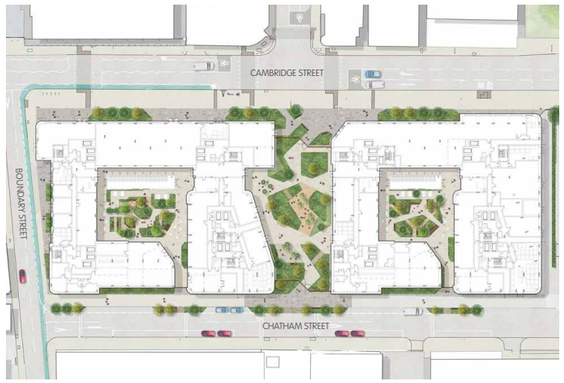
MCC pre-app 02

- Meeting on 10th October 2023
- Scheme to deliver community uses for Hulme and publicly engage the community
- Delivery of student accommodation precisely where it is needed
- MCC to review Cavendish St. link with local councillors
- Height concentrated at furthest location from Cambridge St towards Man Met campus preferable
- Two tower scheme well received
- Building 'shoulders' to be lowered to highlight articulation of towers
- Encouragement to co-ordinate with University of Manchester on PBSA proposals

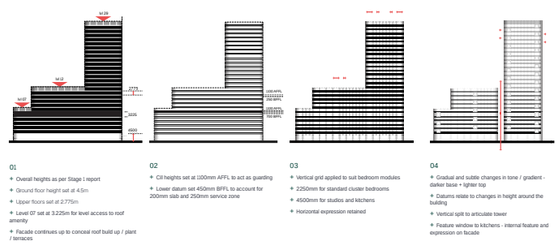
3.3 Pre-application summary public realm & facades



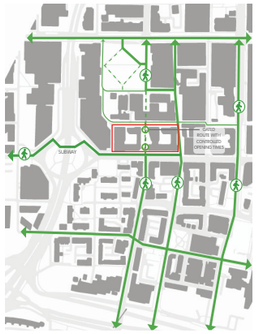


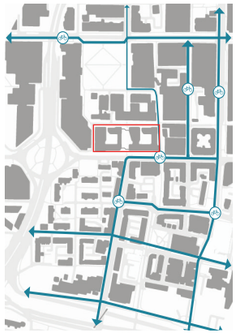














MCC pre-app 03

- Meeting on 27th June 2024
- Reduction in perception of massing
- Avoid excessive repetition of façade treatments
- Quality of finish to metalwork in particular
- Provide material samples at next pre - app
- High level landscaping/movement strategy
- More advanced public realm strategy

MCC pre-app 04

- Meeting on 15th August 2024
- Focus on public realm and access for both pedestrians and cyclists, with central route open to public during specified hours
- Mix not an issue, so long as studios kept to a minimum
- Massing strategy to push and pull blocks acceptable
- Next pre-app focus on quality of materials and finishes to facades

3.4 Pre-application summary public realm & facades





MCC pre-app 05

- Meeting on 11th December 2024
- Quality of metalwork and precast concrete materiality through samples
- Opportunities for pattern and craft to avoid large expanses of concrete
- Updated landscaping/movement and public realm strategy









MCC pre-app 06

- Meeting on 6th March 2025
- Refined facade approach, removing precast 'T' shapes
- Updated landscaping/movement and public realm strategy
- Updated rooftop amenity provision
- Feedback to address material selection, pattern and the circular openings





3.5 Public consultation

The submission of this planning application **has been supported by a comprehensive consultation process which demonstrated a wide-reach and regular opportunity for participants to feedback prior to** submission of the application.

Meetings were held between the project team and key stakeholders such as local ward members, Executive Member for housing and development and the local Member of Parliament.

Leaflet deliveries, social media updates and a dedicated website were implemented along with a public drop in event and public webinar, which enabled members of the public to ask questions and find out more about the proposals.

The consultation took place over a three-week period from 29th January to 19th February 2025. At the end of this period of consultation, 116 individual submissions of feedback were received. A number of recurring themes emerged:

- Affordability considerations
- Cycle and Pedestrian Access
- The principle of redevelopment of the site is supported
- Building height and impact on sunlight
- The need for high-quality sustainable design
- Need to improve outdated existing accommodation
- Community considerations and impact
- Impact on local infrastructure
- Noise and anti-social behaviour

Public Consultation Results

All feedback received has been considered and analysed, with further detail provided in the supporting Statement of Community Engagement, prepared by Turley.



Public consultation banner



Public webinar



Public consultation at Manchester Metropolitan Student Union



Public consultation at Manchester Metropolitan Student Union

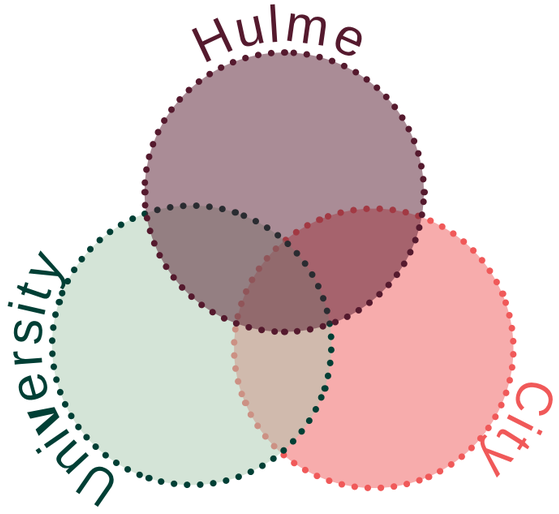
4.0

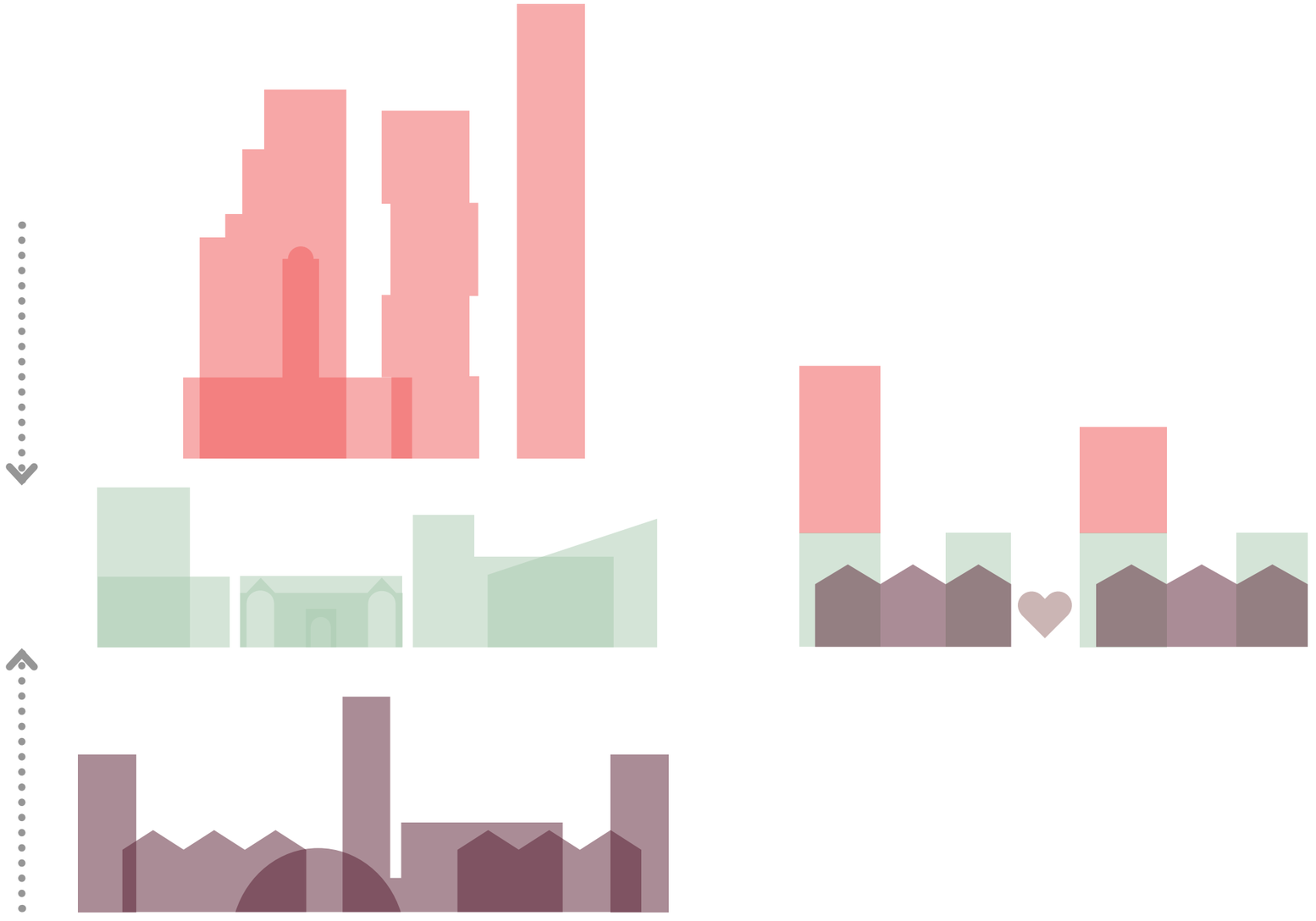
Design principles

4.1 Concept

Site adjacencies

- The site is situated at a unique crossroads between the university to the east, the city to the north and the neighbourhood of Hulme to the west
- The scheme strategy aims to be permeable, improve connectivity and reduce barriers between various communities.





01.
The site

The site is the confluence between Hulme, Manchester Metropolitan University Campus and the wider City

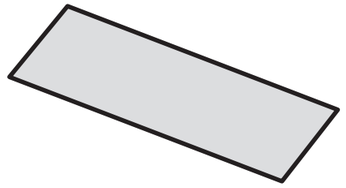
02.
The programme

The proposal is formed by overlapping these local, campus and city communities.

03.
New Typologies

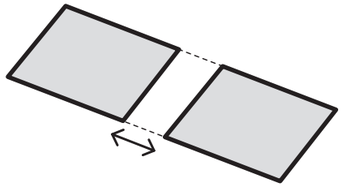
The proposal aims to create a new and vibrant typology that supports each group whilst remaining sensitive to the context

4.2 Approach



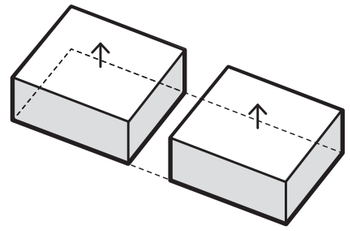
01.
Site

Footprint taken to back of existing pavement line.



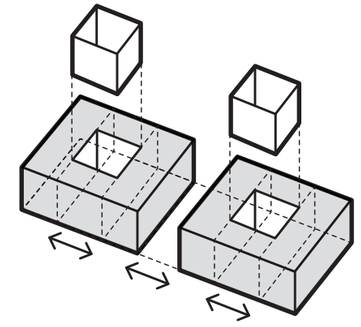
02.
Split

Site split into 2 parts - Phase 1 and Phase 2. Break down the mass of the building and opportunity to investigate permeability through the site.



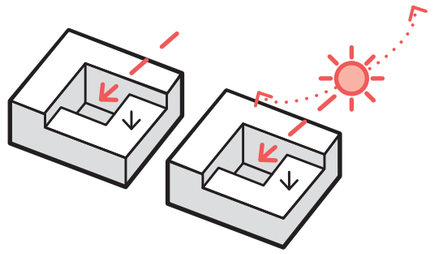
03.
Blocks

Heights of blocks extruded to assess deliverable quantum on the site.



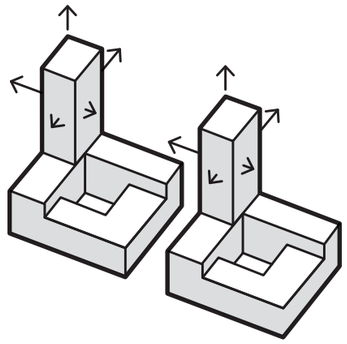
04.
Accommodation

Depth of floor plates to suit accommodation and set block widths. Central courtyard added to both blocks to provide natural daylight to the centre of the plan.



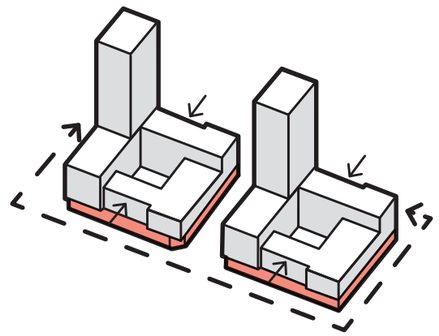
05.
Environment

Southern corner of the site dropped in height to allow daylight into central courtyards and reduce overshadowing. Reduced height in blocks correspond to the lower, residential scale of Hulme.



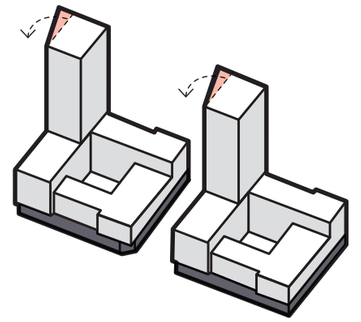
06.
Towers

Height increases to the northern corners of the site to relate to the scale of the City and the University. Height on these corners reduces issues of overshadowing.



07.
Activate & articulate

An active ground floor round both plots acts to unify the site and create a sympathetic street scale to the development. Pushing and pulling of the massing along primary facade creates visual interest and breaks down the massing.



08.
Geometry

In order to reduce the number of north facing bedrooms, the northern elevation on both towers is angled which also adds dynamism to the form of towers.

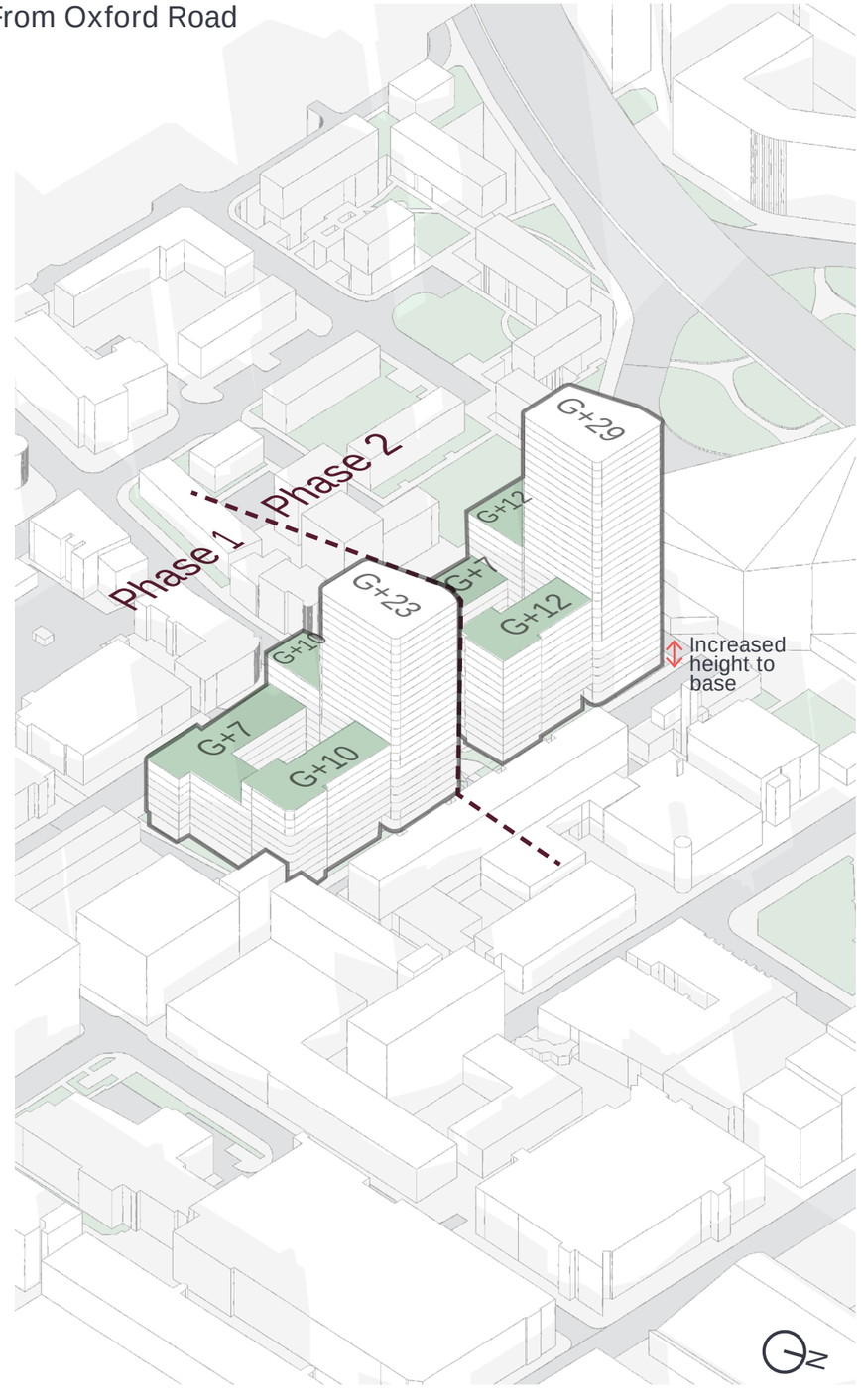
4.3 Massing

Massing principals

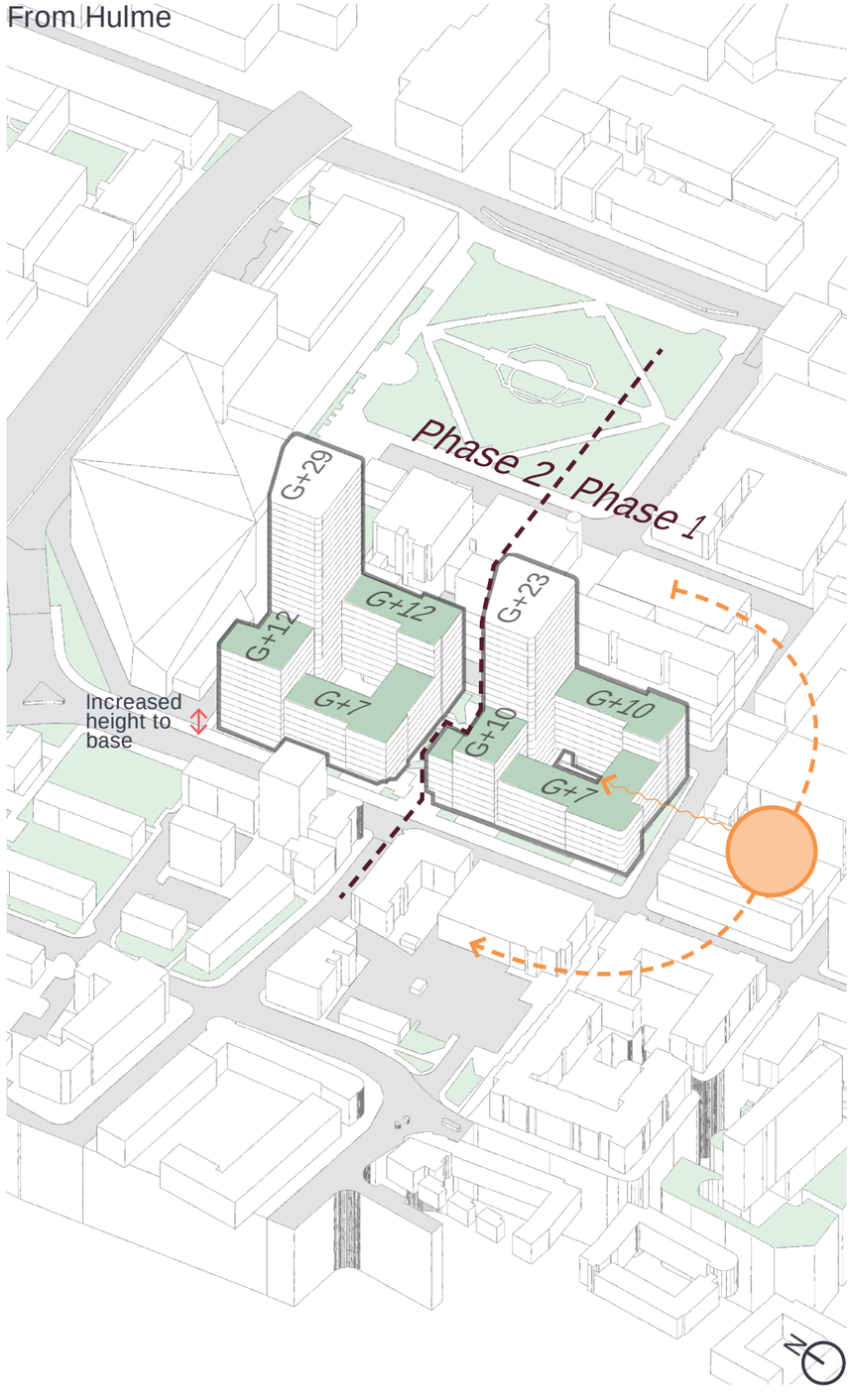
- Split into two distinct blocks
- Each block steps up towards the NE - City and University Campus
- Massing designed to maximise daylight levels and mitigate over shadowing of surrounding context
- Each block steps down towards SW - Hulme
- The towers reference the city scale
- The Cambridge Street elevation is a series of lower forms in response to the local urban context
- Each phase is arranged around a central courtyard to allow daylight and views into quality landscaped areas



From Oxford Road



From Hulme



4.4 **Environmental analysis** iterations

Daylight potential

The Vertical Sky Component (VSC) analysis shows good daylight potential in the towers and the spaces facing Higher Cambridge Street. Flats at lower levels, facing Lower Cambridge Street and around courtyards, achieve lower levels of VSC.

Further analysis would require assessing internal daylight levels taking into account window sizes, building materials, room sizes or room functions. The indoor daylight performance is dependent on these factors and the amount of daylight required is usually different for different room functions.

The purpose of the Vertical Sky Component analysis is to be an indicator of daylight potential. Therefore, fabric specifications and design of internal layouts coupled with detailed analysis of internal daylight factors and luminance levels would determine daylight conditions of internal spaces.

Sun hours

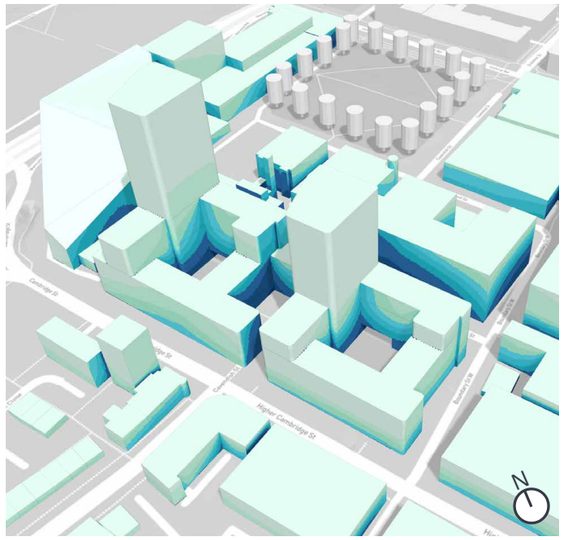
All courtyards receive more than two hours of direct sunlight on 50% of the are on June 21 and zero hours on March 21.

Amenity areas on rooftops are mostly unobstructed, receiving 8-9 hours on both dates.

Other considerations

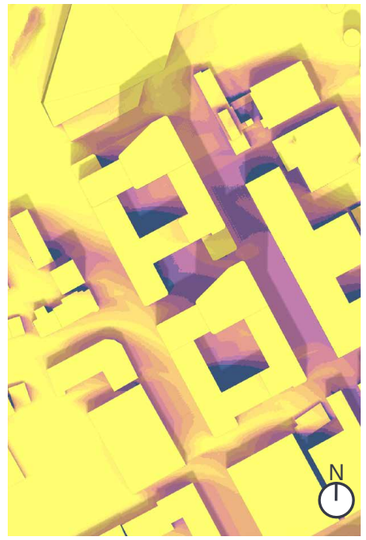
There is good solar exposure on roofs, and on south and southwest orientations at high levels. Southwest facades on the towers have most potential for PVs integrated into facade. Wind comfort levels overall are positive.

Please refer to the Environmental Statement for more detail on all of the above.





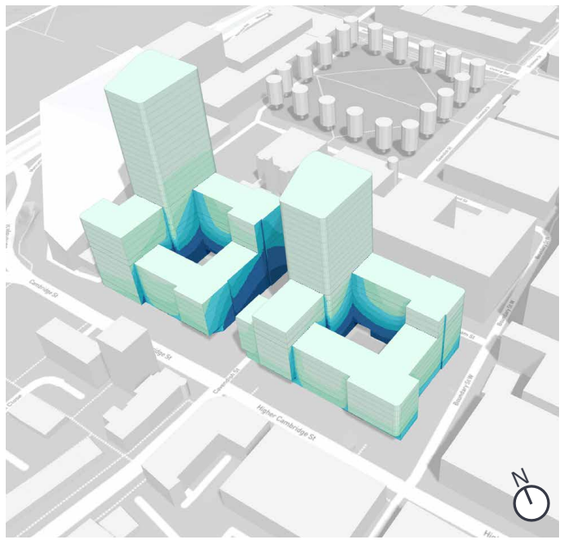
March 21

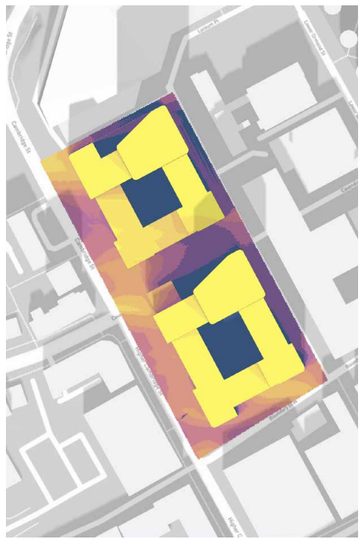


June 21

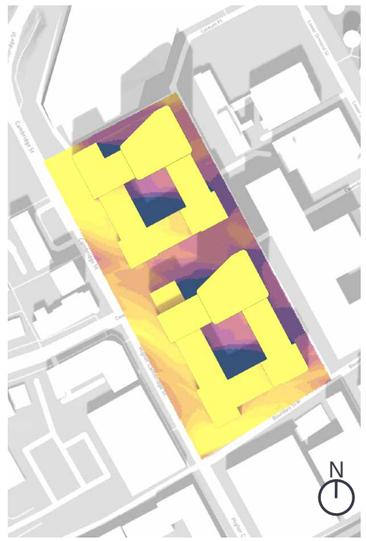
March 2024 pre-app

The Vertical Sky Component (VSC) analysis shows good daylight potential in the towers and the spaces facing Higher Cambridge Street. Flats at lower levels, facing Lower Cambridge Street and around courtyards, achieve lower levels of VSC.





March 21



June 21

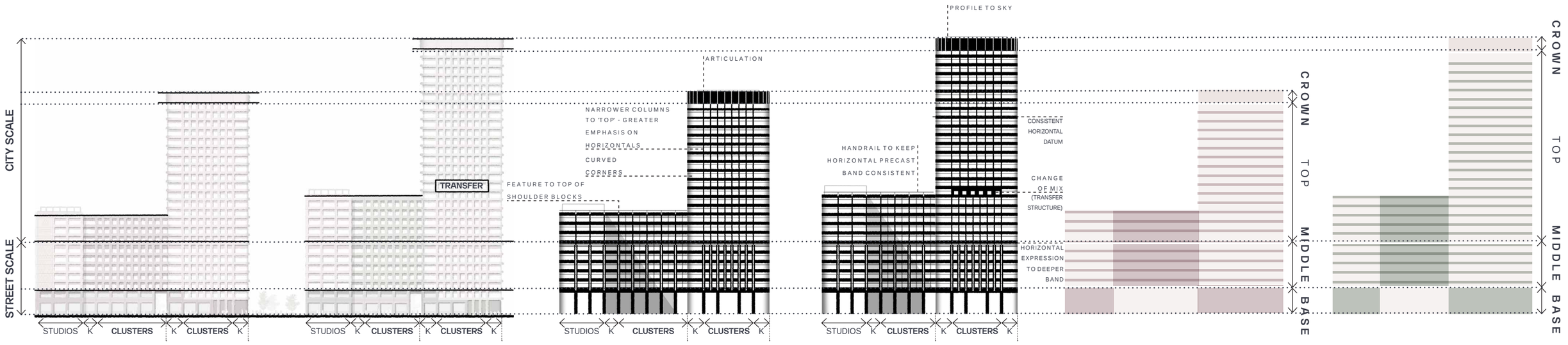
August 2024 pre-app

The Vertical Sky Component (VSC) analysis shows good daylight potential in the towers and the spaces facing Higher Cambridge Street. Flats at lower levels, facing Lower Cambridge Street and around courtyards, achieve lower levels of VSC.





4.5 Facade Diagrams strategy



01.
Datums

Datums set at podium level to highlight amenity, Cambridge Street roof level to highlight street scale and parapet level to crown the towers.

02.
Articulated

Column and parapet features across the facade used to create variation and signify use type behind.

03.
Colour

Colour used to create variation across the facade, breaking down the building blocks.

5.0

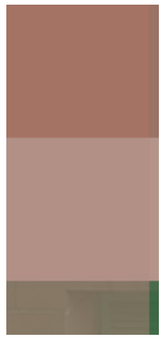
Materiality

5.1 Colour memory of Hulme

Context colours

Memory of Hulme colours







#d59a8c

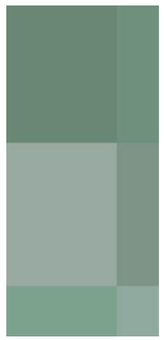






#8a5551

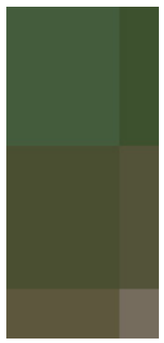






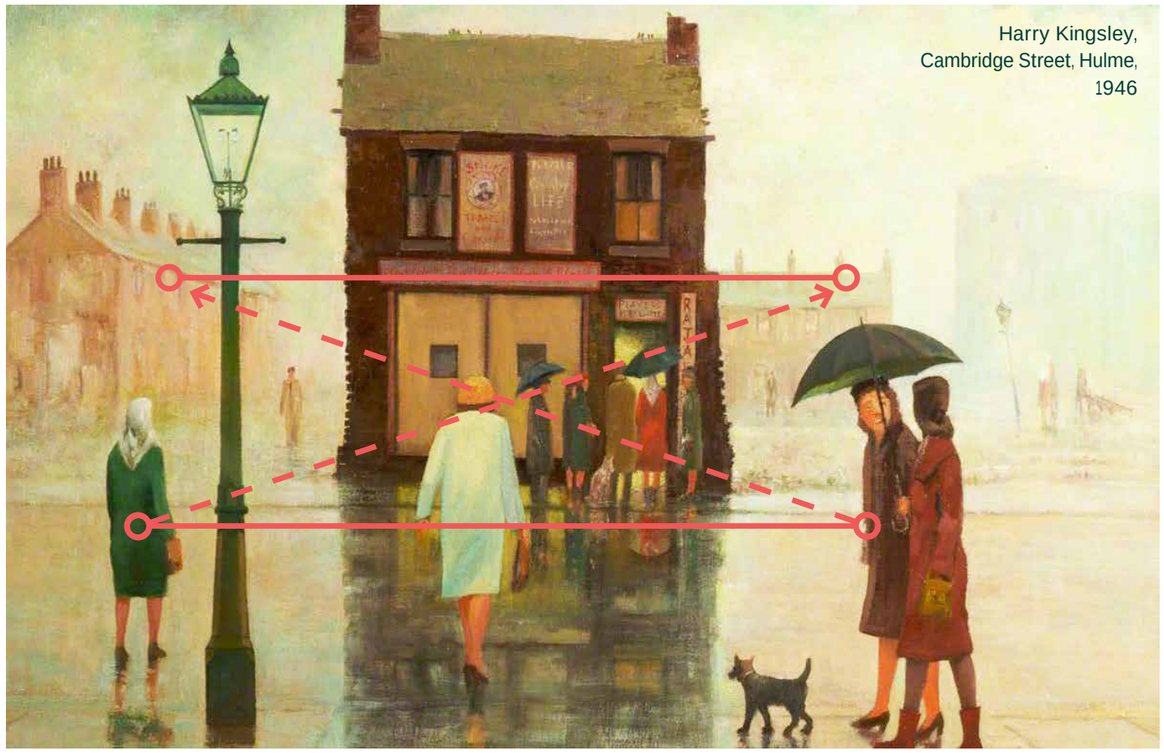
#b1c7a3







#457f4c



Harry Kingsley,
Cambridge Street, Hulme,
1946

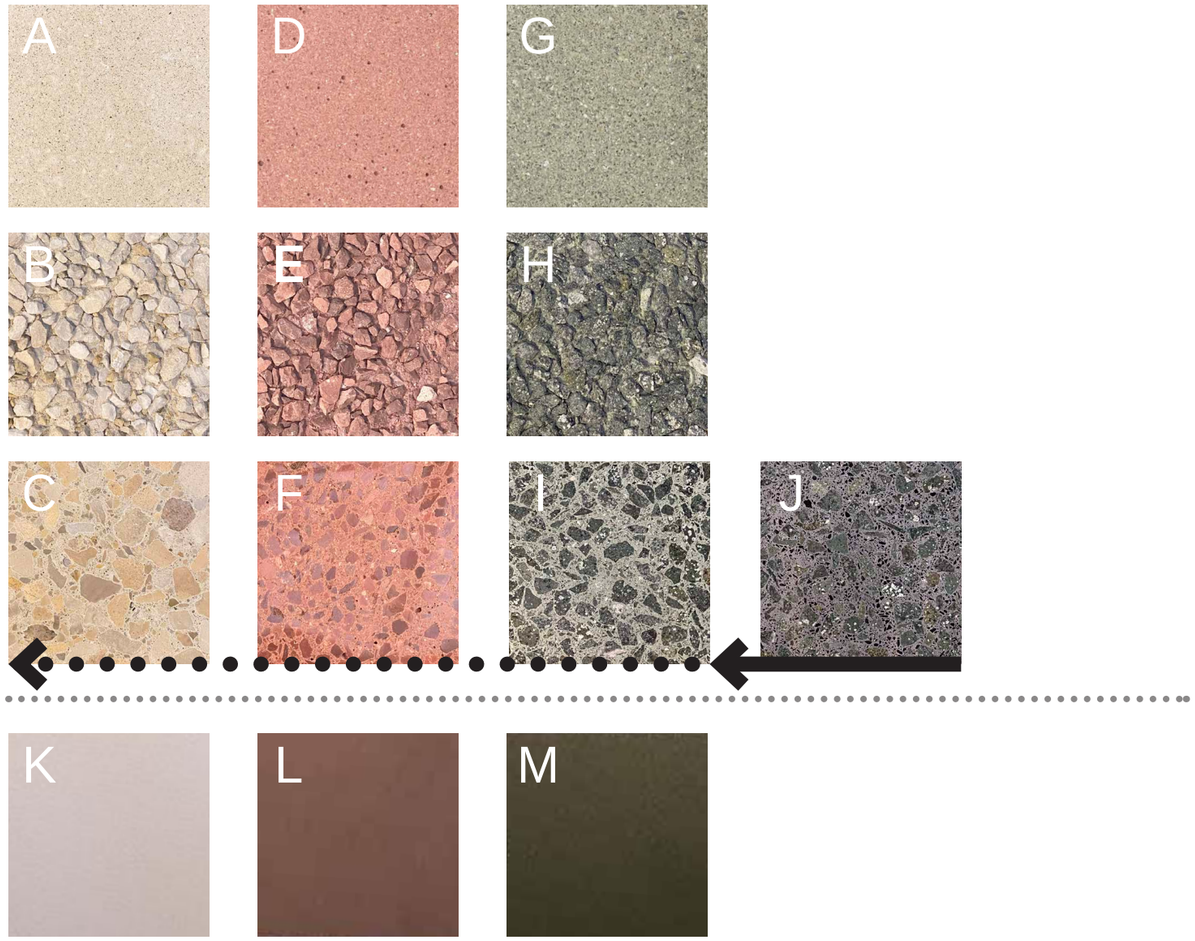




Memory of Hulme

The proposed materials have primarily been selected through our analysis of the context and public realm - products, finishes and tones which will sit harmoniously within its setting.

5.2 Colour and materials



A Light grit blast buff precast

B Retarder buff precast (upper)

C Buff polished precast (base)

D Red / pink light grit blast precast (Phase 01)

E Retarder red / pink precast (upper)

F Red / pink polished precast (base)

G Green light grit blast precast (Phase 02)

H Retarder green precast (upper)

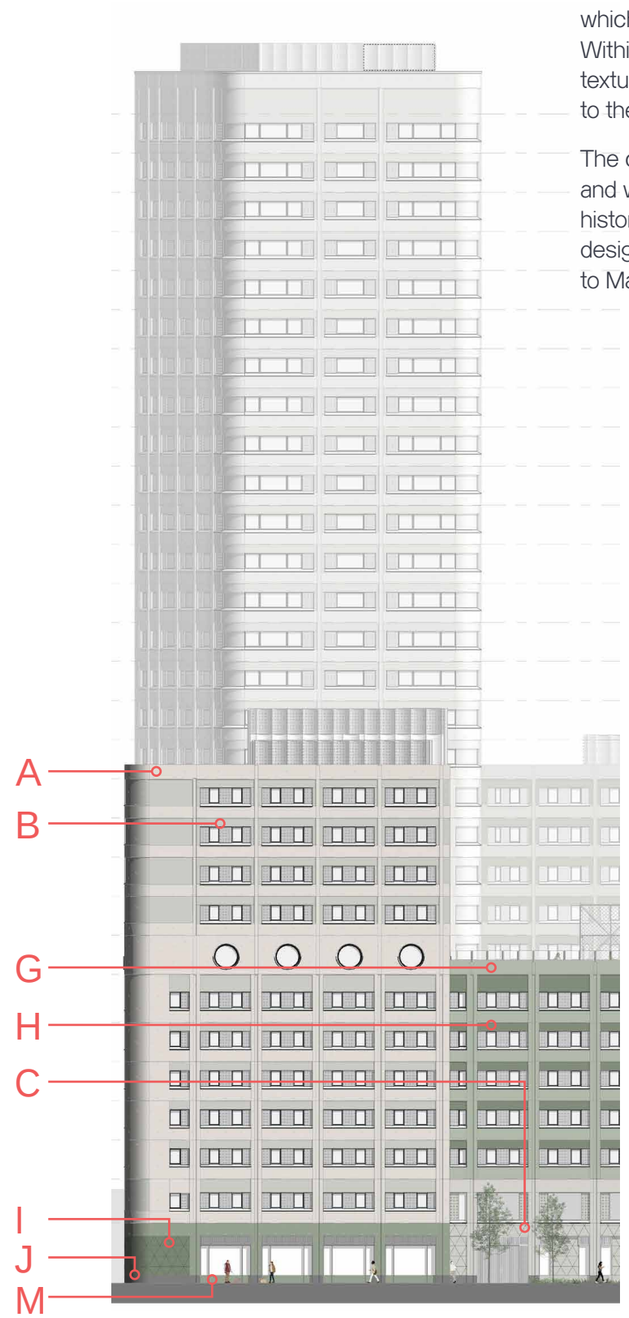
I Green polished precast (base)

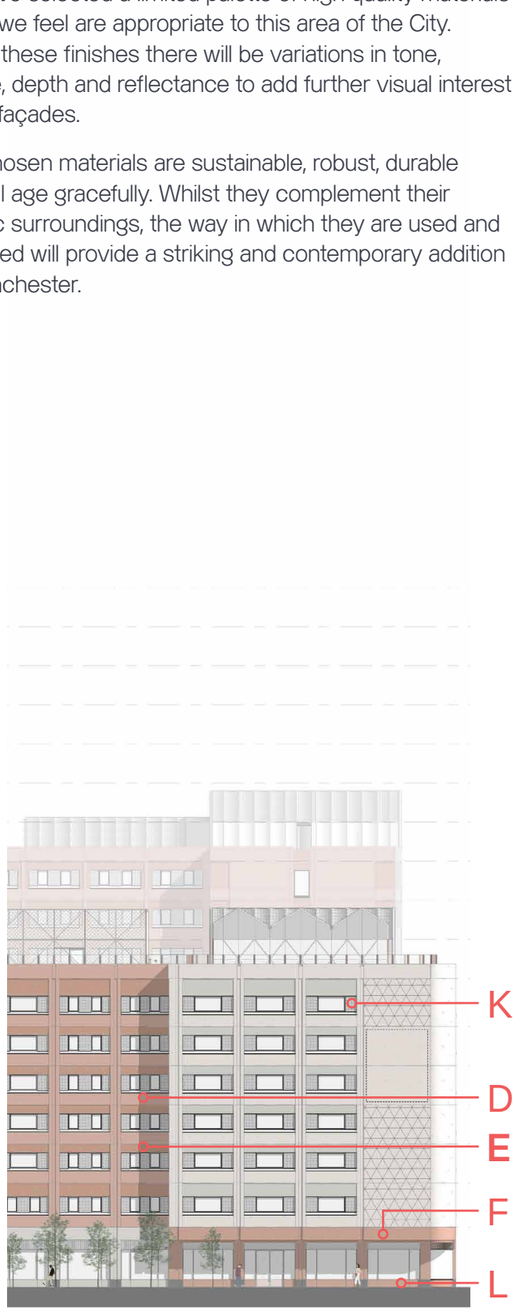
J Darker polished precast to complement colour ('socks')

K Silver, highly durable anodised aluminium - to all metalwork across all blocks level 2 and above

L Red / Pink, highly durable anodised aluminium - to all metalwork at ground and first floor only (tone to complement 'F' precast)

M Dark green, highly durable anodised aluminium - to all metalwork at ground and first floor only (tone to complement 'I' precast)





The materials have low embodied carbon, are sourced regionally wherever possible and can be designed to be demounted and recycled at end of life.

We have selected a limited palette of high quality materials which we feel are appropriate to this area of the City. Within these finishes there will be variations in tone, texture, depth and reflectance to add further visual interest to the façades.

The chosen materials are sustainable, robust, durable and will age gracefully. Whilst they complement their historic surroundings, the way in which they are used and designed will provide a striking and contemporary addition to Manchester.

5.3 **Sketch details**

Detail

Quality detailing mitigates weathering through cills and drip details to create a robust facade design that will age gracefully.

Craft and pattern at ground floor provides visual interest and identity at a human scale.

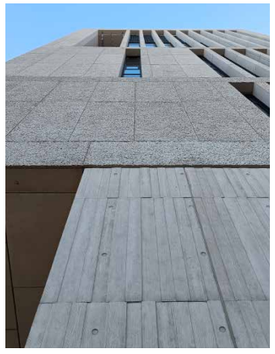
Polished concrete at ground and first floor provides a quality finish and is easily maintainable.

Materiality & variation

Colour pre-cast concrete helps create contrast and define zones between proposed blocks, with towers and shoulder blocks in buff tones and infill blocks in either red/pink or green precast depending on the phase.

Horizontal and vertical banding at various thickness's and textures helps break down the massing and articulate zones of habitation, windows and services.

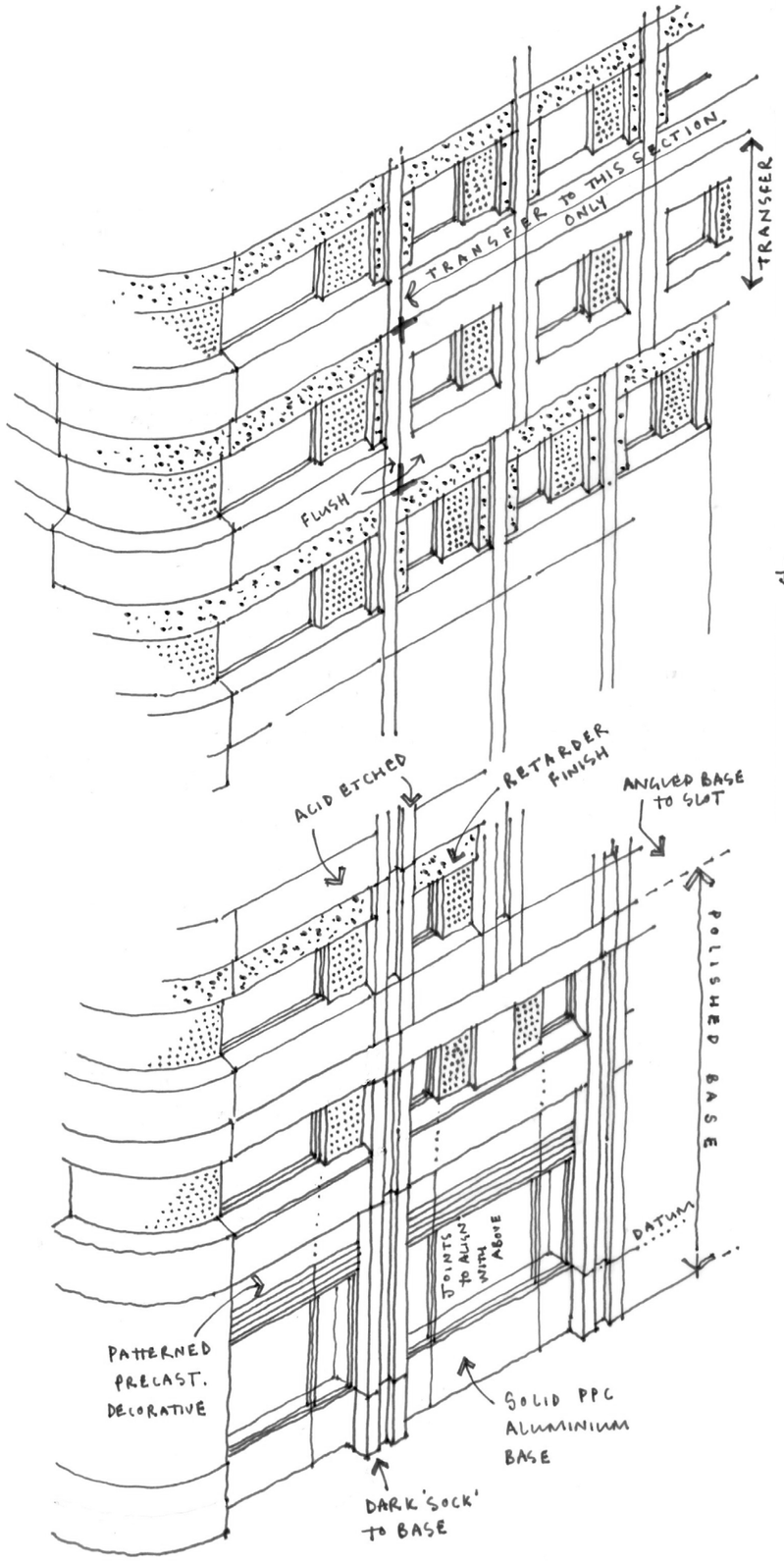




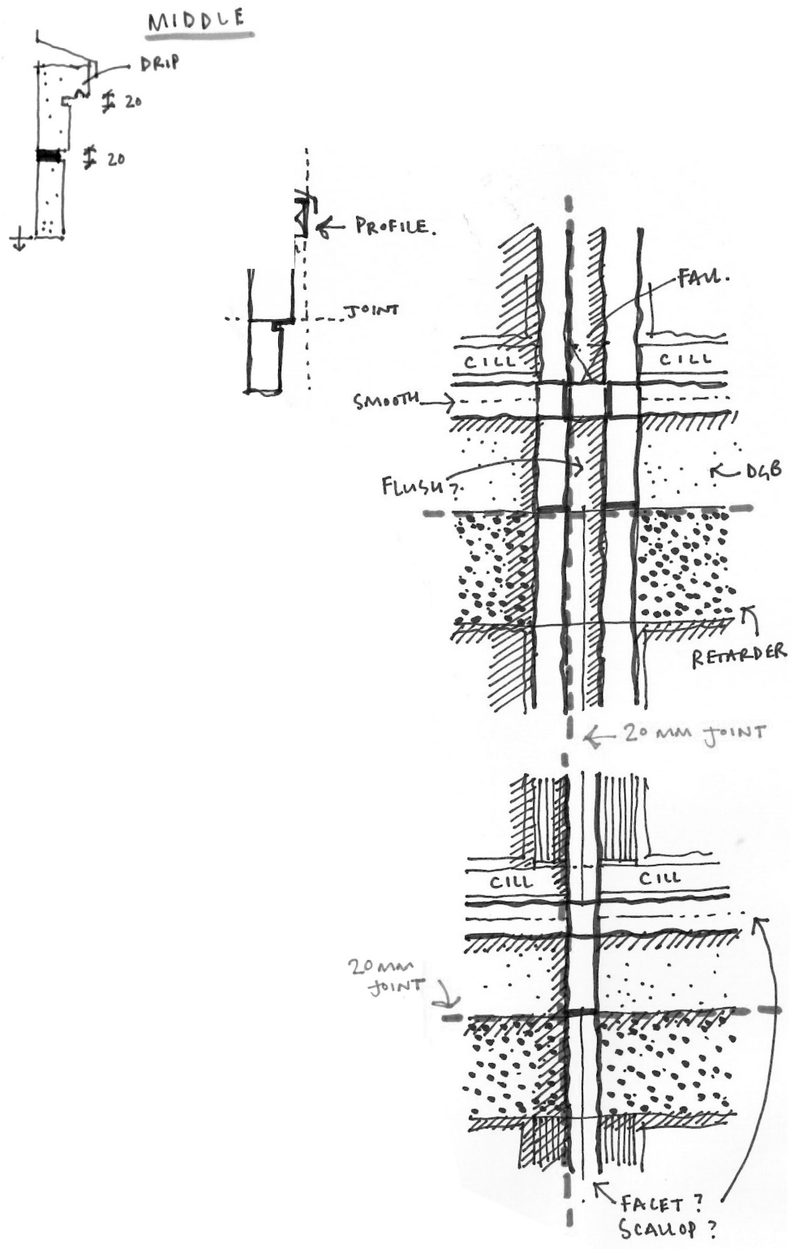




Images of quality pre-cast facades



3D detail articulating depth and variation from base to mid-levels



Elevation junction detail

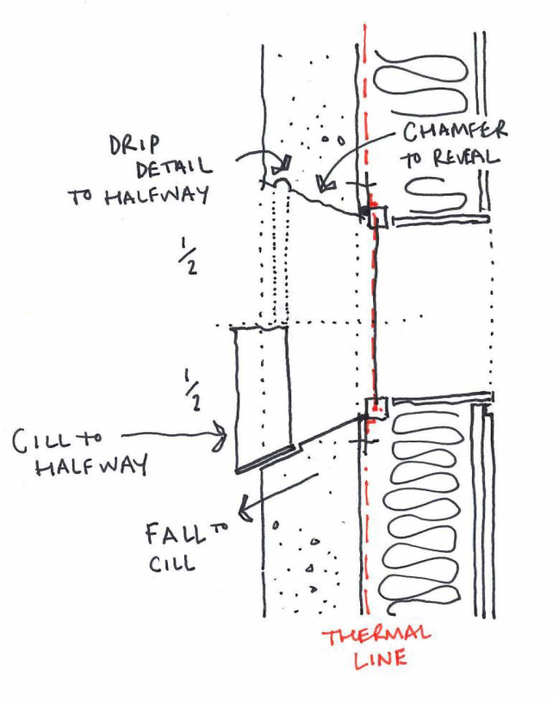
5.4 **Sketch details**

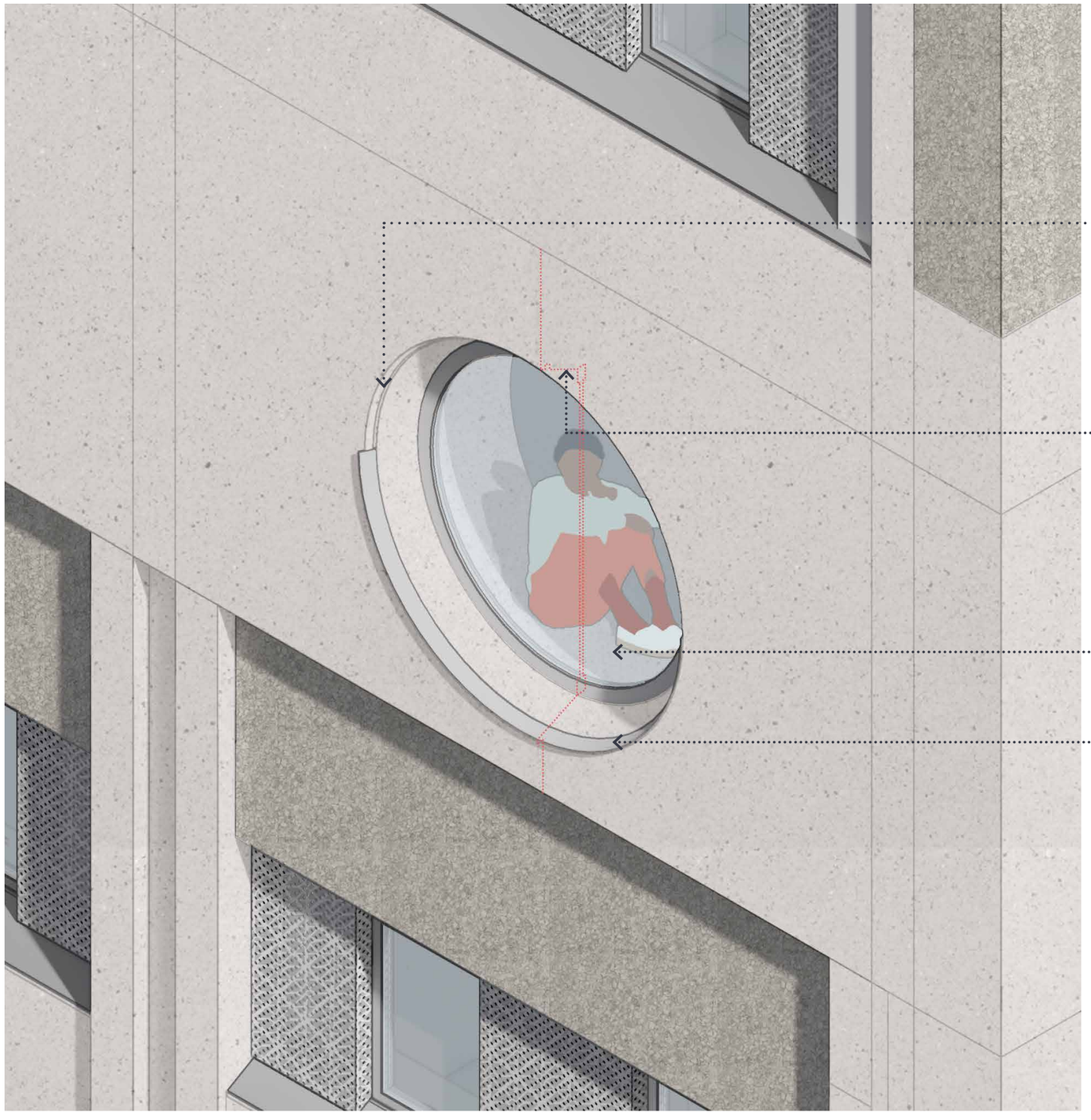
’Port hole’ windows

The detail design of the circular windows aims to ensure their viability from a cost and construction perspective, as well as robust detailing to prevent weathering.

The following design considerations have been made as per guidance discussed in a meeting between Cartwright Pickard Architects and Techcrete (pre-cast facade manufacturer):

- Every circular opening is a consistent size so only one mould is required
- The reveal is chamfered to allow for the mould to be removed easily and prevent water ingress
- No pre-cast protrusions from the face of the flat panel to avoid breakages and additional panel mould costs





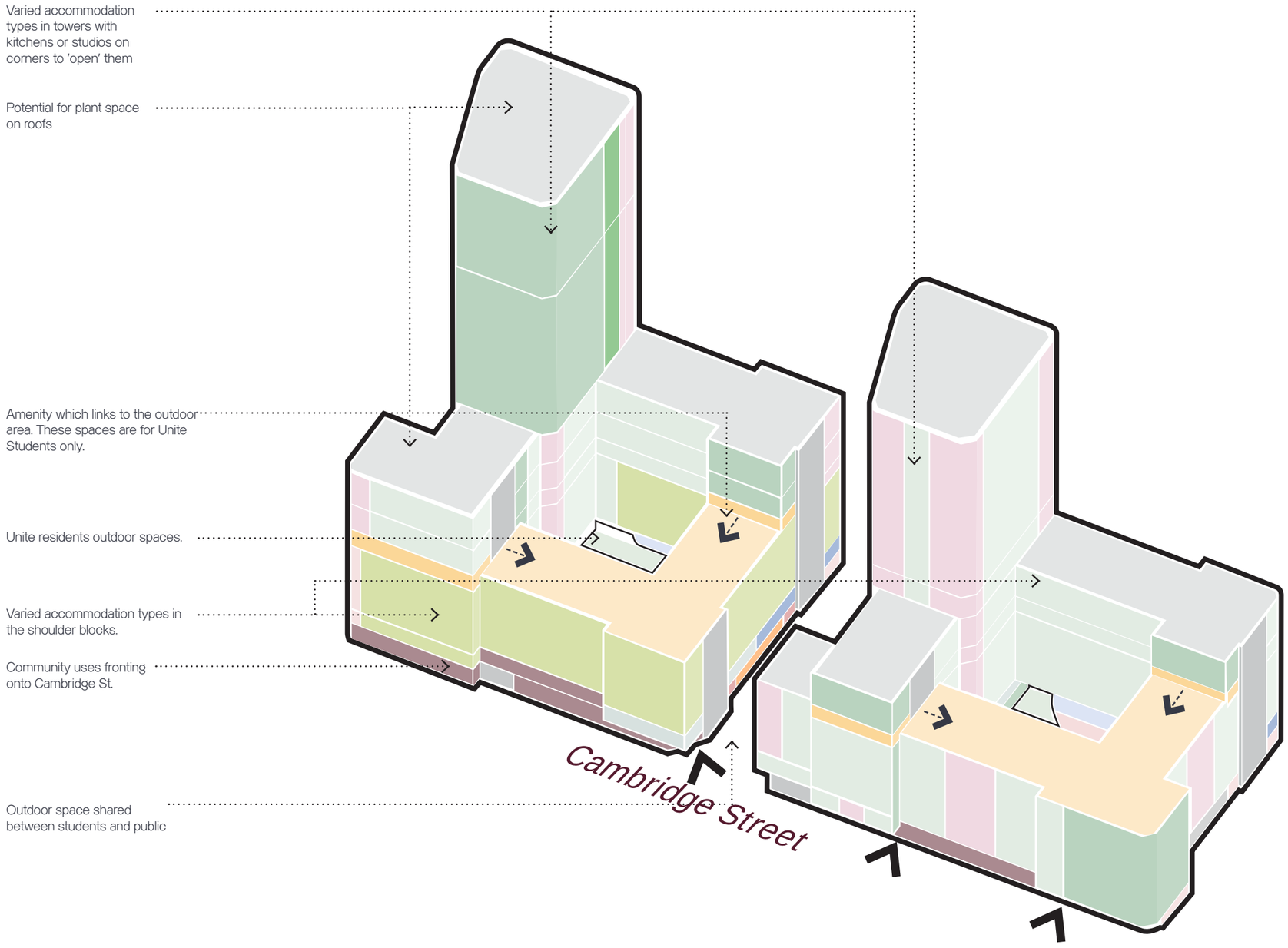
6.0

Internal arrangement

6.1 The proposal schematic overview

Schematic Overview

- The development should be split across two plots to respect the urban grain.
- Buildings to vary in mass and scale respective of street scape and built context.
- The scheme should engage with the local community by providing improvements to the public realm and community facing facilities.
- Active frontages are required to majority of facades due to the site location. Primary and secondary pedestrian routes are required to the east and west and to pass between the two development plots as part of the Man. Met. campus masterplan. Need to create buildings that are comparable in prominence and architectural merit;
- Consideration of impacts on daylight, sunlight and overshadowing;
- Consideration of impacts on wind and implementation of any required mitigation;
- Minimising any impacts from acoustics, highways and servicing and air quality.

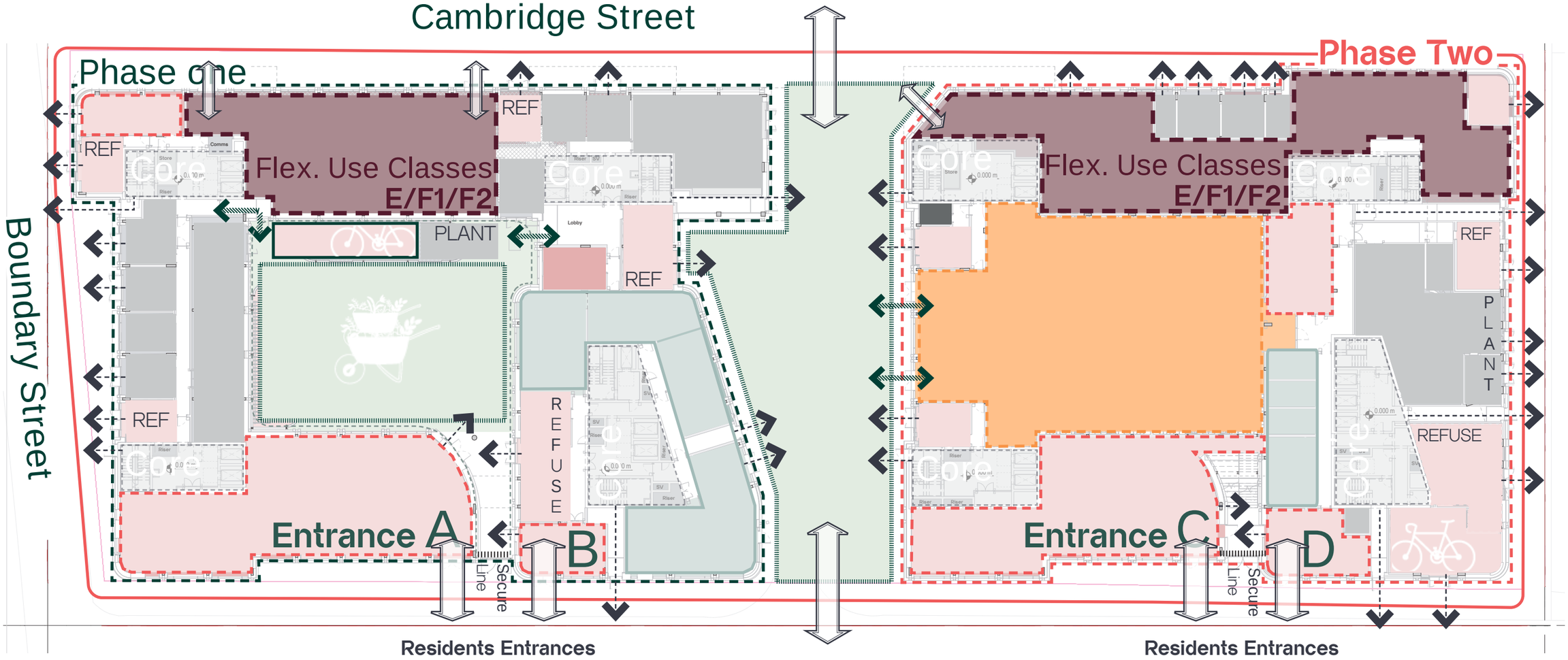


- Cluster
- Affordable Cluster
- Post-Grad Cluster
- Studio
- Kitchen
- Pantry
- Central Kitchen
- Amenity
- Outdoor Amenity
- Courtyard
- Study
- Life Admin
- Flex. Use Classes E/F1/F2
- Support

6.2 Ground Floor adjacencies

Ensuring a clear and pragmatic approach to the design of the scheme was paramount. Connections to key parts of the city, the University and the Hulme community all needed to be considered. Therefore key frontages into the public realm were considered, distinguishing zones for public, support and private spaces.

- Life Admin
- Flex. Use Classes E/F1/F2
- Central Kitchen
- Amenity
- Laundry
- Refuse
- Cores
- Plant
- Greenery
- Main Routes
- Direct Connection
- Link Routes



6.3 **Indicative bedroom Types** Unite Cambridge Halls model

Room types and numbers

Phase 1

Standard Clusters = 1007

Accessible Clusters = 60

Accessible Convertible Studios = 24

Accessible Studios (23sqm) = 5

Accessible Studios (31sqm) = 5

Total = 1101

Phase 2

Standard Clusters = 420

Accessible Clusters = 24

Standard Studios = 85

Accessible Convertible Studios = 89

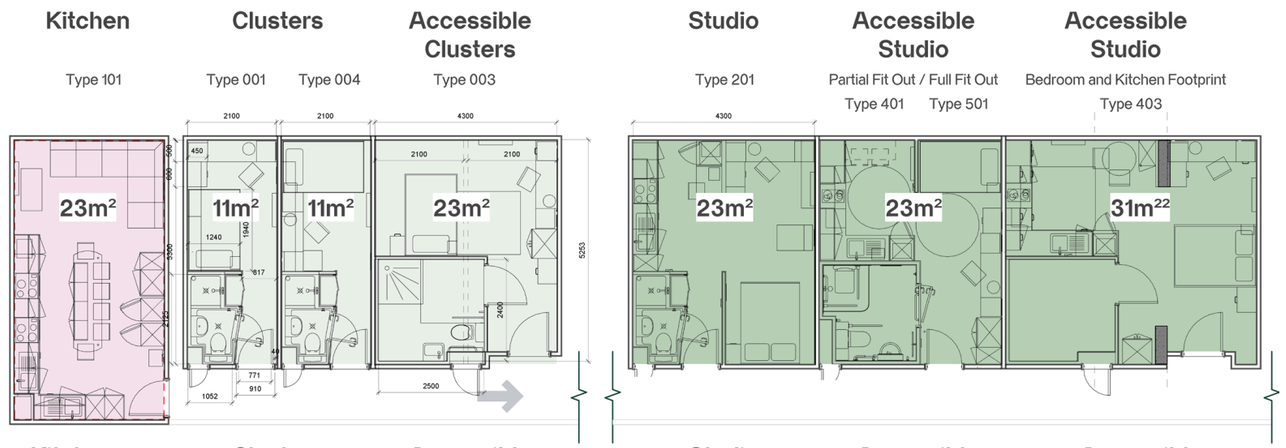
Affordable Clusters = 398

Accessible Affordable Clusters = 15

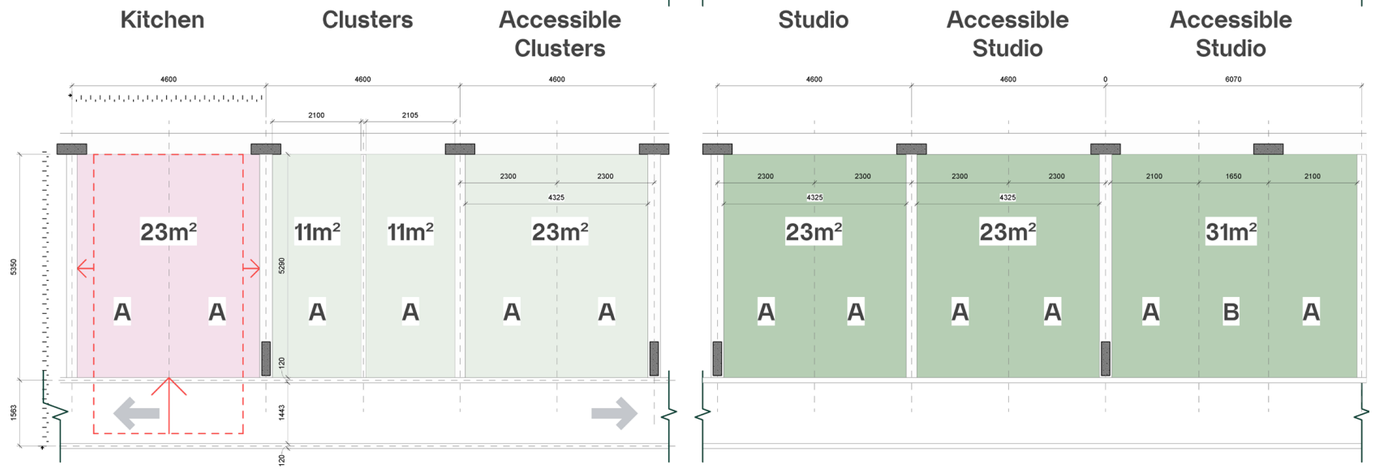
Post-graduate Clusters = 170

Total = 1201

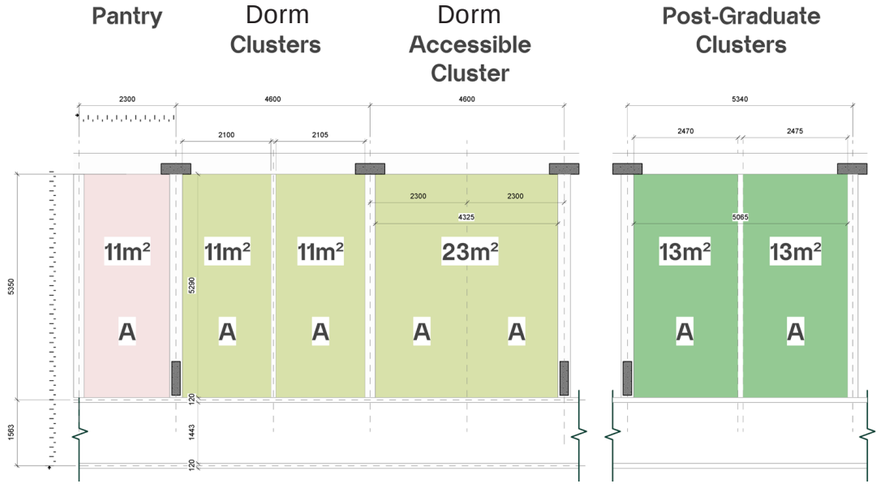
Unite Standards:



Cambridge Halls Standards:
(Standardised for Dual Escape)



Cambridge Halls Standards:
(New Room Types)



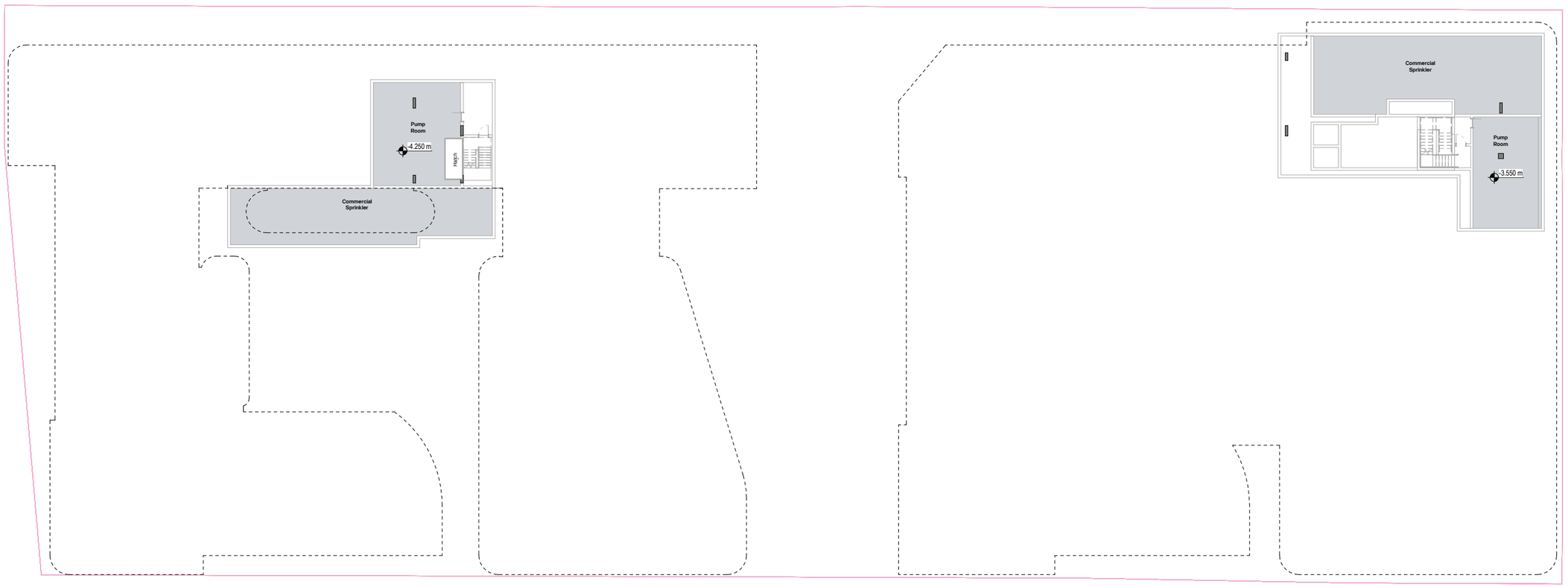
7.0

Proposal

7.1 Plan site


Cambridge St. Jct.
Business School
Bellhouse
Lower Ormond St.
All Saints Park
Cavendish St.
Manchester School of Art
Ormond
Grosvenor Building
Higher Ormond St.
Geoffrey Manton Building
Loxford St.
Knowles Pl.
Chevril Cl.
Cambridge House
Element
Wilmott St.
CAVENDISH ST
Cavendish St.
Opal Hall
Stretford Road
Boundary Lane
University Barracks
CAMBRIDGE STREET
Phase 2
Phase 1
Cavendish Hall
Righton Building
CHATHAM STREET
Chatham
Benzie
BOUNDARY STREET
The Union
SODA
Refuse
Cycle Store
Domestic Water
Meet Greet
Reception / Waiting
Atrium Void
Community Hub
Central Kitchen
Parcel Store
Staff Office
Staff Welfare
Staff Meeting Room
Substation
LV
Flexible Commercial / Community Use Permitted Use Classes E, F1, F2
Café Lounge
Screen Room
TV & Pool Lounge
Welcome Desk
Courtyard Lounges
Laundry
Linen
Storage
Courtyard
Cycle Store
Wet Riser
Domestic Water
Electricity Generator
Security / Support
Management
Plant
Student amenity
Flex. Use Classes E/F1/F2
Central Kitchen
N

7.2 Plan basement



Phases 1&2

A small basement level sprinkler tank is required to serve the flexible units (Use Classes E/F1/F2) along with an associated pump room.

7.3 Plan ground floor



- Support
- Plant
- Life admin
- Lounge
- Flex. Use Classes E/F1/F2
- Central Kitchen

Phase 1

A flex. use unit (Use Classes E/F1/F2) is proposed facing onto Cambridge Street along with supporting back of house elements. Phase 1's serviced area and lay bys are located onto Boundary Street to the west. Student accommodation reception areas face onto Chatham Street.

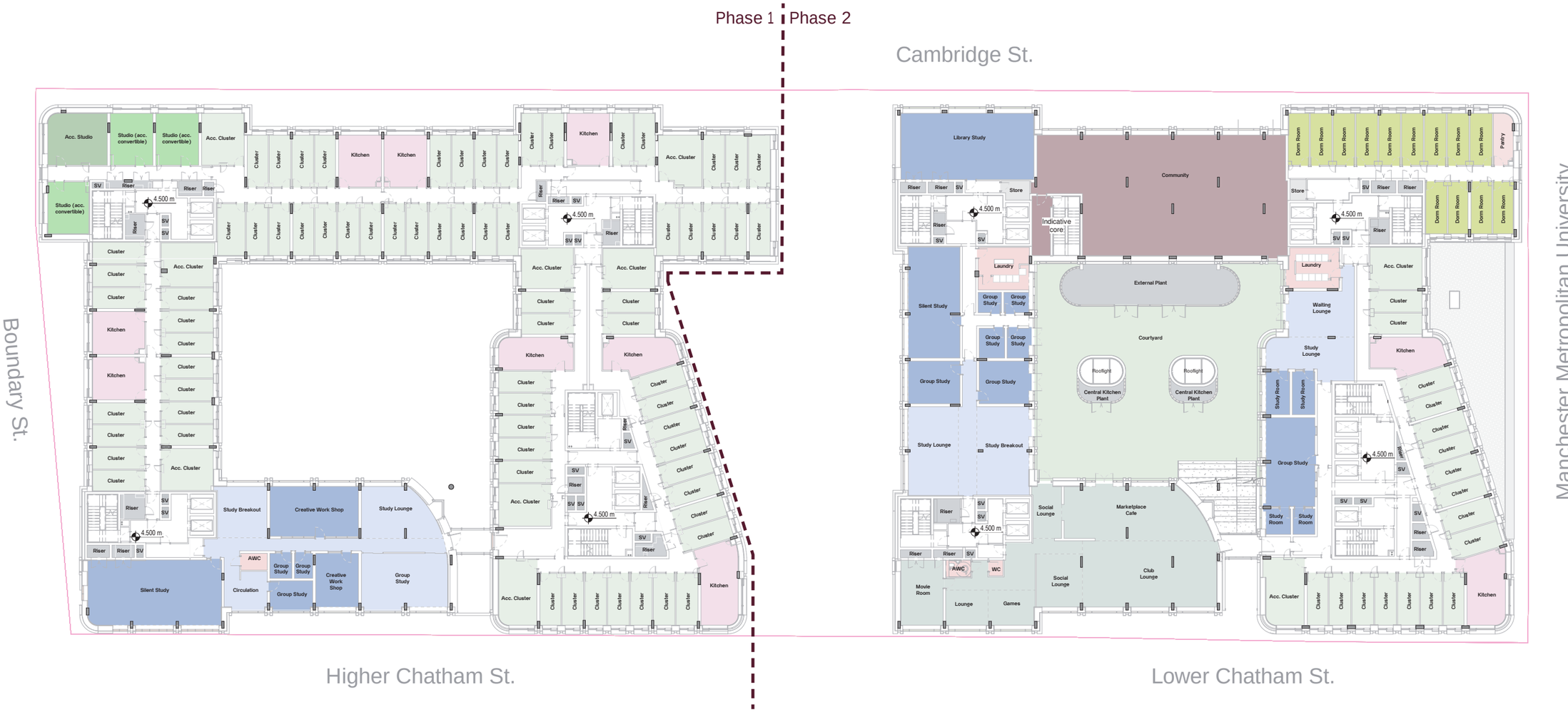
A gated access into the central courtyard maintains security, where bike stores and external seating areas are provided. Student amenity faces onto the pedestrian cut through.

Phase 2

A flexible use facility (Use Classes E/F1/F2) is provided facing onto Cambridge Street with its entrance onto the new pocket park. A central kitchen faces onto the pedestrian cut through with external seating areas.

Student accommodation will be accessed from Chatham Street. A stepped access is provided via a secure gate up to the level 1 courtyard space. Back of house areas face onto the service yard area of the Man. Met. Business school.

7.4 Plan 1st floor



- Kitchens
- Study Rooms
- Studios
- Studios (acc. convertible)
- Plant
- Cluster bedrooms
- Dorm Rooms
- Pantry

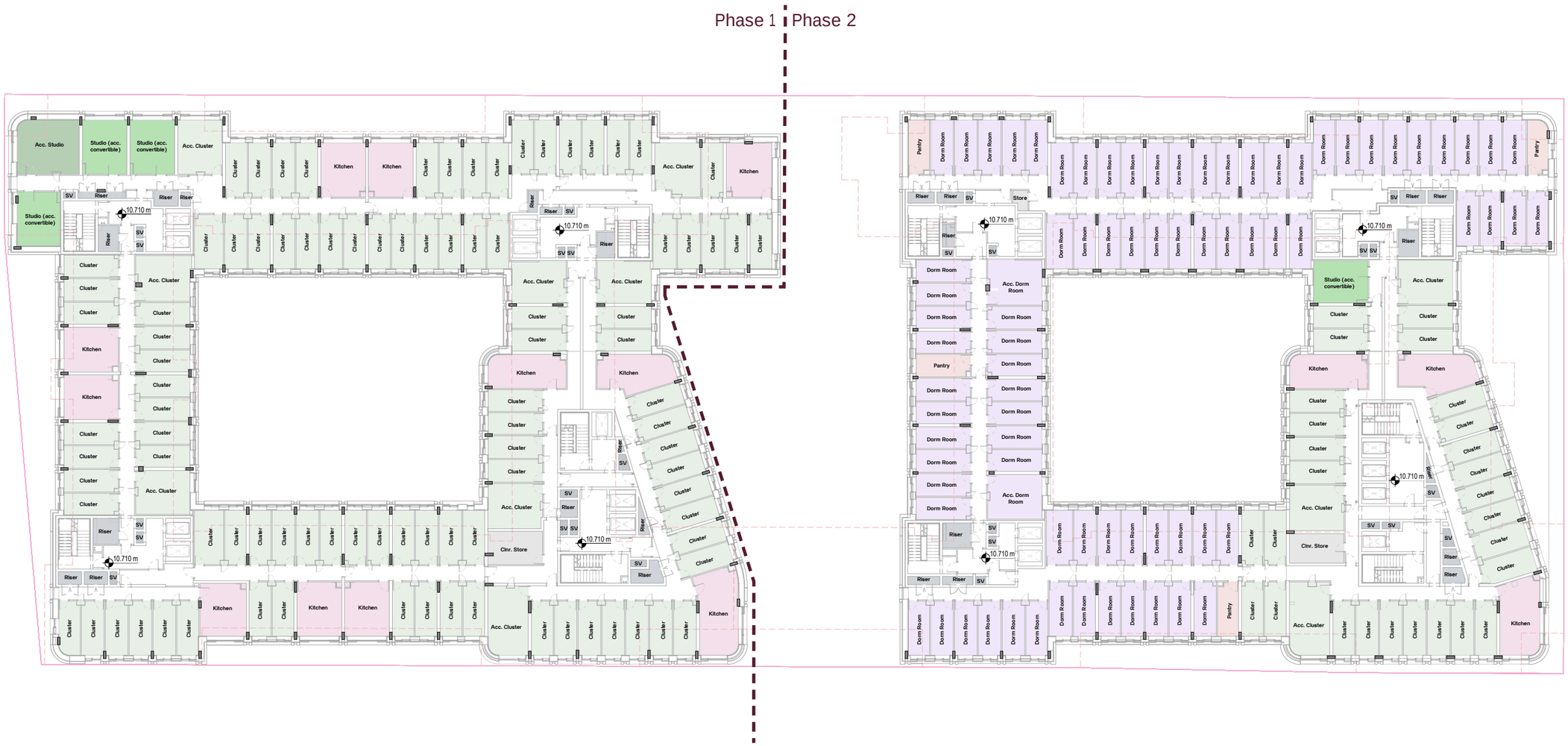
Phase 1

Student study spaces are located in the wing facing Chatham Street (identified in blue). Cluster bedrooms and studio spaces wrap around the central courtyard.

Phase 2

Student study spaces are located overlooking Chatham Street and the central pedestrian route. The flexible use extends to this level (Use Classes E/F1/F2). More social student amenity is locate din the tower and faces the central courtyard.

7.5 Plan 2nd - 6th floor



- Kitchens
- Studios
- Studios (acc. convertible)
- Plant
- Cluster bedrooms
- Dorm Rooms
- Pantry

Phase 1

Accommodation is predominantly cluster flats benefiting from shared kitchens at this level. Each bedroom has 2 means of escape or have reduced escape distances.

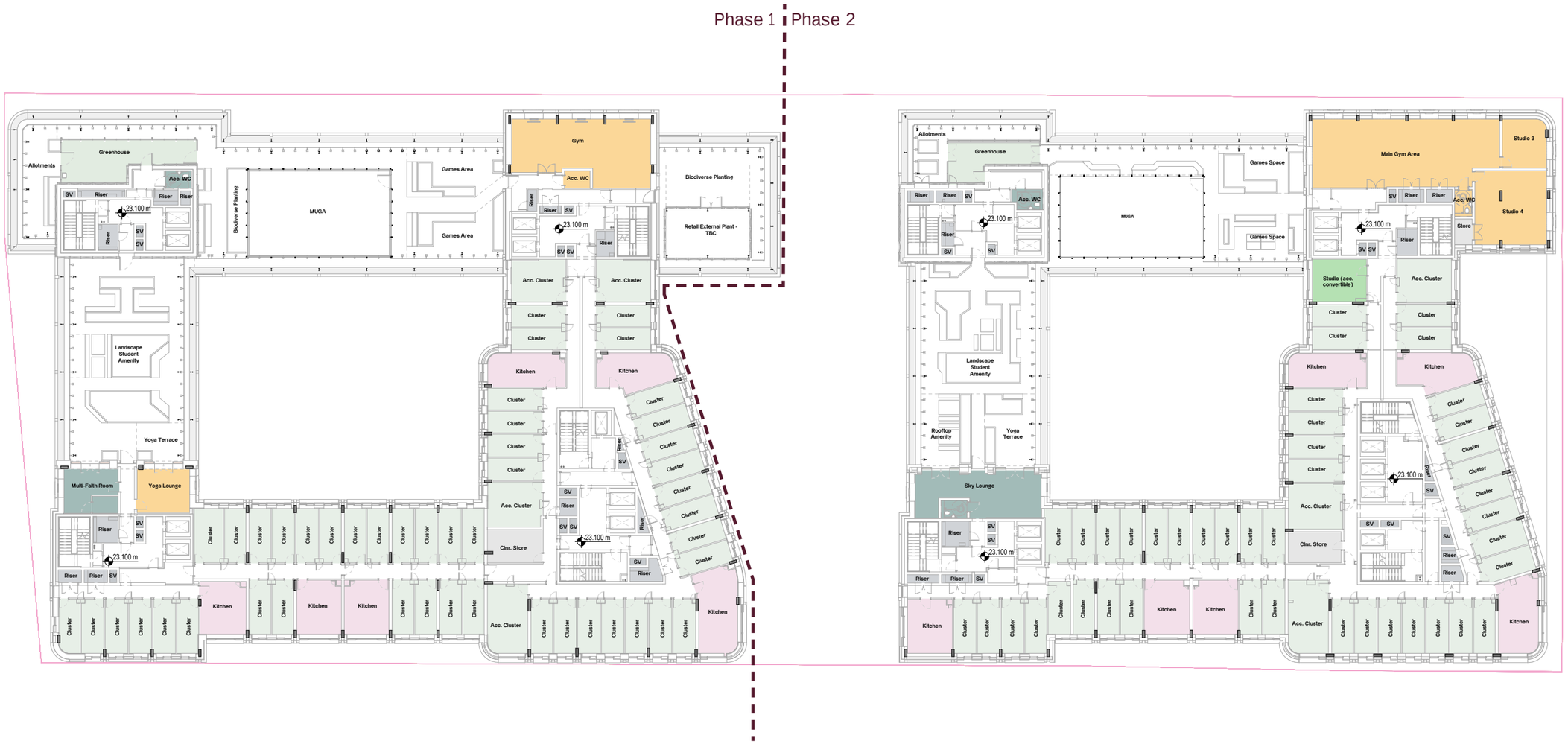
Cores have been designed in accordance with the requirements under BS9991 and latest statutory requirements.

Phase 2

Accommodation is predominantly Dorm cluster flats which use the ground floor 'Central' kitchen and on floor 'pantry' spaces. Each bedroom has 2 means of escape or have reduced escape distances.

Cores have been designed in accordance with the requirements under BS9991 and latest statutory requirements.

7.6 Plan 7th floor



- Kitchens
- Studios
- Studios (acc. convertible)
- Plant
- Cluster bedrooms
- Rooftop amenity

Phase 1

Level 07 roof space provides external amenity space for the students, including planting areas, external breakout, sports facilities and gym and wellness suites.

Accommodation is made up of typical cluster flats that benefit from shared kitchens.

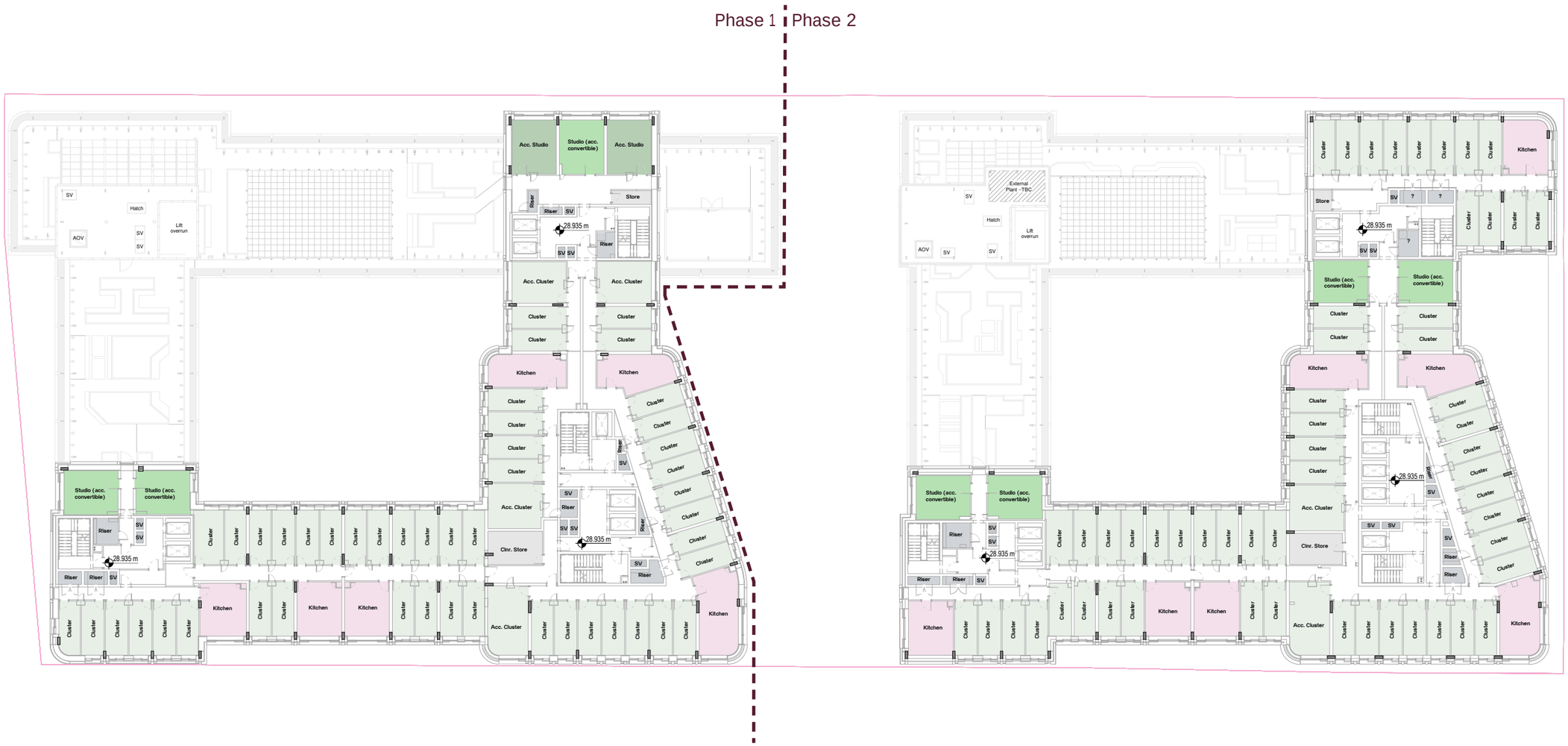
Phase 2

Similarly to phase 1, level 07 provides external amenity at roof level for student access, along with gym and wellness suites.

Accommodation is predominantly cluster flats benefiting from shared kitchens at this level. Each bedroom has 2 means of escape or have reduced escape distances.

Cores have been designed in accordance with the requirements under BS9991 and latest statutory requirements.

7.7 Plan 8th - 9th floor



- Kitchens
- Studios
- Studios (acc. convertible)
- Plant
- Cluster bedrooms

Phase 1

Accommodation is predominantly cluster flats benefiting from shared kitchens at this level. Each bedroom has 2 means of escape or have reduced escape distances.

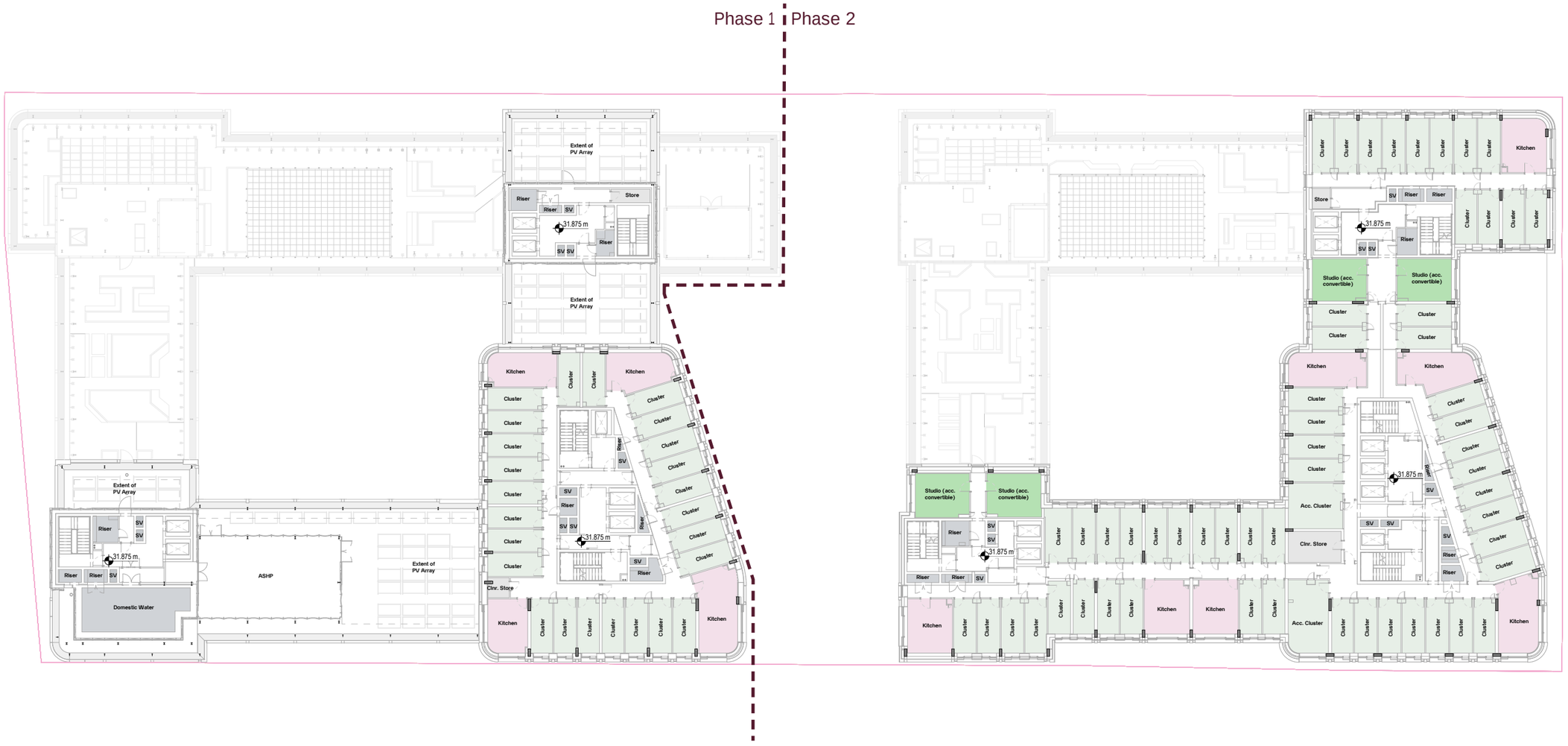
Plant areas will be concealed within screened compounds.

Phase 2

Accommodation is predominantly cluster flats benefiting from shared kitchens at this level. Each bedroom has 2 means of escape or have reduced escape distances.

Cores have been designed in accordance with the requirements under BS9991 and latest statutory requirements.

7.8 Plan 10th floor



- Kitchens
- Studios
- Studios (acc. convertible)
- Plant
- Cluster bedrooms
- Post-grad clusters
- Post-grad kitchens

Phase 1

Approximately 280sqm's of photovoltaics are located around the roof to provide a source of on site renewable energy. The area for this array is indicated on the adjacent plan i the blue hatch.

The array will be sat below the top of the surrounding parapet and will be concealed.

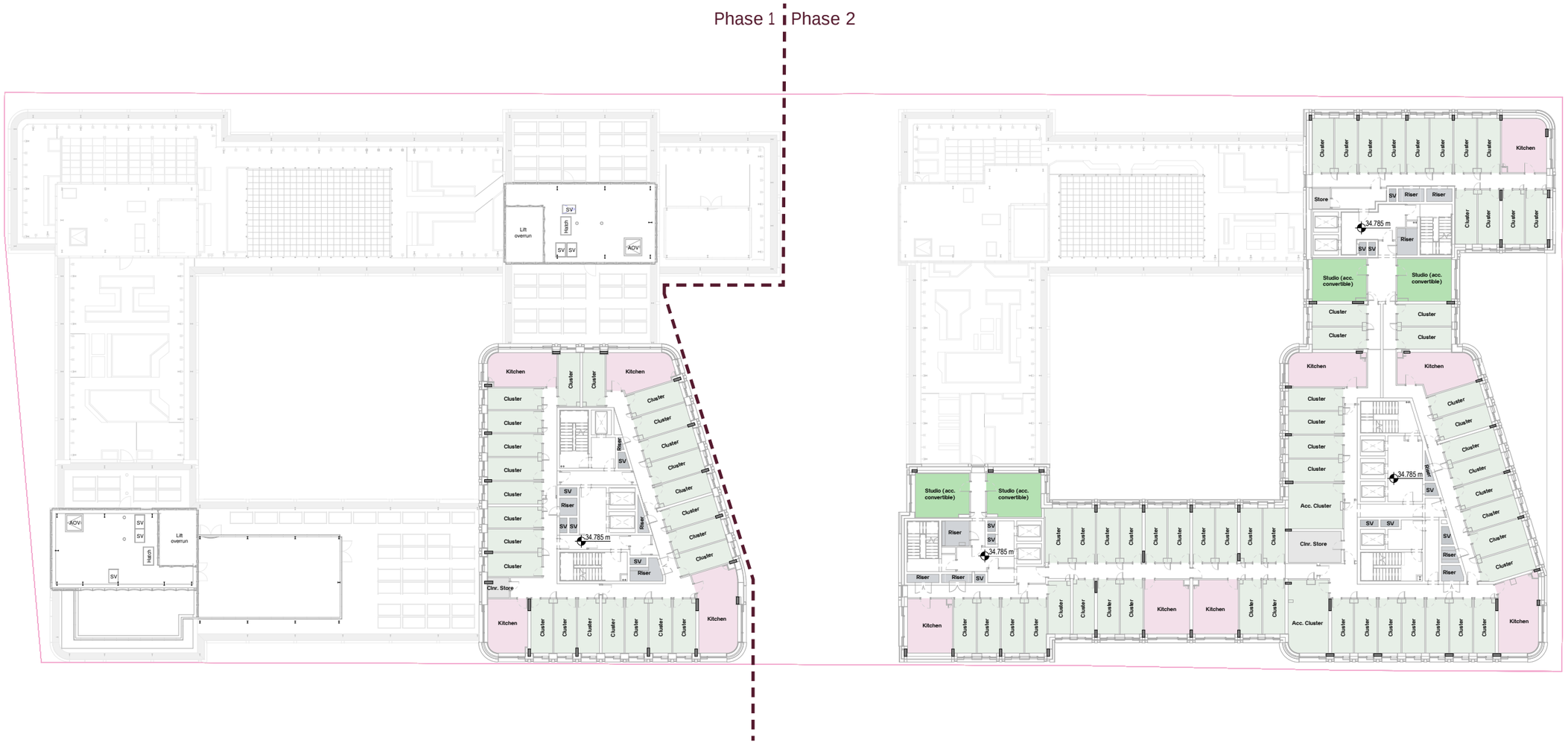
Plant areas will be concealed within screened compounds.

Phase 2

Accommodation is predominantly cluster flats benefiting from shared kitchens at this level. Each bedroom has 2 means of escape or have reduced escape distances.

Cores have been designed in accordance with the requirements under BS9991 and latest statutory requirements.

7.9 Plan 11th floor



- Kitchens
- Studios
- Studios (acc. convertible)
- Plant
- Cluster bedrooms
- Post-grad clusters
- Post-grad kitchens

Phase 1

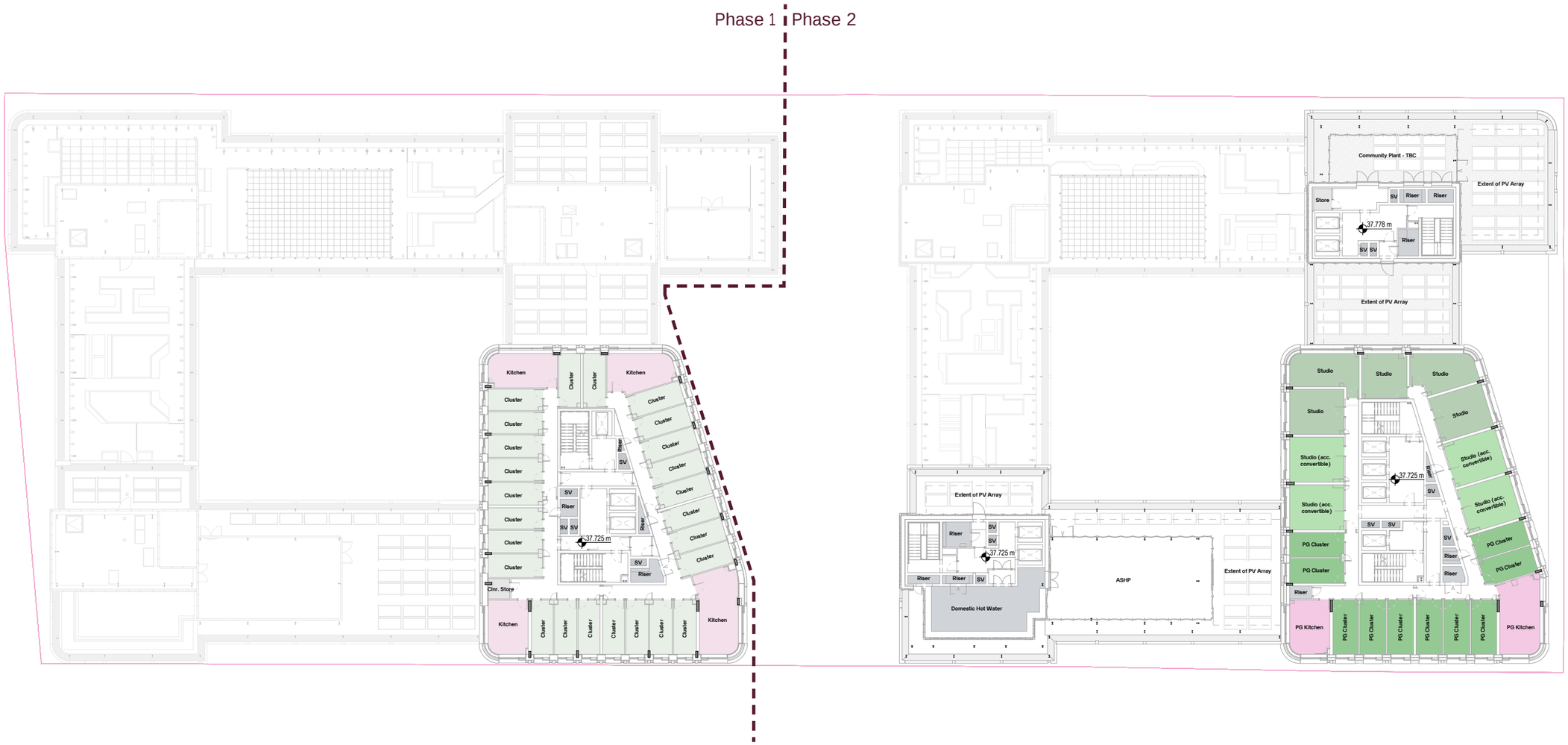
Tower accommodation in phase 1 are cluster flats sharing kitchens located at each corner of the tower and benefiting from dual aspect.

Phase 2

Accommodation is predominantly cluster flats benefiting from shared kitchens at this level. Each bedroom has 2 means of escape or have reduced escape distances.

Cores have been designed in accordance with the requirements under BS9991 and latest statutory requirements.

7.10 Plan 12th floor



- Kitchens
- Studios
- Studios (acc. convertible)
- Plant
- Cluster bedrooms
- Post-grad clusters
- Post-grad kitchens

Phase 1

Tower accommodation in phase 1 are cluster flats sharing kitchens located at each corner of the tower and benefiting from dual aspect.

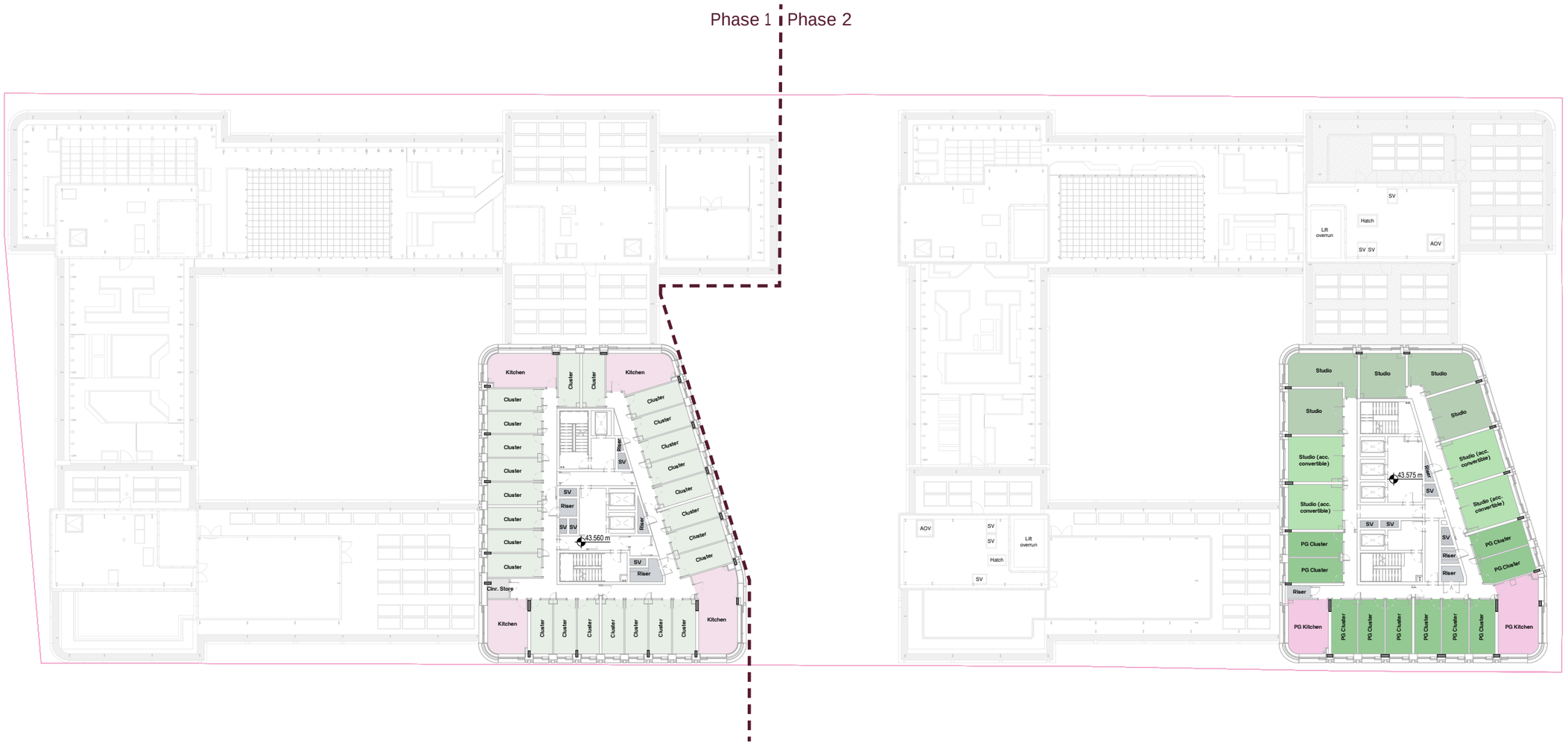
Phase 2

Approximately 200sqm's of photovoltaics are located around the roof to provide a source of on site renewable energy. The array will be sat below the top of the surrounding parapet and will be concealed.

Plant areas will be concealed within screened compounds.

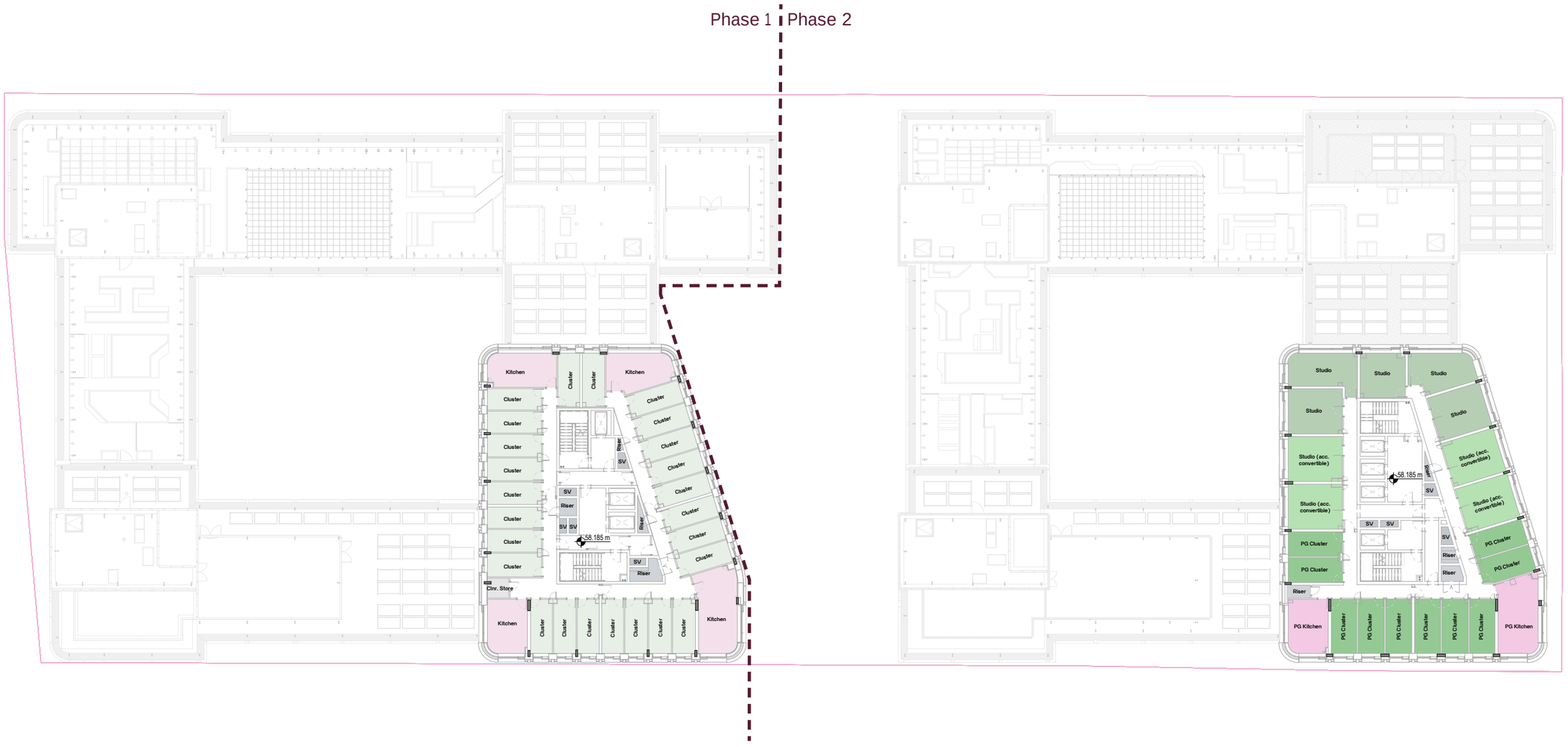
The accommodation mix within the tower changes to post grad cluster flats and studio bedrooms.

7.11 Plan 13th - 18th floor



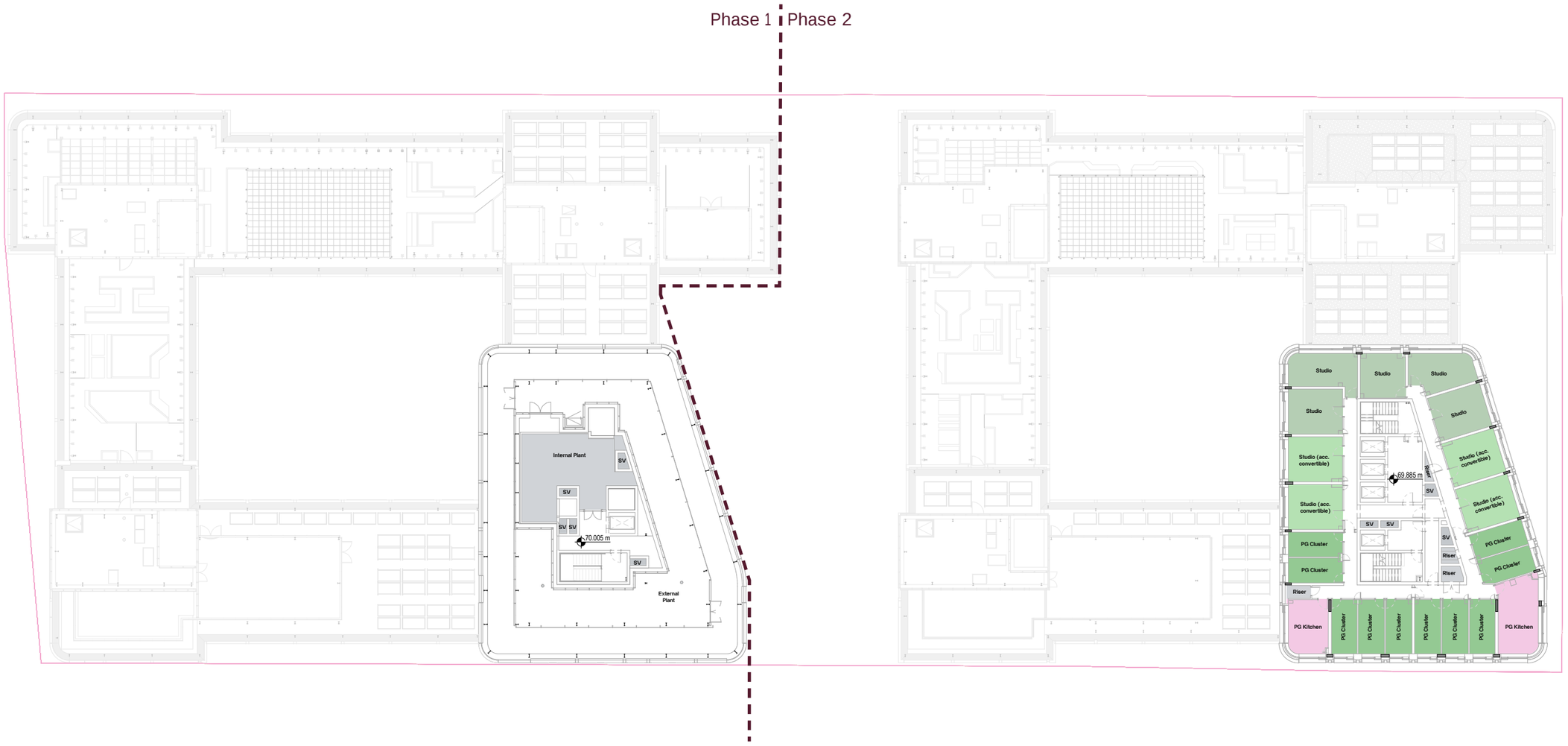
- Kitchens
- Studios
- Studios (acc. convertible)
- Plant
- Cluster bedrooms
- Post-grad clusters
- Post-grad kitchens

7.12 Plan 19th - 22nd floor



- Kitchens
- Studios
- Studios (acc. convertible)
- Plant
- Cluster bedrooms
- Post-grad clusters
- Post-grad kitchens

7.13 Plan 23rd floor



- Kitchens
- Studios
- Studios (acc. convertible)
- Plant
- Cluster bedrooms
- Post-grad clusters
- Post-grad kitchens

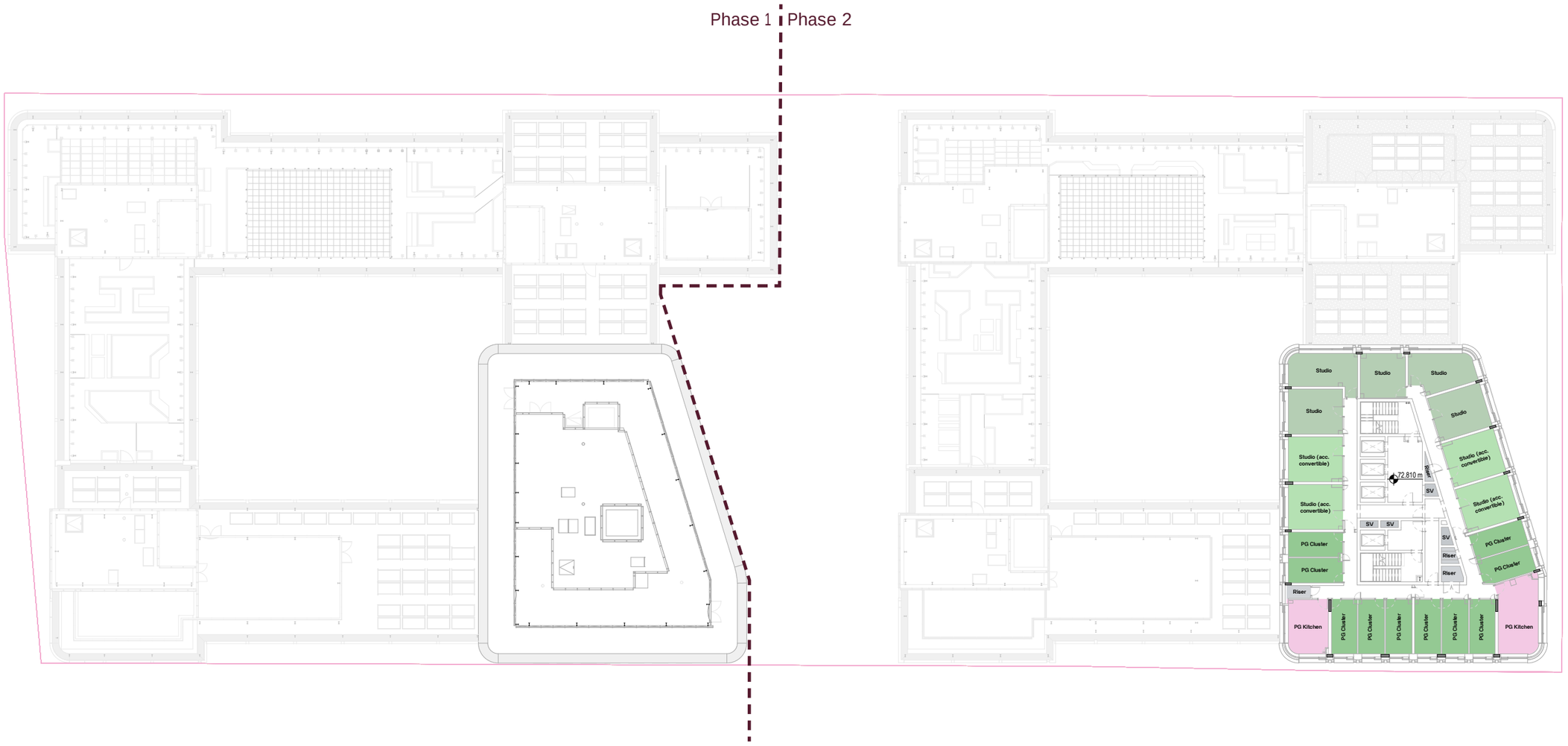
Phase 1

Internal and external plant areas are located at roof level of the phase 1 tower. All plant is concealed behind a screened enclosure.

Phase 2

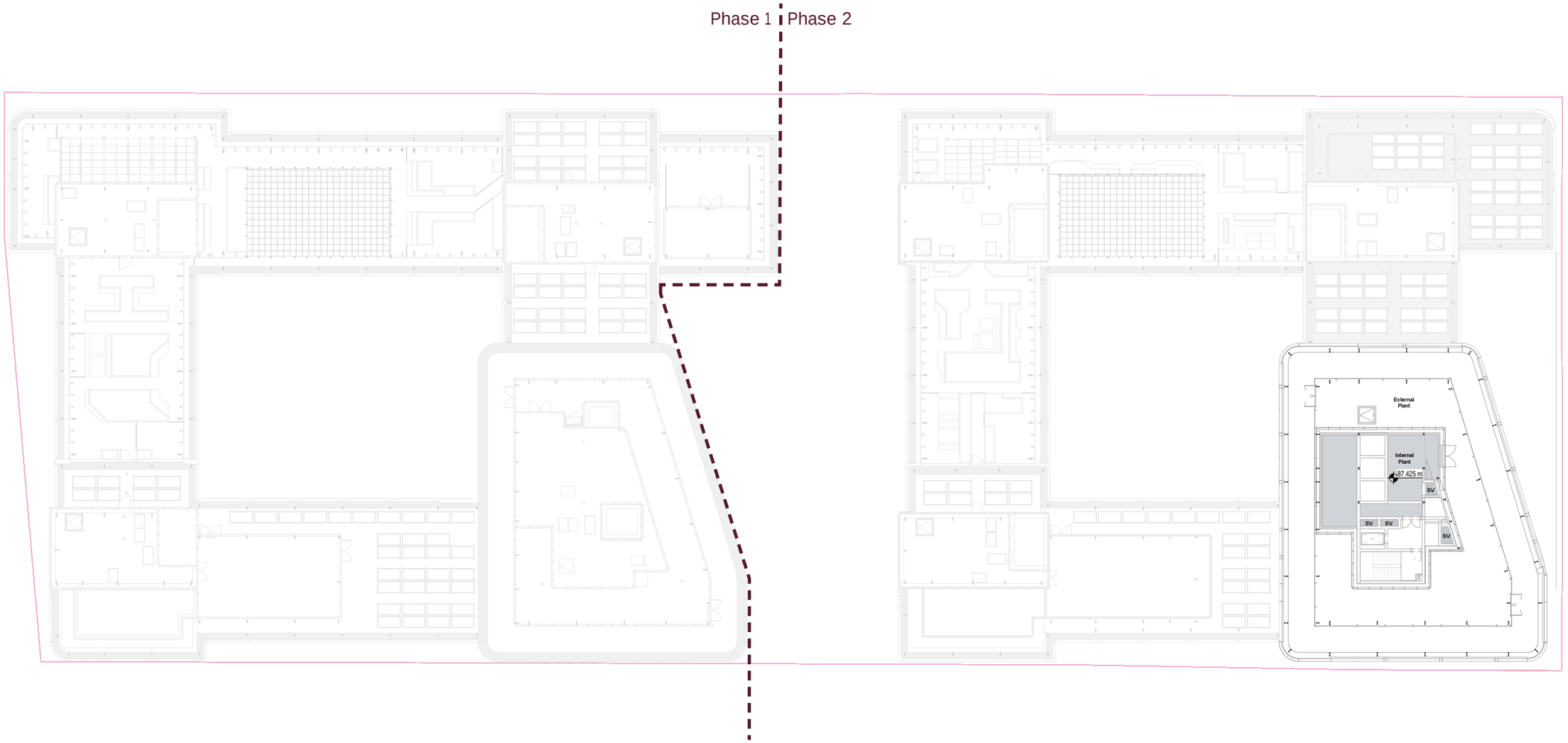
The accommodation mix within the tower changes to post grad cluster flats and studio bedrooms.

7.14 Plan 24th - 28th floor



- Kitchens
- Studios
- Studios (acc. convertible)
- Plant
- Cluster bedrooms
- Post-grad clusters
- Post-grad kitchens

7.15 Plan 29th floor

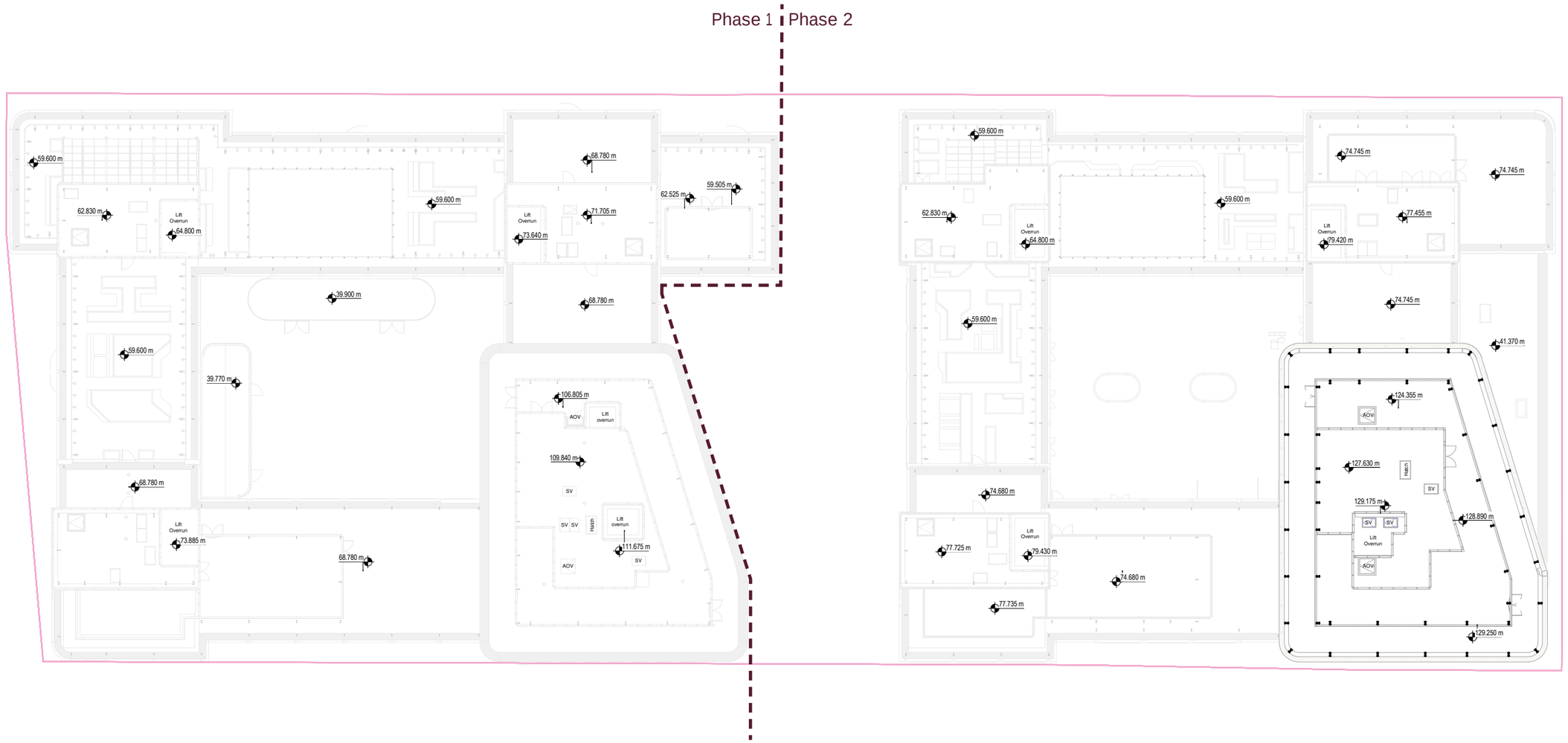


- Kitchens
- Studios
- Studios (acc. convertible)
- Plant
- Cluster bedrooms
- Post-grad clusters
- Post-grad kitchens

Phase 2

Internal and external plant areas are located at roof level of the phase 1 tower. All plant is concealed behind a screened enclosure.

7.16 Plan roof



7.17 Accommodation & Area schedule

Accommodation Summary

- Total 2302 student beds (66% cluster, 18% affordable cluster, 7% post-grad cluster, 9% studio)
- Phase 1 - 1101 student beds
- Phase 2 - 1201 student beds

Area Summary

Phase 1 -	NIA	18,534 SQM
	GIA	30,904 SQM
	GEA	34,885 SQM

Phase 2 -	NIA	23,355 SQM
	GIA	36,034 SQM
	GEA	40,664 SQM

TOTAL	NIA	41, 889 SQM
	GIA	66,938 SQM
	GEA	75,549 SQM

Phase 1

	Cluster accommodation											Studio accommodation			TOTAL bedspaces	
	4	5	6	7	8	9	10	11	12	cluster bedspaces	*no. of accessible*	STUDIOS	*no. of accessible*	*no. of acc. convertible*		
Level 00										0					0	**1**
Level 01				1		3	1	1	2	79	*8*	4	*1*	*3*	83	**1**
Level 02			1	1	2	2	2	1	2	102	*8*	4	*1*	*3*	106	
Level 03			1	1	2	2	2	1	2	102	*8*	4	*1*	*3*	106	
Level 04			1	1	2	2	2	1	2	102	*8*	4	*1*	*3*	106	**5**
Level 05			1	1	2	2	2	1	2	102	*8*	4	*1*	*3*	106	
Level 06			1	1	2	2	2	1	2	102	*8*	4	*1*	*3*	106	
Level 07			1		2	1	2			51	*4*				51	**1**
Level 08			1		2	1	2			51	*4*	5	*2*	*3*	56	**2**
Level 09			1		2	1	2			51	*4*	5	*2*	*3*	56	
Level 10		1	2		1					25					25	
Level 11		1	2		1					25					25	
Level 12		1	2		1					25					25	
Level 13		1	2		1					25					25	
Level 14		1	2		1					25					25	
Level 15		1	2		1					25					25	
Level 16		1	2		1					25					25	**13**
Level 17		1	2		1					25					25	
Level 18		1	2		1					25					25	
Level 19		1	2		1					25					25	
Level 20		1	2		1					25					25	
Level 21		1	2		1					25					25	
Level 22		1	2		1					25					25	
Total	**0**	**13**	**34**	**6**	**29**	**16**	**17**	**6**	**12**	**1067**	*60*	**34**	*10*	*24*	**1101**	**22**
										97%		**3%**				

Overall Accessible Provision	5%
Overall Acc. Convertible Provision	5%

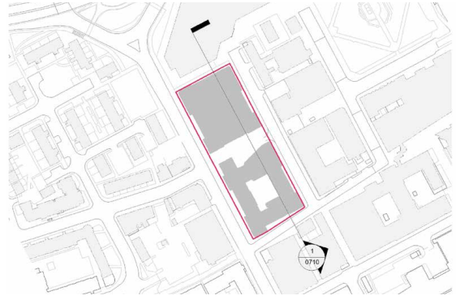
Phase 2

	Cluster										Affordable cluster		Post-grad cluster				Studio accommodation			TOTAL bedspaces	
	5	6	7	8	9	10	11	12	*no. of accessible*	cluster bedspaces	Affordable cluster	*no. of accessible*	4	5	Post-Grad cluster bedspaces	*no. of accessible*	STUDIOS	*no. of accessible*	*no. of acc. convertible*		
Level 00																				0	**1**
Level 01					1	1			*1*	19	13									32	**1**
Level 02					1	1	1		*2*	30	80	*3*					1		*1*	111	
Level 03					1	1	1		*2*	30	80	*3*					1		*1*	111	
Level 04					1	1	1		*2*	30	80	*3*					1		*1*	111	**5**
Level 05					1	1	1		*2*	30	80	*3*					1		*1*	111	
Level 06					1	1	1		*2*	30	80	*3*					1		*1*	111	
Level 07	1	1	1		2	1			*3*	46							1		*1*	47	**1**
Level 08	1	1	1		2	1		1	*3*	58							3		*3*	61	**1**
Level 09	1	1	1	1	1	1		1	*2*	57							4		*4*	61	
Level 10	1	1	1	1	1	1		1	*2*	57							4		*4*	61	**3**
Level 11	1	1	1	1	1	1		1	*2*	57							4		*4*	61	
Level 12														2	10		9		*4*	19	
Level 13														2	10		9		*4*	19	
Level 14														2	10		9		*4*	19	
Level 15														2	10		9		*4*	19	
Level 16														2	10		9		*4*	19	
Level 17														2	10		9		*4*	19	
Level 18														2	10		9		*4*	19	
Level 19														2	10		9		*4*	19	
Level 20														2	10		9		*4*	19	**17**
Level 21														2	10		9		*4*	19	
Level 22														2	10		9		*4*	19	
Level 23														2	10		9		*4*	19	
Level 24														2	10		9		*4*	19	
Level 25														2	10		9		*4*	19	
Level 26														2	10		9		*4*	19	
Level 27														2	10		9		*4*	19	
Level 28														2	10		9		*4*	19	
Total	5	5	5	3	13	11	5	4	*23*	**444**	**413**	*15*	0		**170**	*0*	**174**	*0*	*89*	**1201**	**28**
										37%	34%				14%		14%				

7.18 Section Site



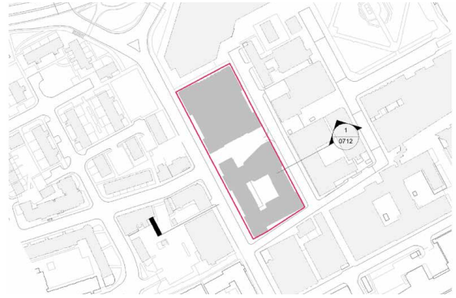
- Kitchens
- Studios
- Plant
- Cluster bedrooms
- Dorm Rooms
- Wellness amenity
- Life admin
- Refuse
- Flex. Use Classes E/F1/F2
- Student amenity
- Study provision
- Central kitchen



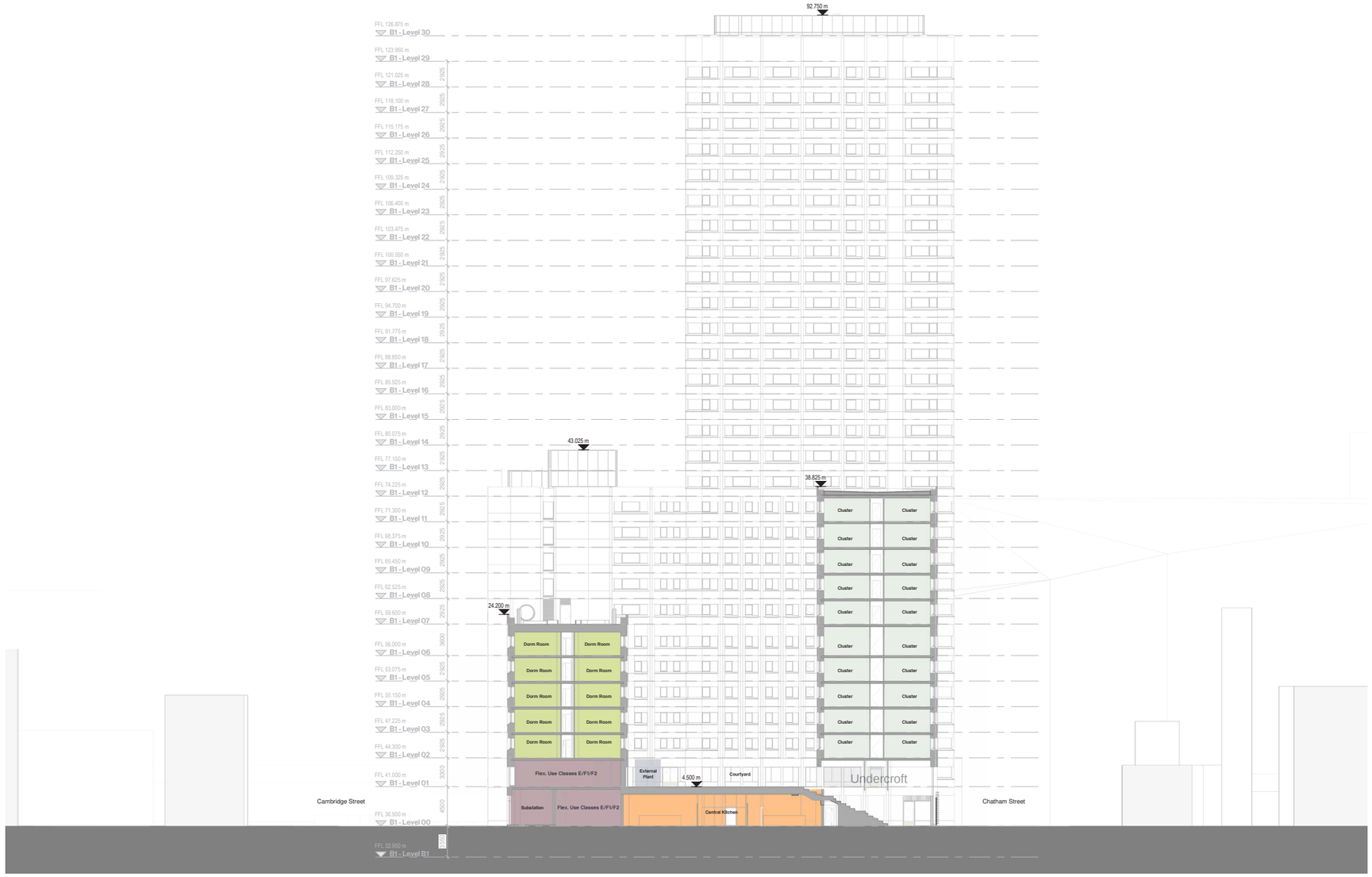
7.19 Section Phase 1 courtyard



- Kitchens
- Studios
- Plant
- Cluster bedrooms
- Dorm Rooms
- Wellness amenity
- Life admin
- Refuse
- Flex. Use Classes E/F1/F2
- Student amenity
- Study provision
- Central kitchen

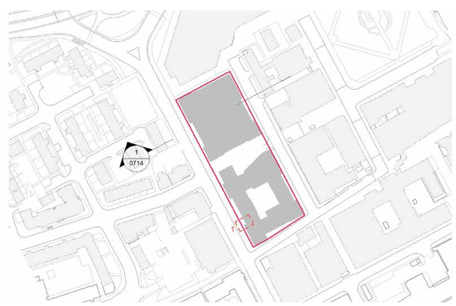


7.20 Section Phase 2 podium



Cambridge House | Cambridge St. | Flex. Use Classes E/F1/F2 | Courtyard / Super Kitchen | Resi | Chatham St. | St. Augustines

- Kitchens
- Studios
- Plant
- Cluster bedrooms
- Dorm Rooms
- Wellness amenity
- Life admin
- Refuse
- Flex. Use Classes E/F1/F2
- Student amenity
- Study provision
- Central kitchen



7.21 **Aerial view**

Architectural proposal

Whilst the buildings are to be seen as a pair they are to both have their own identity.

Colour tones, developed from cultural and contextual references that reflect the Victorian architecture of All Saints and Hulme on one hand and the more civic and recent architecture of the neighbouring campus and area in particular on the other, differentiate the 2 buildings.

The facades of both buildings are made up of the same basic components but differ in their arrangement across all the facades, providing a significant amount of variation in the proportions of the solid and glazed elements. These also differ due to their environmental performance requirements dependent on solar aspect.

The pre cast concrete elements are made up of a small number of variations. Each module has a differing profile and depth of reveal, again creating significant variation in shadow and depth across the surface finish.

The solid to glass proportions are driven by aspect and environmental requirements. Whilst individual components are repeated, the floors of each building have a different composition of these consistent elements. Light will reflect off each building and respective facade compositions in different ways as they are viewed from differing angles.

Variation in the facade is designed to prompt the viewer to stop and explore the facade further. It creates an appropriate level of interest and delight. Large picture windows are provided to communal areas. Circular ‘portholes’ are provided to wellness spaces. Bespoke patterns are applied at varying scales dependent on location and level of public interaction.



7.22 CGI 01
Cambridge Street



7.23 CGI 02
Chatham Street



7.24 CGI 03
Stretford Road



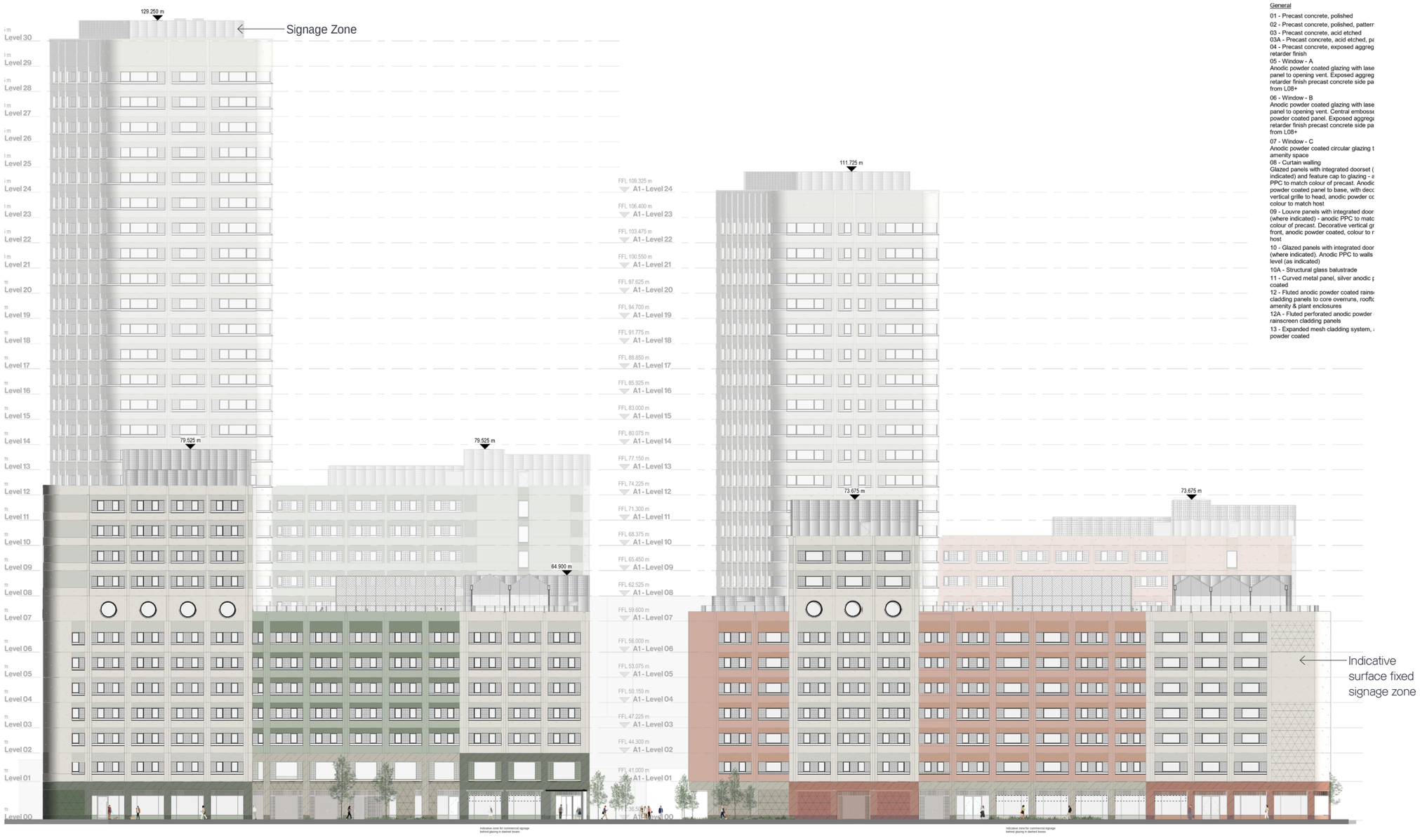
7.25 CGI 04
Public Link



7.26 CGI 05
All Saints Park



7.27 **Elevation** Cambridge Street



Cambridge Street Elevation (West)

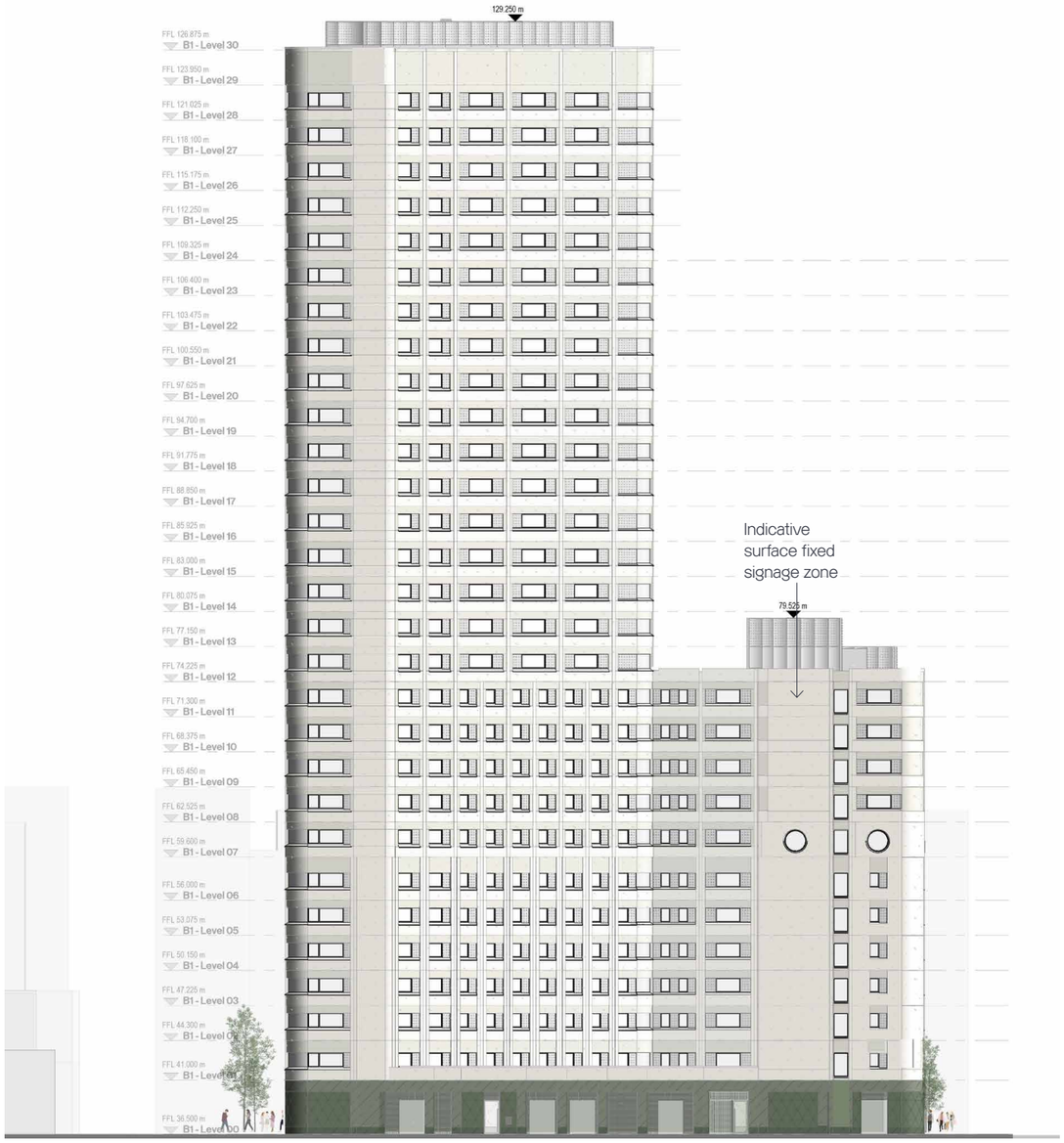
These elevations illustrate the variation in window openings and the changing widths of pre cast panels which create an asymmetry and visual interest to the facade.

These proportions of solid to glass vary across each facade and are based on appropriate solid to glass ratios that optimise natural daylight levels and thermal performance whilst minimising solar gain dependent on solar aspect.

Whilst the two buildings are to be seen as a 'pair' the proposals show variation between them so as not to be identical in facade composition.

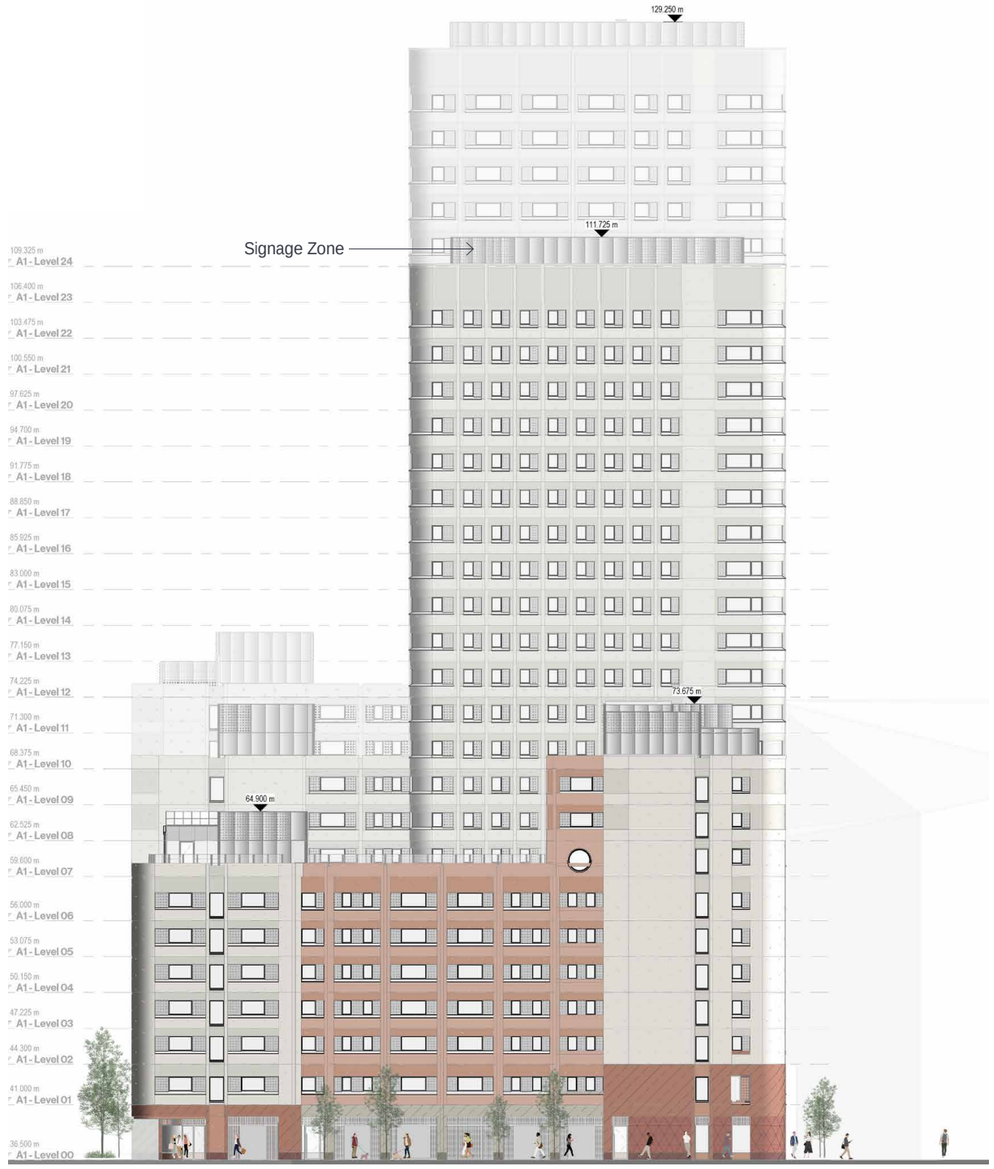
Four bays of accommodation cantilever over the public realm creating protected entrances to the flexible units (use class E/F1/F2).

7.28 **Elevation** South & North



Man Met Service Road Elevation (North)

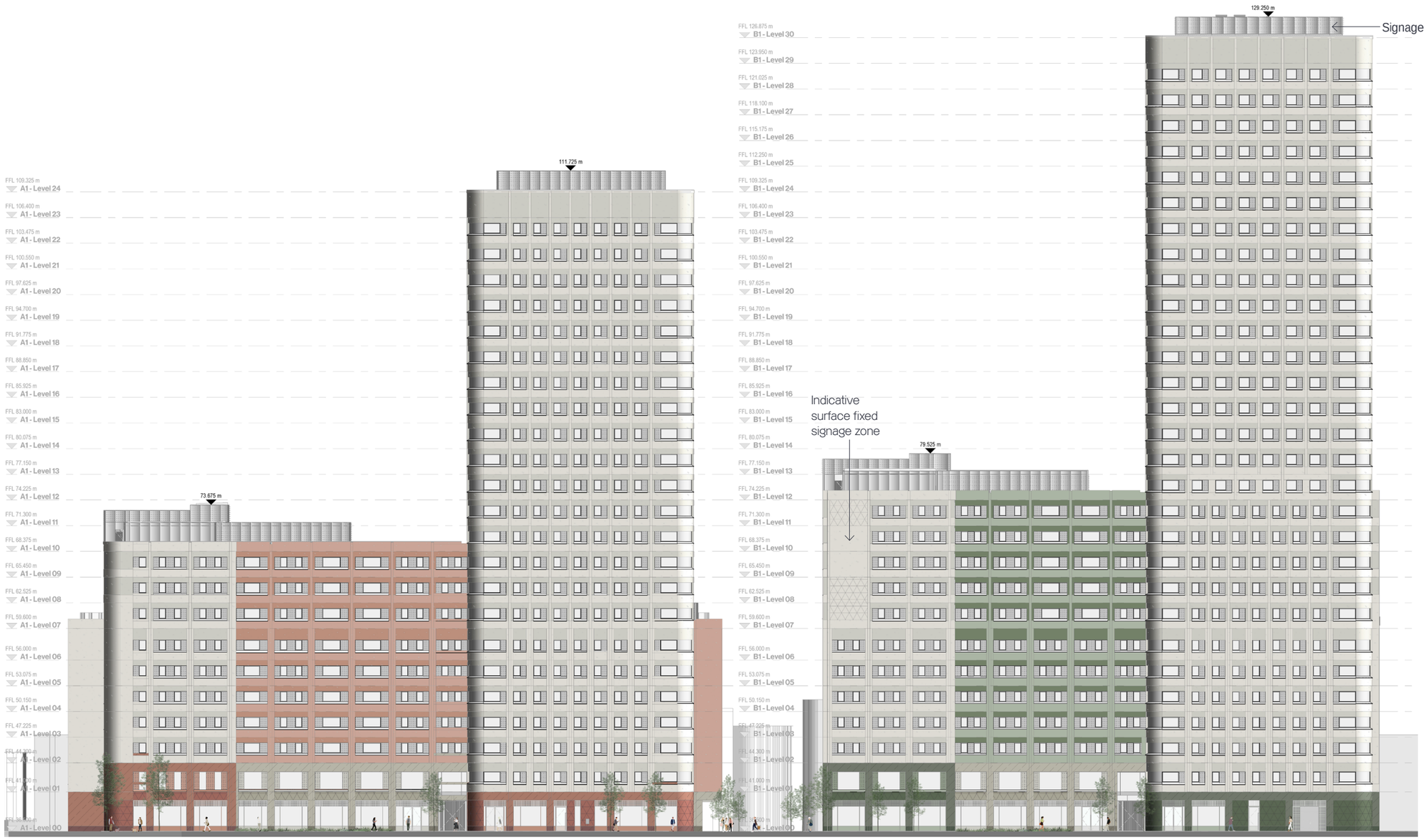
Window bays vary the higher up the building reducing the visual mass. Expressed columns reduce in number. The facade strategy changes at 'shoulder' height. The ground floor is clad in a contrasting colour.



Boundary Street Elevation (South)

Link blocks are expressed in a contrasting colour tone (red or green) to create further visual interest and identify changing internal uses. Blocks of retarded pre cast break up areas of solid wall.

7.29 **Elevation** Chatham Street



Chatham Street - Phase 1 (East)

Contrasting coloured polished pre cast base to ground and first floor elements. Red toned cladding to link block. Variation in window arrangements represent differing internal uses. Large Picture windows to student amenity areas. Facade datums emphasised in depth of cladding panels.

Chatham Street - Phase 2 (East)

Link blocks are expressed in a contrasting colour tone (red or green) to create further visual interest and identify changing internal uses. Blocks of retarded pre cast break up areas of solid wall. Column expression varied to Phase 2 tower the higher up the building.

7.30 Study bay link block

Proposal

The link block facades are designed to bee either red or green in colour, but rich in depth and variation. Double stepped protruding column facings in a light grit blasted pre cast concrete cladding are set forward. These column facings are arranged on a consistent module dependent on internal room use. Wider bays to studios and kitchens. narrower bays to standard bedroom types.

Set back from the smoother faced pre cast to the head of the windows is a heavily retarded finish using the same aggregate mix. Inset within these bays are the window components. The windows are made from a fixed clear glazed pane and an adjacent clear glazed opening window.

The opening window is faced with an anodised silver aluminium screen. The screen has a proportion of perforations created following a bespoke pattern. Where the aluminium panel spans an integral party wall, the metal panel is embossed with the same bespoke pattern as that employed on the perforate screens.

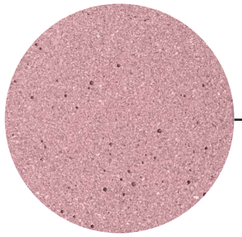
Cills and trims to reveals are of the same anodised silver finish.

Solid cladding elements are proposed to be primarily clad in a red or green pre cast concrete panel.

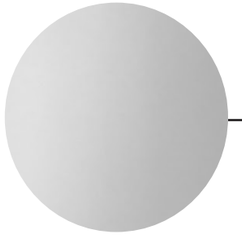
Ground floor cladding will be a polished pre cast panel of contrasting colour. Column and panel bases will have a darker colour 'sock' of polished pre cast. Sections of cladding will have a bespoke pattern applied to the face.



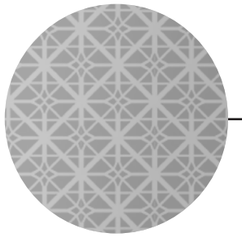
Red retarder finish
precast concrete



Light red acid etched
precast concrete



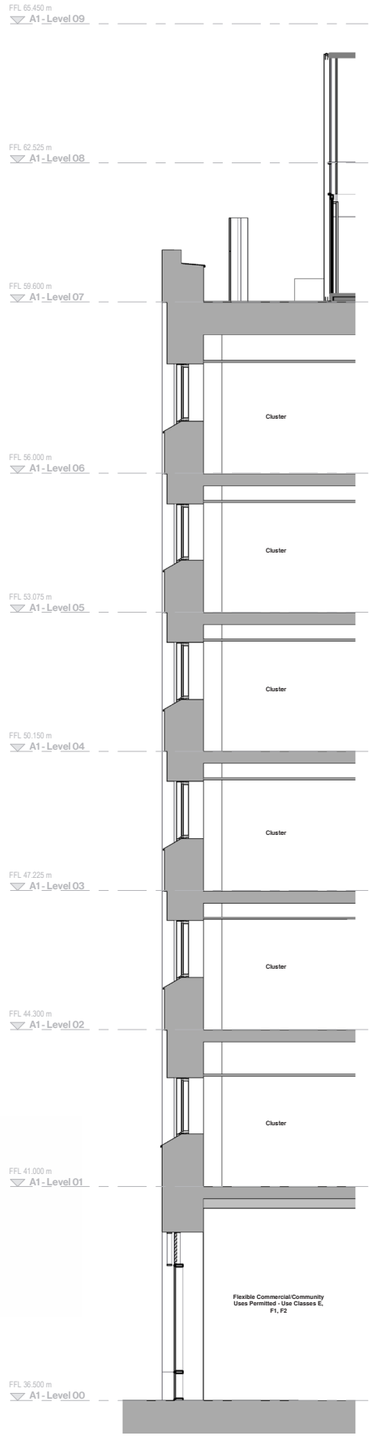
Silver anodised
aluminium



Bespoke perforate
anodised aluminium

Indicative zone for
commercial signage
behind glazing in
dashed boxes





7.31 Study bay corner block

Proposal

The corner block facades are designed to be light in colour, but rich in depth and variation. Double stepped protruding column facings - similar to the link blocks, in a light grit blasted pre cast concrete cladding are set forward. These column facings are arranged on a consistent module dependent on internal room use. Wider bays to studios and kitchens. narrower bays to standard bedroom types.

Set back from the smooth er faced pre cast to the head of the windows is a heavily retarded finish using the same aggregate mix. Inset within these bays are the window components. The windows are made from a fixed clear glazed pane and an adjacent clear glazed opening window.

The opening window is faced with an anodised silver aluminium screen. The screen has a proportion of perforations created following a bespoke pattern. Cills and trims to reveals are of the same anodised silver finish.

Solid cladding elements are proposed to be primarily clad in a sandy Portland stone pre cast concrete panel.

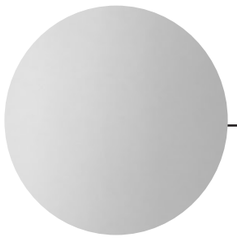
Ground floor cladding will be a polished pre cast panel of contrasting colour. Column and panel bases will have a darker colour 'sock' of polished pre cast. Sections of cladding will have a bespoke pattern applied to the face.



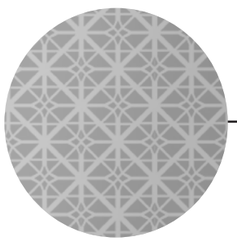
Buff retarder finish precast concrete



Buff grit blast precast concrete

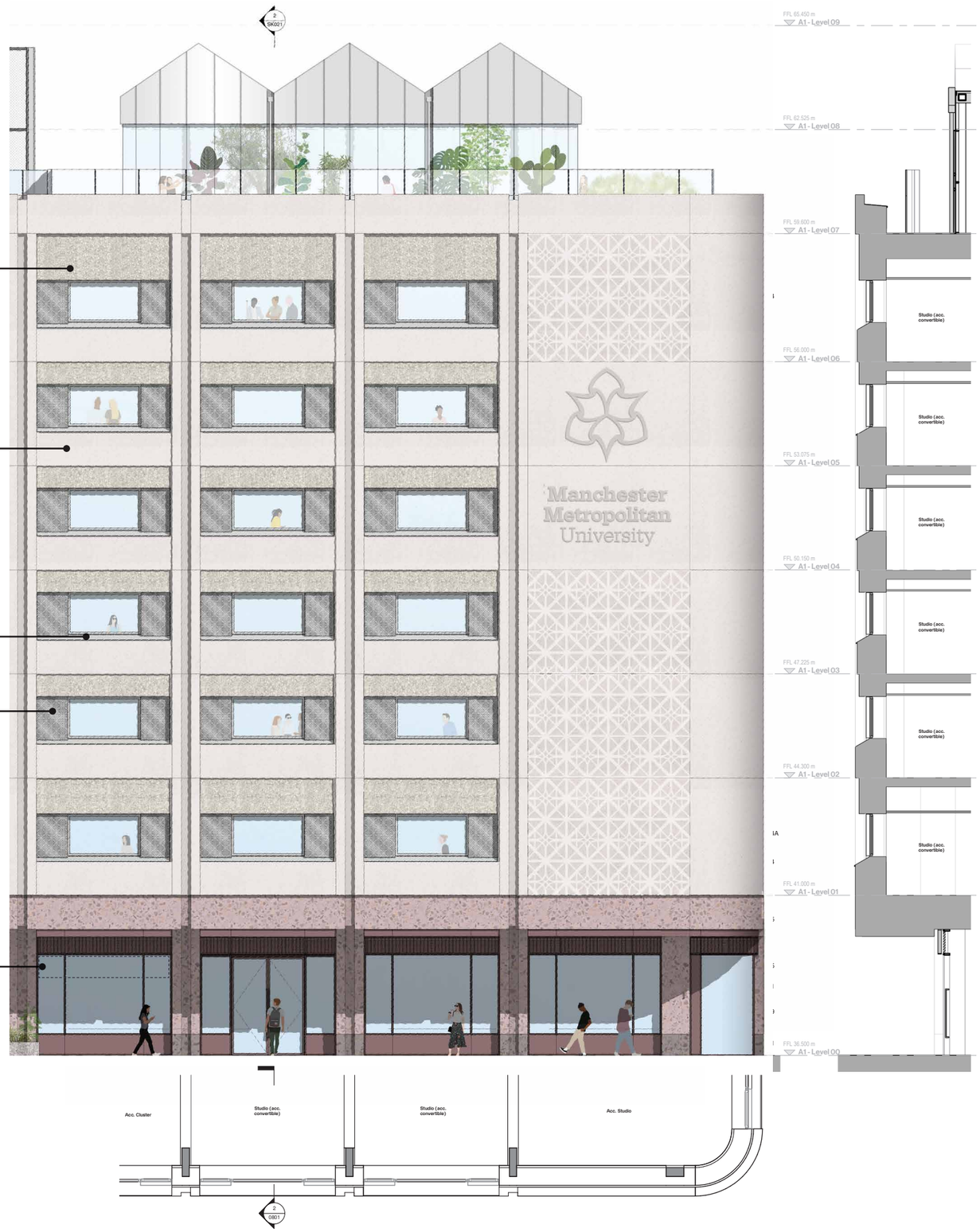


Silver anodised aluminium



Bespoke perforate anodised aluminium

Indicative zone for commercial signage behind glazing in dashed box



7.32 Study bay tower

Proposal

The tower facades are designed to be light in colour, but rich in depth and variation. Slim protruding column facings in a light grit blasted pre cast concrete cladding are set forward. These slender column facings move further apart the higher up the building to change visual perceptions of the scale of window openings and reveals.

Set back from this is a heavily retarded finish to the same mix of pre cast concrete. Inset within these bays are the window components. The windows are made from a fixed clear glazed pane and an adjacent clear glazed opening window.

The opening window is faced with an anodised silver aluminium screen. The screen has a proportion of perforations created following a bespoke pattern. Cills and trims to reveals are of the same anodised silver finish.

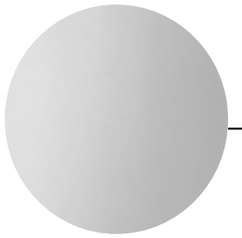
Solid cladding elements are proposed to be primarily clad in a sandy Portland stone pre cast concrete panel.



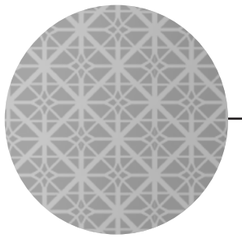
Buff retarder finish
precast concrete



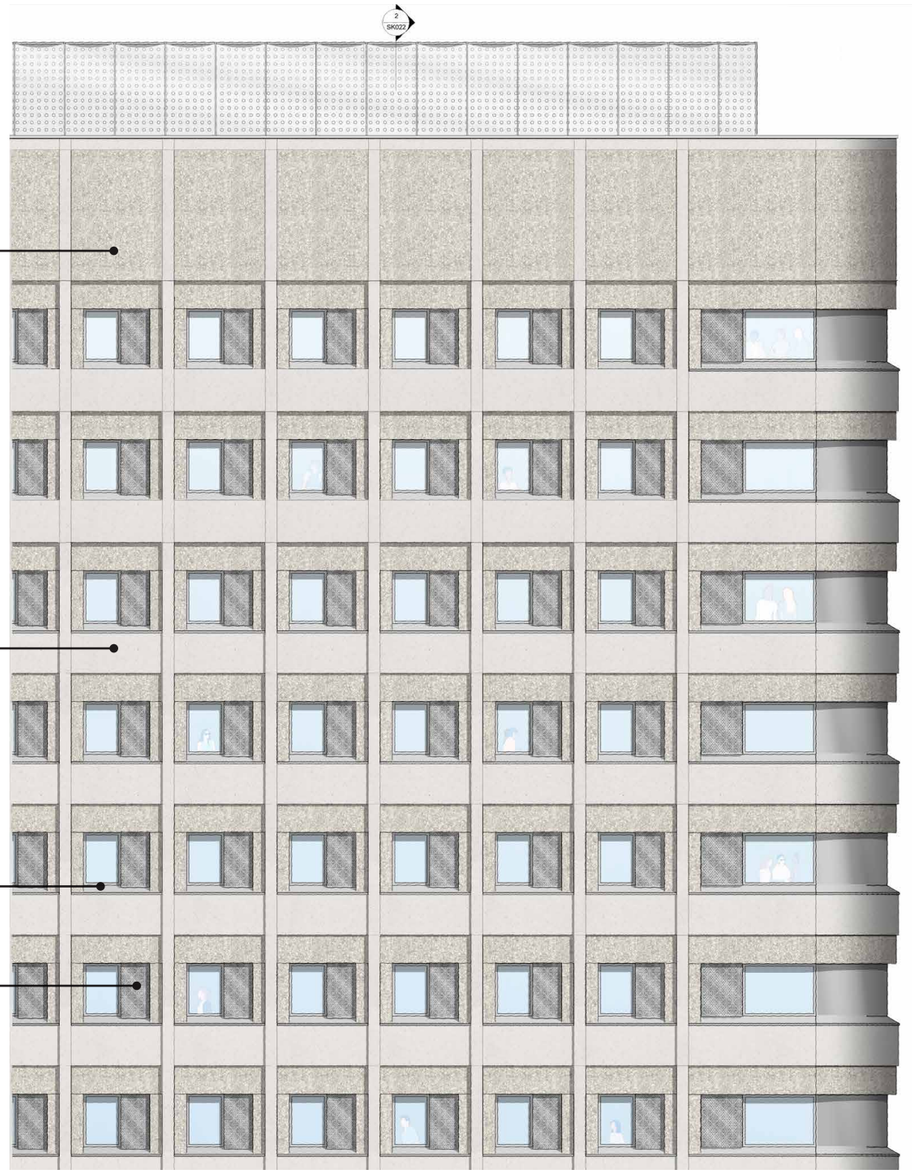
Buff grit blast
precast concrete

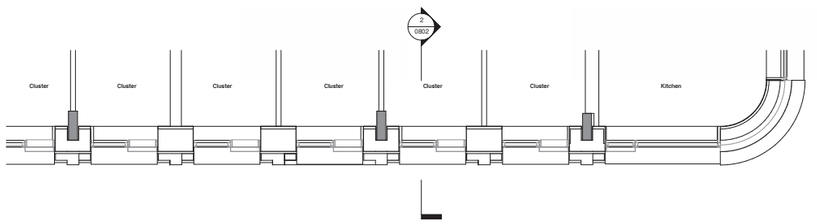


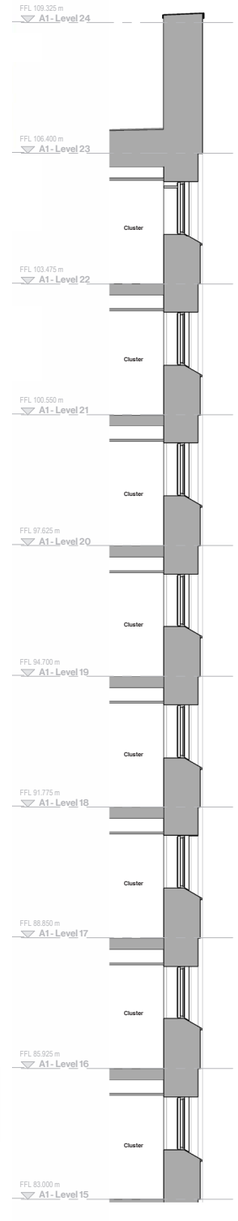
Silver anodised
aluminium



Bespoke perforate silver
anodised aluminium







7.33 Bay axonometric base: Chatham St.



Green retarder finish
precast concrete



Green grit blast
precast concrete

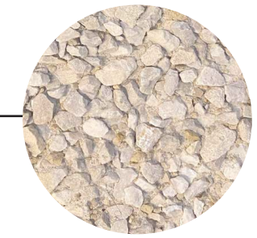


Green polished precast
concrete



Grey polished precast
concrete with green
aggregate

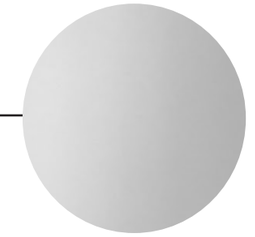




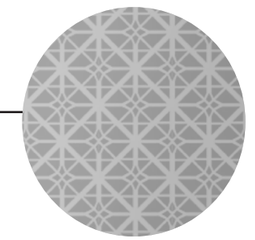
Buff retarded finish
precast concrete



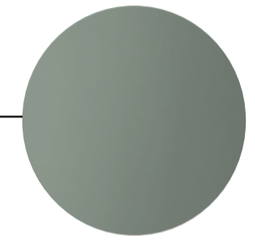
Buff grit blast
precast concrete



Silver anodised
aluminium

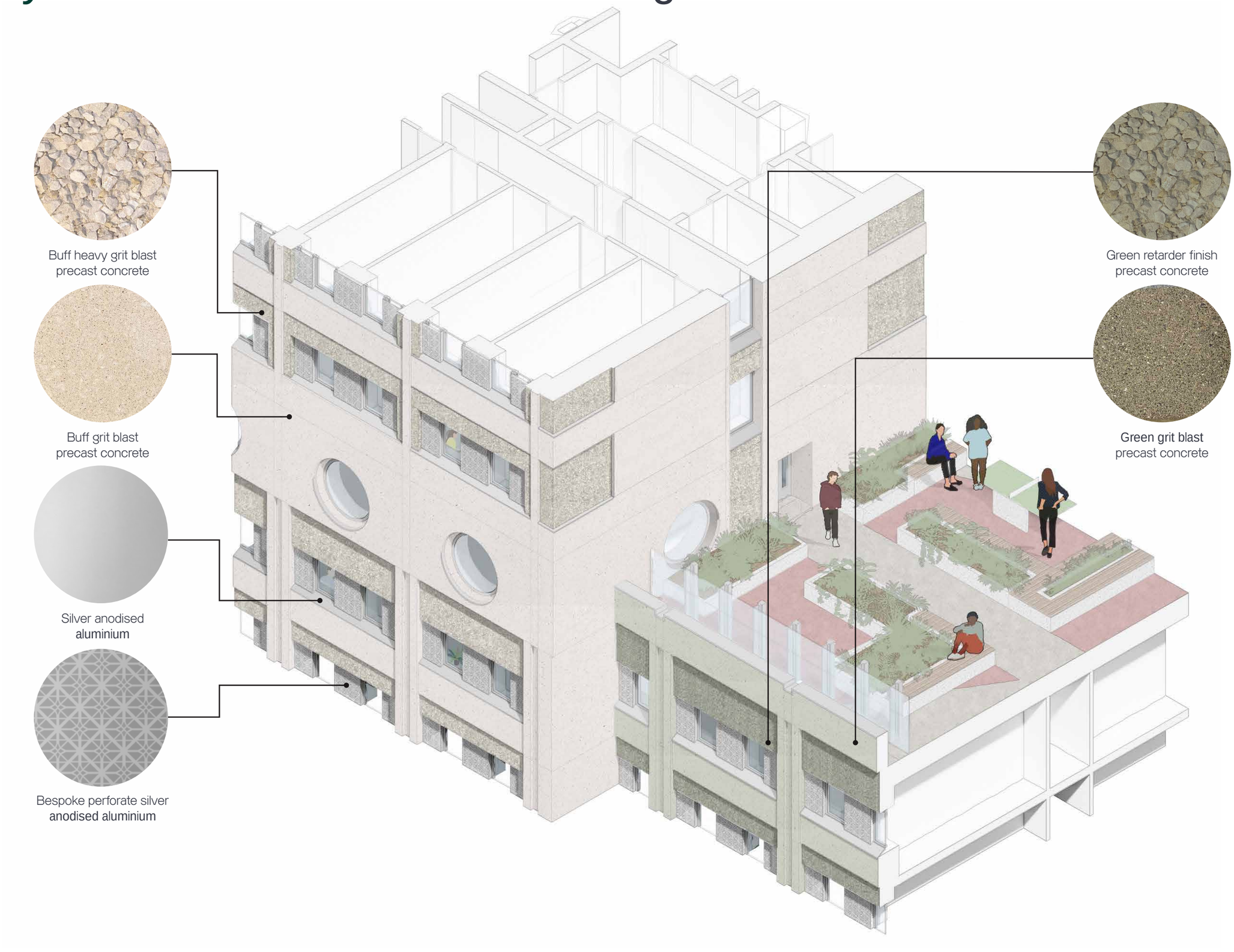


Bespoke perforate silver
anodised aluminium

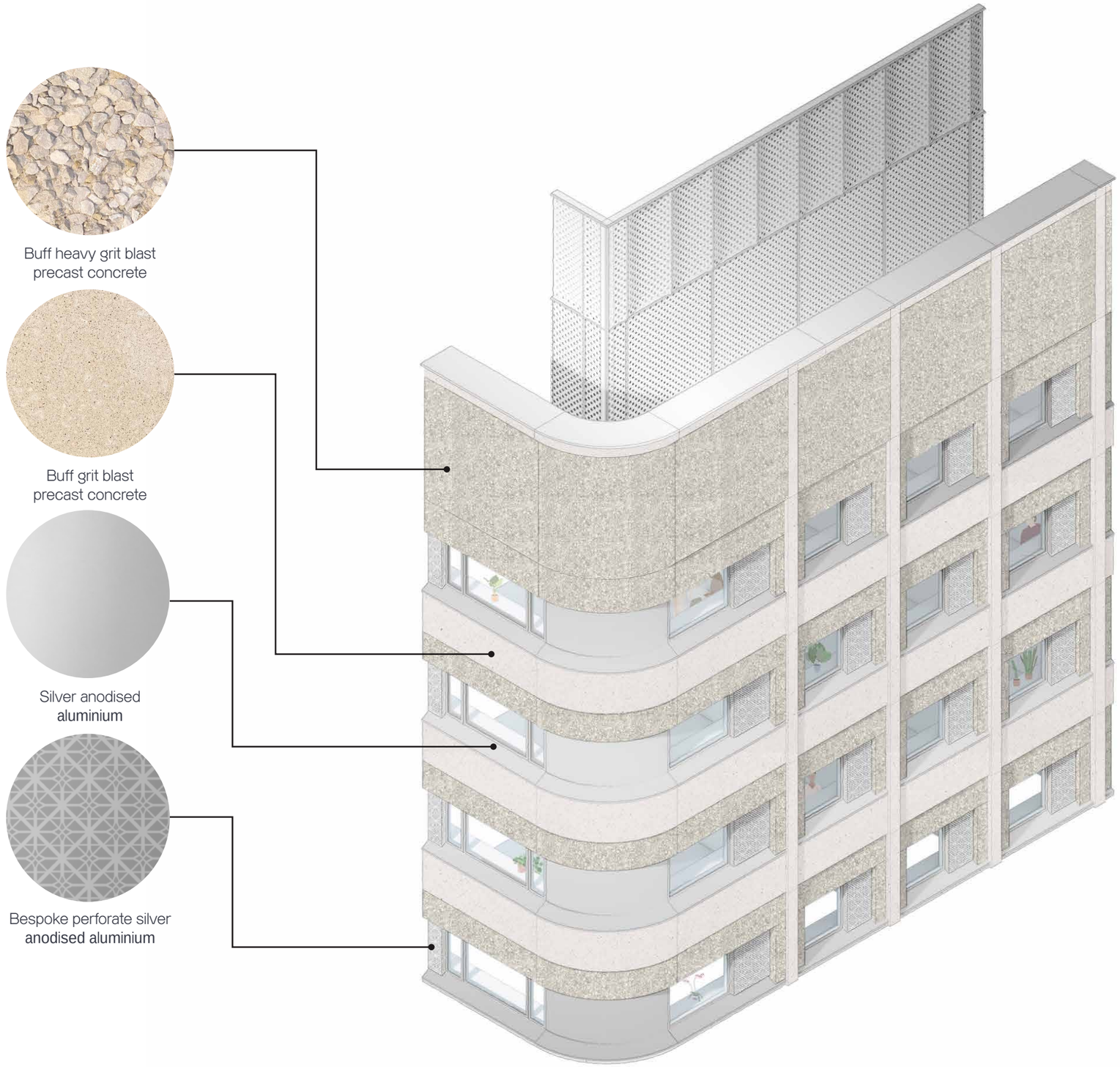


Green anodised
aluminium

7.34 Bay axonometric middle: Cambridge St.



7.35 Bay axonometric top: Chatham Street



DRAFT

8.0

Landscape & Public realm

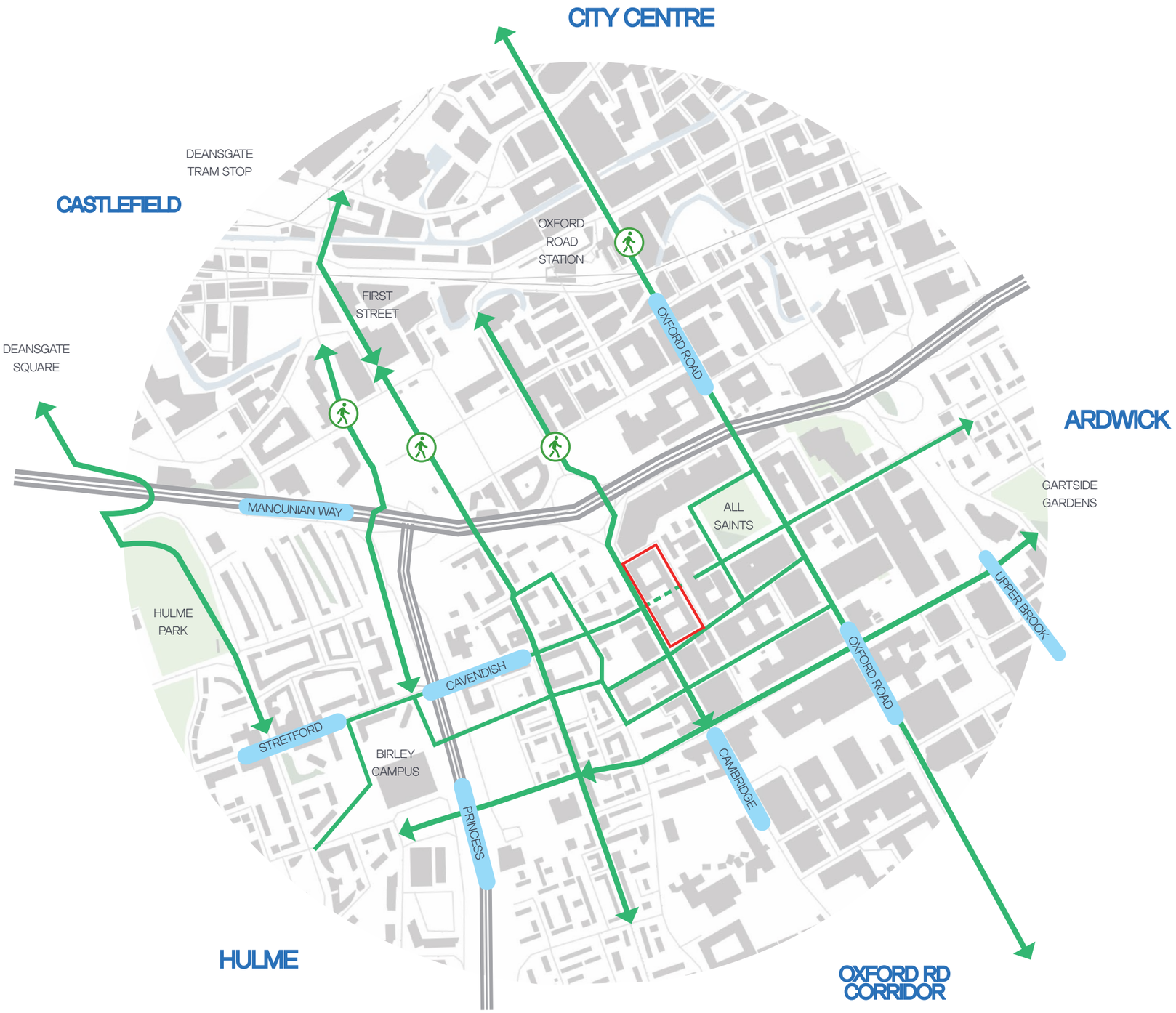
8.1 Positioning of the site

Cambridge Halls is well connected and served by multiple transport connections. Positioned just a short walk from Oxford Road, the city's busiest bus corridor, they benefit from excellent public transport links, making it easily accessible to students commuting across the city. The area is also well-served by cycle lanes, linking it directly to Manchester's expanding network of safe cycling infrastructure. This ensures seamless connections to key destinations such as other university campuses, the Oxford Road corridor, the city centre, and surrounding residential neighbourhoods.

In terms of public open space, Cambridge Halls benefits from its proximity to several green spaces. Locally, All Saints Park, at the heart of the university's campus, provides a convenient and welcoming retreat for students. A short 5 minute walk away, is Hulme Park, an expansive green space with gardens, open lawns and games courts, catering for a range of uses. Whitworth Park lies a 15 minute walk away and offers larger green areas for recreation and relaxation, while Mayfield Park is a little further away at 17minutes walk.

Beyond these public open spaces, access to more regional routes is possible via Rochdale Canal, 5 minutes away, which links to the Bridgewater canal and the River Irwell offering easy access to areas beyond the city centre.

With its central location and strong connections to key pedestrian, cycling, and green networks, Cambridge Halls is an ideal base for students navigating life in Manchester.



8.2 Understanding the surrounding character

The site is positioned to the south western edge of the All Saints Campus. On its eastern side it addresses the campus and is very much part of the student areas, whilst on the western side it addresses the adjacent Hulme community. Given its position the site performs an important role for both students and the community marking a gateway and arrival point into the campus.

The site offers an opportunity to create a positive arrival experience to the campus for both students and community users but the current building does little to engage with the surrounding streetscape and the public realm is equally poor.

The site does however perform a key role of connecting people with destinations. Initially students with the Birley Fields Campus, 10 minutes walk south west of the site and importantly it provides a direct route for the community of Hulme to link through to Oxford Road and beyond to Ardwick.

The connection is largely facilitated via the central space between the two Halls buildings. This space is essentially a parking court on which the two Hall's entrances are positioned and facilitates a series of accessible parking bays close to the entrances. Tree planting to the Cambridge Street end does offer some enhancements to the route and breaks up the predominantly hard character of the space, but limited ground floor activation means the route offers poor surveillance.

The All Saints campus is easily walkable and recent public realm and park enhancements around Lower Ormond Street and Cavendish Street have significantly raised the quality. However the spaces and routes around Cambridge Halls remain of a low quality and largely dominated by highways.



8.3 Future Aspirations

Whilst the public realm surrounding the Halls is currently of low quality the university have developed a wider masterplan vision for both All Saints and Birley Fields.

The masterplan document sets out a series of key objectives, some relevant ones include:

- Create a world class campus that unifies the existing, new and proposed estate faculties with a re-imagined public realm and a character that is reflective of Manchester Met.
- Create a sense of place and enhanced student, staff and visitor experience.
- Establish a unified All Saints campus.
- Establish a pedestrian priority public realm/campus.
- Control vehicular access/egress throughout the estate.
- Establish a safer a more secure campus.
- Establish a greater pedestrian link between All Saints and Birley campus that provides a positive impact for the wider residential community.

The first phase, now implemented, has seen the delivery of improvements to All Saints Park and the surrounding public spaces, connecting All Saints Library with the Grosvenor, Righton and Ormond buildings. High quality natural stone paving unifies the spaces and are supplemented by new seating, benches, lighting and street tree planting.

The subsequent phases aim to extend those improvements along Higher Ormond Street, down Boundary Street and along Higher and Lower Chatham Street, shifting the focus from vehicle dominated spaces to pedestrian focussed, unifying pieces of public realm.

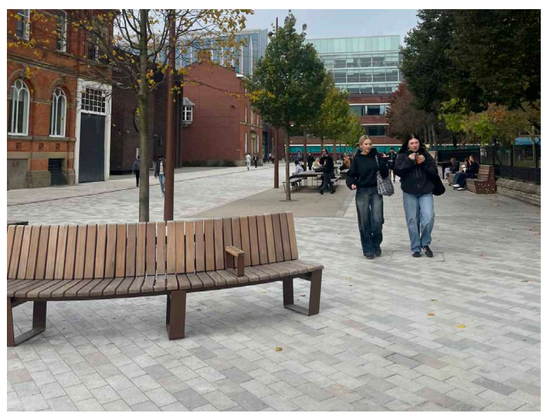


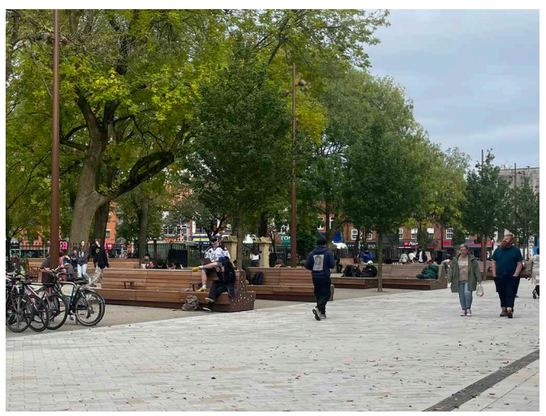
Masterplan Vision extract - p8

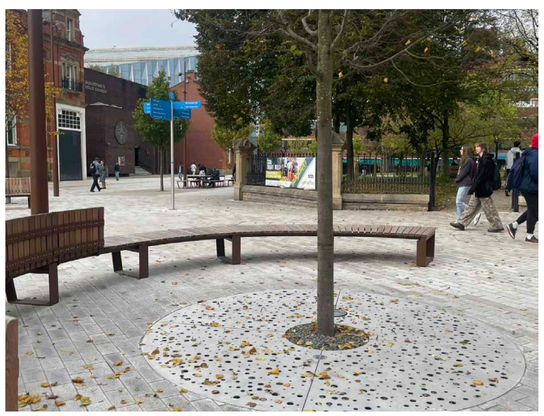




Masterplan Vision extract - p30


Lower Ormond Street, facing towards All Saints Library


Lower Ormond Street, facing towards Manchester School of Art


Lower Ormond Street, facing towards All Saints Park

8.4 **Weaknesses**

Cambridge Halls has two frontages, one that addresses the community and one that addresses the campus. It should do both equally well celebrating and fostering the positive relationships of each. But currently it fails on both fronts.

The immediate surroundings of the Halls are dictated by vehicles. Roads and footpaths are functional, not beautiful; surface materials, benches and lighting are standard and do not celebrate the arrival to the campus; spaces enable movement and do not encourage users to pause, meet and socialise and ultimately do very little to support the needs of the users of the site, whether they be residents who live there, or neighbours who pass through.

Recognising the shortfalls and weaknesses of the current site helps inform the opportunities and drive the design response for the new proposals.

WEAK RELATIONSHIP WITH HULME

- Wide footpaths along the side of Cambridge Halls but the routes include low quality materials
- Lack of street greening
- Highways focussed and vehicle dominant character
- Streetscape does little to connect the university campus with Hulme. There's a definite sense of separation between the two communities.

POOR STREET EDGES, LIMITED ACTIVATION

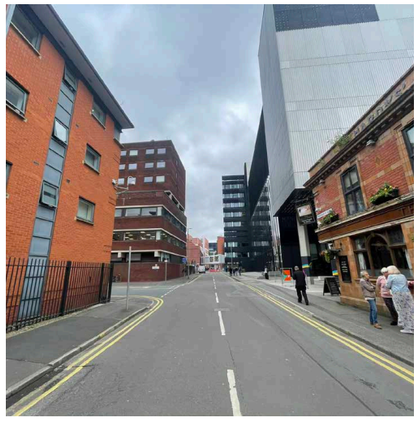
- The current Halls offers poor quality activation at ground floor
- Entrances are hidden within the courtyard and the scheme turns its back to both Cambridge and Boundary Street
- Streetscapes along Boundary Street and Cambridge Street are all very typical with no variation on materials or furniture that may support wayfinding and connectivity

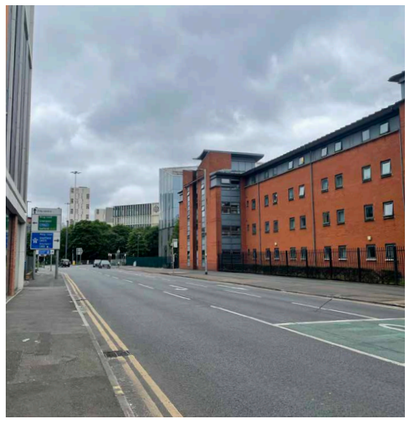
VEHICLE DOMINATED STREETSCAPE

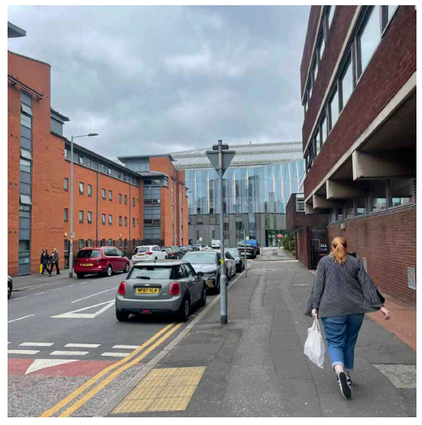
- Chatham Street is dominated by vehicles
- Fairly busy thoroughfare connecting the Union and the Library and Business School but pedestrians treated as the secondary user
- Crossing points are of low quality
- Parking dominates both sides of the street
- Whilst key buildings mark both ends of the street the public realm does little to support them and their positioning.

LOW QUALITY STUDENT AMENITY SPACE

- Entrances are positioned within the courtyards offering some activation and encouraging activity.
- Other than the front doors there is no activation of the courtyard
- Parking spaces sit around the courtyards detracting from the pedestrian environment.
- Tree planting offers relief against the hard streets and spaces surrounding the halls.
- Little or no benches for rest and respite.




8.5 Challenges within the Public Realm

The public realm within and surrounding the development is not without its challenges. Through spending time on site, observing, recording and reviewing existing data, it has been possible to distill the core challenges to four overarching elements:

- Balancing the character and function of the site with it's user
- Recognising the key users and enhancing their experience
- Being adaptive & responding to physical site constraints
- Looking to nature based solutions to enhance resilience

These have directly informed how we have approached the design of the public realm.

BALANCING THE CHARACTER AND FUNCTION OF THE SITE WITH IT'S USER



- Site is surrounded by roads meaning the hierarchy of use emphasises the motor vehicles over pedestrians.
- On street parking occupies the majority of the streetscape
- Central courtyard includes parking spaces

RECOGNISING THE KEY USERS AND ENHANCING THEIR EXPERIENCE



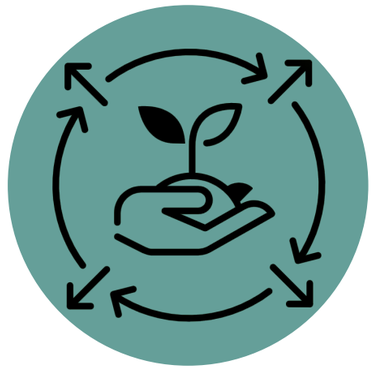
- Cyclists, particularly ebikes currently ride through Cambridge Halls in an uncontrolled manner that lacks courtesy to pedestrians, causing a serious safety risk
- The relationship between the public and student spaces is poor

BEING ADAPTIVE & RESPONDING TO PHYSICAL SITE CONSTRAINTS



- Existing utilities run along the surrounding streetscape and through the centre of the site
- Easements restrict the positioning of landscape elements and inform the site layout

LOOKING TO NATURE BASED SOLUTIONS TO ENHANCE RESILIENCE



- Public realm is predominantly on the road/vehicle access areas
- The air quality is poor because of their vehicle dominant nature and lack of shrub and tree planting to help mitigate against this through absorption of C02 and heavy metals

8.6 Opportunities

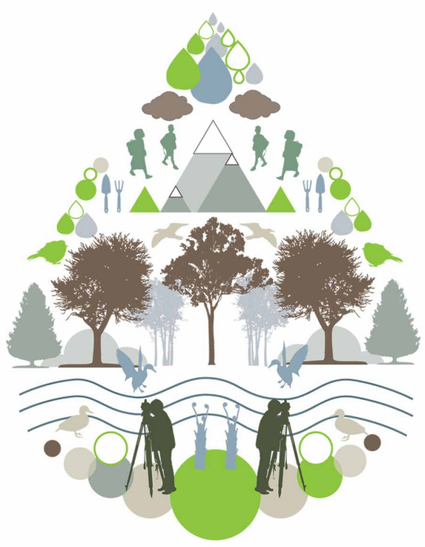
Whilst the site has constraints, it is not limited by them.

There is a great opportunity to deliver a scheme that responds not only to site specific issues but also broader issues such as climate change and sustainability.

This can be achieved by creating a functioning and resilient landscape, that incorporates nature based solutions to deliver a sustainable design from the start.

CLIMATE RESILIENT

- Inclusion of sustainable urban drainage systems where possible
- Sustainable urban drainage systems such as rain gardens to capture surface runoff and increase green coverage, lowering the urban heat island effect, a particular problem in city centre environmnents such as where the university is situated.
- Introduction of hedging species that are known to capture micro pollutants from surrounding road network
- Responding to the microclimate of the site considering the aspect, daylight and shelter from the wind



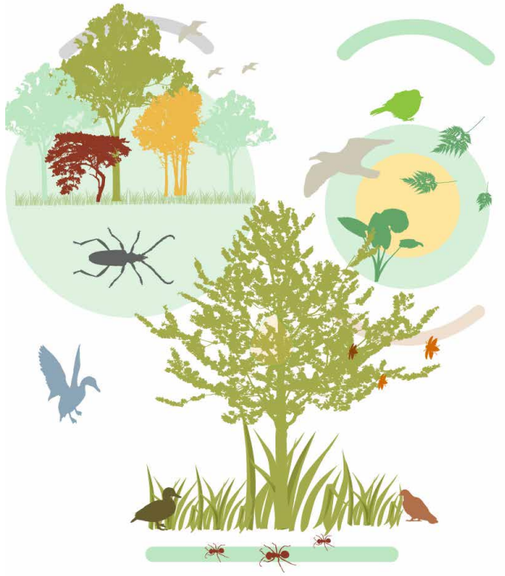
OUR FOOTPRINT

- Considered specification of materials avoiding heavily processed materials. Where possible reuse existing materials.
- Attention will also be paid to the materials specified, considering where they come from, how they are made and how long they will last, to reduce the project carbon footprint and ensure the long life of the scheme also avoiding wastefulness.
- Natural materials such as FSC wood which has less embodied carbon to be used within the street furniture
- Maximise the quantum of green spaces and incorporate trees and woody plant species that are known for their carbon sequestration properties



BIODIVERSITY AND BIOPHILIA

- Careful selection of planting varieties including native species with seasonal variation
- Including flowering and fruiting varieties that encourage insects and birds
- Maximise the quality of the green spaces across the site including the podium and roof gardens



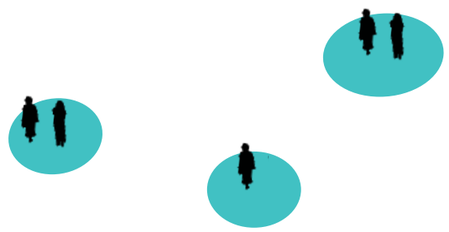
8.7 Opportunities

The All Saints Campus should be a vibrant and exciting place to live but it currently lacks the supporting infrastructure for a residential neighbourhood to develop. A key catalyst to this is good quality public realm and access to green open space.

The public realm aims to be safe, secure and welcoming. It will be permeable, encouraging through movement whilst enabling opportunity to stop, rest and socialise.

The design of the spaces will support a diverse range of uses for individuals and groups of different sizes with flexibility for changing functions such as study, rest, play, exercise and development of personal wellbeing.

PERSONAL SPACES



Personal Spaces can help instill a sense of comfort. They can give t safe space to be, relax and study. Access to personal green spaces allows the individual to step away from university life and gain perspective.

SOCIAL SPACES



Social spaces are a vital component of the development, fostering interaction, well-being, and inclusivity. Social spaces encourage social engagement, providing opportunities for relaxation and recreation. Seating areas, and flexible gathering spaces allow students to get involved.

CAMPUS WIDE EVENTS



Opportunity for large organised campus gatherings, social networking events, parties and sporting events all form a key part of the university experience.

KEY INGREDIENTS



A Place for Residents
A welcoming, safe and well connected public realm can foster a sense of community.



A Place for the Wider Community
A gateway development connecting the campus and community.



Space for University Life
The public realm will offer a high quality space for students

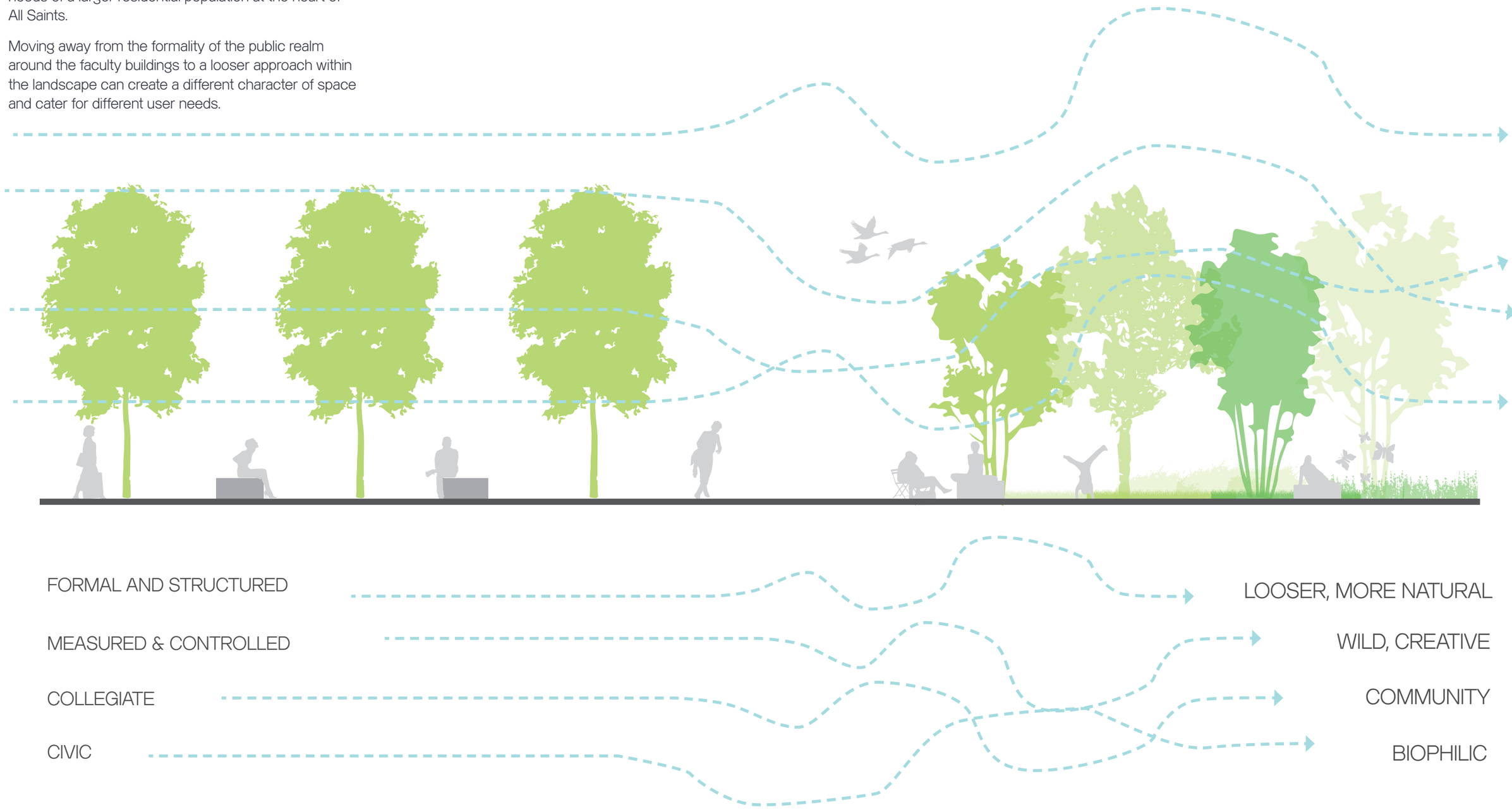


A Respite from University Pressures
Cambridge Halls will offer a wide range of spaces to help students to focus on study or to take their mind off studies when the time calls

8.8 **Emerging concept**

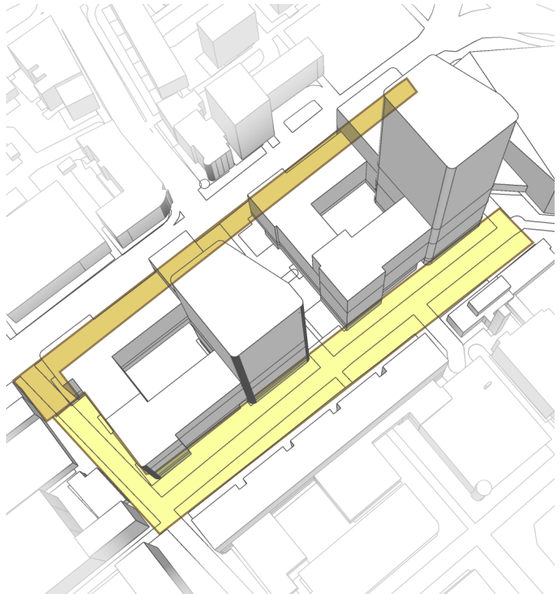
There is a great opportunity, as part of the wider campus offer to provide further diversity of character and function to the public realm, to better support the needs of a larger residential population at the heart of All Saints.

Moving away from the formality of the public realm around the faculty buildings to a looser approach within the landscape can create a different character of space and cater for different user needs.



8.9 Landscape typologies

THE STREETS - PUBLIC

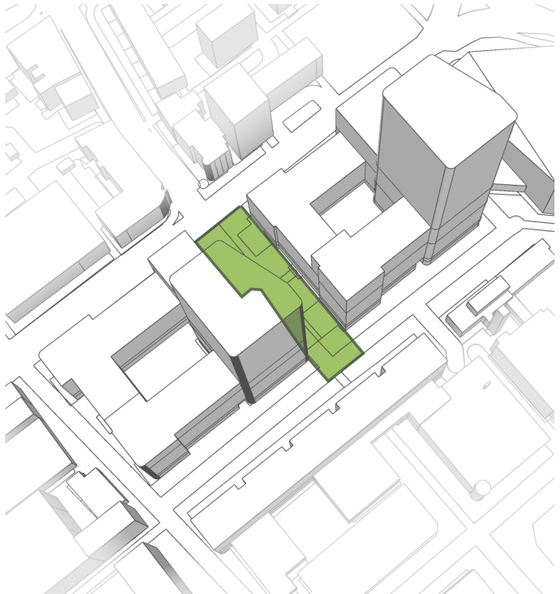


- A defined frontage to the development that positively contributes to the street;
- New greening to Chatham that links to All Saints park;
- Provide clarity and legibility at the key orientation points along the streets;
- Integrate access, circulation elements in a sensitive way ensuring the courtyard entrances have an open and engaging frontage;
- Consider the wider movement aspirations along Cavendish Street.

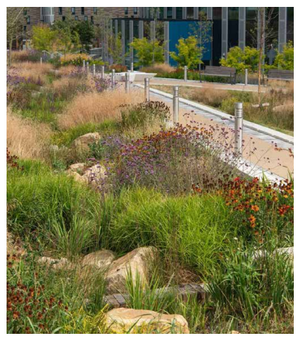




THE LINK - PUBLIC

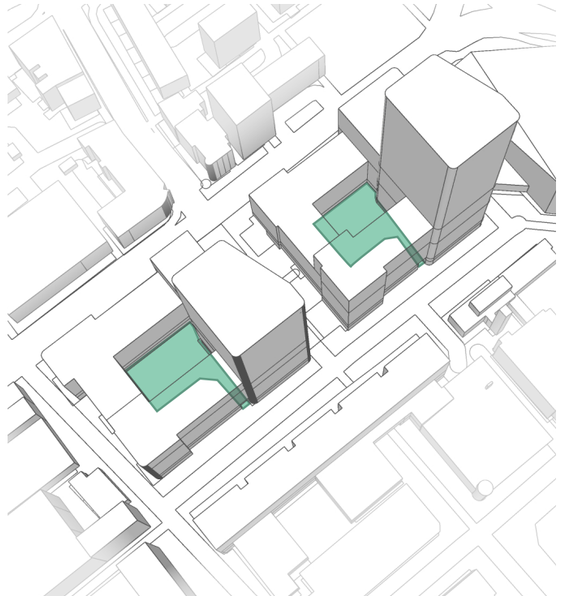


- Re-imagining a more positive connection between community and university
- A shared pedestrian and cycle space
- Engaging positively with Hulme and the Campus with new green spaces, seating and improved arrival experience
- A functioning space that is climate resilient with rain gardens and a diverse planting character offering enhancements to the site's biodiversity.

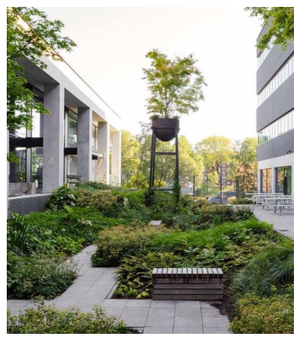


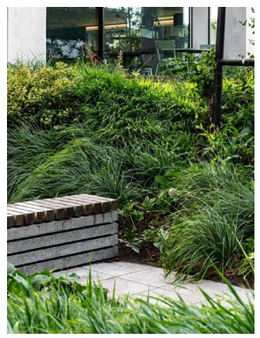


THE COURTS - PRIVATE

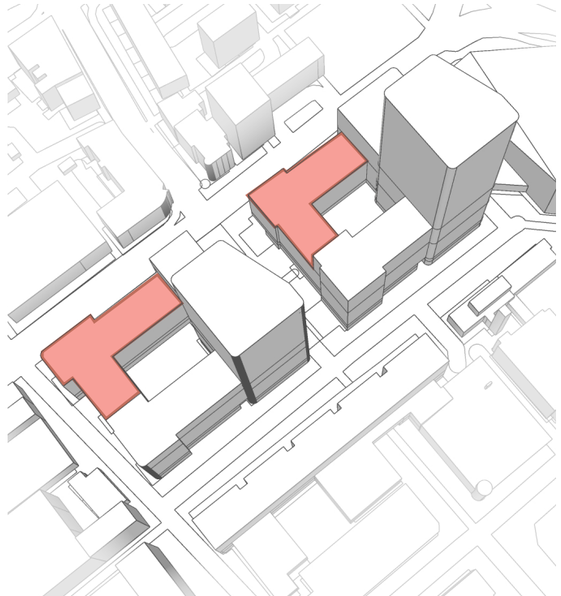


- Create a softer and contrasting environment to that of the adjacent streets;
- Provide opportunities to dwell and pause;
- Create a space that is welcome use throughout the day and into the evening with a supporting lighting scheme;
- Maximise opportunities for planting and trees to offer strong connections to greening, biofilia and a more natural environment.





THE TERRACES - PRIVATE



- A diverse offer of spaces from calm environments that support learning and study to more active spaces for games and interaction;
- Games areas, courts, running tracks and outdoor exercise facilities
- A place that provides opportunities for social activity and small gatherings, as well as more intimate seating spaces
- Grow your own areas and communal gardens.

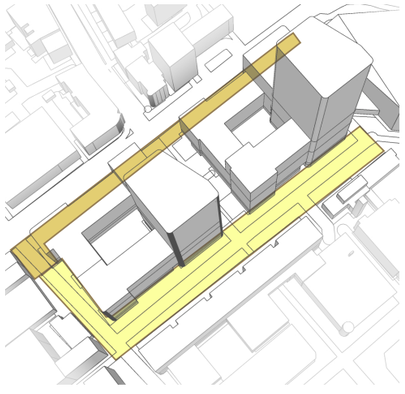




8.10 Public realm proposals Ground and First Floor



8.11 The Streets Cambridge Street





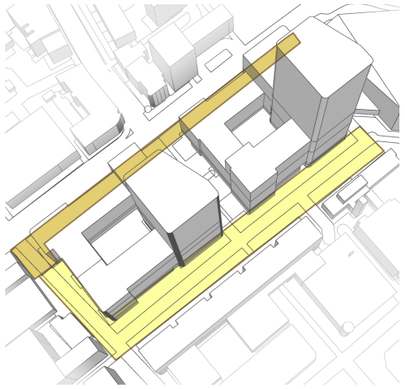




Street tree planting, wider footpaths, improved surfacing and opportunity for rain gardens

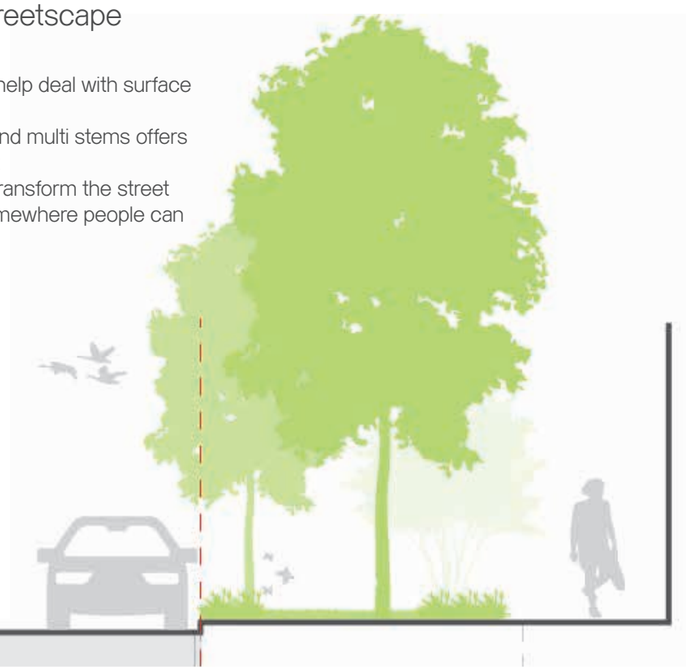


8.12 The Streets Chatham & Boundary Street



Greener more resilient streetscape

- Ground level rain gardens can help deal with surface water runoff
- Mixed tree planting with clear and multi stems offers a varied character to the street
- Seating opportunity begins to transform the street from a movement space to somewhere people can dwell and socialise



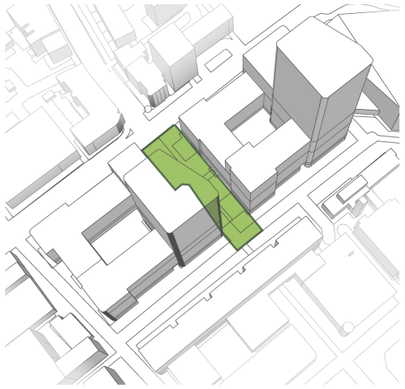




Street tree planting, wider footpaths, improved surfacing and opportunity for rain gardens



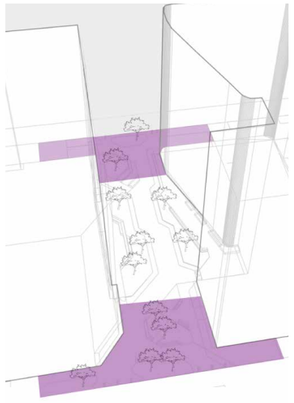
8.13 Cavendish Walk



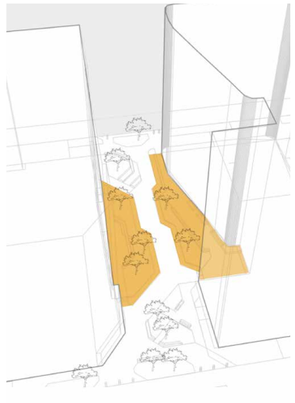
Overview

- Consideration of differing users and uses of the space
- Enabling a fully public route along the alignment of Cavendish Street
- Develop a green, climate resiliant attractive route
- Enable student spillout spaces
- Community facing seating areas and places to pause
- Creation of a pedestrian focussed, safe and welcoming space.

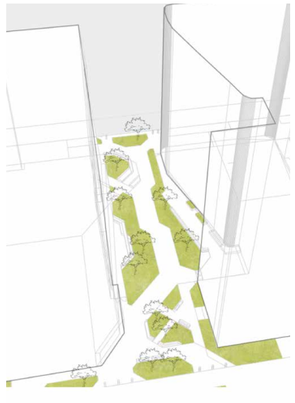
Spatial approach and design evolution



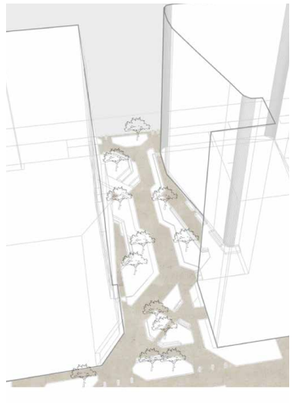
- Pocket Spaces for community and campus
- Seating, socialising



- Spillout spaces linking to ground floor uses
- Private student spaces



- New green infrastructure
- Clear distinction between public & private



- Pedestrian focussed route
- 24hr public access

Cavendish Walk Design Development



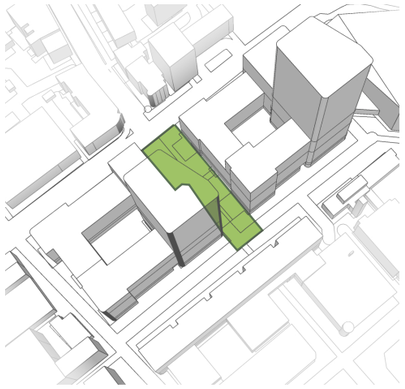
Character study and precedent







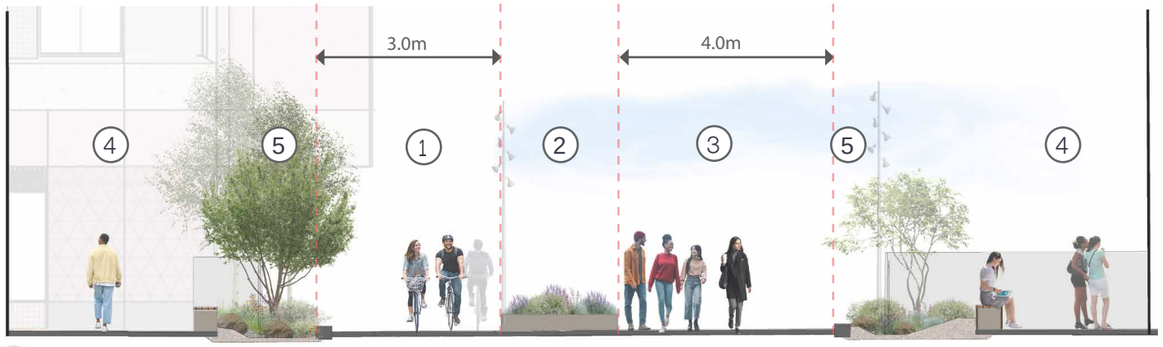
8.14 Cavendish Walk



Overview

- Public open spaces with seating engage with both Cambridge Street and Chatham Street ends.
- Cycle route in line with LTN1/20 guidance provides a clear line of site and seperation between pedestrian and cycle routes via a raised kerb
- Communal spaces and visual amenity for adjacent residents

Section through Cavendish Walk

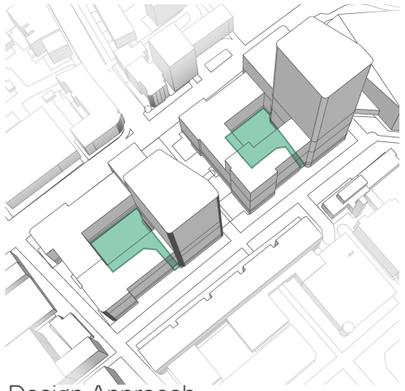


KEY

1. 3.0m wide dedicated cycle path
2. Raised planter as division between cycle and pedestrian routes
3. 4.0m wide pedestrian only footpath
4. Student access only area
5. Rain garden planting and secureline boundary seperates public and private spaces with seating edge to private space
6. Planting widened at mouth to provide better seperation between pedestrian and cycle routes
7. In ground signage
8. Formal seating area



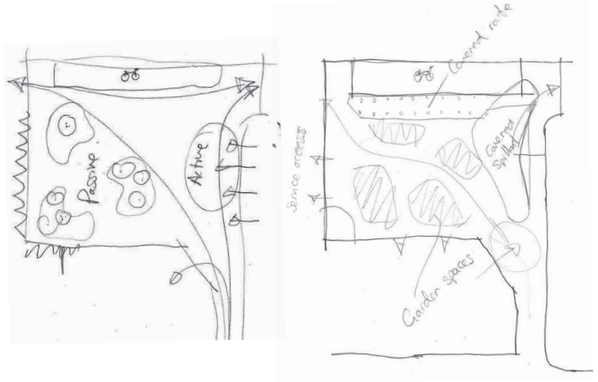
8.16 The Courts South



Overview

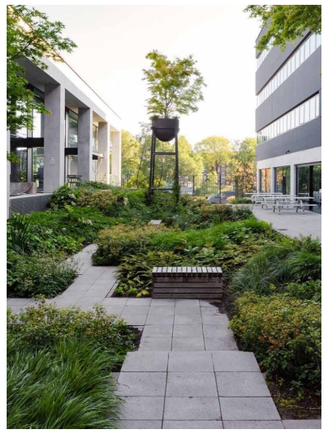
- Spaces are created to the edge of the courtyard encouraging spillout from the more active ground floor uses
- Planting plays a significant role in the space offering a visual focus at ground level and for units that look down on the space.
- Pocket spaces sit within the planting areas offering a range of scales of seating and social areas.
- Larger seating spaces suitable for groups relate to internal student uses.

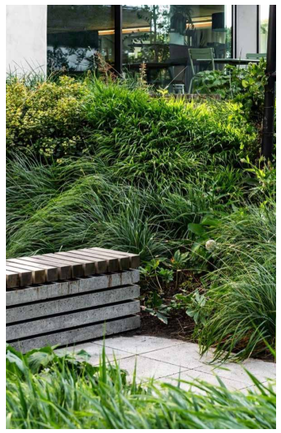
Design Approach



- Responding to the ground floor uses
- Considering scale of space and year round use

Character study and precedent







Section



KEY

01 Gated access to private courtyard;

02 Arrival space linked with the student reception

03 Courtyard Canopy providing sheltered spillout for students

04 Terraced seating edge adjacent to active internal uses

05 Pergola walkway linking into the central space

06 Central events space for student events/ markets

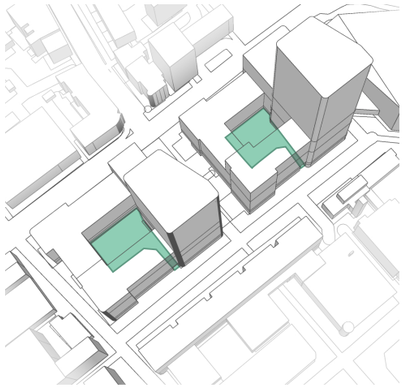
07 Diverse seating opportunity with decks, benches, spaces for wheelchairs surrounding the central space

08 Study gardens with mixed seating set within mixed planting

09 Feature planting including mixed native and ornamental varieties, and multi stemmed and clear stemmed tree planting.

10 Entrance spaces linked to cores

8.17 The Courts North



Overview

- Creation of a range of social spillout spaces
- Scales of space range to cater for individuals and small to medium groups
- Planting plays a significant role in the space offering a visual focus at podium level and for units that overlook the space.
- Pocket spaces sit within the planting areas offering spillout from study spaces
- Larger seating spaces suitable for groups lie to the edges

Section



Character study and precedent









KEY

01 Stepped link from Higher Chatham Street directly onto the podium

02 Terraced seating area with integrated planting

03 Arrival space with seating edges and clear sight lines to entrance cores

04 Mixed seating with wider decks and space for wheel chair users

05 Seating deck

06 Smaller cluster spaces linked with quiet study area for spillout

07 Spillout from quiet and group study spaces.

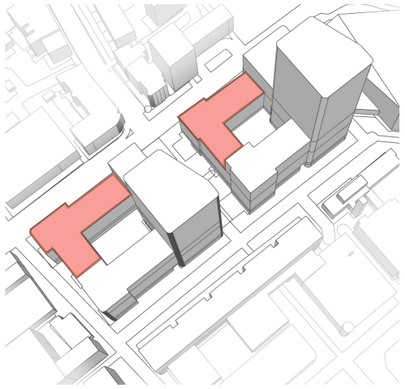
08 Feature planting including mixed native and ornamental varieties, and multi stemmed tree planting.

09 Entrance spaces linked to cores

8.18 The Terraces Level 07



8.19 The Terraces South



Overview

- A secure environment that supports exercise, learning and study
- Opportunities to sit in small groups or individually
- A place that provides opportunities for social activity and small gatherings, as well as more intimate seating
- A dynamic and engaging environment
- Opportunity to engage in sports and physical activity, in conjunction with the indoor gym/wellness studio spaces

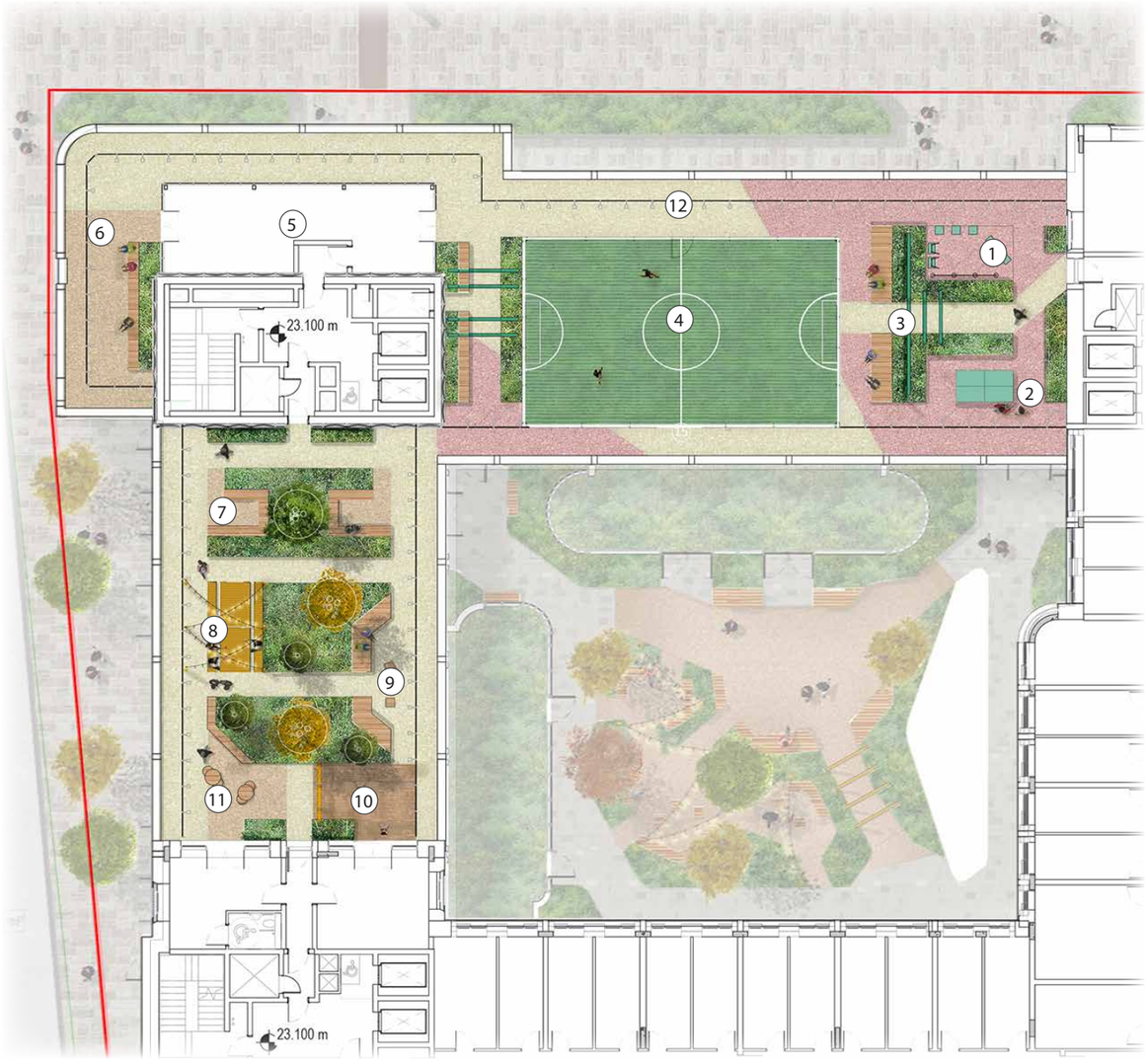
Section



Character Study & Precedent







KEY

01 External work out zone for calisthenics based exercises

02 Games space for table tennis

03 Bleacher seating facing the games court

04 Multi use games court for football, basket ball, netball etc with fencing and roof netting for ball control

05 Greenhouse space

06 South facing flexible seating area with fixed tables

07 Smaller seating clusters for small to medium sized groups

08 Communal dining space with benching and large table and festoon lighting overhead

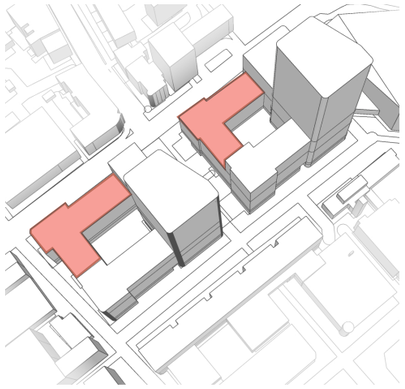
09 Open seating space overlooking the southern courtyard

10 Spillout deck linking to the Wellness Space for Yoga and mindfullness exercises

11 Flexible spillout space

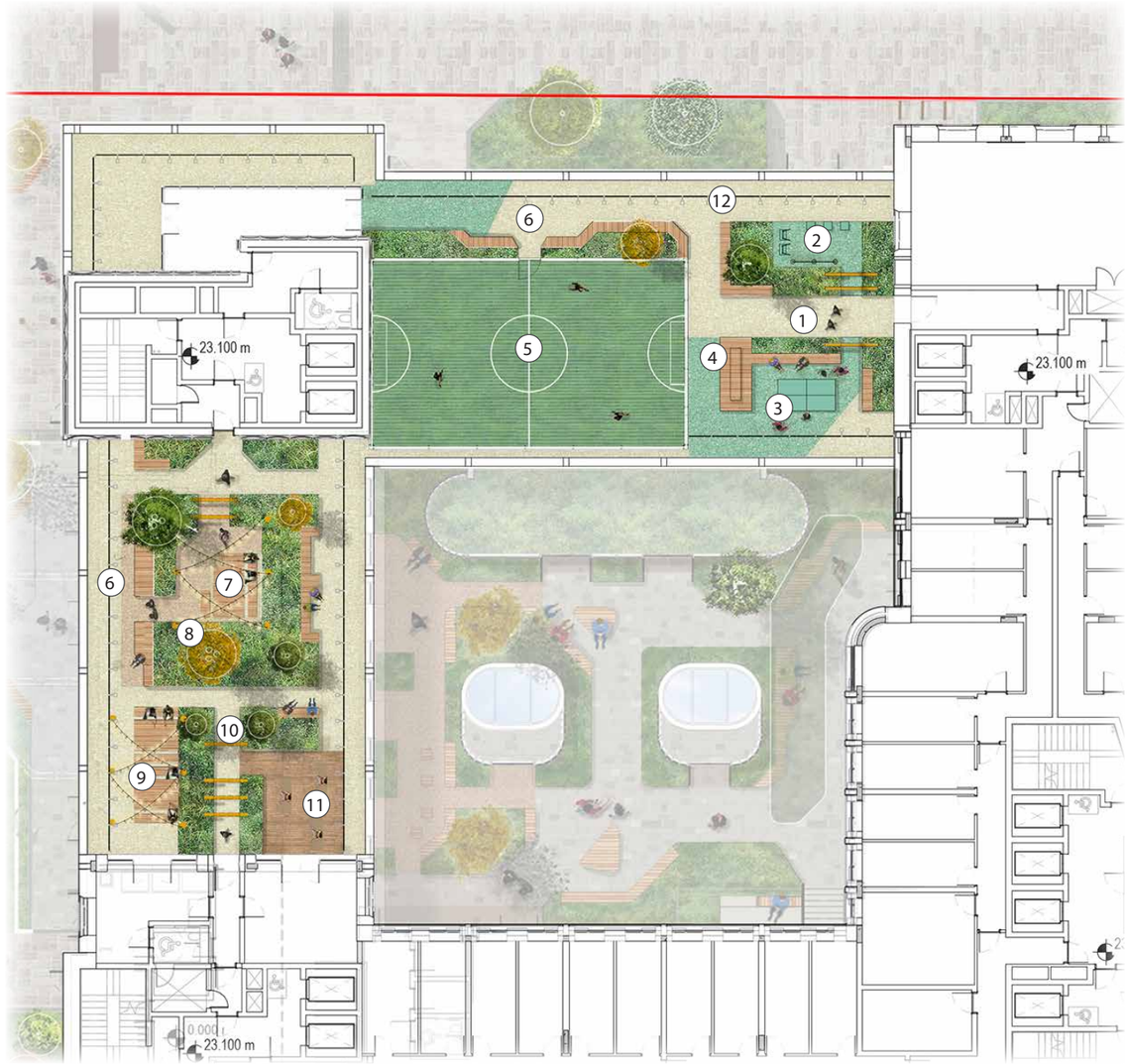
12 1.8m tall balustrade

8.20 The Terraces North



Overview

- A secure environment that supports exercise, learning and study
- Opportunities to sit in small groups or individually
- A place that provides opportunities for social activity and small gatherings, as well as more intimate seating
- A dynamic and engaging environment
- Opportunity to engage in sports and physical activity, in conjunction with the indoor gym/wellness studio spaces



Sections



Character Study & Precedent





KEY

01 Central circulation route

02 External work out zone for calisthenics based exercises

03 Games space for table tennis

04 Bleacher seating facing the games court

05 Multi use games court for football, basketball, netball etc with fencing and roof netting for ball control

06 South West facing spillout space with lounger seating

07 Communal dining space with benching, large table and festoon lighting overhead

08 Smaller seating clusters for small to medium sized study groups

09 External workstations for private/ group study

10 Central circulation route with pergola lined walkways

11 Spillout deck linking to the Wellness Space for Yoga and mindfullness exercises

12 1.8m tall balustrade

8.21 Appearance Hard materials

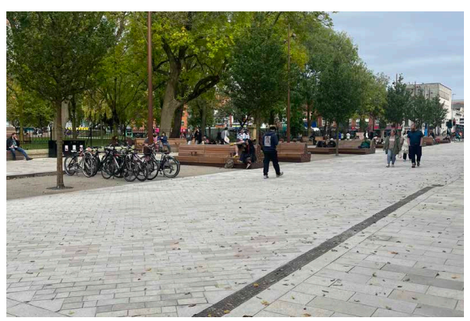
A palette of high quality and robust materials and finishes are to create a durable and visually attractive environment for residents and the public. Surface finishes are to form a positive visual relationship with the proposed building aesthetic, with a warm colour palette, subtle texture and tonal variation. This will contribute to the residential character of the site. Focus will be on high quality detailing and finishes within surfaces and furniture.

The Streets & The Walk

- Extending the high quality palette from All Saints park through the public routes to aid wayfinding
- Using a blend of paving sizes and textures to re-inforce the pedestrian character



High quality natural stone surface finishes



Linear drainage elements and crisp detailing



Varied paving sizes to inform use and users



Textured finishes with gravel mulch to edge of planting

The Courts

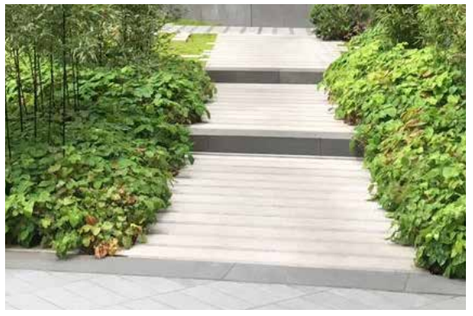
- A change in paving finish and specification supports the change from public to private spaces.
- Smaller paving units to suit the more intimate spaces with bound surfacing throughout the garden and seating areas



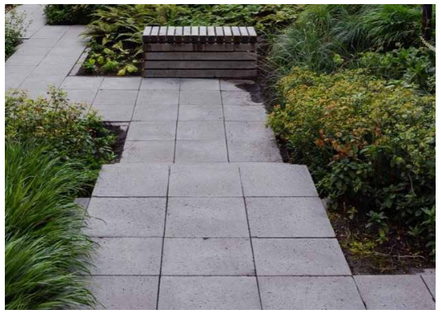
Softer materials such as self bound gravel to garden spaces



Mixing paving and resin to inform use and function



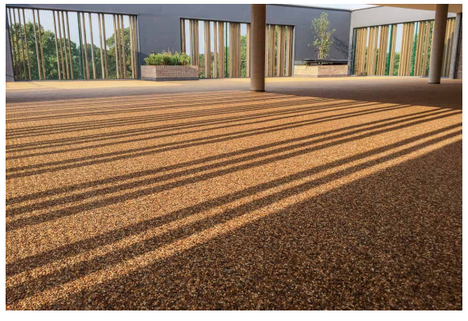
Staggered edges to blur paving and planting



Smaller unit pavers to garden spaces

The Terraces

- Bound surfacing to the roof terraces using colour to reinforce the sports and active spaces from the more passive spaces



Resin bound surfacing to main terrace spaces



Coloured finishes highlight uses for outdoor exercise



Synthetic surfacing to mixed use games courts



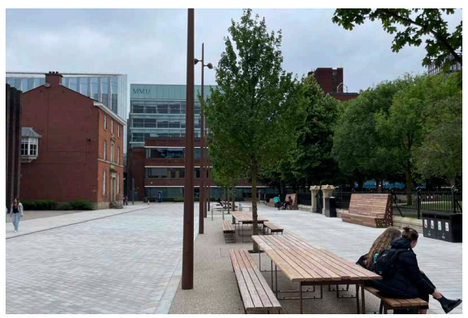
Composite or porcelain to larger spillout spaces

8.22 Appearance Street Furniture

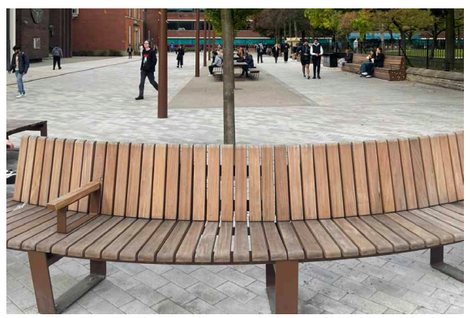
High quality and robust street furniture are selected and designed to create a durable and visually attractive environment for residents and the public. Surface finishes are to form a positive visual relationship with the proposed building aesthetic, with a warm colour palette, subtle texture and tonal variation. This will contribute to the residential character of the site. Focus will be on high quality detailing and finishes within surfaces and furniture.

The Streets & The Walk

- Taking reference from the street furniture palette at All Saints park considering materials and finishes.
- Lighting column style and key furniture elements reduced in scale to suit the residential use and character



Reference the lighting columns at All Saints



Reference the seating materials and finish



Durable cycle stands



Natural boulders within rain garden spaces

The Courts

- Broader range of seating opportunities from loungers to terraced plinths.
- Festoon lighting supports early evening and winter use.
- Colour creates additional vibrancy in the shaded spaces.



Coloured seating and benching



Large timber deck loungers



Stepped seating edges to maximise space



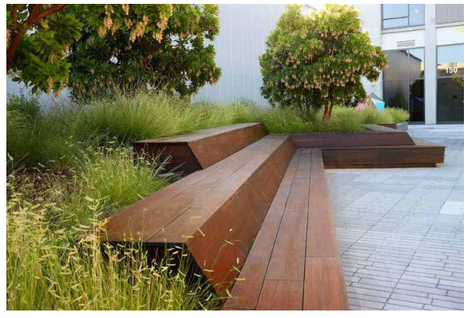
Festoon lighting to encourage year round use

The Terraces

- Raised steel planters to enable lush green gardens on the roof.
- Integrated seating to maximise the use and functionality of the space.
- Fixed play and active equipment supports the internal building uses.



Raised planters with integrated seating



Mixed seating opportunities in small and larger clusters



Fixed play/ active equipment



Feature recessed lighting to planters and planting

8.23 Appearance Lighting

The landscape design also sets out a set of high quality lighting typologies that emphasises the character of the development in key locations, such as highlighting feature trees and sculptural elements of the landscape and building. Facades, seating, canopies and pergolas are all lit by ligting that is selected so that they blend into and become part of the landscape proposals rather than imposing onto it as an afterthought.

Ground & First Floor





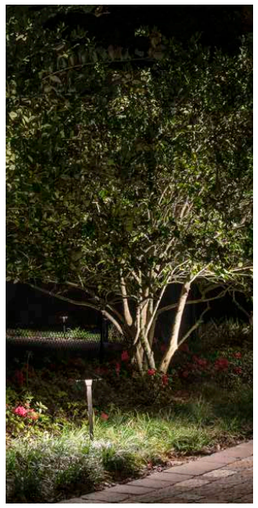
1 Column lighting
(to adoptable standards)



2 Feature stack lighting
3-4m high



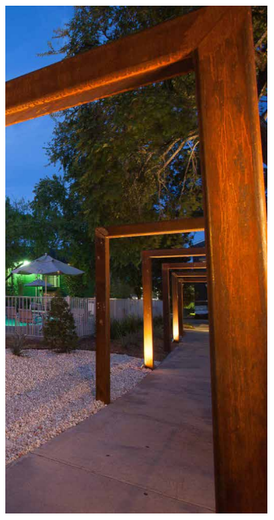
3 Festoon lighting



4 Tree uplighting

Roof Terrace L07

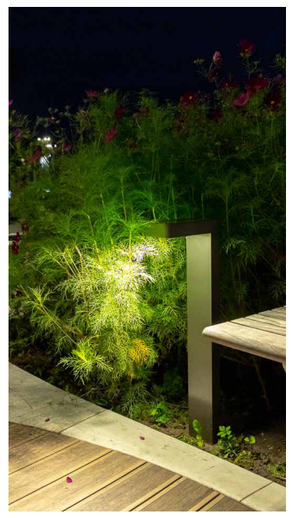




5 Feature uplighting



6 Feature underseat lighting



7 Low level bollard lighting



8 Games court lighting

8.24 Appearance Planting; Trees

A diverse planting palette will provide year-round structure and seasonal interest throughout the site, adapting for sun, shade, and dry conditions as required. The planting strategy aims to strike the balance between pleasing aesthetics, robustness for longevity and ease of maintenance to ensure it remains at its best.

Structural, broadleaf trees

- Broadleaf varities are used to mark key points within the public realm
- Mostly deciduous varieties are used to offer seasonal interest with accent evergreens.
- Natives used heavily throughout the masterplan

Ornamental tree planting

- Mixed standard and multi-stemmed varieties are included
- Natives form the back bone of the palette with accent trees picked for their bold seasonal variation
- Shade tolerant evergreen varieties are considered in the courts

Multi-stemmed feature shrubs

- Feature shrubs are used within the first floor podium space and at roof level
- Flowering varieties are considered at level7 where the aspect is more favourable.



Acer campestre 'Red Shine'



Betula utilis 'Doorenbos'



Malus 'Evereste'



Pudictae. Verro omniam, sequod qui rem



Gleditsia triacanthos



Acer palmatum



Rhododendron 'Cunninghams White'



Lagerstroemia indica

8.25 Appearance Planting; Shrub and Rain garden

A diverse planting palette will provide year-round structure and seasonal interest throughout the site, adapting for sun, shade, and dry conditions as required. The planting strategy aims to strike the balance between pleasing aesthetics, robustness for longevity and ease of maintenance to ensure it remains at its best.

Rain garden planting

- Matrix of shrubs, grasses, sedges and perennials offering year round interest
- Robust plants that can tolerate prolonged wet and dry periods
- Large percentage of ornamental grasses



Matrix of repeating species with complementing forms that are resilient to dry and wet conditions and provide year round interest



Molinia caerulea



Anemone × hybrida



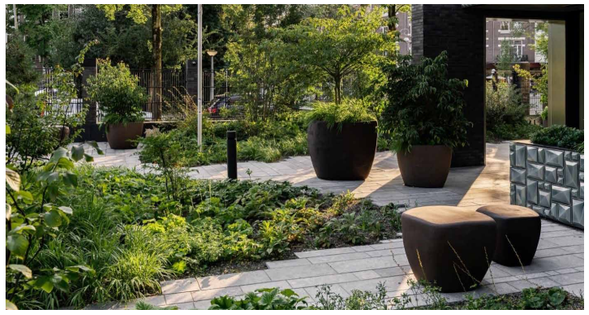
Salvia officianalis

Shade tolerant planting

- Large leafed shade loving evergreens
- Planted as a blend of species to offer a more naturalistic garden style
- Ferns, grasses and sedges feature heavily

Roof terrace planting

- Evergreen flowering varieties that love full sun and can tolerate wind or more exposed conditions
- Seasonal herbaecous plants create accents throughout the gardens
- Sensory plants used in herb gardens and mixed within raised planters



Mixed evergreen species with large dynamic foliage



Geranium



Blechnum spicant



Carex 'Ice Dance'



Majority evergreen or grass blend with perennial injections of colour



Rudbeckia



Dianthus carthusianorum



Calamagostis Karl Foerster

9.0

Verified views

9.1 Representative Viewpoint Location Plan



9.2 View V01: from All Saints Park



V01-01: Baseline



V01-02: Proposed



V01-03: Cumulative

9.3 View V02: from Higher Chatham Street



V02-01: Baseline



V02-02: Proposed



V02-03: Cumulative

9.4 View V03: from Hulme Bridge



V03-01: Baseline



V03-02: Proposed



V03-03: Cumulative

9.5 View V04: from Medlock Street Junction



V04-01: Baseline

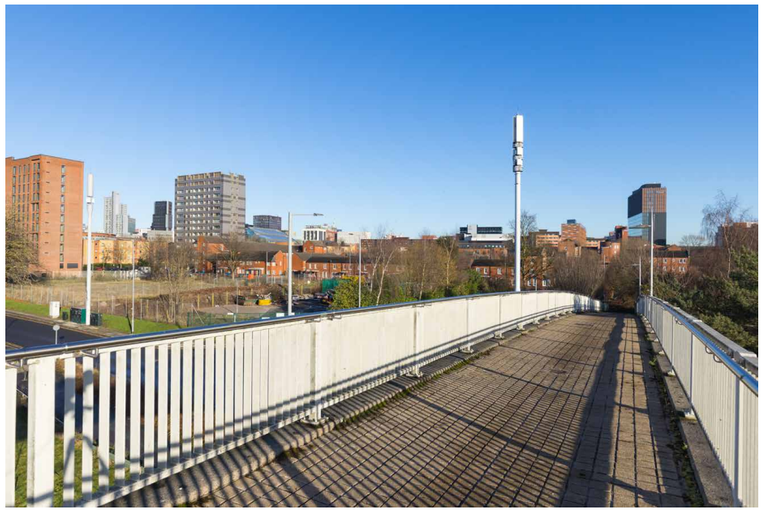


V04-02: Proposed

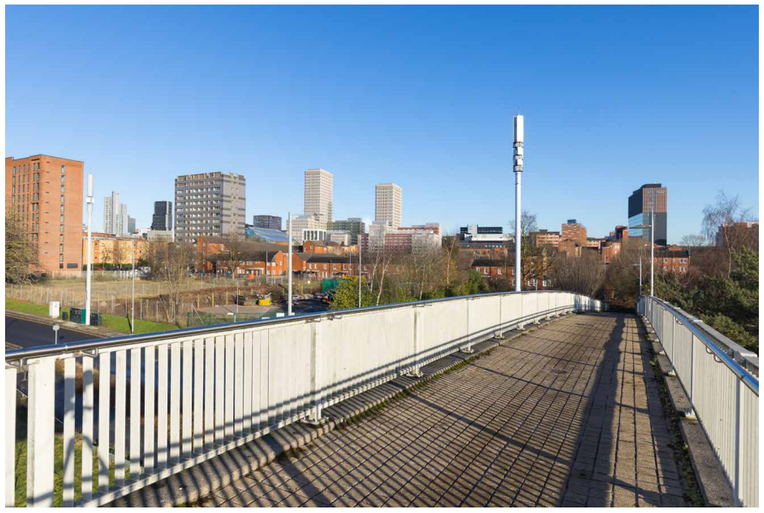


V04-03: Cumulative

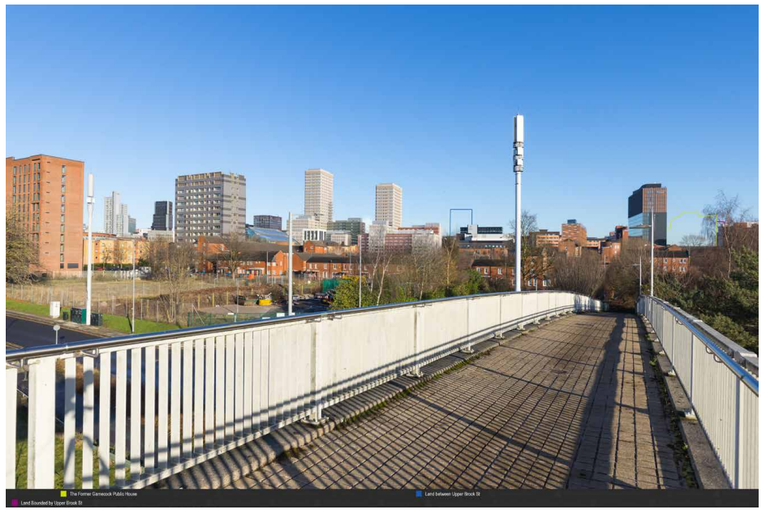
9.6 View V05: from Epping Walk Bridge



V05-01: Baseline



V05-02: Proposed



V05-03: Cumulative

9.7 View V6.1: from Oxford Road



V6.1-01: Baseline



V6.1-02: Proposed



V6.1-03: Cumulative

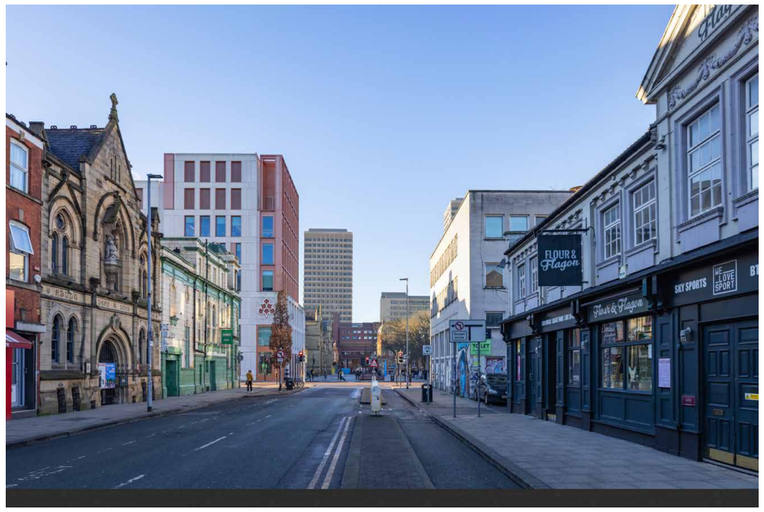
9.8 View V6.2: from Grosvenor Street



V6.2-01: Baseline



V6.2-02: Proposed



V6.2-03: Cumulative

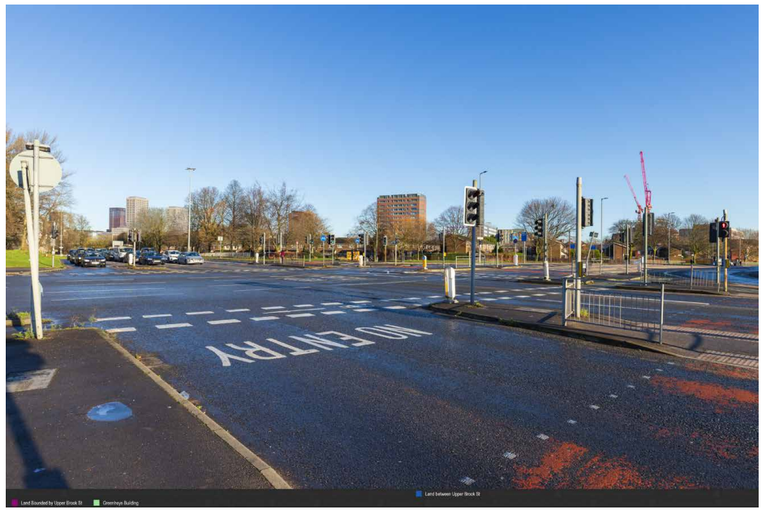
9.9 View V07: from Princess Road



V07-01: Baseline

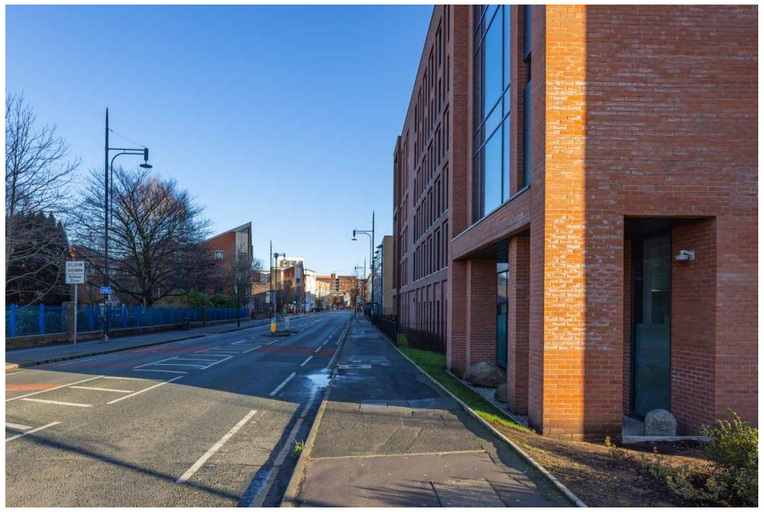


V07-02: Proposed

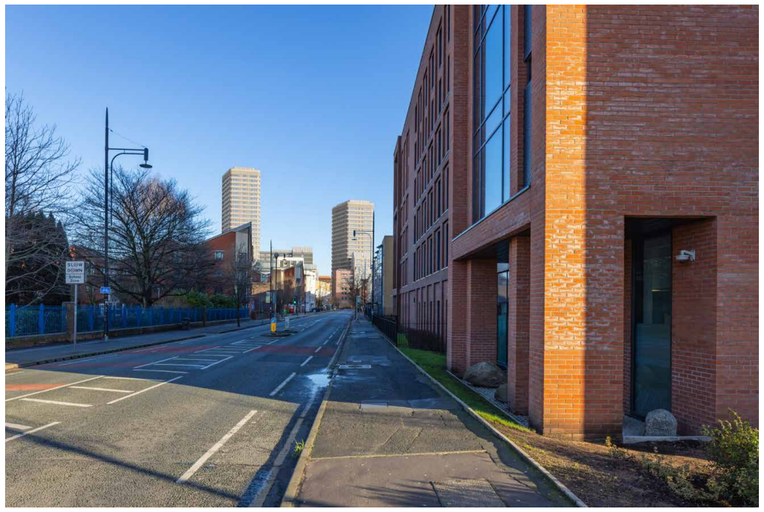


V07-03: Cumulative

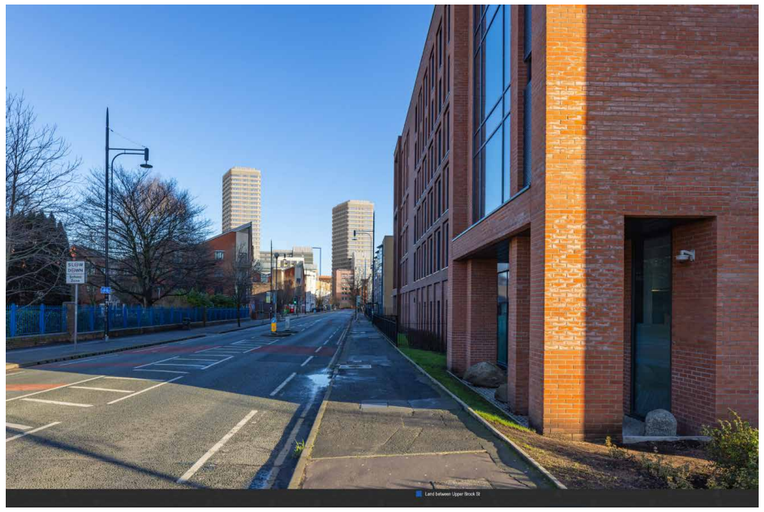
9.10 View V08: from Stretford Road



V08-01: Baseline

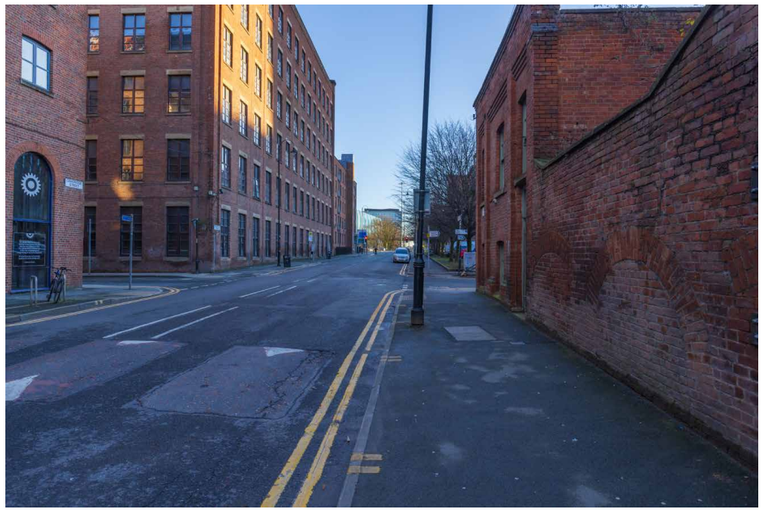


V08-02: Proposed

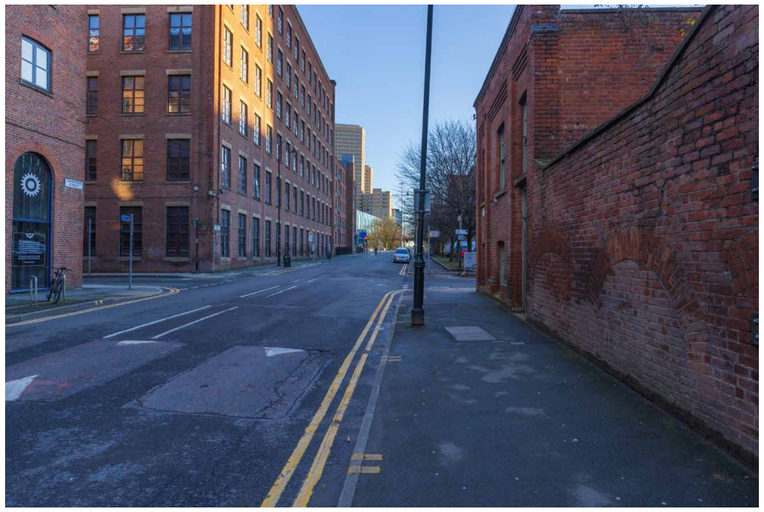


V08-03: Cumulative

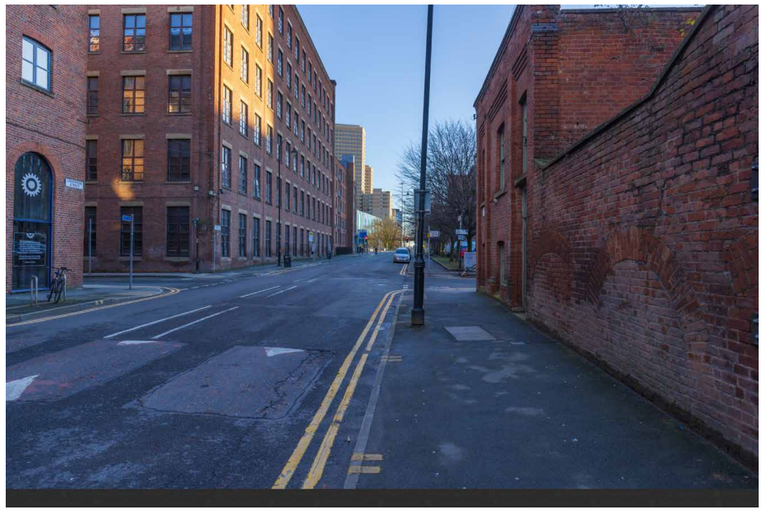
9.11 View V9.1: from Cambridge Street (North)



V9.1-01: Baseline

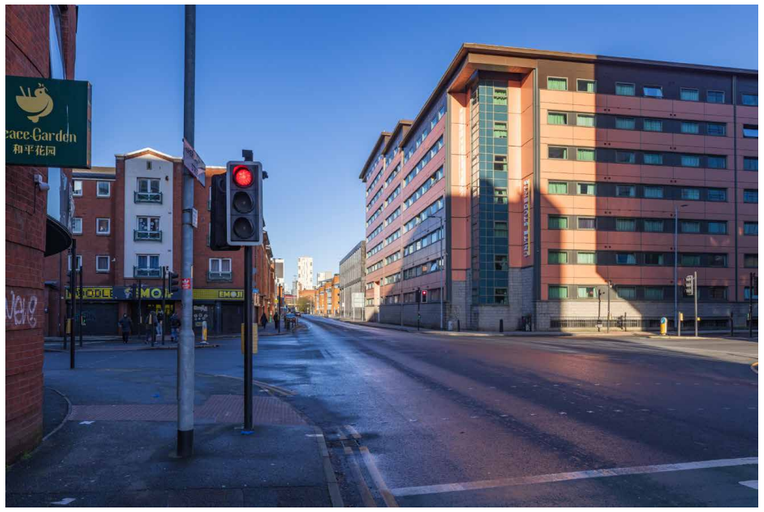


V9.1-02: Proposed

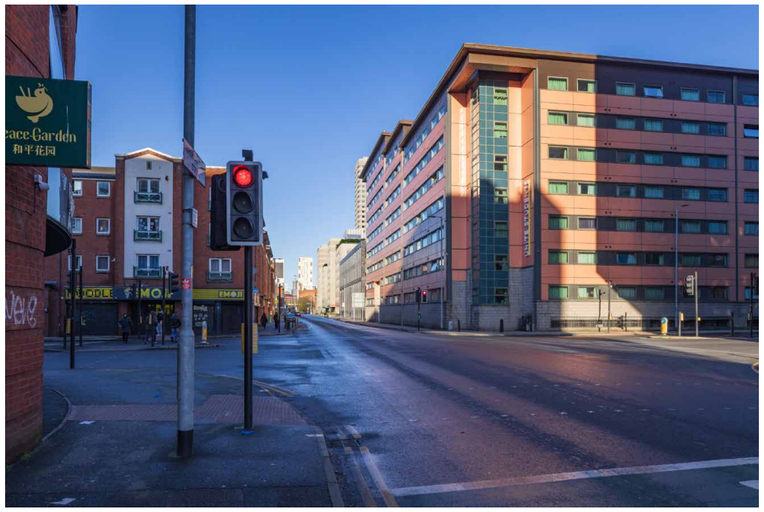


V9.1-03: Cumulative

9.12 View V9.2: from Cambridge Street (South)



V9.2-01: Baseline



V9.2-02: Proposed



V9.2-03: Cumulative

10.0

Access

10.1 Proposed access pedestrian

Pedestrian movement

- Vehicles will be routed down Boundary Street West
- Chatham Street will be pedestrianised, with the only general non-service related vehicular access via taxi to drop off locations outside key entrances
- A existing turning circle outside the Business School allows for egress back onto Boundary St.



- Pedestrian movement
- General vehicular movement
- Refuse vehicle
- Cycle movement
- Student refuse store locations
- Flex. Use Classes E/F1/F2 refuse store locations
- Cycle store locations
- Vehicle control barrier/security area

10.2 Proposed access cycles

Cyclist movement

- A 6% cycle parking provision has been provided in line with pre-app discussions and co-ordination with Man Met
- Cycle stores are located in the Phase 1 courtyard and Phase 2 off Chatham Street, and are accessible to students only. Access will be provided via gates (Phase 1) and security door (both Phases).
- The scheme currently provides:
  - Phase 1: 68no. spaces (+2no. over 6% requirement)
  - Phase 2: 72no. spaces (+0no. over 6% requirement)
  - Overall: 140no. spaces (+2no. over 6% requirement)

Refer to the transport statement for further information



10.3 Proposed access vehicular

Vehicle access

Vehicles will be routed down Boundary Street, with parking and turning available on Chatham Street. All student deliveries will be via the various receptions on Chatham Street to be held in a related post or parcel room.

A single delivery layby will be sited on Cambridge Street for the Phase 01 flexible unit, in proximity to its entrance and substation.

Maintenance

MEWP access is available around the perimeter of the buildings. Large roof top plant is replaced via truck mount or crane, the rest is accessible at ground level around the curtilage. There are four substations (serving flexible units (Use Classes E/F1/F2), Phase 01 and Phase 02) and these are accessible from ground level on Cambridge Street, Boundary Street and the MMU Service Road.

Substation access laybys will be sited along Cambridge Street for the flexible units (Use Classes E/F1/F2).

Refuse Access

Refuse access will follow a similar procedure to deliveries with access provided through Boundary Street. No student refuse collection will occur along Cambridge Street to minimise disruption. Tracking has been undertaken to ensure vehicles can access all required areas of the site.

Management procedures will ensure that bins stored in refuse locations adjacent to the central link will be presented at the building curtilage for efficient disposal.

Phase 01's flexible unit refuse access is proposed via kerbside collection at one point along Cambridge Street only. Phase 02's flexible unit refuse access will be via Chatham St with bins presented at the building perimeter.

Refer to Waste management Plan for further details.

- Vehicular access
- Main building entrance
- Residential multi use loading/servicing/ refuse bay
- Flex. unit kerbside collection (U.C. E/F1/F2)
- Residential refuse store
- Accessible parking
- Fire tender access



10.4 Inclusive design

Inclusive Access

The Design for Access Manual was published in January 2000, it provides a practical guidance to inclusive design. It requires developments to be fully inclusive and accessible and the Council's vision is for Manchester to be recognised as the most accessible City in Europe. MCC recognises that inclusive design needs to take account of cross-impairment and community-based issues.

The aim of Design for Access 2 is to provide guidance on best practice. However, it is acknowledged that it may not always be possible to meet all the standards. Design principles that will help to achieve accessible development that are relevant to the Proposed Development include the approach taken to developing inclusive design, the key issues and difficulties of the particular scheme, and the sources of advice and guidance used.

MCC has agreed a hierarchy of road users, which prioritises the needs of pedestrians and disabled people, cyclists, public transport and finally other users. This hierarchy should be respected in the design and layout of all new developments.

Streets should be designed for local people to use. They should be attractive, accessible social spaces, which encourage use by all sections of the local community. Street furniture must be well designed, with clear function and positioned to avoid the creation of obstacles, clutter or confusion.

The Design for Access Manual provides further details and design standards for external areas and for within buildings. These have been considered and incorporated into the development, alongside more up to date statutory accessibility requirements wherever possible.

Cambridge Halls have been designed to meet the requirements of Approved Document M1/M2. and wherever possible the buildings have been designed to meet the guidance in BS 8300:2001 .

Car parking and cycle storage:

100% of parking bays provided on Chatham Street are accessible spaces. This equates to 5 spaces in each building.

2 hand bike storage areas are to be provided in Phase 01 and 1 hand bike storage area is to be provided in Phase 02.

Where access from the accessible parking bays along Chatham Street is required, pathways are made sufficiently wide and are of a suitable surface to enable full access. Resting points are provided between the parking bays and entrances to both the flexible unit entrances on Cambridge Street.

Building Access:

All pedestrian entrances and associated thresholds into the building are level. Powered pass doors are provided to access the main reception of each building. Each external access door will have a 1000mm clear width. Internal doors will have at least 850mm clear width.

Access to terraces at upper ground and level 7 are level with the internal floor level.

Internal Circulation:

All doors to circulation areas and office entrances will be designed to meet Approved documents M1/M2.

Lobby areas are a minimum 1000mm or sized to enable manoeuvring of either a wheelchair or pushchair.

Where glazed screens are proposed between the reception and adjoining rooms or external spaces these will receive manifestation in accordance with Approved document K. Colour contrasts will be implemented on walls and floors where appropriate, as will floor finishes in line with Part M1/M2. Acoustic

Vertical circulation is provided by passenger lifts within the central core. All lifts are sized to exceed the minimum dimensions for manoeuvring in Part M1/M2.

2 escape stairs are proposed within each core. These will incorporate appropriate colour and luminance contrast.

External Circulation:

Due to the relatively level nature of the surrounding public realm, public routes between the 2 buildings are fully accessible.

Sanitary accommodation:

A fully accessible wc is provided to each building reception and to serve each amenity area. Communal kitchens will be designed and fitted out to accommodate accessible users.

Accommodation:

Accessible bedrooms make up 10% of the proposed development. 5% of these will be fully fitted from the outset and the remaining 5% will be adapted to suit resident demands.

998 - Accessibility tracker Rev.: P02

Date: 10.02.25

Area	MCC Design for Access 2	Man Met Accessibility standards	Part M, Vol. 2	Status	Notes
On-street parking	Minimum target on-street bays - 6% for disabled people	N/A	At least one parking bay designated for disabled people as close as feasible to the principal entrance of the building		Arup to consider
Mobility scooters	N/A	Provide storage/charging point	N/A		Unite/Man Met to confirm this requirement
Cycle storage	N/A	1500mm width accessible cycle bay located ideally at end of rack (1 accessible cycle space for every 25 cycle parking spaces	N/A		Unite/Man Met to confirm this requirement
Access routes (external)	2m minimum unobstructed width, footway widths at bus stops minimum width of 3m	2m minimum for 2 wheelchair users to pass	Surface width minimum 1.5m wide with passing places at least 1.8m wide and 2m long		Reform to incorporate into public realm
	Seating/resting points at 50m intervals (see height requirements in Section 5)	Seating/resting points at 50m intervals	N/A		Reform to incorporate into public realm
	Crossing types (see Section 2)	N/A	N/A		Arup to incorporate into public realm
	Entrance/exit doors shouldn't swing into access route	1500x1500mm landing clear of door swing	Level landing 1500x1500mm minimum clear of any door swings in front of entrance		Provided
	2.5m headroom from footway to underside of any projection	N/A	Free of obstructions to a height of 2.1m		Provided
	Power-operated doors where possible	Automatic opening doors with clear indication of swing direction	Manually operated without powered assistance, or power operated under manual/automatic control (held closed when not used)		To be considered detailed design stage
	Clear opening width minimum 1000mm	Clear opening width minimum 1000mm	Clear opening width minimum 1000mm for external doors used by general public		Provided
Footbridges	Minimum 1800mm wide with handrails provided either side	Provide level landings/rest areas and seating, help/call point to be considered	N/A		Provided, seating TBC
External stairs	Avoid single steps, unobstructed width of 1.8m minimum, any stair wider than 1.8m requires additional continuous handrails (no channel more than 1.8m wide)	Avoid single steps, minimum 1200mm wide with handrails on both sides	No single steps, handrails for support is essential, conflicts between Part M and Part K, Part M takes precedence		Phase 2 external stair is 2m wide with seating provision
	Rise target 150mm (not less than) and tread depth 280mm	Risers between 150-170mm, treads between 280-425mm	150-170mm rise, 280-450mm tread depth		Provided
	Avoid spiral/helical stairs (tapered treads)	Avoid spiral/helical stairs	N/A		Provided
	N/A	Seats on landings away from circulation areas are useful	N/A		Provided
Handrails	See Section 9	Part of Circulation Sections	See Sections 1.34-1.37		To be considered detailed design stage

11.0

Sustainability

11.1 Whole Life Carbon **Assessment** Arup

Cambridge Halls MMU

RIBA Stage 3 Life Cycle Embodied Carbon Assessment

Reference: CAM-ARP-ZZ-ZZ-RP-WLC-0001
P02 | 21 March 2025

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.



ARUP

Executive Summary

Context

This Whole Life Carbon assessment (WLCA) has estimated the embodied carbon at post completion and the whole life embodied carbon across the 60-year reference study period for the Stage 2 design of Cambridge Halls. Operational carbon emissions from energy use and water consumption are out of scope of this assessment. Results presented in the report assume no grid decarbonisation as is standard for WLCAs because grid decarbonisation is outside the building developer, and owners control, and should not be relied upon to meet targets or report emissions. Results considering decarbonisation can be seen in Appendix A.7.

Results

The RIBA stage 2 results for Cambridge Halls, shown below, provide a baseline value that can be improved upon throughout the design, and help us to identify key reduction opportunities to be explored at the next stage.

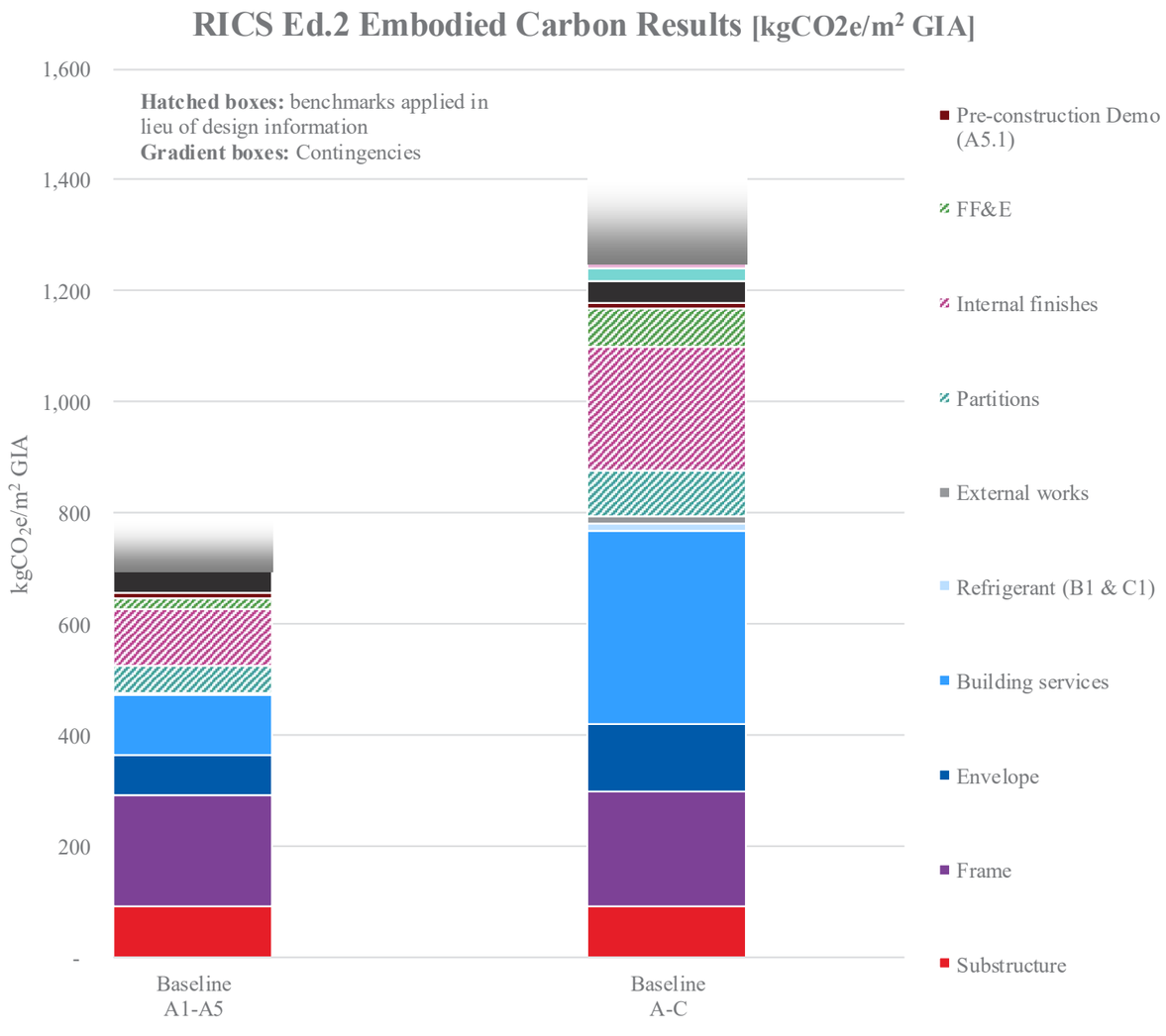
Upfront Embodied Carbon
(A1-A5 excluding sequestration)
789 kgCO_2e/m²
(52,492 tCO_{2e})

Whole-Life Embodied Carbon
(A-C excluding sequestration)
1,405 kgCO_2e/m²
(93,413 tCO_{2e})

Material Hotspots and High Impacts

This assessment has identified several key carbon hotspots across the design life of the C building, focusing on the in-scope fit out elements:

- C40/50 Concrete for piles, core walls, floor slabs, and external walls (50.6%, A1-A3)
- Reinforcement steel mesh in Concrete (10.5%, A1-A3)
- Stone wall insulation panels (4.7%, A1-A3)



ARUP

Executive Summary

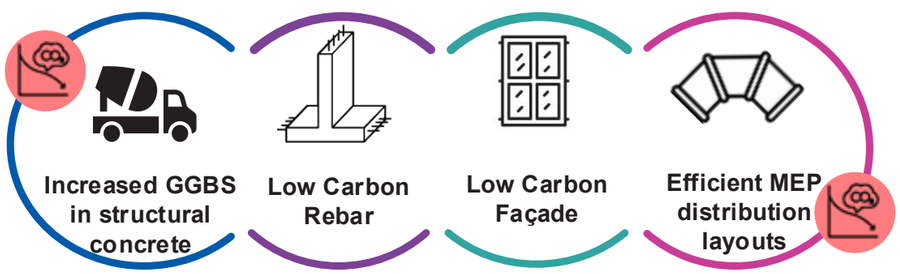
Comparison to target/benchmarks/performance?

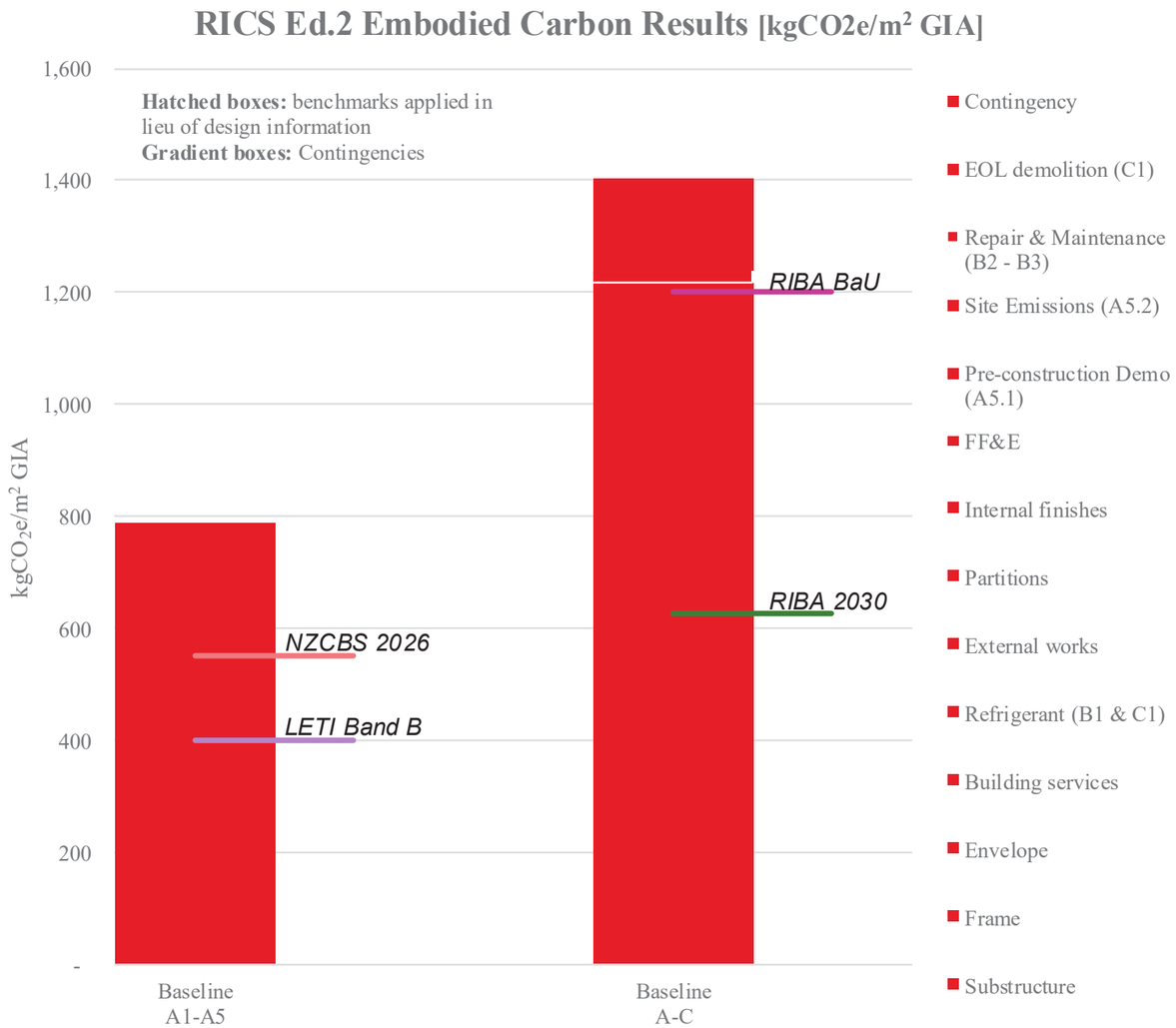
These results show that the RIBA Stage 2 design for Cambridge Halls is not currently meeting the project RIBA 2030 A-C target. However, based on the RIBA Business as Usual (BaU) benchmark, Cambridge Halls reflects the upper end of current practice.

It is understood within the industry that the RIBA 2030 target is challenging to achieve and is a substantial improvement from the RIBA BaU benchmark for residential buildings. The target is based on historic assessment data that did not accurately account for all material impacts of a building, in particular MEP and fit out items. As such projects currently struggle to meet these targets and the industry is trying to update these based on more recent assessment data. For example, the UK Net Zero Carbon Building Standard (NZCBS), launched last year, presents upfront embodied carbon targets which we recommend are adopted for the project in addition to the A-C target.

Next Steps

At RIBA Stage 3, the design team should carry out whole life carbon optioneering on key decisions, to minimise the environmental impact of the project. A holistic approach should be taken to ensure that a reduction in embodied carbon does not result in an increase in operational carbon, and to ensure that emissions are not just moved between building layers. The diagram below shows four priority design opportunities that should be explored, based on the hotspots identified in the current design. However, if the project targets are to be met, then a more radical approach to reductions may be required, that embraces circular economy principles, such as maximising material reuse on site.





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Context

Introduction

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Introduction

Project Overview

Context

This WLCA has been prepared on behalf of Unite Students and Manchester Metropolitan University and the study assesses the RIBA Work Stage 2 embodied carbon impacts of the proposed MMU Cambridge Halls development. This whole life cycle assessment (WLCA) has followed the standard approach to carbon measurement and assessment in the built environment. It has been undertaken in accordance with the RICS Professional Statement 'Whole life carbon assessment for the built environment, 2nd edition' and aligns with BS EN 15978:2011.

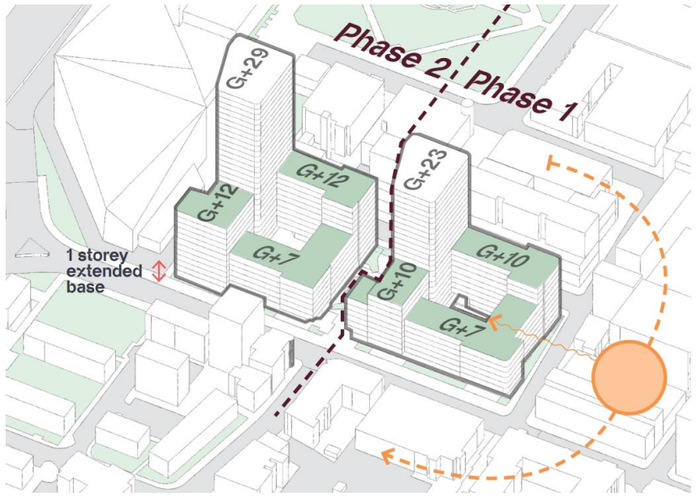
This assessment has also been undertaken in line with BREEAM UK NC V6 Mat01 requirements for a residential building.

Project Description

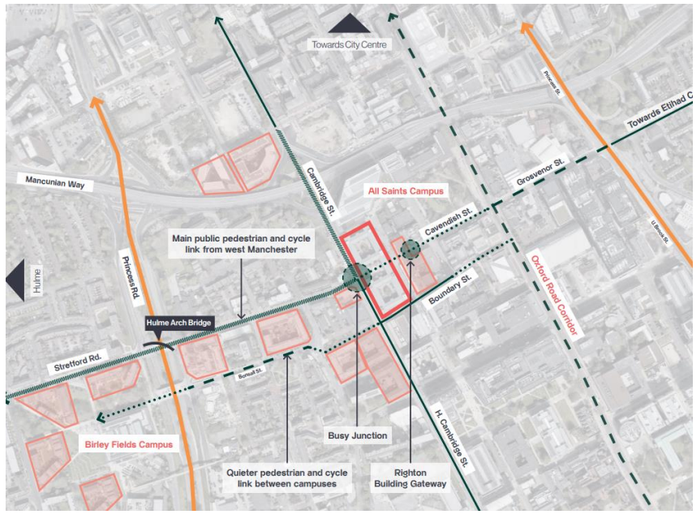
The project involves the demolition of the existing building (17,036m² GEA) and the erection of new residential buildings (66,507m² GIA), comprising 28 upper-floors. The buildings will be completed in two phases. The first phase providing ~1,100 bedrooms by September 2029, and Phase 2 an additional ~200 bedrooms by September 2030. The buildings will provide a mix of bedrooms and studios for 1,428 students, along with study spaces, social spaces, gyms, and wellness facilities. External amenity and recreation areas will be located within lower courtyards and roof top areas.

Site & Location

The site is located within the Manchester Metropolitan University All Saints Campus, connected to the wider university Birley Fields Campus and city centre by pedestrian and public transport routes.



Proposed developments



Site location

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Introduction

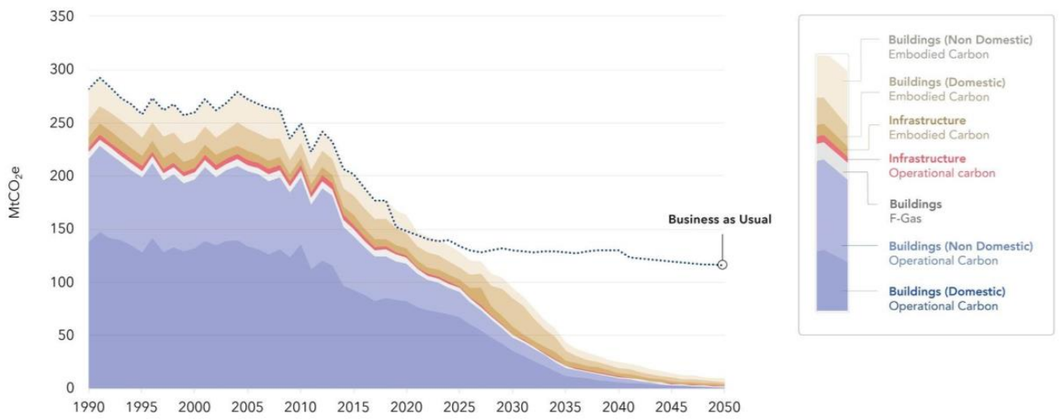
Aims and Objectives

Climate Breakdown and Emergency

According to the United Nations, the Built Environment contributes around 40% of all global carbon output and 50% of extracted material.

The UK built environment is currently responsible for 25% of total UK greenhouse gas emissions and is on course to fall well short of being net zero carbon by the national target of 2050 (UKGBC, Whole Life Carbon Roadmap A Pathway to Net Zero).

The Roadmap below demonstrates that as operational emissions decrease, mainly due to building improvements and grid decarbonisation, then embodied carbon will form over half of built environment emissions by 2035. These emissions are resulting in climate change impacts; droughts, fires, rising sea levels, flooding, storms and declining biodiversity.



Historic (1990-2018) Built Environment emissions (excluding transport), with business-as-usual projections applied (BEIS EEP to 2040, with trendline extended to 2050), as referenced in the Net Zero Whole Life Carbon Roadmap: A Pathway for the UK Built Environment. UK Green Building Council, 2021, London, UK

Aims and Objectives

The aim of this study is to assess the embodied carbon emissions associated with the Cambridge Halls development as well as achieving the BREEAM Mat01 concept design credits.

The following objectives help to achieve this aim:

- Inform the client and design team of the embodied carbon associated with the RIBA WS2 design at practical completion (A1-A5), over life cycle (A, B1-B5, C, 60 years) and report separately on the next product system (D).
- Appraise 4 No. Superstructure design options, 2No. Substructure design options and 4 No. Hard landscaping design options, to support the client and design team to understand the embodied carbon impacts of the different options and achieve the BREEAM Mat01 concept design credits.
- Identify the key building elements with the highest embodied carbon ($kgCO_2e$)
- Investigate a range of interventions to determine options for carbon emission reduction and propose recommendations to ensure low carbon design decisions continue to be embedded into the design.
- Evaluate the building's WS2 embodied carbon against the RIBA benchmarks, as per Unite Students Net Zero Carbon Pathway, as well as the Net Zero Carbon Building Standard embodied carbon benchmarks.

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Introduction

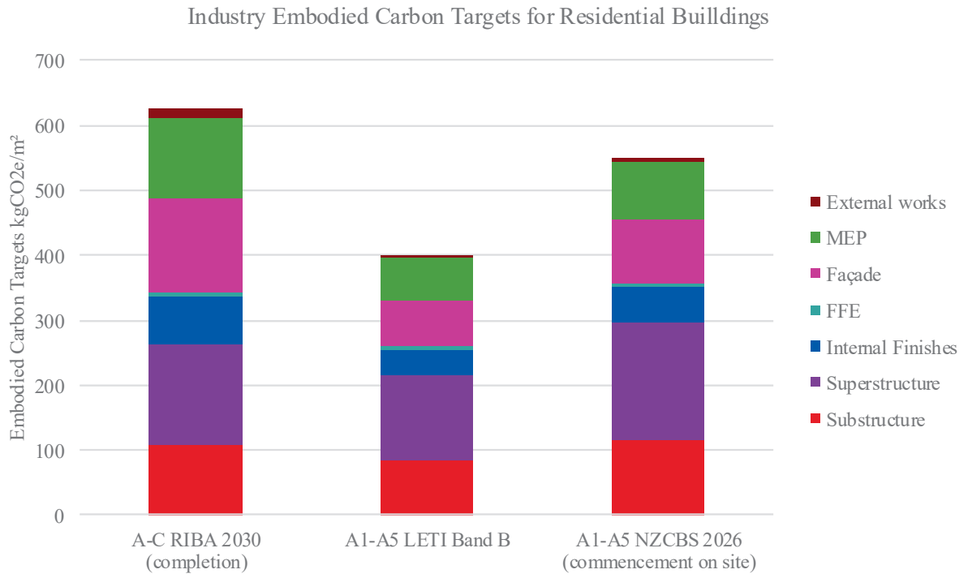
Aims and Objectives

Project Targets

Unite's ambition is to align with the RIBA 2030 challenge, across their projects, which sets A-C embodied carbon targets based on the year of completion. Cambridge Halls Phase 01 is due to complete in 2029, and Phase 02 in 2030, therefore the residential 2030 target of 625 kgCO2e/m^2 has been selected for Cambridge Hall. This is likely to be a very challenging target, considering that the RIBA business as usual benchmark for residential buildings is 1,200 kgCO2e/m^2 A-C. The outputs of this RIBA Stage 2 assessment should help to identify hotspts that can be targeted for reduction at the next design stage.

As well as setting a target for A-C it can be helpful to have an A1-5 target, as these are the emissions most within the design team's control. Considering A1-A5 emissions is also vital to enable us to stay within carbon budgets and mitigate the worst impacts of climate breakdown. Unite does not have an organisational A1-A5 target, so at the start of RIBA stage 2, LETI guidance aligning industry embodied carbon targets was used to derive one, based on an equivalent band rating to the RIBA 2030 target (band B). Since this, the UK Net-Zero Carbon Buildings Standard (NZCBS) pilot has been released, providing targets based on the year of commencement on site. The A1-A5 targets for LETI Band B and NZCBS (2026 commencement date) are 400 kgCO2e/m^2 and 495 kgCO2e/m^2 respectively.

The table to the right shows these targets split by building element, based on the GLA WLC guidance for residential buildings. These splits and the GLA targets (which RIBA 2030 aligns with) are based on historic assessment data, that did not accurately account for MEP EC. Through discussions with the GLA we know the data does not consistently account for emissions related to refrigerant leakage (which can be a large proportion of MEP emissions). Additionally, when comparing the values presented for A1-A5 and A-C it is also clear the assumed replacement cycles for MEP are not aligned with RICS/CIBSE guidance, underestimating embodied carbon. As we have gained more insight into MEP embodied carbon, we have found projects struggle to meet these targets, because we are now accounting for the emissions more accurately. Therefore, a bespoke MEP target should be set at stage 3 based on more recent LCA outputs and the stage 2 results for the project.



	Embodied Carbon Targets kgCO2e/m^2		
	A1-A5 LETI Band B	A1-A5 NZCBS 2026 (commencement on site)	A-C RIBA 2030 (completion)
Substructure	84	116	106
Superstructure	132	182	156
Internal Finishes	40	55	75
FFE	4	6	6
Façade	72	99	144
Building Services*	64	88	125
External works	4	6	13
Whole building	**400**	**550**	**625**

**Building Services embodied carbon target should be set at stage 3 based on more recent LCA outputs and the stage 2 results for the project.*

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Embodied Carbon Assessment

Methodology

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Methodology

Aligning to Industry Standards

Definitions

Product Stage: Modules A1-A3, Product stages only includes carbon emissions attributed to the extraction and manufacturing of materials only.

Upfront Embodied Carbon: Modules A1-A5, Product stage emissions plus those associated with transportation of materials from factory gate to site and their assembly.

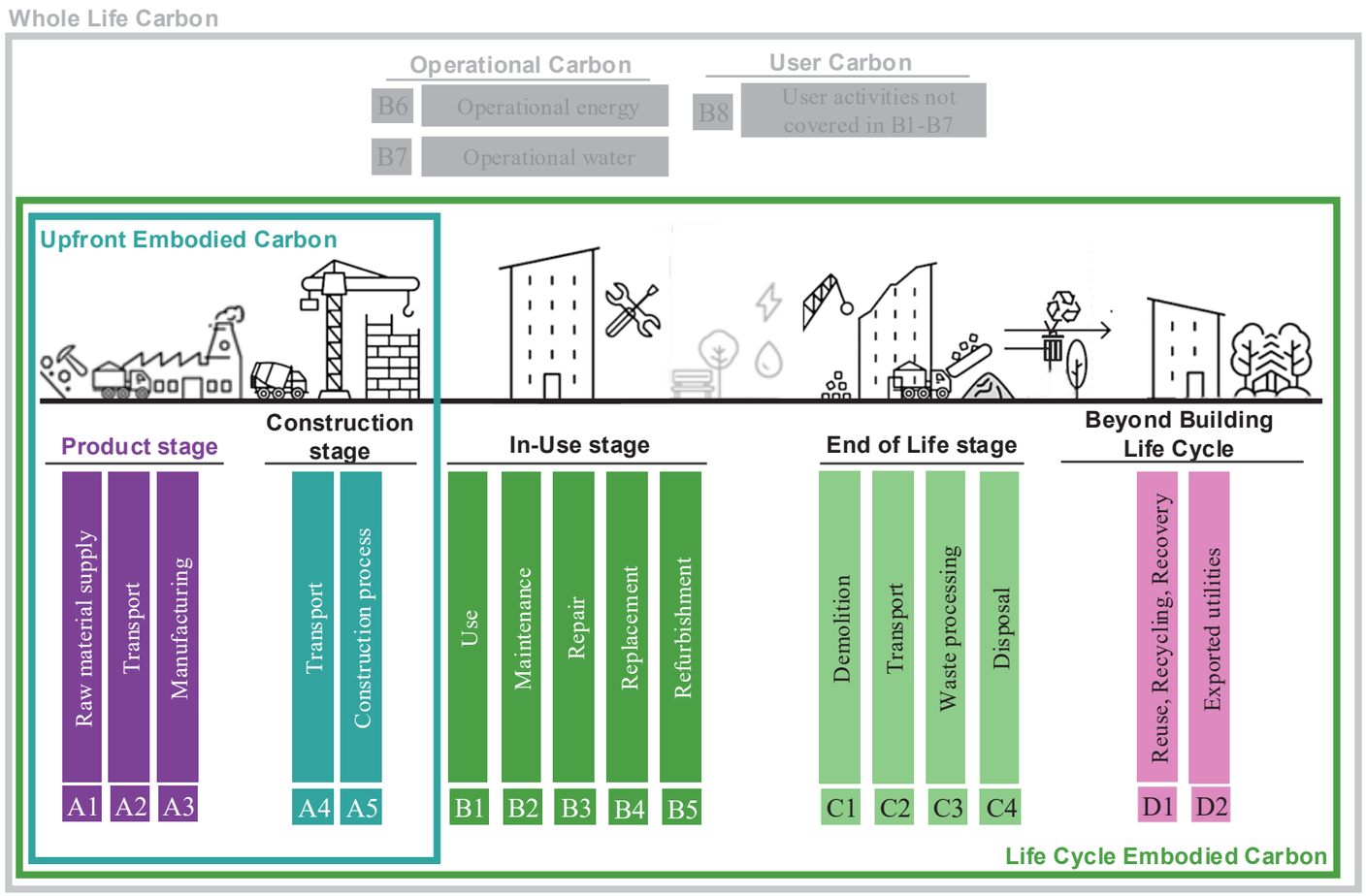
Life Cycle Embodied Carbon: Modules A1-A5, B1-B5, C1-C and D. Upfront embodied carbon emissions plus emissions associated with maintenance, repair, replacement and refurbishment as well as end of life emissions related to the disposal of materials. Next product system emissions are reported separately.

Whole Life Carbon: Modules A, B, C and D covering the system boundary for a WLCA over the asset's life cycle. Includes annual operational emissions from energy and water plus life cycle embodied carbon, however this is not within the scope of this assessment.

Project Scope

For the purpose of this LCA, the life cycle embodied carbon stage (A, B1-B5, C, 60 years) is the focus. The upfront embodied carbon stage (A1-A5) has been highlighted as the module in which most carbon emissions are concentrated. Benefits beyond the system boundary (D), such as sequestration, are reported separately.

Operational and user carbon is not within the scope of this LCA and has not been included.



Methodology

Assumptions

This LCA was primarily carried out using OneClick LCA software and is reporting emissions at practical completion (modules A1-A5) and emissions over building life cycle (modules A-C, 60 years). Please see the appendix for more detailed information on the LCA process, generally and as it applies to this project.

Gross Internal Area

The modelled Gross Internal Area (GIA) is 66,507m^2, as per the Stage 2 Report.

Material Specifications and Sizes

The design team have provided the material specification, product types and quantities that have been proposed for the final Stage 2 design and the BREEAM options appraisal schemes.

Due to the early stage of the project, specific suppliers have not yet been determined for all the materials in the design. Therefore, information from representative materials, which reflects the anticipated sourcing location and manufacturing technology for the material in the design, have been chosen from trusted databases.

Material Life Spans and Building Life

The Reference Study Period (RSP) is assumed as standard to be 60 years for non-domestic projects. This does not mean the building shall only be designed to last for 60 years and is a standard assumption to enable fair comparisons to benchmarks, targets, and other WLCAs. All the materials life spans use the RICS default values and building services components and materials life spans use further guidance from CIBSE Guide M.

Non-Building Items

Key building and construction aspects use RICS 2nd Edition guidance to estimate embodied carbon figures. The following standard practice RICS defined assumptions have been used:

- Construction Site Activities (A5.2) – 40 kgCO_2e/m^2
- Maintenance (B2) – greatest value of 10 kgCO_2e/m^2 or 1% of A1-A5 impacts
- Repair (B3) – 25% of B2 impacts
- End-of-Life Demolition (C2) – 25% of A5.2 impacts

Arup Benchmarks

For any building elements that cannot be quantified at Stage 2 (i.e. finishes, doors, FF&E, partitions), Arup internal benchmarks were used in lieu of design information. These benchmarks were informed by as-built project data and industry benchmarks and were carefully selected for this project to match the design intent.

As designs progress through the subsequent RIBA stages, the LCA for the Cambridge Halls project should be updated. Benchmarks should be replaced with design information as it becomes available.

Transport Distances

As suppliers have not yet been specified, the default RICS values based on assumptions of whether materials are generally locally, nationally, European or globally sourced, have been used.

Software

This WLCA has been undertaken using OneClick LCA software and the appropriate tools:

- '*Whole life carbon assessment, RICS - 2nd Edition*' for full RICS-scope LCA models
- '*LCA for BREEAM UK*' for BREEAM models

The OneClick LCA software is compliant with the BS EN 15978, RICS, and BREEAM.

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Methodology

Completeness of Assessment

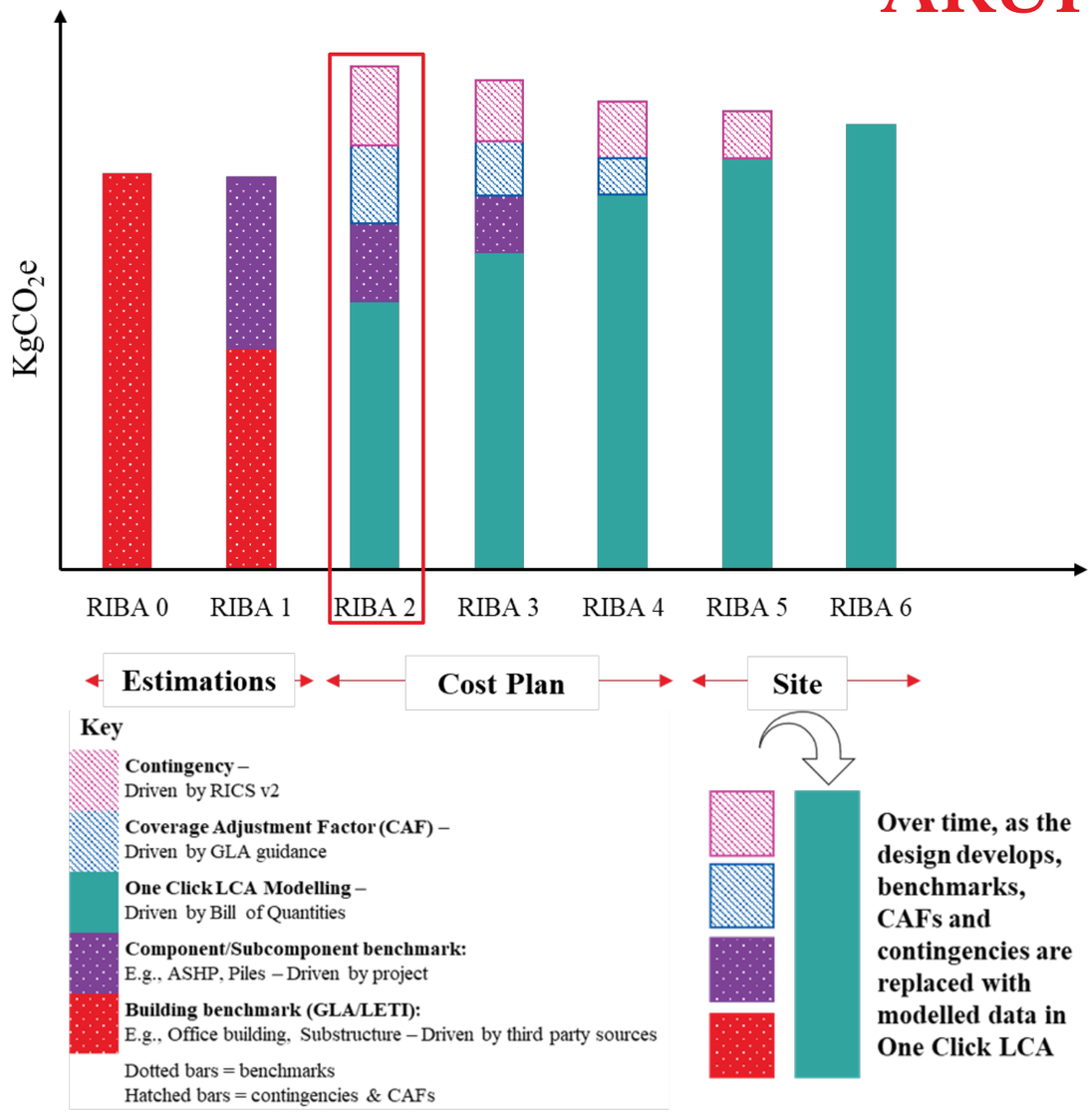
The RICS 2nd Edition 'Whole Life Carbon' guidance requires that 95% of the cost of each major element (e.g., substructure, superstructure) is included in the modelling, allowing for some smaller items to be excluded. This approach is based on the correlation between high cost and high environmental impact for materials.

A cost plan was not available for this assessment. Therefore, the assessment has relied on quantities and materials supplied by the design team.

Typically, as highlighted in the diagram in the right, Stage 2 LCAs are based on information from cost plans. This enables several 'known unknown elements' to be accounted for in the assessment through coverage adjustment factors (CAF) based on the apportioned cost to unknown items. As a cost plan has not been used there is potentially several unidentified unknown elements not accounted for in the assessment.

Therefore, to ensure a robust assessment of the carbon, a contingency of 20% has been used. This includes the RICS 2nd Edition recommended 15%, and an additional 5% allowance for the unidentified unknowns at this early design stage.

As time progresses, the completeness and accuracy of the assessment will improve due to advanced design development. Therefore, as shown below, the contingency factors, CAF and benchmarks will decrease and will be substituted with One Click modelling of specific material and components.



Typical basis of assessment at each RIBA work stage

Methodology

Proposed RIBA Stage 2 Development

The Proposed Development has been modelled at Stage 2, with the following design strategies:

Substructure
- Piled foundation & Ground Bearing Slab - 750diameter tower and core base piles, 600 diameter podium piles arranged in 3-pile caps.

Frame & Upper Floors
- Reinforced Concrete Flat Slab, Reinforced Concrete Columns, and RC Core.

Facade System
- Reconstituted Stone Pre-cast Concrete Cladding and Rainscreen Cladding for Core Overruns.

MEP System
- HVAC– ASHPs with radiators, VRF, DX, AHUs, MVHRs
- DHW – ASHP
- Renewables - PV

External works
- Roads, paths and paving –Natural stone, clay pavers and gravel.
- Fencing, railings and walls including balustrades and hand railings.
- Site street furniture and equipment

Benchmarks

Due to the early design stage, information was not available for several key building elements:

- Internal Partitions
- Internal Doors
- Finishes
- FF&E

The carbon impact of these aspects has been accounted for using benchmarks which represent typical impacts from these aspects for residential buildings.

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Embodied Carbon Assessment

Results

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Results

Embodied Carbon Overview

The **Upfront Embodied Carbon** for S2 approximately **789 $kgCO_2e/m^2$ (52492 tCO_{2e})** (A1-A5 excluding sequestration).

The **Whole-life Embodied Carbon** for S2 approximately **1405 $kgCO_2e/m^2$ (93,423 tCO_{2e})** (A-C excluding sequestration).

The RIBA Stage 2 Whole Building Life Cycle Analysis demonstrates an estimated life cycle embodied carbon figure (A-C, excluding in-use operational carbon) of 789 $kgCO_2e/m^2$ for Cambridge Halls. Upfront embodied carbon (A1-A5) accounts for 57% of the life cycle embodied carbon (A – C). Most of the upfront embodied carbon is derived from the product stages (A1-A3), which includes the raw material extraction, transportation and manufacturing of the necessary materials and products.

The structural frame represents the most carbon-intensive building element in Cambridge Halls, contributing 200 $kgCO_2e/m^2$ of upfront embodied carbon. Cambridge Halls is 29 storeys, this building requires extensive concrete structures to support each floor. These load-bearing elements necessitate substantial quantities of concrete and reinforcement steel—materials with inherently high embodied carbon factors.

Life Cycle Stages	A1-A5				A-C			
Building Element	Upfront Carbon Baseline		NZCBS 2026 Target	Current Benchmark*	Embodied Carbon Baseline		RIBA 2030 Target	Current Benchmark*
	tCO_2e	$kgCO_2e/m^2$	$kgCO_2e/m^2$	$kgCO_2e/m^2$	tCO_2e	$kgCO_2e/m^2$	$kgCO_2e/m^2$	$kgCO_2e/m^2$
Substructure	5976	90	116	179	6,126	92	106	204
Frame	13,314	200	182	281	13,641	205	156	300
Envelope	4870	73	99	153	8,060	121	144	276
Partitions**	3,325	50	Incl. in frame	Incl. in frame	5,321	80	Incl. in frame	Incl. in frame
Internal finishes**	6,651	100	55	85	14,898	224	75	144
FF&E**	1,330	20	6	9	4,655	70	6	12
Building services	7,233	109	88	136	23,270	350	125	240
Refrigerant (B1)					768	12		
External Works	215	3	6	9	967	15	13	24
Pre-construction Demo (A5.1)**	596	9	-	-	596	9	-	-
Site Emission (A5.2)**	2660	40	-	-	2,660	40	-	-
Repair & Maintenance (B2&B3)	-	-	-	-	1,487	22	-	-
EOL demolition (C1)	-	-	-	-	665	10	-	-
Assessment Total	**46170**	**694**	**550**	**850**	**83,114**	**1250**	**625**	**1200**
Contingency	6321	95	-	-	10,299	155	-	
Grand Total	**52492**	**789**	**550**	**850**	**93,423**	**1405**	**625**	**1200**

**Based on GLA benchmarks and RIBA business as usual values for residential buildings, contingency is not applied to benchmarks.*
***Based on GLA benchmarks for residential buildings, contingency is not applied to benchmarks.*

Results

Embodied Carbon Overview

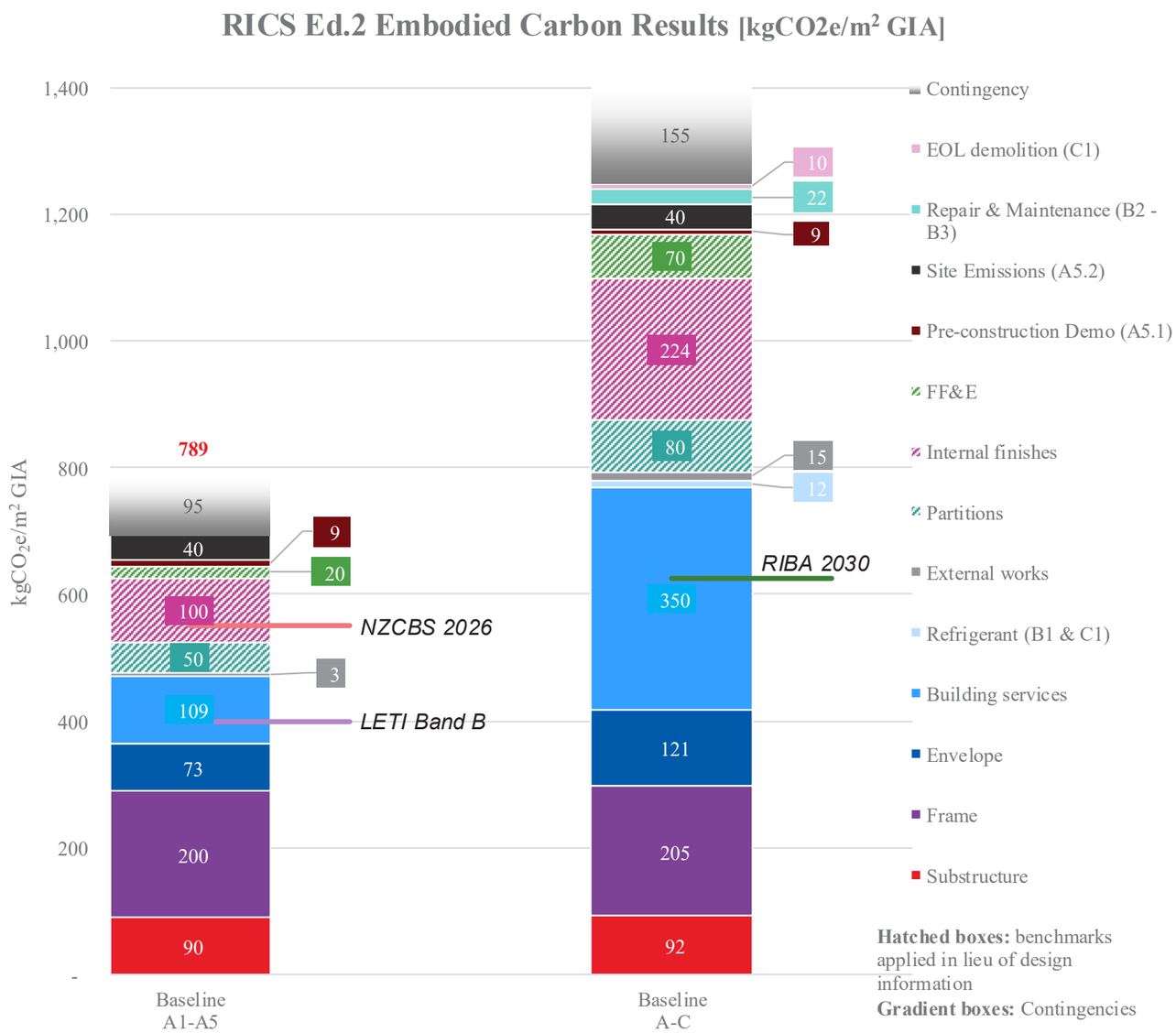
Building services is a significant contributor to Cambridge Hall's life cycle embodied carbon. The building services contribution is greater to the whole life cycle embodied carbon compared to the upfront carbon due to the component's shorter life spans and frequent replacement cycles relative to structural and façade aspects. Building services account for 38% of the total in-use (module B) embodied carbon for Cambridge Halls.

Structural elements, including frame and substructure, are also key contributors to Cambridge Hall's embodied carbon. In particular, structural elements are the biggest contributor to the upfront embodied carbon accounting for 37%.

As Unite has most control over upfront embodied carbon emissions, and structural elements account for most of these, reduction of emissions from the structure should be a key focus going into the Stage 3 design.

21.5% of the upfront carbon impacts come from FF&E, Partitions, and Finishes building aspects which have been accounted for with benchmarks due to a lack of design information. In the following design stages, the LCA results should be updated based on specific information.

As previously noted, Unite's ambition to align with the RIBA 2030 target will be challenging given the current standard practice across the industry falls well short of this target. The following section details carbon reduction measures which could be implemented to close the gap to this target. Presented carbon reduction measures target the carbon hot spots this study has identified, detailed on the next page.



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Results

Material Hotspots

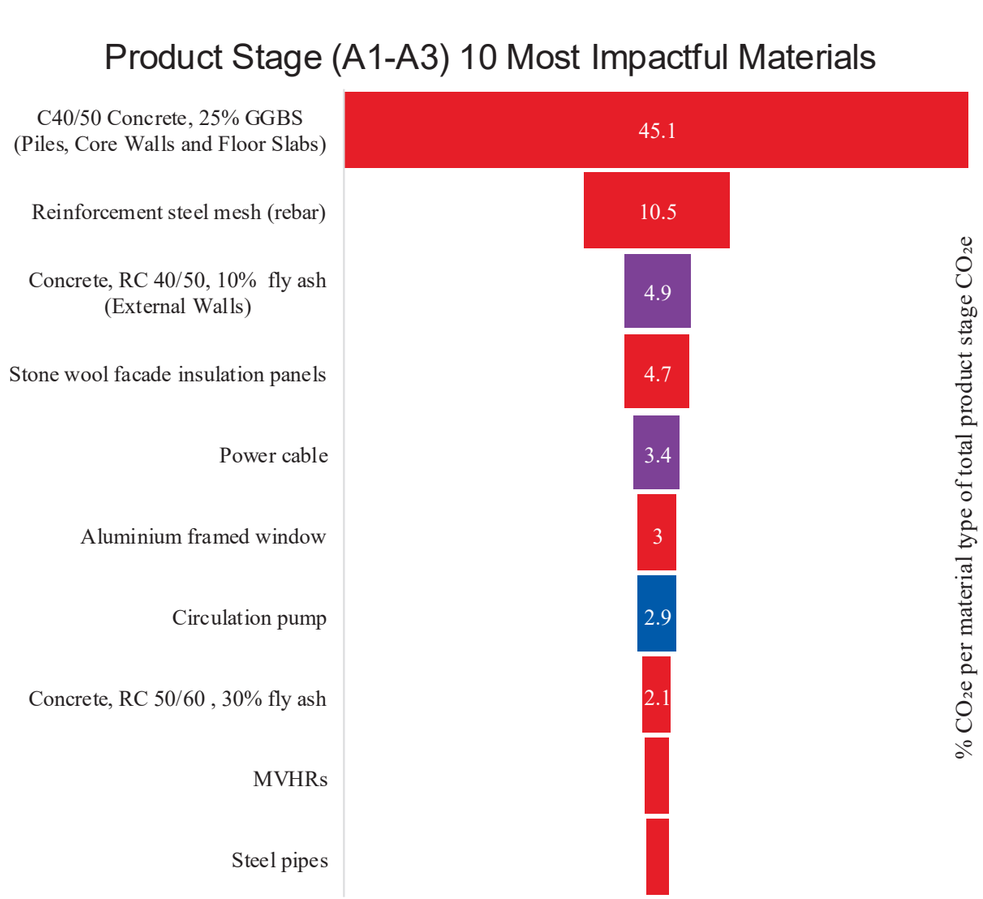
Cambridge Halls most impactful material is Ready-mix concrete RC 40/50, 25% GGBS accounting for 45% of the product stage embodied carbon. The concrete is primarily used in the substructure and superstructure in the piles and floor slabs. The second most impactful material is steel accounting for 10.5% of the embodied carbon ,which primarily derives from steel reinforcement in the concrete.

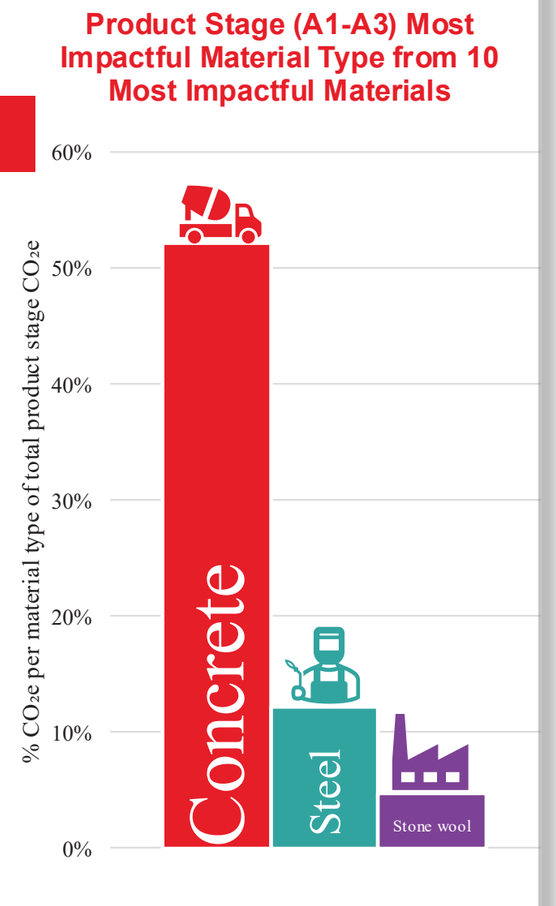
Most of the concrete used in the Cambridge halls WS2 baseline LCA model has 25% GGBS cement replacement, which is aligned with RICS Ed.2 Guidance.

This highlights that a significant carbon saving could be derived from using a concrete with a lower carbon factor, such as a concrete with a greater proportion of GGBS. Since GGBS is a byproduct of manufacturing iron and steel with blast arc furnaces, there is a limited global supply of GGBS, as electric arc furnaces are increasingly being used to manufacture iron and steel.

The head of climate action at IStructE stated “A project using GGBS will reduce its emissions by using less cement, but that means another project somewhere else in the world will have to use more cement, so overall, on a global scale, nothing changes.” Therefore, specifying increased quantities of GGBS should be carefully considered.

Thus, it is recommended that during RIBA Stage 3, the design team should aim to optimise the substructure and superstructure design where feasible, to reduce the total quantity of concrete and steel reinforcement bar needed in Cambridge Halls.





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Embodied Carbon Assessment

Carbon Reduction Opportunities

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Carbon Reduction Opportunities

Introduction

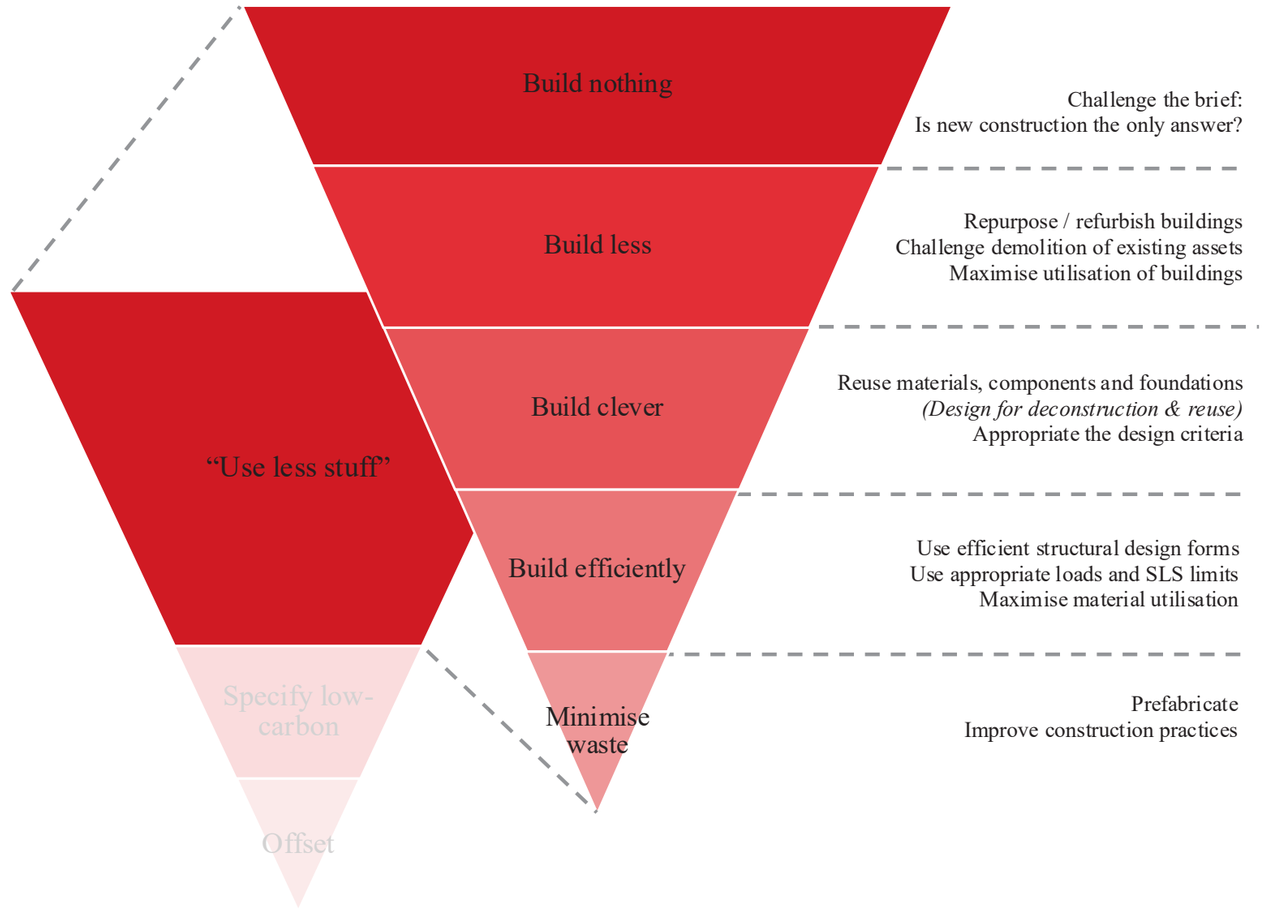
Unite has set a whole life embodied carbon target (A-C) of **625 kgCO_2e/m²** in alignment with the RIBA 2030 challenge. Two upfront carbon (A1-A5) targets of **400 kgCO_2e/m²** (LETI Band B) and **495 kgCO_2e/m²** (NZCBS 2026) have been set.

As outlined in the main body of this report these are challenging targets. To achieve these goals, the project team must prioritise actions in line with the hierarchy of net zero design, as outlined in the accompanying graph. This framework emphasises starting with the fundamental principles of "Use less stuff", before progressing to the specification of low-carbon materials. This report presents a range of carbon reduction opportunities aimed at lowering the overall embodied carbon of the project while outlining a clear pathway to meet Unite's ambitious target.

A number of these opportunities have been analysed to calculate their potential impact and are illustrated in a waterfall graph. The opportunities include a combination of design carbon reduction opportunities and material/ product opportunities, for which there is a greater degree of procurement risk and uncertainty at this early stage.

Please note that due the nature of the early design stage that these are intended as a speculative or potential carbon reduction and based on assumptions and project experience. These opportunities are to be further developed as the design developed. It is recommended that a workshop is held to identify and explore other carbon reduction opportunities in subsequent stages.

The section focuses on reducing the upfront embodied carbon as this is where the design team have most control. However, in addition to the opportunities outlined in the following section the team should consider In-use embodied carbon emissions and circular economy principles. Some of which will be detailed later in the report.

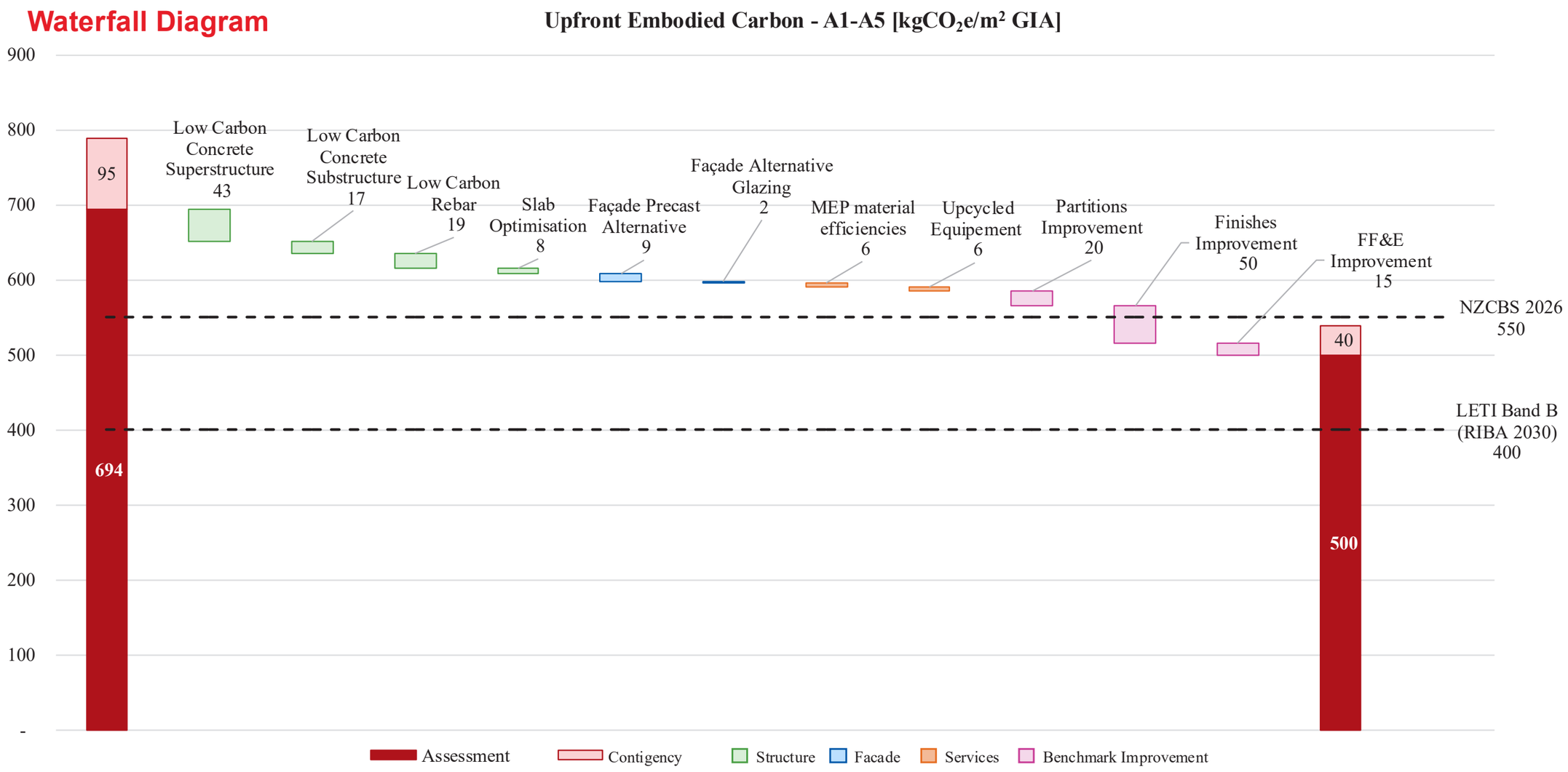


Adapted from: PAS 2080:2016 & IStructE

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Carbon Reduction Opportunities

Waterfall Diagram



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Carbon Reduction Opportunities

Structural Opportunities

This section details the opportunities to lower the embodied carbon associated with the structural elements of Cambridge Halls.

50% GGBS in ready-mix Concrete RC 40/50

This is the opportunity that has been modelled in the waterfall diagram. Incorporating 50% GGBS in concrete mixtures offers a substantial opportunity to lower embodied carbon, potentially reducing emissions by **17%** in substructure elements and **43%** in superstructure components.

However, GGBS is a resource-constrained material with limited supply capacity that cannot readily scale with increased demand. This creates tension between project-specific and global sustainability perspectives—increasing GGBS content in one project effectively diverts this valuable resource from other potential applications.

Despite the environmental benefits, the cost and programme implications and global resource availability must be carefully evaluated. This option will be examined in greater depth in the subsequent project stage.

Pros	Cons
• Maintains necessary structural properties • Established technology with proven performance	• Resource-constrained material with limited global supply • Increased use in one project diverts resources from other • Potential cost premium and programme implications compared to standard concrete • Supply cannot readily scale with increased market demand

Calcined Clays

Interest in calcined clay as a supplementary cementitious material for concrete has grown as an alternative for reducing concrete's embodied carbon.

Currently in the UK, application has been limited to the London Clay Innovation project, which is exploring the use of calcined London Clay on HS2. An ongoing exploration process aims to identify other suitable UK clay sources. While the outlook appears promising, widespread adoption in the construction market remains at least five years away.

Similar to GGBS, calcined clay can replace up to 50% of Ordinary Portland Cement (OPC), though it carries a higher embodied carbon footprint. Calcined clay shows promise as a future low carbon cement alternative to be used alongside GGBS and other cement alternatives.

While worth exploring in the next project stage, its near-term application remains unlikely due to limited market availability.

Pros	Cons
• Can reduce concrete embodied carbon • Can replace up to 50% of OPC similar to GGBS.	• Limited application, widespread adoption several years away. • Suitable clay sources only identified in London currently.

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Carbon Reduction Opportunities

Structural Opportunities

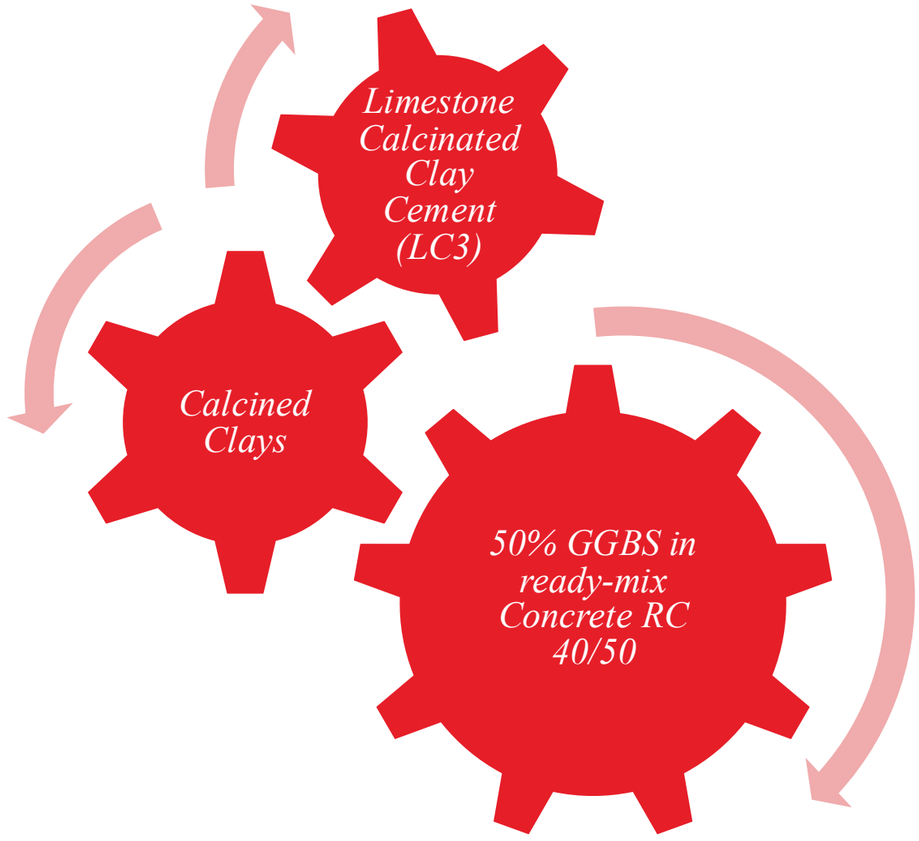
Limestone Calcinated Clay Cement (LC3)

Limestone Calcined Clay Cement (LC3) combines calcined clay with limestone to create an emerging cementitious product. Though not yet well-established, LC3 has been successfully implemented in Cuba and offers moderate embodied carbon reduction while potentially improving durability.

It delivers mechanical performance equivalent to conventional Portland cement concrete despite typically containing only 30% Portland cement. LC3 shows promise as a future mainstream offering from cement manufacturers and can be specified using the equivalent performance concept defined in EN 206. Although as similar with a calcinated clays its near-term application remains unlikely due to limited market availability.

Effective coordination between design teams and concrete suppliers/contractors is essential for successful implementation for all these options.

Pros	Cons
• Moderate reduction in embodied carbon • Mechanical performance equivalent to conventional Portland cement	• Limited market availability, near-term application unlikely • Not well established yet, may pose challenges gaining acceptance in construction industry



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Carbon Reduction Opportunities

Structural Opportunities

Low Carbon Rebar

The waterfall diagram illustrates the reduction achieved by replacing the UK average rebar with Xcarb rebar. Incorporating Xcarb for reinforcement steel can reduce upfront embodied carbon emissions by **6%.** Xcarb recycled and renewably produced reinforcement steel is manufactured using an Electric Arc Furnace route, unlike the traditional coal-fired blast furnaces commonly employed in the UK. This process utilises high percentages of recycled steel and is powered entirely by renewable electricity.

While Xcarb and other low-carbon rebar offer significant emission reductions, it is not without its disadvantages. Similarly to the challenges described around the use of GGBS as a cement replacement, there are limitations on the scalability and availability of low carbon rebar. However, in the UK most rebar contain over 90% recycled content, with low carbon rebar products differentiated by their use of EAF.

Ideally, reclaimed steel would be reused as whole components (such as beams or columns) rather than recycled and melted down for rebar or reforming. This would preserve its embodied carbon and reduce emissions tied to energy-intensive processing.

	Description	GWP of rebar (A1-A3)
Baseline	UK average value (90% recycled content)	0.69kg CO_2e / kg
Low Carbon Rebar (modelled)	Xcarb – recycled and EAF	0.30 kg CO_2e / kg
Alternative	Celsa	0.33 kg CO_2e / kg

Structural Optimisation

The structural design should prioritise strategies that deliver the greatest reduction in carbon emissions. The primary focus should be on building less, using smart and efficient design, and minimising waste. Not needing to build the basement or rooftop plant screening would have a large carbon saving. Exploring opportunities to minimise material use in the concrete slab, for example reducing its thickness from 250mm to 225mm would also represent a considerable carbon reduction. This has been modelled as a potential opportunity in the waterfall graph but requires further analysis to understand the impact on vibration and acoustic performance, slab deflections and quantity of required reinforcement.

Another possible opportunity to reduce carbon emissions is optimising the structural grid layouts and using efficient load paths. By keeping consistent column locations up the height of a building and therefore avoiding transfer structures, the structural loads are transferred to the ground efficiently and removes the need for hefty transfer beams.

The most substantial carbon savings can be achieved by reducing material quantities before considering material substitutions. After this stage, alternative structural solutions, construction methods, or low carbon materials such as cement replacements can be specified.

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Carbon Reduction Opportunities

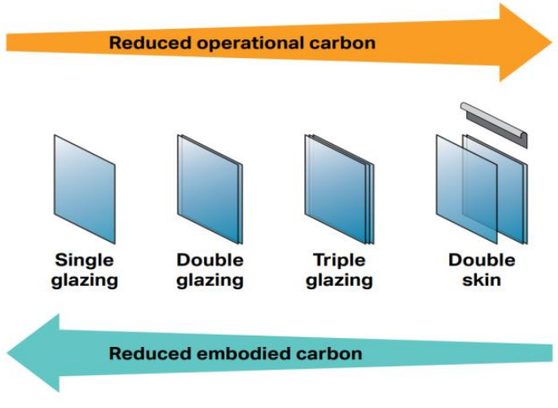
Façade Opportunities

Precast External Wall

Ultra-High-Performance Fiber-Reinforced Concrete (UHPFRC) has been employed globally in various civil and infrastructure projects and could be used as an opportunity to reduce embodied carbon in Cambridge Halls façade design. This has been modelled in the waterfall diagram as 'façade precast alternative'.

UHPFRC incorporates much more refined materials compared to typical concrete, enabling the construction of significantly thinner panels due to its exceptional strength. The results show that a 50mm UHPRFC panel will save up to **20% of A1-A3** carbon in comparison to a traditional 150mm precast panel.

While there are limited applications providing lifecycle data for UHPFRC to reliably compare it with traditional concrete, existing research generally concludes the enhanced durability of UHPFRC leads to a substantially longer design life, potentially several times greater than that of conventional concrete blends. This option will be examined in greater depth in the subsequent project stages.



Source: WBCSD Net-Zero Buildings Halving Construction Emissions Today, 2023

Alternative Glazing

This opportunity is illustrated in the waterfall diagram and shows that Cambridge halls can reduce the building envelope's upfront carbon by **3%** by utilising insulated double-glazing units instead of triple glazing.

While triple glazing is typically employed in the UK to achieve superior façade thermal performance and maximise occupant comfort through optimised surface temperatures, high-quality double-glazing units with argon gas between panes offer a lower-carbon alternative.

Research has found this approach provides an estimated 23% reduction in glazing embodied carbon compared to typical triple glazing units (200 tCO_2e) and improves efficiency by 16-30% compared to air-filled glazing.

Anodic PPC vs anodised aluminium

A potential opportunity to explore in future stages is to apply an anodic PPC finish in place of anodised finish to aluminium elements of the façade. In terms of embodied carbon, there isn't much between the two different treatments, but the key difference is in the recycled content of the material.

Anodising requires a high-grade aluminium, and the supplier tends to get virgin aluminium to control the source of metal, whereas PPC aluminium can use a mixed grade of aluminium which is easier to be supplied from a recycled source.

Aluminium with low recycled content (for anodising) has about 12-15 kg CO_2e/kg of embodied carbon, whereas Aluminium with high recycled content has about 6-10 kg CO_2e/kg of embodied carbon. The design team should thoroughly evaluate this substitution during the next design phase, engaging with suppliers to verify recycled content percentages.

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Carbon Reduction Opportunities

Building Services Opportunities

At RIBA Stage 2, identifying specific opportunities to reduce MEP embodied carbon can be challenging due to the limited design details available at this stage. For certain systems, such as cabling, benchmark allowances have been applied. However, other systems, like external lighting and telecommunications, have been excluded due to insufficient information and the absence of appropriate benchmarks. Please refer to the Appendix for a comprehensive list of benchmarks and exclusions.

One of the key focus areas at RIBA stage 3 should be to try and increase the detail and coverage of design quantities provided for assessment, so that we can get a clearer picture of the embodied carbon of MEP systems. However, some **MEP embodied carbon hotpots** have been identified from the Stage 2 LCA, such as **MVHRs, pumps,** and **distribution systems** (to pipes). Opportunities should be explored by the design to reduce these emissions, such as those listed below.

The carbon reductions shown in the waterfall diagram are based on project experience of reductions that could be achieved by taking ambitious actions and pushing the boundaries of standard practice.

Distribution systems

Distribution accounts for a significant portion of MEP embodied carbon and should be considered alongside primary plant. This can be done by optimising routes, removing the need for distribution where possible and specifying low embodied carbon or reclaimed materials.

MVHRs

Explore whether the embodied carbon impact of MVHRs can be reduced by having fewer larger units. It is noted that two units have been selected for flats to remove the need for fire dampers.



Whole life carbon balance point: example on wall insulation thickness.

Source: WBCSD Net-Zero Buildings Halving Construction Emissions Today, 2023

As well as investigating how to reduce specific hotspots, the following is recommended:

- Conduct whole-life carbon optioneering on key design decisions that are likely to affect both embodied and operational carbon. Examples include choosing between centralised and decentralised domestic hot water generation, selecting VRF versus air-cooled chillers for cooling, and enhancing façade thermal performance (as illustrated in the diagram to the right).
- Optimise building loads and required redundancy to reduce the size and quantity of equipment and distribution.
- Explore opportunities to use low embodied carbon or reclaimed materials
- Align with UK Net-Zero Carbon Building Standard embodied carbon limits for refrigerant, maximum GWP equivalent to R32, (current design complies) and PV, 750 $kgCO_2e/kWp$.

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Carbon Reduction Opportunities

Further Opportunities

Benchmarks

As outlined in the results section of the report, for any building elements that cannot be quantified at Stage 2 (i.e. partitions, internal doors, finishes & FF&E), Arup's internal benchmarks have been applied in place of design information. These benchmarks reflect a business-as-usual design approach. The waterfall diagram illustrates reducing the benchmark from a BUA figure to an Aspirational benchmark based on GLA guidance and project experience.

The design team is encouraged to adopt the principles of the net-zero design hierarchy in their design, aspiring to achieve a lower embodied carbon than the business-as-usual standard. This aspiration forms the basis of the carbon reductions shown in the waterfall diagram at this stage.

A workshop will be organised with the design team to identify carbon reduction and circular economy opportunities. As well as to develop a robust strategy for achieving the ambitious carbon target set by the client. To initiate this process, the sustainability team has proposed a range of potential opportunities to guide discussions. These suggestions should be reviewed and integrated by the design team in subsequent stages.

As the design progresses through the later RIBA stages, the LCA for the Cambridge Halls project should be updated. Benchmarks should be replaced with design information as it becomes available.

Contingencies

As detailed in the report, a contingency of 20% has been applied to the baseline model to ensure a robust assessment of the carbon. As the project progresses, the completeness and accuracy of the assessment will improve due to advanced design development. Therefore, the waterfall diagram shows a reduced contingency.

Aspirations	Basis of Improvement	Impact Estimate ($kgCO_2e/m^2$ GIA)
Further Partition/ Internal doors Improvement	Efficient design strategies that minimise partitions play a crucial role in reducing embodied carbon to meet GLA targets. By carefully evaluating the necessity of internal doors, optimising steel stud placement, selecting low-embodied-carbon insulation, and eliminating unnecessary plant walls, projects can significantly decrease their embodied carbon	-20
Further Internal Finishes Improvement	Eliminating suspended ceilings and raised access flooring except where necessary reduces material usage while potentially exposing attractive structural elements. Similarly, replacing carpet with lower-carbon flooring alternatives and carefully considering the impact of all finish materials can reduce a project's embodied carbon without compromising aesthetic quality or performance.	-50
Further FF&E Improvement	By limiting fit-out to essential areas and prioritising the reuse of existing furniture, projects can avoid the significant embodied carbon associated with new manufacturing.	-15
Reduction of Contingency	As the design progresses through the various RIBA stages, the level of uncertainty around materials and specifications gradually gives way to more precise quantification and detailed planning. The greater certainty enables design teams to refine carbon assessments, making informed decision to ensure GLA compliance.	-55

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Carbon Reduction Opportunities

Whole-life Carbon Opportunities

The carbon opportunities assessment focuses exclusively on upfront carbon emissions (A1-A5), as these offer the greatest opportunity for the design team to influence reductions through early-stage decision-making. Emissions categorised as B-C are associated with long-term assumptions with significant uncertainty, given their occurrence far into the future. In addition, upfront carbon emissions are released into the environment earlier, meaning their impact on global warming is immediate and cannot be mitigated through future improvements.

Addressing upfront carbon allows projects teams to achieve immediate and tangible carbon reductions. However, recognising the client's ambitious whole life embodied carbon target (A-C), the following section outlines B-C carbon reduction opportunities across several categories. It remains essential to establish guidance, incorporate best practices, and develop a strategy to minimise this carbon impact across the whole building's lifecycle.

Engagement and Procurement

Initial selection of the materials is a key factor for reducing the upfront embodied carbon emissions of the project. However, it is also important to engage with supply chain for in-use emissions too. Replacement cycles etc.

Extended Service Life

A significant portion of the embodied carbon emissions are attributed to the repair and replacement (B1-B5) and therefore an effort needs to be made to select products with longer replacement cycles. Reductions can be achieved by maximising circularity, durability, flexibility and future re-use. Preference should be for longer lasting products and systems.

End of Life

To achieve meaningful whole life embodied carbon reductions, it is essential to address end-of-life (C1-C4) emissions. This includes careful consideration of demolition practices, waste generation, and opportunities for material recovery and reuse. This is done by integrating circular economy principles. Addressing these factors at an early stage of the project ensures a more sustainable lifecycle for the building and its materials.

Category	B-C Reduction Opportunities	
Building Services	A robust maintenance strategy is crucial to extending the lifespan of building services equipment, reducing the frequency of replacements, and thereby minimising in-use embodied carbon emissions.	
	HVAC Systems	Specify equipment with low GWP refrigerants
	Lighting	Use LED systems with long lifespans to reduce replacement cycles and associated embodied carbon
	Distribution systems	Reused / Upcycled elements. Preference mechanical fasteners over adhesive and suppliers who offer take-back programs
Partitions	Specify internal walls with longer replacement cycles that are demountable and reusable. This reduces waste and embodied carbon.	
	Glass partitions	Optima's Glass partitions are demountable and reusable and are also made with low-carbon aluminium.
	Insulation	Products such as Hempcrete – a natural material which insulated and sequesters carbon. Sheep's wool is also a good option as it is renewable and biodegradable.
Internal Finishes FF&E	Reductions can be achieved by repurposing items from other assets and by maximising circularity, durability, flexibility and future re-use of elements	
	Flooring / Ceiling	Minimise the use of raised access flooring or suspended ceilings but where they are necessary procure reclaimed.
	Furniture	Items that can be refurbished or reupholstered rather than replaced. Source items that allow for replacement of parts rather than the whole.

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Carbon Reduction Opportunities

Circular Economy Opportunities

'A circular economy is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems.'
- Ellen MacArthur Foundation.

As touched upon in previous sections, there are numerous opportunities for the Cambridge Halls project to integrate circular economy principles into the design. Four key principles to follow and a selection of opportunities are outlined in the following section.



Reuse (from demolition)

Building on the first key principle of refurbish and reuse, a key priority is to utilise as much of the material from the onsite demolition. This approach significantly reduces waste and embodied carbon while supporting a more sustainable construction cycle. Proposed opportunities include:

- **Pre-demolition Audit:** A pre-demolition audit is being undertaken by Waterman Group to evaluate the existing materials on site and the potential for re-use.
- **Reclaimed brick:** Consider if reclaimed brick from the existing building could be utilised in the landscaping.
- **Crushed Concrete Aggregate**: Investigate opportunities to incorporate crushed concrete and brick from the demolition of the existing building as aggregate into the earthwork's strategy such as use in the piling mat and sub-base.



Refurbish and Reuse

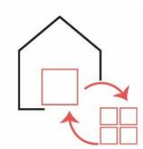
A key principle of Circular Economy, and one of the simplest yet most impactful strategies, is to refurbish and reuse materials from existing buildings (across Unite's building portfolio), and the circular economy market as part of this project. Some proposed opportunities are:

- **Finishes:** Minimise replacement need of floor finishes and raised access floors. Raised access floors, carpets and acoustic panels, are widely available in the second-hand market.
- **Building Services:** Where equipment and distribution is available from other buildings this could be tested and then reused where salvageable components can be integrated.
- **Structural:** Investigate opportunities to incorporate recycled concrete aggregates and reused reinforcement materials sourced from the existing building. s, ensuring all materials are obtained through established, credible supply chains.
- **Furniture:** Where possible existing furniture should be reused across Unite's building portfolio.
- **Partitions:** Including glazed curtain walling, particularly if originally designed for disassembly, offers a strong reuse potential.

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Carbon Reduction Opportunities

Circular Economy Opportunities



Replaceability & Adaptability

This Circular Economy principle encourages the consideration of the future of the building and its contents, allowing for changes to be made easily with as little carbon impact as possible. Ensuring durability /longevity of the products specified to minimise replacement due to wear and tear is also integral to this principle.

- ***Demountable*** ceiling systems specified to new rooms affording services access as required.
- Mechanical fasteners used where practicable - walls, floor & ceiling linings to allow for ***easy disassembly***.
- Specify carpets and paints from standard ranges and well-established suppliers ensuring ***replacement or refurbishment*** to match existing is simplified.
- Explore the opportunity to provide ***material passports*** for high impact materials such as steel, concrete, glazing and large MEP equipment. This enables specified materials to be more easily re-used at the buildings end of life or enables elements to be maintained as part of any refurbishments of the building.



Recycle

The final key principle of the circular economy is to prioritise materials with high recycled content, ensuring resources are kept in use for as long as possible and reducing demand for virgin materials. Applying this principle to the project could include setting a target for **minimum % recycle content** for materials and products and requiring an **Environmental Product Declaration (EPD)** for specified products.

- High-impact opportunities include commonly used materials such as acoustic panels, carpets, plasterboard, and metals, where recycled content can significantly reduce embodied carbon. By selecting products with verified recycled materials, the project supports sustainable resource management and advances circular economy goals.

Circular Economy Summary

In summary, incorporating circular economy principles into Cambridge Halls delivers numerous benefits to Unite by maximizing resource efficiency and minimising waste. Designing for reuse, deconstruction, and material recovery extends the lifecycle of building components, reducing the need for virgin materials and cutting embodied carbon helping to achieve Unite's target of **625 kgCO_2e/m²** . These principles also drive cost savings over time, enhance sustainability credentials, and will align the project with emerging. Ultimately, a circular approach supports long-term environmental stewardship and creates opportunities for innovation in design and construction

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Carbon Reduction Opportunities

Summary

This report identifies key carbon hotspots in the Cambridge Halls, providing valuable opportunities and a pathway to meet Unite's whole life embodied carbon (A-C) target of **625 kgCO2e/m²**. These opportunities and their associated actions are summarised in the table below.

Opportunity	Responsibility	Action	Action by	Potential range of Saving ($kgCO_2e/m^2$)
Increased GGBS Content and Low Carbon Rebar	Structural Engineers	Increasing the GGBS content can reduce the embodied carbon in both substructure and superstructure, although this approach must be carefully explored with respect to global allowances. Other supplementary cementitious materials have also been suggested for investigation. Structural optimisation can be achieved by reducing slab thickness, optimising structural grid layouts, and utilising efficient load paths.	End of RIBA 4	40 - 90 $kgCO_2e/m^2$
Low Carbon Façade Anodic PPC	Architect	Low carbon façade opportunities should be explored through the use of Ultra-High-Performance Fiber-Reinforced Concrete that can reduce A1-A3 emissions maintaining structural integrity with thinner profiles. Double-glazed filled windows instead of triple glazing should be explored to improve efficiency. Further, the use Anodic PPC finishes to provide an effective alternative to anodised aluminium, allowing for mixed-grade aluminium sourcing from recycled streams.	End of RIBA 4	10 - 20 $kgCO_2e/m^2$
Efficient MEP Distribution Layouts	Mechanical Engineers	More comprehensive modelling of the ductwork and pipework will enable an exploration of lower carbon routing choices, as well as more accurate measurement of the MEP distribution emissions.	End of RIBA 4	Savings in A-C results. Value TBC.
Specification and procurement of finishes and FF&E	Architects, Contractor	It is important for the team to consider the replacement cycles and longevity of products in specification and procurement, as short product lifecycles will typically increase Stage A-C whole life carbon results overall.	Dependent on relevant package	To be modelled and then monitored
Integrating Circular Economy Principles	Architects, Contractor	Explore the opportunity to provide material passports for high impact materials (steel, concrete, glazing, large MEP equipment). Endeavour to set targets for the percentage of specified materials to have material passports where possible.	Handover	Savings in end-of-life emissions only (C), challenging to quantify.
Stage 3 and 4 Review process	All; led by Sustainability Consultant	This WLCA should be updated in line with changes to the design during work stage 3 and 4. Additionally, more specific materials should be used as further specifications are made. This will ensure that there is an accurate assessment of embodied carbon data and current assumptions can be verified or amended. Efforts should be made to align the assessment to a cost plan and to capture the FFE, finishes, and internal walls and partitions items which have been accounted for using benchmarks due to lack of information at Stage 2.	End of RIBA 4	30 - 95 $kgCO_2e/m^2$ Reduction in contingency

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BREEAM Optioneering Assessment

BREEAM Mat01 Results

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BREEAM

Overview

BREEAM (Building Research Establishment's Environmental Assessment Method) is the world's leading and most widely used environmental assessment method for buildings. It sets the standard for best practice in sustainable design and has become the de facto measure used to describe a building's environmental performance.

BREEAM embraces a wide range of topics which cover the whole construction process, from site selection through to handover and post-occupancy evaluation. The sustainability aspects covered within BREEAM are split into ten categories.

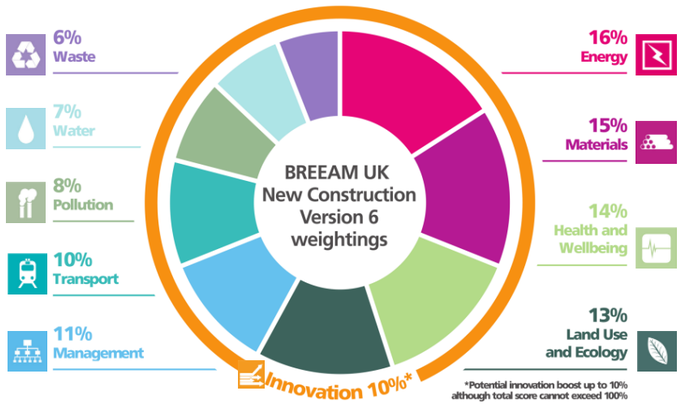


Image taken from BREEAM UK New Construction V6 manual

Targeted Credits

The BREEAM UK New Construction V6, Mat 01 issue 'Environmental impacts from construction products - Building life cycle assessment (LCA)' includes seven credits (Criteria 1 to 7) and three exemplary credits (Criteria 8 to 18) are available.

The following Mat01 criterion are targeted for the MMU Cambridge Halls development, thus aiming to achieve 5 BREEAM credits at concept design.

Superstructure

Criterion 1:
Comparison with the BREEAM LCA benchmark during Concept Design. (Office, industrial and retail buildings only)

Criterion 2:
Comparison with the BREEAM LCA benchmark during Technical Design. (Office, industrial and retail buildings only)

Criterion 3-5:
Carry out building LCA options appraisal of 2 to 4 significantly different superstructure design options during concept design. (All building types)
Targeted

Substructure

Criterion 6 & 7:
Substructure and hard landscaping options appraisal during Concept Design. (All building types)
Targeted

Exemplary Level Criteria

Criterion 8 & 9:
Core building services options appraisal during Concept Design. (All building types)

Criterion 10-14:
LCA and LCC alignment. (All building types)

Criterion 15-18:
Third party verification. (All building types)

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BREEAM

Building Design Options- Superstructure

This report is a point in time LCA from an appraisal of four options for the superstructure during the RIBA WS2 of the MMU Cambridge Halls development. The results section of this report considers the embodied carbon impacts of all four options.

The preferred design choice was baseline design “Option 1- Reinforced Concrete Flat Slab.”

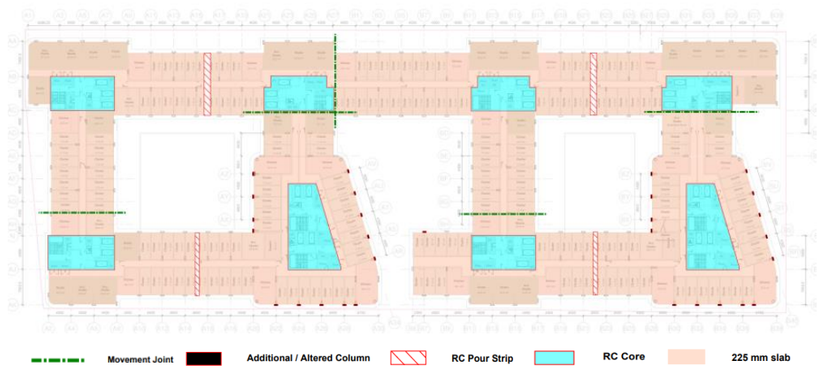
Since this appraisal the chosen design (option 1) has been refined. Therefore, the results for the full building LCA presented in the earlier sections of the report differ to the results presented within this BREEAM section of the report.

This has allowed for fair comparative assessment to take place, as the design team are not refining design options that are not being taken forward.

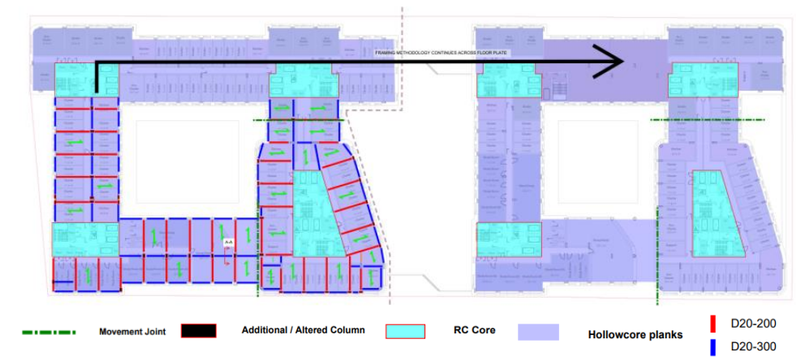
Option 1- Reinforced Concrete Flat Slab



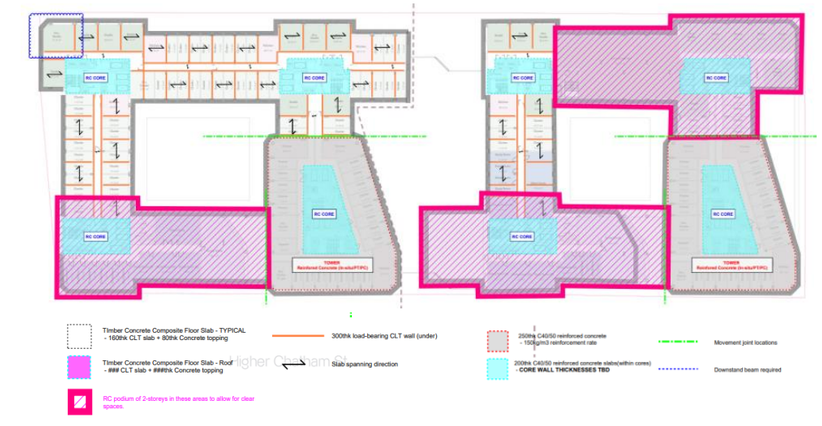
Option 2- Post-Tensioned Flat Slab



Option 3- Precast Slab



Option 4- Hybrid Timber-Concrete Frame



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BREEAM - Issy

Building Design Options – Substructure and Hard Landscaping

This report is a point in time LCA from an appraisal of two substructure options and four hard landscaping options during the RIBA WS2 of the MMU Cambridge Halls development. The results section of this report considers the embodied carbon impacts of all six options.

The preferred design choices were the baseline designs:

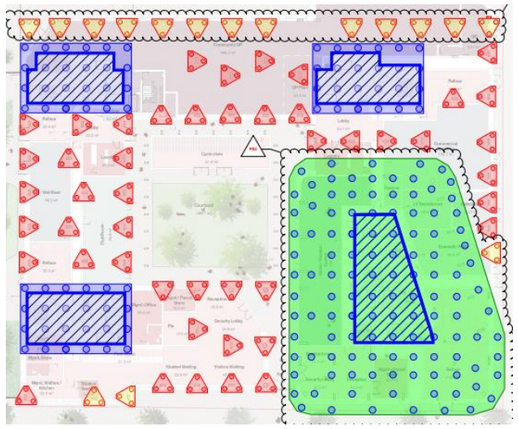
- Option 1: Substructure Baseline
- Option 2: Hard Landscaping Baseline

Since this appraisal, the chosen substructure design (option 1) has been refined. Therefore, the results for the full building LCA presented in the earlier sections of the report differ to the results presented within this BREEAM section of the report.

This has allowed for fair comparative assessment to take place, as the design team are not refining design options that are not being taken forward.

Option 1: Substructure Baseline

Piled Foundation - 3-pile caps (750dia & 600dia piles)



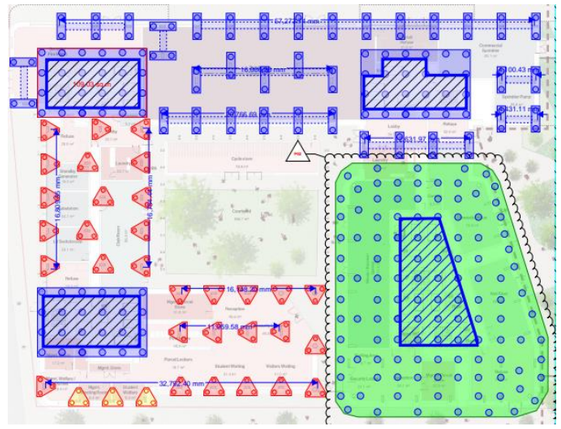
Option 2: Hard Landscaping Baseline

- Natural stone paving
- Clay pavers
- Breedon gravel surfaces



Option 3: Substructure Alternative 1

Piled Foundation – twin pile caps & 3-pile caps (750dia piles) with ground beams



Option 4: Hard Landscaping Alternative 1

- Natural stone paving
- Clay pavers
- Exposed aggregate concrete surfaces



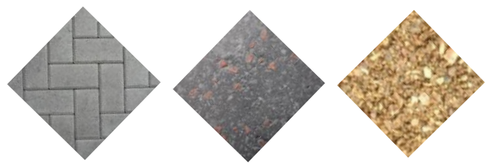
Option 5: Hard Landscaping Alternative 2

- Chinese granite paving
- Concrete Dutch style pavers
- Porous resin bound gravel surfaces



Option 6: Hard Landscaping Alternative 3

- High quality concrete block paving
- HRA with coloured chippings
- Self binding gravel surfaces



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BREEAM

BREEAM Method

BREEAM provides an accepted methodology for LCAs and outlines which elements should be in-scope to ensure an appropriate level of comparability between assessments. The tables below outline the in-scope elements for Superstructure, Substructure and Hard Landscaping. These building elements, where present, have been included in the relevant BREEAM models.

The OneClick LCA for BREEAM UK tool is included in the 'Building LCA tools recognised by BREEAM' list. For the BREEAM options comparison, the 'OneClick LCA (LCA for BREEAM UK)' materials database was used.

Superstructure- In-scope	
1. Frame	1. Steel frames 2. Space decks 3. Concrete casings to steel frames 4. Concrete frames 5. Timber frames 6. Other frame systems
2. Upper floors	1. Floors
3. Roof	1. Roof structure 2. Roof coverings 3. Specialist roof systems 4. Rooflights, skylights and openings
4. Stairs and ramps	1. Stair or ramp structures
5. External walls	1. External enclosing walls above ground floor level 2. External enclosing walls below ground level 3. Solar or rain screening
6. Windows and external doors	1. External windows

Substructure & Hard Landscaping In-scope	
1. Substructure	1. Standard foundations 2. Specialist foundation systems 3. Lowest floor construction 4. Basement excavation 5. Basement retaining walls
2. Roads, paths and pavings	1. Roads, paths and pavings 2. Special surfacings and pavings
Include hard landscaping that is installed as part of the project under assessment and: • Is within a defined curtilage of the building • Or is clearly more associated with it Hard landscaping with no such distinction shall be excluded.	

Key Notes

Normalisation to gross internal area (GIA)

The summary visuals presented in this report are normalised to the building GIA at the time of the options appraisal because current carbon reporting standards in the UK are primarily based on the $kgCO_2e/m^2$ GIA metric. This GIA was $65377m^2$, which is marginally lower than the GIA of the current building assessed in the previous sections of this report. The BREEAM Mat 01 reporting tool normalises WLC impacts to NIA. Therefore, the visuals presented in this report differ from the numbers submitted in the BREEAM Mat 01 tool.

Transport Emission Factors

BREEAM environmental impact factors for transport (A4 emissions) are substantially lower than those recommended in recent UK WLCA practice. For the transport distances, the latest industry guidance from RICS 2nd Edition Professional Statement was followed. Although RICS 2nd Edition recommends two transport legs, the OneClick BREEAM tool only allows inputs for one transport leg therefore the guidance for the first leg was used. This means A4 emissions are under-represented by the BREEAM Mat 01 results.

Construction Site Emissions (A5)

For the construction site emission, the RICS 2nd Edition suggests a default value of 40 $kgCO_2e/m^2$ is for the entire building. However, for the options appraisal, this module was not included in the results as all options will have an identical site emissions value, having no effect on the comparative analysis. However, the excavation impact of the soil was considered for all the substructure elements under module A5.

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Results

Superstructure Options appraisal

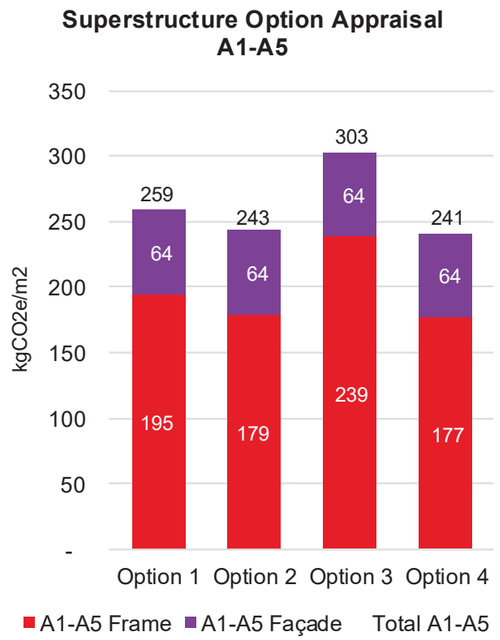
4no. substantially different design options were considered at RIBA Stage 2 to understand the embodied carbon impact of different superstructure typologies; they are presented in the table below:

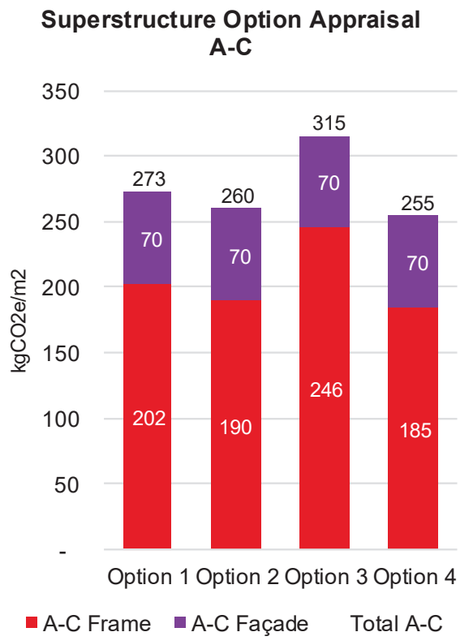
Superstructure Options	Description	Chosen Option
Option 1 Mat01_CD_SuperS_Opt1	Reinforced Concrete Flat Slab Aluminium cladding panels and precast stone panels	X
Option 2 Mat01_CD_SuperS_Opt2	Post-Tensioned Flat Slab Aluminium cladding panels and precast stone panels	
Option 3 Mat01_CD_SuperS_Opt3	Precast Slab Aluminium cladding panels and precast stone panels	
Option 4 Mat01_CD_SuperS_Opt4	Hybrid Timber-Concrete Frame Aluminium cladding panels and precast stone panels	

The results presented on this page have been categorised into Frame and Façade. Below outlines which sub-elements have been included within each category:

- **Frame:** frame, floors, roofs, roof coverings & stairs.
- **Façade:** external walls, windows and external doors.

	A1-A5 Frame	A-C Frame	A1-A5 Façade	A-C Façade	A1-A5 Total	A-C Total
Option 1 *(kgCO2e/m² GIA)*	195	202	64	70	259	273
Option 2 *(kgCO2e/m² GIA)*	179	190	64	70	243	260
Option 3 *(kgCO2e/m² GIA)*	239	246	64	70	303	315
Option 4 *(kgCO2e/m² GIA)*	177	185	64	70	241	255





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Results

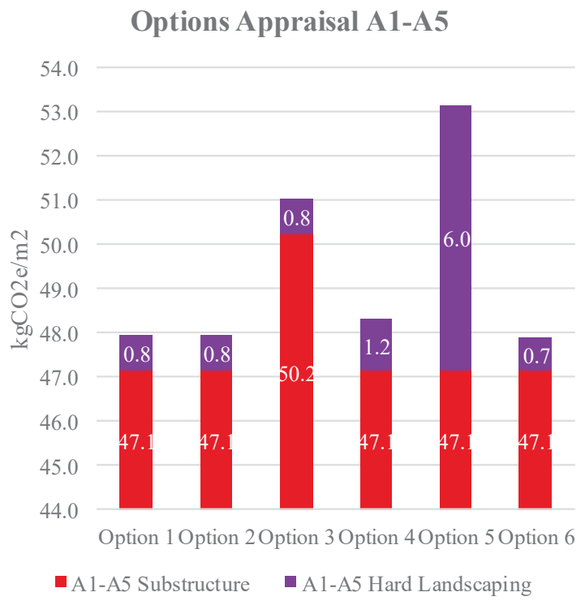
Substructure and Hard Landscaping

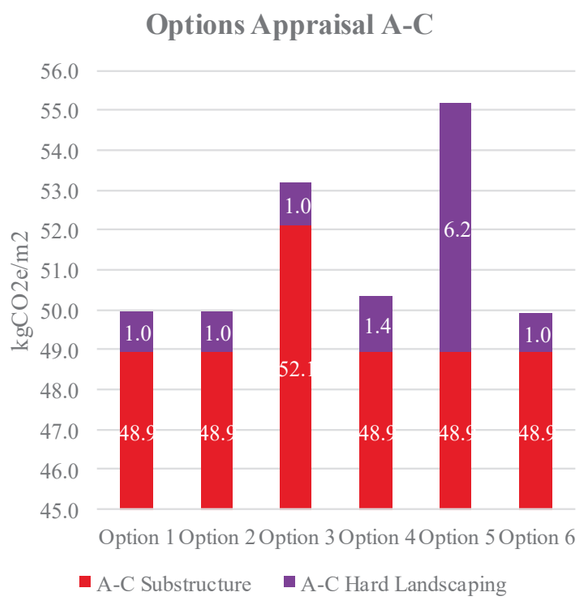
Substructure and Hard Landscaping Options	Description	Chosen Option
Option 1 Mat01_CD_SubS_HL_Opt1	Three-pile pile caps Natural stone, clay pavers, and Breedon gravel surfacing	X
Option 2 Mat01_CD_SubS_HL_Opt2	Three-pile pile caps Natural stone, clay pavers, and Breedon gravel surfacing	X
Option 3 Mat01_CD_SubS_HL_Opt3	Twin pile caps with ground beams Natural stone, clay pavers, and Breedon gravel surfacing	
Option 4 Mat01_CD_SubS_HL_Opt4	Three-pile pile caps Natural stone, clay pavers, and exposed aggregate concrete surfacing	
Option 5 Mat01_CD_SubS_HL_Opt5	Three-pile pile caps Chinese granite, concrete Dutch style pavers, and resin bound gravel surfacing	
Option 6 Mat01_CD_SubS_HL_Opt6	Three-pile pile caps Concrete block paving, HRA with coloured chippings, and self binding gravel surfacing	

The results presented on this page have been categorised into Substructure and Hard Landscaping. Below outlines which sub-elements have been included within each category:

- **Substructure:** foundations.
- **Hard Landscaping:** roads, paths, and paving.

(kgCO2e/m² GIA)	A1-A5 Substructure	A-C Substructure	A1-A5 Hard Landscaping	A-C Hard Landscaping	A1-A5 Total	A-C Total
Option 1	47.1	48.9	0.8	1.0	48.0	50.0
Option 2	47.1	48.9	0.8	1.0	48.0	50.0
Option 3	50.2	52.1	0.8	1.0	51.0	53.2
Option 4	47.1	48.9	1.2	1.4	48.3	50.3
Option 5	47.1	48.9	6.0	6.2	53.2	55.2
Option 6	47.1	48.9	0.7	1.0	47.9	49.9





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Appendix

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A.1 Guidance on use of LCA

The WLCA should primarily be used as a process for understanding embodied carbon impact and supporting the consideration of embodied impacts in decision-making. While LCA is also used for reporting whole-building embodied carbon footprints (e.g. for disclosure and benchmarking), it is important to note that such a value (and values for building element categories) are susceptible to change.

While a key aim is for the LCA model to represent the project as accurately as possible, reported carbon impacts can vary due to above and reasons including the LCA software/tool used, information inputs/availability of design detail (i.e. quantities, build-ups and specifications) and changes to carbon factors above and continually updated software, databases and EPD data. The reported carbon impact should be considered with this in mind, and attention given to the use of LCA as a process and decision-making aid, rather than focussing solely on the final reported value.

Generally, it is expected that that the overall modelled carbon footprint of the project will change with different iterations of the model. This change could be net positive or net negative and is not necessarily reflective of carbon savings made within specific elements of the project. For example, it is often the case that little information is available regarding the design of internal finishes, FF&E and building services in the early stages of design and therefore these element categories above and susceptible to adjustments, often increases, in embodied carbon as more detailed design information becomes available at later stages. Such adjustments should be viewed in the context of the design detail available, and the variables noted above and should not detract from embodied carbon efficiencies achieved through the design (and through the use of the LCA process) which would minimise any potential net increase.

WLCA Purpose

- **Environmental Accountability:** It assesses environmental impact across an asset's life cycle, from construction to decommissioning.
- **Holistic Decision-Making:** WLCA informs decisions by balancing environmental, economic, and social factors, ensuring sustainable outcomes.
- **Climate Resilience:** It ensures infrastructure projects withstand climate change, considering extreme weather events and rising sea levels.
- **Biodiversity and Circular Economy:** WLCA integrates these principles, promoting responsible resource use.
- **Transparency and Collaboration:** WLCA fosters collaboration among stakeholders, clarifying roles and responsibilities.

Key Consideration for Design Teams

- **Resource Constraints:** Prioritize significant components due to limited resources.
- **Level of Confidence:** Balance precision and practicality.
- **Holistic View:** Consider interactions among elements.
- **Thresholds:** Focus on critical aspects.
- **Iterative Evolution:** Recognize that carbon assessments evolve over time due to changing inputs, methodologies, and assumptions.

Key Consideration for WLCA Practicioners

- **Dynamic Nature:** Carbon assessments are highly likely to evolve during a project's multi-year lifespan.
- **Inputs and Methodologies:** Expect changes in data availability, scientific understanding, and assessment methodologies.
- **Guidance Updates:** Stay informed about evolving industry guidance and standards.
- **Adaptive Reporting:** Develop a reporting framework that accommodates updates without disrupting project continuity.
- **Scenario Analysis:** Consider alternative scenarios to assess sensitivity to changing inputs.
- **Documentation:** Rigorously document assumptions, data sources, and methodologies.
- **Stakeholder Communication:** Transparently communicate changes to stakeholders.
- **Continuous Learning:** Embrace a learning mindset and adapt assessments as needed.

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A.2 Glossary of terms

BIM: Building Information Model (BIM) is a digital representation of physical and functional characteristics of a construction project. A BIM is a shared knowledge resource for information which helps to form a basis for decisions during the lifecycle of the construction project.

Carbon dioxide equivalent (CO_2eq): A measure used to compare the emissions from various greenhouse gases based upon their global warming potential in a common unit over a 100-year period. E.g. 1 kg of methane is converted into the amount of CO2 needed to cause the same effect, in this case 23 kg. Therefore 1 Kg methane has a CO2 equivalent of 23.

Embodied carbon at Practical Completion: Carbon emissions arising from the product stages (A1-A3) and construction process stages (A4-A5).

Embodied carbon over Life Cycle: Carbon emissions arising from the product stages (A1-A3), construction process stages (A4-A5), use stages (B1-B5) and end-of-life stages (C1-C4).

Environmental impact: A change to the environment, whether adverse or beneficial, wholly or partially, resulting from environmental aspects.

Greenhouse gas: Any atmospheric gas which absorbs thermal radiation emitted by the Earth's surface. This traps heat in the atmosphere and keeps the surface at a warmer temperature than would otherwise be possible.

Greenhouse effect: The greenhouse effect is the process by which radiation from a planet's atmosphere warms the planet's surface to a temperature above what it would be without its atmosphere.

Global Warming Potential (GWP): The standard metric used to calculate CO2-equivalent emissions of different greenhouse gases in carbon budgets and the Kyoto Protocol. GWP measures the total radiative forcing over a given period (usually 100 years) after a pulse emission, relative to that from the same mass of CO2.

IMPACT (Integrated Material Profile And Costing Tool): A specification and database for software developers to incorporate into their tools to enable consistent Life Cycle Assessment (LCA) and Life Cycle Costing (LCC). IMPACT compliant tools work by allowing the user to attribute environmental and cost information to drawn or scheduled items in the BIM. Put simply, IMPACT takes quantity information from the BIM and multiplies this by environmental impact and/or cost 'rates' to produce an overall impact and cost for the whole (or a selected part) of the design.

Life cycle: consecutive and interlinked stages on the life of the object under consideration.

Life Cycle Assessment (LCA): is a process to evaluate the environmental burdens associated with a product, process or activity:

- By identifying and quantifying energy and materials used and wastes released to the environment;
- To access the impact of those energy and materials used and releases to the environment; and
- To identify and evaluate opportunities to affect environmental improvements.

The assessment includes the entire life cycle (from cradle to grave) of the product, process or activity encompassing extracting and processing of raw materials, manufacturing, transportation and distribution; use and re-use; maintenances; recycling and final disposal.

Recycling: Recycling is the process of converting waste materials into new materials and objects. A recovery operation by which waste materials are reprocesses into products, materials or substances either for the original purpose or other purposes.

Refurbishment: Modification and improvements to an existing building in order to bring it up to an acceptable condition.

Whole life Carbon: Overall embodied carbon and the carbon associated with the building's operation (heating, cooling, powering, providing water etc.). It comprises stages A1-A5, B1-B7, C1-C4 and D.

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A.3 RICS Categories

Level 1	Level 2
0.1 Treatment and demolition works & Facilitating works	0.1.1 Toxic/contaminated material treatment & Demolition works 0.1.2 Facilitating works
1 Sub-structure	1.1 Foundations and piling 1.2 Basement retaining walls and lowest slab
2 Superstructure (Frame)	2.1 Frame 2.2 Upper floors 2.3 Roof 2.4 Stairs, ramps and safety guarding
Superstructure (Envelope)	2.5 External envelope including roof finishes 2.6 Windows and external doors
Superstructure (Partitions)	2.7 Internal walls 2.8 Internal doors
3 Finishes	3.1 Wall finishes 3.2 Floor finishes 3.3 Ceiling finishes
4 FF&E	4 FF&E
5.1 Public Health	5.1.1 Sanitaryware 5.1.2 Cold water systems 5.1.3 Drainage and rainwater
5.2 Heating, Ventilation and Cooling (HVAC)	5.2.1 Space heating and hot water 5.2.2 Dedicated cooling installations 5.2.3 Air movement 5.2.4 Ventilation air terminals, ductwork and ancillaries, control dampers, attenuation, fire safety related to ventilation equipment

Level 1	Level 2
5.3 Electrical installations	5.3.1 Lighting 5.3.2 Electrical services for power, communications, security, IT and fire detection
5.4 On site renewable energy generation	5.4.1 On site renewable energy generation
5.5 Systems including Life safety, Fuel installations, Lift and conveyor installations, Services equipment Disposal installations, Specialist installations, Builders work in connection with services	5.5.1 Life safety 5.5.2 Fuel installations 5.5.3 Lift and conveyor installations 5.5.4 Specialised and communal waste disposal 5.5.5 Specialist installations & maintenance 5.5.6 Builders work in connection with services
6 Pre-fabricated buildings and units	6 Pre-fabricated buildings and building units
7 Works to existing buildings	7 Works to existing buildings
8 External Works	8.1 Roads, paths, pavings, surfaces Fencing, railings, walls External fixtures 8.2 Soft landscape, planting, irrigation 8.3 External drainage External services Minor building works

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WLCA Best Practice Frameworks & Guidance

There are many different frameworks for undertaking WLCAs as shown below.

RICS guidance, among other standards, has been used to inform this WLCA and how Arup responds to a number of study limitations. The methodologies used, their limitations, and how they may be addressed, are outlined in this Appendix.

Frameworks & Guidance		
Environmental Management - Lifecycle Assessment - Principles and Framework, 2006	**ISO 14040:2006**	This international standard outlines the principles and framework for conducting WLCAs, including goal and scope definition, inventory analysis, impact assessment, and interpretation. It provides guidelines to assess the environmental aspects and potential impacts throughout a product's lifecycle.
Sustainability of Construction Works - Assessment of Environmental Performance of Buildings - Calculation Method, 2011	**BS EN 15978:2011**	This European standard specifies a calculation method, specifically for buildings, based on WLCAs and other quantified environmental information, to assess the environmental performance of building projects. It provides the means for reporting and communication of the assessment outcome, applicable to new and existing buildings and refurbishment projects.
Whole Life Carbon Assessment for the Built Environment, 1st Edition, 2017	**RICS Ed.1**	Published by the Royal Institution of Chartered Surveyors (RICS), this guidance provides a methodology for assessing whole lifecycle carbon impacts in the built environment. It aims to standardise the approach to carbon assessment, promoting consistency and transparency in reporting.
Whole Lifecycle Carbon Assessments Guidance, 2022	**GLA WLC Guidance**	Issued by the Greater London Authority (GLA), this document offers guidance on conducting whole lifecycle carbon assessments for building projects in London. It aims to support the Mayor's ambition for London to be a zero-carbon city by providing a consistent approach to evaluating and reducing carbon emissions throughout a building's lifecycle. It refers to BS EN 15978:2011 as the principal methodology, and to the RICS Professional Statement for further guidance.
Whole Life Carbon Assessment for the Built Environment, 2nd Edition, 2023	**RICS Ed.2**	An updated version of the RICS guidance, this edition incorporates the latest industry practices and standards for whole life carbon assessment. It supersedes the previous edition (2017) and has been in full effect from 1 July 2024, providing enhanced methodologies and case studies to support professionals in reducing carbon emissions in building projects.

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A.4 Model Basis

Project ID Matrix (RICS Professional Statement)

Date of assessment	**July 2024 – March 2025**
Project type	Fit Out mixed-use building
Assessment objective	Embodied carbon assessment at practical completion and over life cycle of Cambridge Halls aiming to reduce its carbon footprint through low carbon measures
Project location	Manchester
Date of project completion	2029 - 2030
Property type	Commercial residential apartments (Student Residential)
Building description	29-storey building with a central concrete core, steel frame with precast slabs, ASHP, VRF and DX heating and cooling.
Size	Modelled to a GIA of 66,507m^2 (Stage 2 Report)
Project design life	60 years

Assessment scope	Building Elements: See RICS Scope Table	Product stage [A1-A3] Construction process stage [A4–A5] Use stage [B1-B7] End of Life [C1-C4]
Assessment stage	RIBA Stage 2	
Data sources	**Primary sources:** Stage 2 Design Information Collated from Design Team **Secondary sources:** EPD / material carbon data sources are curated by OneClick, as appropriate for the LCA context, i.e. data sources for UK assessments, or for BREEAM Mat01.	
Assumptions and scenarios	The Stage 2 LCA is based on the latest information received from the design team and the RICS default specifications where there is a lack of detailed information.	

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A.5 Assumptions Log

The following assumptions have been made during the Stage 2 Life Cycle Embodied Carbon Assessment in order for all materials to be accounted for as many materials as possible to be accounted for. Assumptions should be verified during later stage LCAs.

Building element	Items in cost plan that may not have been explicitly modelled
Substructure	Based on quantities and aligned to specifications provided by the structural engineers. Only information provided by the structural engineer has been modelled: • Waterproof and damp-proof membranes were not included as quantities and specifications were not provided by the structural engineers. • Any subbase for the substructure has not been accounted for as information was not provided.
Superstructure Frame	• Based on quantities and aligned to specifications provided by the structural engineers. • Stair landings have been assumed to be 3.12m^2 as per star quantity information from the structural engineer, 1 landing is assumed per dogleg stair. • A precast stair unit has been used to model the stairs based on the required height for the stairs to span due to no available information on the weight of the stairs.
Superstructure Façade	• Blue roof attenuation crates are assumed to be 12kg/m^2 based on typical products. • An equal split of porous screed/gravel/mulch finish for the blue roof has been assumed as instructed by the civil engineers. • Roof ballast has been assumed to be 50mm thick as is typical. • Reclaimed masonry from demolition has been assumed to have a thickness of 65mm and a density of 2000kg/m^3.
Internal Partitions	No information on internal partitions was available so the following benchmark has been applied.
Internal Doors	No information on internal doors was available so the following benchmark has been applied.
Furniture, Fittings and Equipment	A large number of Furniture, Fittings and Equipment (FF&E) items have not been specified at Stage 2 to enable a thorough assessment. The following benchmark has been applied.
Finishes	No information on finishes was available so the following benchmark has been applied.

	A1-A3 Product stage (excl. sequestered carbon)	A4	A5-3	B4	C2	C3	C4
2.7.Internal walls and partitions	73	4	9	2	0	0	0
2.8.Internal doors	73	4	9	2	0	0	0
3.Finishes	46	3	5	24	1	6	0
4.Fittings, furnishings and equipment	46	3	5	24	1	6	0

Table of applied benchmarks

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A.5 Assumptions Log

The following assumptions have been made during the Stage 2 Life Cycle Embodied Carbon Assessment in order for all materials to be accounted for as many materials as possible to be accounted for. Assumptions should be verified during later stage LCAs.

Building element	Items in cost plan that may not have been explicitly modelled
Building services	Various benchmarks have been used where various MEP systems had not yet been completely designed at Stage 3, in order to ensure a thorough assessment accounting for most areas of building services: •Allowance for the CCTV System, including intruder alarm and PA/VA system, is based on a benchmark value for offices . •Allowance for access control based on benchmark value for offices. Per square metres GIA. •Allowance for fire alarm detectors based on benchmark value for offices per square metres GIA. •Allowance for Sub Mains Cabling and LV distribution cabling is based on a benchmark for power cabling system for apartment buildings per square metres GIA. •Allowance for earthing and lighting protection are based on benchmarks for earthing and lighting protection systems in apartments and single room occupancy buildings based on building GIA. •Allowance for emergency lighting is based on a benchmark for offices, based on building GIA. •WC alarm system induction loop has been accounted for based on an emergency voice messaging system for an office based on building GIA. Several items have been excluded from the assessment at this stage due to a lack of sufficient information to enable modelling: •External Lighting •IT/AV •BMS System •Communication System WC alarm system has been assumed to include 107 pull cords, based on the number of accessible WCs specified in the Stage 2 report. The lifts have all been conservatively assumed to cover all 29 floors. Ring main unit is assumed to be 6.6kV based on the supply of electricity in the area. The following thickness of pipework are assumed: uPVC Condensate - 3.5mm uPVC Foul Drainage – 7mm cPVC Sprinkler – 3.5mm Where the mechanical engineer has only provided units of equipment, weights have been determined based on typical products from common suppliers. Where there are not EPDs for typical products with the specified capacity of the equipment, weights have been scaled based on capacities.

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A.5 Assumptions Log

The following assumptions have been made during the Stage 2 Life Cycle Embodied Carbon Assessment in order for all materials to be accounted for as many materials as possible to be accounted for. Assumptions should be verified during later stage LCAs.

Building element	Items in cost plan that may not have been explicitly modelled
External Works	The impact of planting has not been accounted for due to the product's transient nature and uncertainty of life spans – this is a standard approach in LCAs. Steel and Timber seating has been based on a product size of 500mm width by 500mm depth. Steel and Timber Platform seats have been based on a product 1m in height. Picnic tables have been assumed to be 1.4m x 2m x 0.75m Steel pull up bars have been assumed to be 16.5kg based on a generic product The 21 units of pergolas provided by the architect has been assumed to be 157.5m^2 based on area of a pergola detailed on one of the floor plans, this hgas been accounted for conservatively by using an aluminium pergola product in absence of a specific timber and steel product.
Transport Distances	Transport distances are all based on default values from RICS 2nd Edition.
Service Lives	Service lives have been aligned to the default recommendations defined in RICS 2nd Edition, Table 20. For MEP equipment service lives are primarily based on CIBSE Guide M Appendix 12.A1, as this provides more detailed and specific guidance for MEP systems. Where there is differences between CIBSE Guide M and RICS Edition 2 service life recommendations, the more conservative number has been used.
End of Life of the Proposed Building	The demolition of the proposed building at its End-of-Life (EoL) stage is captured under Life cycle stage C. To account for C1 in construction, the RICS guidance suggests an allowance per square metre GIA; this results in an overall allowance for C1. The overall allowance should be divided across the various RICS categories. This was done proportionally depending on cost. Life-cycle stages C2-C4 are determined within the OneClick tool, assuming market-standard EoL scenarios for each material associated with the LCA. The EoL scenarios for products have also been reviewed by the LCA assessors, to ensure aggregable assumptions about the product materials have been made. EoL transport and processing emissions are informed by the material quantities and UK-relevant market scenarios for EoL processing of different materials.
Contingencies	An uncertainty factor of 20% has been determined and applied across all RICs categories. This is a combination of a 15% contingency based on the design stage and an uplifted 5% contingency due to modelling not being based on a cost plan and an anticipated quantity of unidentified items not accounted for in the assessment.

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A.6 Study Limitations

In addition to limitations stated throughout the report, where analysis and reporting is explained, there are independent additional limitations of this WLCA study that should be noted as per the below:
•The primary scope of this study is emissions at practical completion (modules A1-A5) and over lifecycle (60-years lifespans, modules A-C). Module D (reuse, recovery and recycling potential) is reported separately.

Module D limitations as per RICS Ed.2:
•It mainly occurs beyond the building Lifecycle and outside the system boundary of the project being assessed
•It includes inherent uncertainty regarding the treatment of building components many decades in future.
•Alternative design options have been evaluated individually and independently.
•The alternative options are based on material quantity estimates by the design team, not a fully designed solution.
•The design team will need to further develop an understanding of the feasibility of alternative design options, throughout detailed design and costing exercises.

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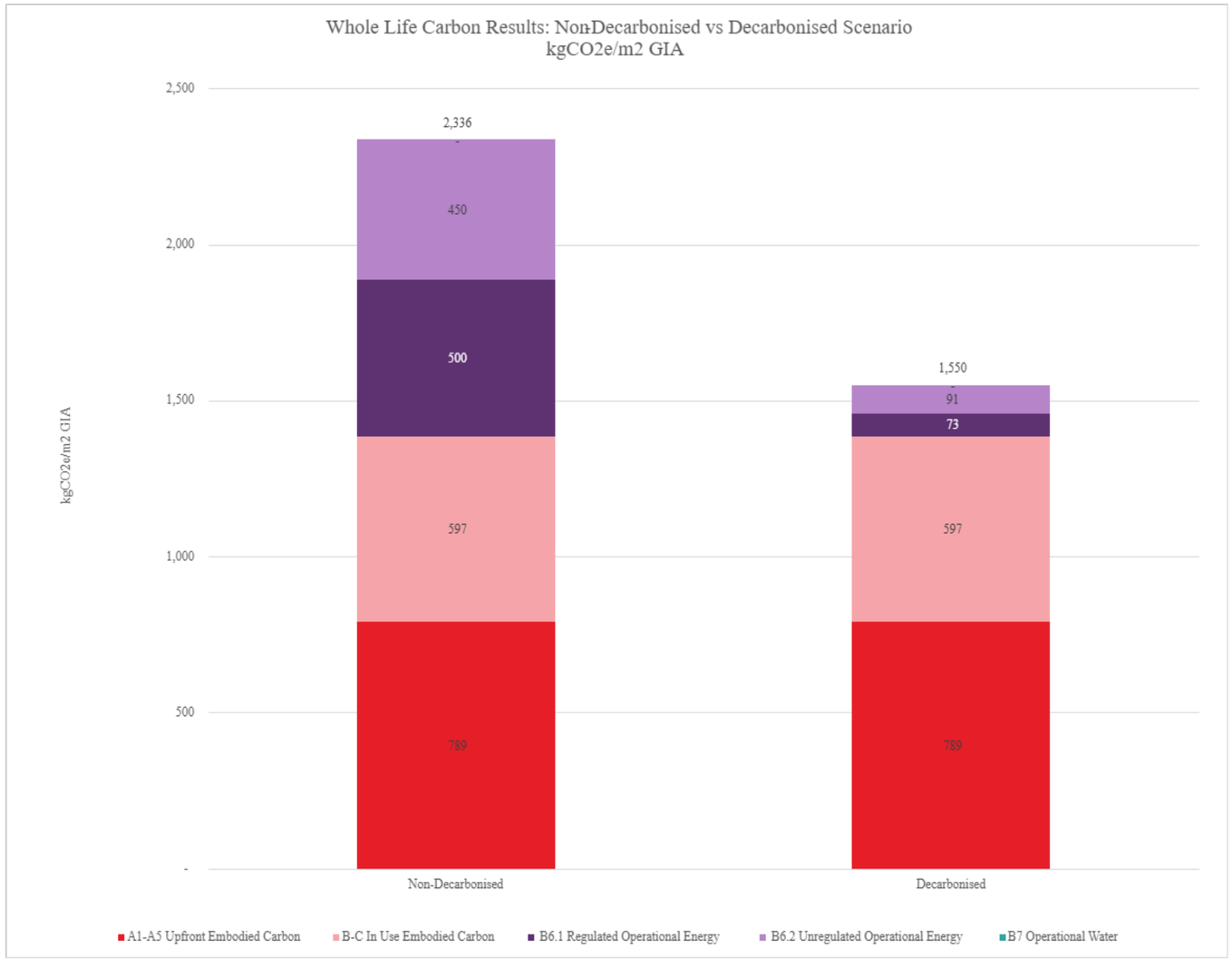
A.7 Decarbonised Results

he graph to the right compares the decarbonised and non-decarbonised scenarios. The decarbonised scenario takes into account forecasted grid decarbonisation, this has a significant impact on:

- Emissions from material extraction, processing, and manufacture (A1-A3)
- Emissions from material extraction, processing, and manufacture when repairing and replacing parts of the building (B)
- Emissions from material recycling, re-use, and disposal at end of life (C)
- Emissions from energy consumption within the building (B6)

The rate of grid decarbonisation is largely unknown, and it is even more uncertain how this will impact on material extraction, processing, manufacture, and end of life processes. Hence, these results contain a large amount of uncertainty and are only indicative of potential reductions in actual emissions from the building across its life cycle due to grid decarbonisation.

Grid decarbonisation is outside the building developer, and owners control, and should not be relied upon to meet targets or report emissions.



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11.2 Part L & O Compliance Waterman

waterman

WBS – Technical Design Note 20250303

Project Title:	15299: Cambridge Halls PBSA, Manchester
Design Note Title:	**Part L and O Compliance Technical Note**
Document Reference:	15299-WAT-XX-XX-TN-V-59010
Date:	03/03/2025
Revision:	P02

Prepared By: Hannah Ireland



Checked By: James Barker



Introduction

This technical note has been drafted to advise on investigated options for regulatory and planning compliance for Cambridge Halls Project. It provides the results and overview of the investigations undertaken, results and recommended compliance at stage 2.

Site Location

This development is situated in the city centre of Manchester, within walking distance of the university and local amenities. Shown below is the site within the context of Manchester.

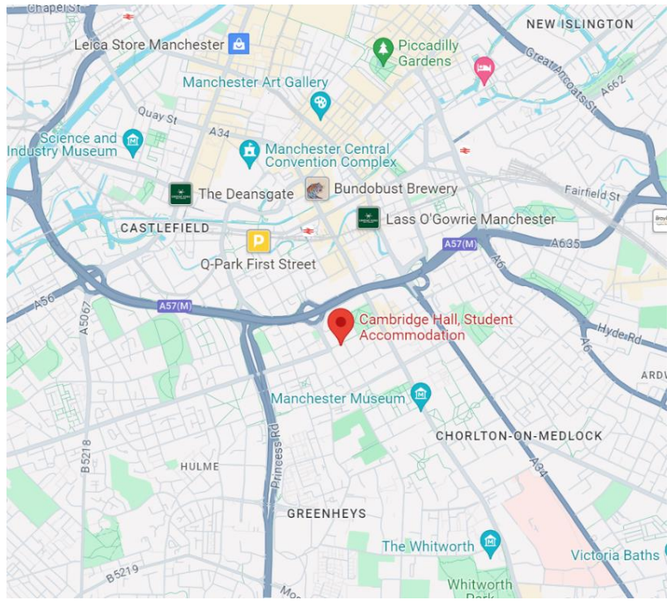


Figure 1 – Site Location

Building Geometry

For the Part L and O compliance analysis, IES 2023 software was used, and the model was built using the architectural most up to date general arrangements (Issue 40). With this in mind, the geometry is subject to change as the design progresses and therefore the results of this technical note may also change.

Current design shows 2302 bedrooms split across cluster apartments and studios across 28 storeys. The development features a number of internal and external amenity areas. Windows were modelled with external shading where applicable for mitigation of overheating, draft elevations were provided by the architect, and these were used for the overheating samples to ensure overheating was modelled accurately.

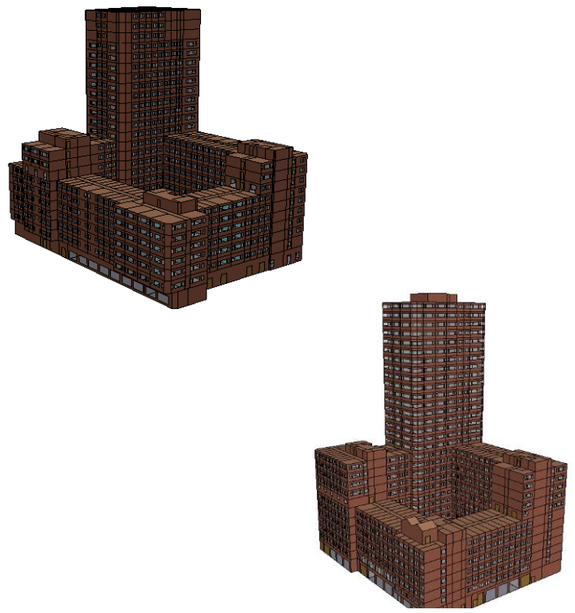


Figure 2 – Phase 1 and 2 IES models

Overheating & Approved Document O Compliance

Aims and Methodology

Under Approved Document O 2021 student accommodations must adhere with the TM59 methodology in order to show mitigation of overheating in bedrooms and living areas. The below criteriaare used to evaluate natural ventilated spaces:

(a) For living rooms, kitchens and bedrooms: the number of hours during which DT is greater than or equal to one degree (K) during the period May to September inclusive shall not be more than 3 per cent of occupied hours. (CIBSE TM52 Criterion 1: Hours of exceedance).

(b) For bedrooms only: to guarantee comfort during the sleeping hours the operative temperature in the bedroom from 10 pm to 7 am shall not exceed 26 °C for more than 1% of annual hours. (Note: 1% of the annual hours between 22:00 and 07:00 for bedrooms is 32 hours, so 33 or more hours above 26 °C will be recorded as a fail)

Document O Requirements and Limitations

Under Approved Document O internal shading cannot be used to mitigate the overheating. Noise may alsobe an issue, with the expectation that windows would be closed if the following limits are exceeded:

a. 40dB LAeq,T, averaged over 8 hours (between 11pm and 7am).

b. 55dB LAFmax, more than 10 times a night (between 11pm and 7am)

Other considerations include pollution and security to easily accessible bedrooms which would require windows on restrictors.

Due to the built-up nature of the environment where the development is located, there is a high risk of noise and air pollution and so for this reason it would be confident to assume that windows are closed during the night as per scenario 2 in table 1. Table 1 shows the potential ventilation scenarios to mitigate overheating. Table 2 shows the parameters of the model which did not change throughout analysis.

Table 1 – Ventilation Options Considered

Potential Options Considered	Pros	Cons	Compliance
1 - Natural Ventilation via windows day and night	Larger free area with higher air flow allowed.	Limited to daytime only due to noise/pollution/security risks.	Compliant with ADO.
2 - Mechanical Ventilation with window opening day only	**Provides additional air flow during nighttime.**	**Cost implications and potential acoustic issues.**	**Compliant with ADO**
3 - Mechanical Ventilation with fully closed windows	Provides continuous flow of air with potential to boost if necessary.	Higher cost implications and potential acoustic issues. Increased Operational energy.	Not analysed as not needed for compliance.

Sample Size

The overheating analysis was conducted on a sample of rooms that would be considered high risk – which includes rooms with external roofs and southerly exposure. These rooms represent a general view for the rest of the development. Louvre screens and shading have been included in overheating calculations.

Table 2 – Model Settings

Element	Design Parameters	
U-Values w/m2K	External Walls	0.15
	Roof	0.12
	Ground Floor/Soffits	0.12
	Glazing	0.80
	Glazing G-value	0.40
	External Doors	1.60
Ventilation (l/s)	Bedrooms	8
	Kitchens	13
	Studios	21
Overheating	All rooms are boosted to 40l/s when temperature exceeds 22c.	
Thermal Templates	TM59 – Studio	
	TM59 – Single Bedroom	
	TM59 – 3 bed Kitchen/living	
Window Opening	Window behind opaque panel openable 90 degrees during daytime.	

Phase 2: Super Kitchen

An overheating study was conducted on the super kitchen located on the ground floor of the phase two building. Due to the nature of the space, a unique template was applied as it would not be sensible to use the standard TM59 templates. The following table shows the parameters used.

Table 3 – Super Kitchen Setting

Internal Gain	Load	Profile
Occupancy	214 people	Full capacity at 6pm with smaller peaks at breakfast and lunch.
Lighting	5w/m^2	Occupancy sensor
Microwave Load	19kW based on 68 microwaves at 293w per unit.	Small peaks during breakfast and lunch with full usage at 6pm.
Oven/Hob Load	44kW based on 69 cooker/hobs at 645W per unit.	No use at breakfast, 20% use at lunch with a 60% use at dinner for 2 hours.
Ventilation Gain	**Constant l/s**	**Boosted l/s**
External Air flow	2400	4100

It is important to note that these assumptions are based on CIBSE Guide A and sensible activity scenarios with subject to change.

Results
Various simulations were tested to understand the options to mitigate overheating in order to comply with Approved Document O.

Option 2, as outlined in Table 1, is the option that is has been proposed at this stage due to the noise risks at nighttime associated with the urban setting of the development. This option is fully compliant with Approved Document O. The following figure shows the high-risk rooms tested (yellow) with adjacent spaced included in analysis (red) to account for internal conduction gains.

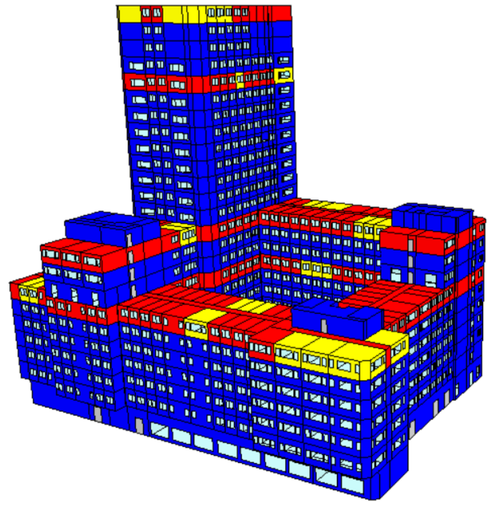


Figure 3 – Overheating Model

For the super kitchen in phase 2, cooling will need to be provided as the space overheats for more than 3% of the occupied hours which is to be expected with the high heat gains and occupancy and limited ventilation.

Part L Compliance

The following settings show how the model can comply with Approved Document L 2021 with an ASHP providing domestic hot water, and space heating. To ensure compliance with Part L and Manchester City Council planning, the development needs to show a carbon reduction on Part L 2021. As per Manchester planning requirements the development may need to be designed in such a manner as to allow a future connection to district heating networks (DHN).

Table 6 – Model settings table for both phases of development.

Element	Performance
Thermal Envelope	
External Walls	0.15 W/m²k
Roof	0.12 W/m²k
Ground Floor/Soffits	0.12 W/m²k
Glazing	0.80
External Doors	1.60 W/m²k
Air Permeability $m^3/(h.m^2$ at 50 Pa	3.00
Services	
Domestic Hot Water	Air Source Heat Pump
SCOP	3.5
Storage (L)	3000
Space Heating	FOH: VRF - SCOP 4.5 SEER - 5.5
	Bedrooms/Studios/Kitchens: Electric Heating - SCOP: 1
Ventilation	Mechanical Heat Recovery
	Specific Fan Power FOH – 0.8W/l/s
	Specific Fan Power Rooms – 0.8 W/l/s
	Heat Recovery 85%
Lighting	134 LM/W
Occupancy Sensors	Auto On/Off – Circulations and FOH Manual – Apartments and Studios
Photovoltaics	438m^2 across both phases

waterman

Results

The following results have been provided on the draft model geometry provided by Cartwright Pickard, and MEP settings provided by Waterman Building services. Both phases achieve a 6% carbon reduction over Part L 2021.

Building	BER	TER
Phase 1	2.85	3.04
Phase 2	2.44	2.62

The BRUKL output reports have been captured in this report to show total emissions reductions and end use energy consumption. It is important to note that the current results are subject to change prior to planning submission.

BRUKL Output Document HM Government
Compliance with England Building Regulations Part L 2021

Project name

Cambridge Halls PBSA Phase 1 v2 As designed

Date: Fri Feb 07 16:36:01 2025

Administrative information

Building Details
Address: Address 1, Manchester, Postcode

Certifier details
Name: Hannah Ireland
Telephone number: 02079287888
Address: Pickfords Wharf, Clink Street, London, SE1 9DG

Certification tool
Calculation engine: Apache
Calculation engine version: 7.0.26
Interface to calculation engine: IES Virtual Environment
Interface to calculation engine version: 7.0.26
BRUKL compliance module version: v6.1.e.1

Foundation area [m^2]: 981.62

The CO_2 emission and primary energy rates of the building must not exceed the targets

Target CO_2 emission rate (TER), $kgCO_2/m^2$.annum	3.04	
Building CO_2 emission rate (BER), $kgCO_2/m^2$.annum	2.85	
Target primary energy rate (TPER), kWh_{PE}/m^2.annum	32.5	
Building primary energy rate (BPER), kWh_{PE}/m^2.annum	30.57	
Do the building's emission and primary energy rates exceed the targets?	BER =< TER	BPER =< TPER

Energy Consumption by End Use [kWh/m^2]

	Actual	Notional
Heating	3.65	4.64
Cooling	0.3	0.24
Auxiliary	7.18	3.18
Lighting	6	7.52
Hot water	5.05	6.37
Equipment*	25.27	25.27
TOTAL**	**22.17**	**21.94**

* Energy used by equipment does not count towards the total for consumption or calculating emissions.
** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m^2]

	Actual	Notional
Photovoltaic systems	1.61	0.12
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
Displaced electricity	*1.61*	*0.12*

Energy & CO_2 Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m^2]	35.77	46.47
Primary energy [kWh_{PE}/m^2]	30.57	32.5
Total emissions [kg/m^2]	2.85	3.04

Figure 4: Phase 1 BRUKL output

waterman

BRUKL Output Document

HM Government

Compliance with England Building Regulations Part L 2021

Project name

Cambridge Halls PBSA Be Green As designed

Date: Tue Dec 17 12:03:21 2024

Administrative information

Building Details

Address: Address 1, Manchester, Postcode

Certifier details

Name: Davey McElwee

Telephone number: Phone

Address: Street Address, City, Postcode

Certification tool

Calculation engine: Apache

Calculation engine version: 7.0.26

Interface to calculation engine: IES Virtual Environment

Interface to calculation engine version: 7.0.26

BRUKL compliance module version: v6.1.e.1

Foundation area [m^2]: 780.13

The CO_2 emission and primary energy rates of the building must not exceed the targets

Target CO_2 emission rate (TER), $kgCO_2/m^2$annum	2.62	
Building CO_2 emission rate (BER), $kgCO_2/m^2$annum	2.44	
Target primary energy rate (TPER), kWh_{PE}/m^2annum	28.05	
Building primary energy rate (BPER), kWh_{PE}/m^2annum	26.19	
Do the building's emission and primary energy rates exceed the targets?	BER =< TER	BPER =< TPER

Energy Consumption by End Use [kWh/m^2]

	Actual	Notional
Heating	2.88	3.96
Cooling	0.27	0.2
Auxiliary	4.8	2.09
Lighting	5.28	7.07
Hot water	4.92	5.75
Equipment*	23.67	23.67
TOTAL**	**18.14**	**19.05**

* Energy used by equipment does not count towards the total for consumption or calculating emissions.
** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m^2]

	Actual	Notional
Photovoltaic systems	0.53	0.23
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
Displaced electricity	*0.53*	*0.23*

Energy & CO_2 Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m^2]	21.3	33.72
Primary energy [kWh_{PE}/m^2]	26.19	28.05
Total emissions [kg/m^2]	2.44	2.62

Figure 5: Phase 2 BRUKL output

Approved Document O and Overheating Conclusions

The development adheres to ADO through using natural ventilation with minimum free areas included in initial modelling. Testing has shown that the development can still adhere to ADO with windows closed at night if mechanical ventilation is added.

Part L Compliance Conclusion

The current energy strategy shows compliance with Part L 2021 and Manchester City Council through a fossil fuel free approach, low energy lighting and renewable energy incorporated. Both phases show a carbon reduction through a fabric first approach and a sustainable design.

12.0

Management

12.1 Management Plan



Student Management Plan
Cambridge Hall
April 2025

UNITE STUDENTS

Student Management Strategy

This document outlines how the development at Cambridge Halls will be managed and maintained to ensure the wellbeing of its occupants and that the development is operated in such a manner that it has a positive impact on the whole area in which it is located.

How do we do it?

Training

All our staff are given in-depth training of their roles. Training is undertaken at Unite's Head Office by in house teams with support from external consultancies. Continual professional development is incorporated in every employee's job description.

Maintenance

We maintain our properties. This is important in providing the right environment at all times. All property queries are dealt with by our facilities management team. Housekeeping staff ensure that all communal areas are well looked after. Our landscaped areas and amenity terraces are also maintained by our own teams.

Student Experience

Being a student isn't all about studying. There is the student experience to enjoy - being independent for the first time, making friends that can last a lifetime, living in a city environment with academic and cultural experiences to share. Although arranging social nights is undertaken by our management team, having the opportunity to socialise without having to 'go out' is also important. With our large combined common room, lobby and social facilities, we ensure there are lots of ways to get together, without spending too much. Most private rented sector housing cannot offer these social spaces or the experience.

Student Welfare

As part of our student well-being, we offer a sign posting service to our students, so regardless of whether they need financial or emotional support, they know where they can

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go for help. We work in partnership with our Universities and wider communities to ensure these relationships are aligned and are of value to our students. Our 24/7 in-house Emergency Contact Centre ensures there is always someone there when a student or concerned family member needs us. Our phonelines operate 24/7, 365 days a year and are staffed by a specially trained team who are often first point of contact and support for students on a broad range of issues.

Research

Understanding what our students want is very important for us. We undertake a number of surveys throughout the year to assess different aspects of the student life. We also ask whether we are doing things well or if there are areas that could improve.

Community Liaison

Community discussions will be undertaken before and during the construction phase. Unite's contractor will be registered under the Considerate Constructors Scheme and will work according to the relevant Code of Construction Practice. The property will have contact details of the management team and a 24/7 contact number available for local residents. Unite Students will continue engagement with local residents and business groups to ensure all concerns and issues are dealt with quickly. Regular meetings will be arranged during the construction phase and will continue quarterly, when the building is operational. All complaints will be dealt as a matter of urgency. The Operations Manager will take responsibility in reviewing concerns directly with student or neighbours.

Breach of Agreement

In the event of any breach of tenancy, Unite Students will in the first instance understand the issues and agree a way forward to resolve the problem. If after the agreed set period of time this is not resolved, a further meeting would be undertaken if needed. However, if a satisfactory position is not agreed, the tenancy will be terminated.

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Website

There are further details regarding Unite Students that cover Communities, Social Impact and Student welfare. For more information, please visit Unite Group's corporate website www.unite-group.co.uk or the Unite Students' site www.unitestudents.com.

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Cambridge Hall

Student Housing Management Plan

The Residence will be managed by Unite Students, to create a safe, clean well-run environment for its occupants, which respects their need for privacy and study.

The Residence and its occupants (the students) acknowledge and respect the rights of adjoining residents and businesses to a quiet life and will work to ensure that these rights are not compromised by their actions.

1. Residence Management.

The Residence will ensure:

- That all staff are aware of its obligations to occupants and the wider community and conduct themselves professionally at all times.
- That any contracted service provider or supplier is a reputable supplier who is, where relevant, fully qualified, and adequately insured and will act in a professional and courteous manner whilst at the Residence.
- That lost keys, swipe cards or other access tools are replaced as soon as possible after notification at an adequate charge in accordance with the Licence governing occupation.
- Unite operate a 24/7 operational model throughout our estate and therefore there will be a Unite employee based at reception at all hours.
- That all parcels are delivered to the parcel room located next to reception. The parcel is placed in the parcel room and a notification email is sent to the relevant person residing in the property. All mail will be posted in the post boxes which will be within the reception area.

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- All food deliveries, including groceries and takeaways, will be delivered to the relevant block and the courier or delivery person will contact the resident directly to arrange collection. Clear signage will be presented at each block entrance.
- All occupants are provided with a statement of what the Residence will provide for them and what the Residence expects of them in return.
- All occupants are provided with a Travel Information Pack on arrival which includes local public transport information and details on walking and cycling routes to and from the University.

2. Accessibility Management Plan (AMP)

The Unite Students Booking System identifies early on if a student requires support. As bookings are made at least two weeks in advance of any allocation, there is sufficient time for Unite Students to manage any alterations as maybe required. The Unite Students website allows for viewing of properties and will include the accessible offer at this property.

- Should the requirement for an accessible room exceed the specified rooms available, then Unite will make the necessary adaptions to the adaptable rooms, in line with the student's requirements.
- The adaptations will be undertaken at a minimum, within a week of a booking confirmation that a student wishes to take up a place at our property. However, the earlier there is notification, the earlier the adaptations would be undertaken. Check in will continue in the normal way after the room adaptations have been finished.
- The management team within the property will be advised of specific requirements that maybe necessary to ensure safety and evacuation processes are tailored to the student. All students are able to discuss their Personal Emergency Evacuation Procedure as required with the specific management team in the building.
- All emergency cords within the room are linked to the 24/7 365days, Unite Students operational communications centre.

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- There are 17 lifts in total, which provide access to each floor within the scheme. In all cases, Unite Students have a 2-hour Service Level Agreement with our lift operators to ensure immediate response to any lift failure.
- Unite Students regularly monitor our service to all our students (regardless of disability) and survey them for information / feedback to ensure we are providing what they want. Our operations team will keep track of the AMP as they will be implementing it on a day-to-day basis.
- There are XX accessible parking bays along Chatham Street. Should there be a need for more than what is available, then a solution will be sourced by the General Manager (GM) prior to the student's arrival.
- Apart from the aforementioned accessible bays, this is a car free development. This will be made clear prior to occupants moving in and will be enforced by Unite Staff.

3. Maintenance

The Residence will ensure:

- That the interior and exterior of the building is kept clean and tidy and that any graffiti or rubbish is removed as quickly as possible.
- Regular inspection of the rendered façade within the courtyards will be conducted and any discoloration will be rectified.
- That any damage or defect notified to the GM will be repaired as soon as possible by reputable professionally qualified service providers.
- That all accommodation will be clean, safe, and secure.
- That all fixtures and fittings will comply with relevant statutory obligations and that all fixtures and fittings requiring periodic inspection will be so inspected by properly qualified service providers.
- That all common facilities are kept clean and in a good state of repair and that all common fixtures comply with relevant statutory obligations and that those that require periodic inspection will be inspected by properly qualified service providers.

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- That the common areas and building structure are properly maintained by means of a rolling programme of Planned Preventative Maintenance and that common areas are redecorated as often as is necessary.
- That any maintenance work carried out as described above will be undertaken by reputable professionally qualified service providers in compliance with Health and Safety legislation, relevant industry best practise guidelines and with due regard to minimising any temporary interruption of the amenities that either occupants or adjoining residents enjoy.
- That any deficient fixtures and fittings within occupants' rooms are repaired or replaced as soon as possible following notification through our maintenance reporting platform.
- All regular maintenance will be undertaken where possible during working hours to minimise disruption to neighbouring residents. Any emergency maintenance will be undertaken under supervision of Management staff. All entries and exits will be monitored.

4. External Maintenance

The Residence will ensure:

- That all external managed landscaped areas are kept swept and free of litter, weeds and other rubbish.
- That the Residence presents at all times a neat, orderly appearance and that any external signage is kept clean and legible.

5. Housekeeping and Servicing.

The Residence will ensure:

- That all internal and external common parts, fixtures, and fittings are kept clean and free of rubbish and waste.
- That all fixtures, fittings, and common area facilities are deep cleaned at least annually.

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- That all occupants' rooms, together with such of their contents as are provided by the Residence are deep cleaned at least annually.
- That all emergency damage, spills, or incidents are dealt with as soon as possible after notification through the maintenance reporting platform.
- That clearly marked areas for the storage of rubbish are available and that their location is advised to all occupants.
- That all rubbish is stored safely and collected twice weekly and that all waste storage areas are disinfected / treated as often as necessary to prevent undesirable odours, rodent or pest infestation.
- That commercial contactless operated washing machines and driers are available at all times within the Residence and that the cost of operation of these machines is kept at a competitive level.

6. Deliveries and Collections

- Deliveries will be accepted between 07.00 and 21.00, Monday to Saturdays and 10.00 to 16.00 on Sundays and Bank Holidays.
- All parcel deliveries will be to the Smart Parcel Room at the main reception, located at the nearest point to the entrance on Chatham Street.
- The delivery of perishables, including local takeaway and supermarket deliveries will be direct to the occupant at each block entrance located on the perimeter shared surface during the agreed hours in which the barriers are up.
- The residents will be encouraged to request supermarket deliveries together with their fellow occupants to minimise the number of deliveries each week.
- Waste collection will be allowed between 07.00 and 18.00 unless an alternative time has been agreed with the Council or private waste contractor.

7. Check in and Check out

- 'Dropping off' restrictions will be enforced during enrolment and at year end.

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UNITE STUDENTS

- Prior to arrival, correspondence including a map, is sent to all customers advising them on access to the property, their arrival time slot, parking arrangements whilst unloading cars, and subsequent parking once cars have been unloaded.
- All tenants will be informed of the check-in information and instruction prior to arrival via email, social media, and Unite Students app.
- Unite will advise the local Highways Department of the arrival and departure dates and provide a contact name and number in the event that the Highways Department needs to contact them.
- Unite will continue to liaise with the Council, the Universities, and local businesses on a regular basis to inform all parties of key dates and arrival procedures.
- Whilst students will be encouraged to arrive by coach or train, 20-minute timeslots will be made available between the hours of 8.00 and 20.00 (12 hours) and over a number of days. Each student will have the opportunity to move in up to seven days before the tenancy start date at no extra charge.
- The students will book their 20-minute arrival slot through the MyUnite app, up to 3 weeks prior to arrival. The onsite team will manage the arrival schedule, with a maximum of 10 slots per 20 minutes.
- Loading and unloading will take place from the proposed laybys located on the perimeter shared surface within the development.
- At the main access points, there will be Unite staff directing customers to ensure that local traffic flows are not interrupted. Arrangements will also be made with local businesses and car parks regarding traffic management.
- Marshals will wear Unite uniforms and hold CSAS accreditation if they are required to direct on the public highways. All staff working on car parking will wear high visibility jackets.
- After unloading, cars will be redirected for additional long stay parking, if required, by parents of students for longer stay periods.
- At the end of the tenancy period many customers rebook for the following year thus reducing check out traffic as these customers will keep the same room and therefore

not need to leave the property. Unite properties also attract a number of overseas students who find it beneficial to stay in one property for the full duration of their academic career, again reducing the number of customers checking out after just one year.

- Additionally, at the end of the year, although tenancy periods will end formally on the same day, students will often leave once their examination results are known and these will be announced to varying timetables. Any major traffic or parking disruption during check out is minimal.
- During marketing for prospective tenants in the next academic year, a computerised appointment system will be in operation for viewing properties so avoiding large numbers arriving or parking at the same time.

8. Cycle Storage

- There are a number of cycle stores, both internal and external of the development.
- Occupants that require the use of a cycle store will have their fob/card updated to allow access.
- At the time of this management plan being finalised, the use of e-bikes and scooters is prohibited in accordance with the tenancy terms and conditions.
- Visitor cycle storage is available and situated in close proximity to a number of the student cycle stores.

9. Onsite maintenance (including student maintenance requests)

- Work (other than emergency work) will be carried out to the building between 08.00 to 18.00, Monday to Friday and 08.00 to 13.00 Saturday (i.e. not on Sundays/Bank Holidays) unless this is, for practical reasons, not possible.
- Where access is required for routine inspections, Unite will confirm the purpose and give at least 24 hours' notice to the resident.
- Unite will provide information to the resident on how to report and repair/maintenance issues via a dedicated app. Details on how to download and use the app will be issued within the welcome pack, available prior to arrival.

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- Access to the student living spaces will be planned between 09.00 and 18.00, with strictly no requests before 09.00.

10. Security and Safety

The Residence will ensure:

- This site will have a 24-hour presence on site with management and security staff monitoring the entrances and courtyard levels at various times during the day and night.
- Should there be an issue in contacting the Unite onsite team, the resident should refer to the MMU security team, with contact details to be available at reception.
- That all external access points are adequately secured and monitored to prevent unwanted/unauthorised entry.
- That any breach of security or any other incident or emergency is investigated as soon as notified to the GM and the appropriate authorities advised if relevant. The GM will log all such incidents and will keep all parties updated until the incident is closed.
- That the Residence will install and operate a CCTV system covering the common parts and exterior of the Residence.
- That all Fire Escape routes are kept adequately signed and free from obstruction at all times.
- That all fire alarms are tested at least as often as is statutorily required and that evacuation drills are carried out in accordance with statutory provision.
- Access to the external amenity on level 6 will be restricted to daylight hours and at the discretion of the GM. Noise and/or any form of disruption will be closely monitored whilst capacity will be restricted in line with Health and Safety instruction.
- As part of the welcome, all students will be notified on how they should respond in the event of a fire alarm activation. In addition to this, every bedroom door will have a fire safety notice, guiding them to the closest means of escape and muster point.

11. Services Provided to Occupants.

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The Residence will provide occupants with:

- A clean, warm, comfortably equipped room with sanitary and shower facilities.
- Safe, secure common areas.
- Electricity and water supplies. Any loss of supply will be rectified as soon as possible after notification to the GM.
- Subject to the terms of the Licence, privacy, safety, and a quiet environment in which to pursue studies.

12. What the Residence expects of Occupant

In return the Residence requires that occupants:

- Comply with the terms of the occupational Licence. Behaviour which breaches these terms and is not addressed, will eventually result in eviction from the Residence.
- Respect the GM and other Residence staff and comply with any reasonable requests that they may make of you from time to time.
- Respect the right of adjoining residents to a quiet life and behave accordingly.
- Refrain from any activity that might cause nuisance or give rise to complaints by adjoining residents or the general public.

13. Community Liaison: Responsibilities & Procedures

The Residence will ensure that:

- Contact telephone numbers will be displayed in the main foyer of the Residence and will be available for legitimate use by occupants and adjoining residents.
- A responsible member of staff will be available, within reason, at the Residence outside normal working hours.

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- That a representative of the Residence's Owner will be available on reasonable notice during normal office hours to meet with and discuss any concerns which adjoining residents may have in relation to the operation of the Residence.
- Details for MMU's Police Liaison Officer will be presented within the foyer along with any additional details deemed necessary.
- Unite Students and MMU will arrange a quarterly meeting with representatives of the Resident's association to review any ongoing areas of concern.

14. Complaints:

- Any complaints or comments about the residence or its students should be made to the GM, or responsible member of staff at the residence, in writing.
- Any complaints received will be dealt with in a timely and courteous manner, and that the person who made the complaint will be notified of the action taken, or response made to their complaint if they ask to be informed of the outcome.
- Noise complaints will be regarded as a serious breach of tenancy and can lead to eviction.

15. Waste and Recycling Management

- **Cleaning Policy**

The property will be cleaned to a standard cleaning specification and the Housekeeping team undergo comprehensive training. Communal areas including stairwells are cleaned at least weekly, whilst all cleaning within the student flat is the responsibility of the occupant. There will be a termly inspection of each flat by the onsite team to ensure acceptable standards are being maintained. At the end of each tenancy period, tenants are again expected to leave the property in a reasonable condition but a full deep clean including carpet, curtains, windows, cooking appliances, kitchens and bathrooms is carried out by Unite before occupation by the next tenant.

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Student derived waste is domestic in nature and as a result of Unite Students studies based on actual amounts of waste generated by students, a standard number of refuse containers are provided to all properties. Collections at this site will be undertaken twice a week, with General Waste, Dry Mixed Recycling and Glass segregated. The refuse stores are located around the perimeter of the development, which the students will transfer their waste to from their designated block. Any misuse of the refuse stores or failure to comply with the waste strategy will be managed by the onsite team.

- **Recycling Policy – internal**

Unite actively ensures that all flats have adequate recycling facilities to aid separation of waste by the students. All waste storage will be located in the kitchen area, with a smaller waste bin in the bedroom. All waste is collected as per the arranged refuse collection timetable. These timetables are located in each flat with instructions for the separation of recycling waste as outlined below.

These bags and/or boxes are used to carry the separated waste to the recycling bins in the bin store. The bin stores have sufficient number of recycling bins to store the separated waste. The recycling bins are approximately 1100 litre large refuse containers.

Should there be a requirement from the resident for clinical waste provision and collection along with any further adaptions, this will be arranged by the GM prior to arrival.

- **Grounds maintenance**

Grounds maintenance will be carried out by the property maintenance and housekeeping teams who will undertake a daily check, clean, weekly sweep and rubbish removal, and periodic seasonal gardening.

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- **Pest control**

Regular building inspections include checks for evidence of pests, and contracts are in place with national service partners for reactive pest control. Cleaning and waste management regimes also form an important part of infestation control in all properties.

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13.0

Summary

13.1 Summary

Executive Summary

This proposal has been driven from the outset by its context and a drive to create the next generation in sustainable purpose built student accommodation. Through thorough analysis of the site and regular dialogue with MCC we believe our proposal will be a positive addition to the area, working harmoniously with the historic fabric of the Man Met University All Saints Campus and the local community of Hulme, but also as a striking, contemporary intervention in the developing Man Met masterplan.

We aim to create buildings of high architectural quality with a strong attention to detail - they will be carefully crafted but also robust, durable and will age gracefully - utilising the latest off site methodologies to achieve excellent standards of construction as well as reducing disruption to the city.

The student accommodation will be of the highest standards, with health, well-being and sustainability at its core. An engaging and activated frontage onto Cambridge Street will engage with the wider community. The flexible units and public pocket park will bring life and public facing uses to animate the public face. A high quality public realm will create a public pedestrian focussed route directly through the development. Courtyards and roof top amenity provide quality external space for the tenants. A highly glazed facade onto Chatham Street and front doors facing the Campus will signpost the primary addresses for the residents.

By encouraging footfall along Cambridge Street and maximising the extent of active frontage around the building we believe our proposal will add real vibrancy to the surrounding streets.

This proposal will also play a key role within the wider vision for the University as it increases the student residences directly within the campus, promoting a sustainable student community, but also engages with the wider neighbourhood by providing much needed community facilities and retail opportunities.



14.0

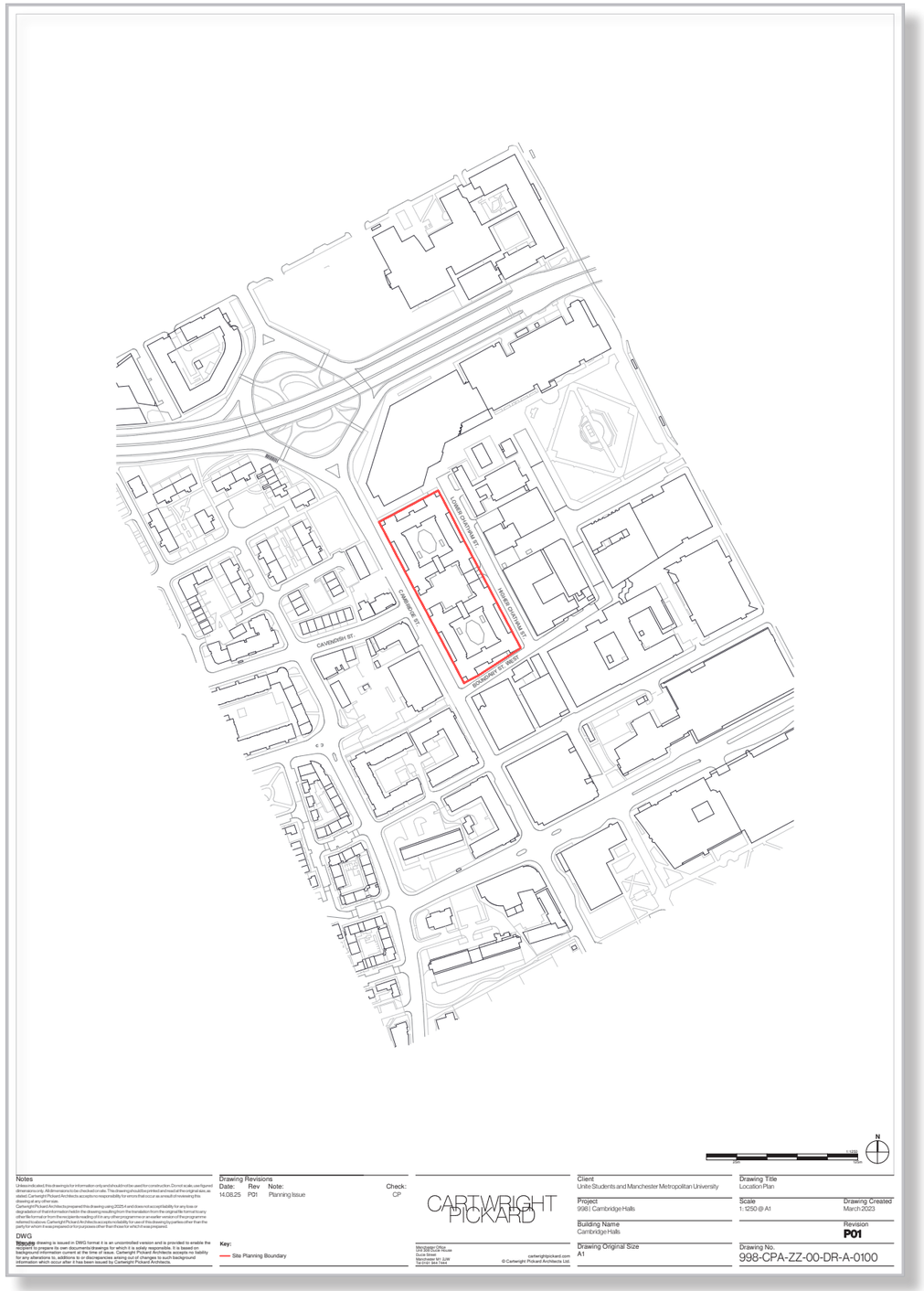
Appendix

14.1 Architect's Drawing List

Planning Drawings

Name	No.	Scale	Size	Revision	
(01-Site)					
Location Plan	0100	1:1250	A1	P01	998-CPA-ZZ-00-DR-A-0100
Site Plan - Existing	0110	1:500	A1	P01	998-CPA-ZZ-00-DR-A-0110
Site Plan - Demolition	0111	1:500	A1	P01	998-CPA-ZZ-00-DR-A-0111
Site Plan - Proposed	0112	1:500	A1	P01	998-CPA-ZZ-00-DR-A-0112
Site Plan - Phasing	0113	1:500	A1	P01	998-CPA-ZZ-00-DR-A-0113
Site Plan - Existing - Topograpl	0114	1:500	A1	P01	998-CPA-ZZ-00-DR-A-0114
Site Plan - Fire Service	0115	1:500	A1	P01	998-CPA-ZZ-00-DR-A-0115
(02 - Plans)					
Basement	0220	1:200	A1	P01	998-CPA-ZZ-B1-DR-A-0220
Ground Floor	0221	1:200	A1	P01	998-CPA-ZZ-00-DR-A-0221
Level 01	0222	1:200	A1	P01	998-CPA-ZZ-01-DR-A-0222
Level 02	0223	1:200	A1	P01	998-CPA-ZZ-02-DR-A-0223
Level 03	0224	1:200	A1	P01	998-CPA-ZZ-03-DR-A-0224
Level 04	0225	1:200	A1	P01	998-CPA-ZZ-04-DR-A-0225
Level 05	0226	1:200	A1	P01	998-CPA-ZZ-05-DR-A-0226
Level 06	0227	1:200	A1	P01	998-CPA-ZZ-06-DR-A-0227
Level 07	0228	1:200	A1	P01	998-CPA-ZZ-07-DR-A-0228
Level 08	0229	1:200	A1	P01	998-CPA-ZZ-08-DR-A-0229
Level 09	0230	1:200	A1	P01	998-CPA-ZZ-09-DR-A-0230
Level 10	0231	1:200	A1	P01	998-CPA-ZZ-10-DR-A-0231
Level 11	0232	1:200	A1	P01	998-CPA-ZZ-11-DR-A-0232
Level 12	0233	1:200	A1	P01	998-CPA-ZZ-12-DR-A-0233
Level 13	0234	1:200	A1	P01	998-CPA-ZZ-13-DR-A-0234
Level 14	0235	1:200	A1	P01	998-CPA-ZZ-14-DR-A-0235
Level 15	0236	1:200	A1	P01	998-CPA-ZZ-15-DR-A-0236
Level 16	0237	1:200	A1	P01	998-CPA-ZZ-16-DR-A-0237
Level 17	0238	1:200	A1	P01	998-CPA-ZZ-17-DR-A-0238
Level 18	0239	1:200	A1	P01	998-CPA-ZZ-18-DR-A-0239
Level 19	0240	1:200	A1	P01	998-CPA-ZZ-19-DR-A-0240
Level 20	0241	1:200	A1	P01	998-CPA-ZZ-20-DR-A-0241
Level 21	0242	1:200	A1	P01	998-CPA-ZZ-21-DR-A-0242
Level 22	0243	1:200	A1	P01	998-CPA-ZZ-22-DR-A-0243
Level 23	0244	1:200	A1	P01	998-CPA-ZZ-23-DR-A-0244
Level 24	0245	1:200	A1	P01	998-CPA-ZZ-24-DR-A-0245
Level 25	0246	1:200	A1	P01	998-CPA-ZZ-25-DR-A-0246
Level 26	0247	1:200	A1	P01	998-CPA-ZZ-26-DR-A-0247
Level 27	0248	1:200	A1	P01	998-CPA-ZZ-27-DR-A-0248
Level 28	0249	1:200	A1	P01	998-CPA-ZZ-28-DR-A-0249
Level 29	0250	1:200	A1	P01	998-CPA-ZZ-29-DR-A-0250
Roof Plan	0251	1:200	A1	P01	998-CPA-ZZ-ZZ-DR-A-0251
(06 - Elevations)					
Site Elevations - Existing	0630	1:500	A1	P01	998-CPA-ZZ-ZZ-DR-A-0630
Site Elevations - Proposed Chatham St. & Cambridge St.	0631	1:500	A1	P01	998-CPA-ZZ-ZZ-DR-A-0631
Site Elevations - Proposed Boundary St. & Service Rd.	0632	1:500	A1	P01	998-CPA-ZZ-ZZ-DR-A-0632
Proposed - Cambridge St.	0633	1:200	A1	P01	998-CPA-ZZ-ZZ-DR-A-0633
Proposed - Chatham St.	0634	1:200	A1	P01	998-CPA-ZZ-ZZ-DR-A-0634
Proposed - Boundary St. & Ser	0635	1:200	A0	P01	998-CPA-ZZ-ZZ-DR-A-0635
Proposed - Link	0636	1:200	A0	P01	998-CPA-ZZ-ZZ-DR-A-0636
(07 - Sections)					
Site - Section AA	0710	1:200	A0	P01	998-CPA-ZZ-ZZ-DR-A-0710
Site - Section BB	0711	1:200	A0	P01	998-CPA-ZZ-ZZ-DR-A-0711
Site - Section CC - Phase 01	0712	1:200	A0	P01	998-CPA-AZ-ZZ-DR-A-0712
Site - Section DD - Phase 01	0713	1:200	A0	P01	998-CPA-AZ-ZZ-DR-A-0713
Site - Section EE - Phase 02	0714	1:200	A0	P01	998-CPA-BZ-ZZ-DR-A-0714
Site - Section FF - Phase 02	0715	1:200	A0	P01	998-CPA-BZ-ZZ-DR-A-0715
Site - Section GG - Phase 02	0716	1:200	A0	P01	998-CPA-BZ-ZZ-DR-A-0716
(08 - Bay Studies)					
Bay Study - Phase 01 - Cambri	0800	1:50	A1	P01	998-CPA-AZ-ZZ-DR-A-0800
Bay Study - Phase 01 - Cambri	0801	1:50	A1	P01	998-CPA-AZ-ZZ-DR-A-0801
Bay Study - Phase 01 - Chathai	0802	1:50	A1	P01	998-CPA-AZ-ZZ-DR-A-0802
Bay Study - Phase 01 - Bounda	0803	1:50	A1	P01	998-CPA-AZ-ZZ-DR-A-0803
Bay Study - Phase 02 - Chathai	0804	1:50	A1	P01	998-CPA-BZ-ZZ-DR-A-0804
Bay Study - Phase 02 - Cambri	0805	1:50	A1	P01	998-CPA-BZ-ZZ-DR-A-0805
(89 - Area Plans)					
Area Plans - GEA	8910		A1	P01	998-CPA-ZZ-ZZ-DR-A-8910
Area Plans - GIA	8911		A1	P01	998-CPA-ZZ-ZZ-DR-A-8911
Area Plans - NIA	8912		A1	P01	998-CPA-ZZ-ZZ-DR-A-8912

14.2 Site Plan - Location Plan



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Drawing Revisions

Date:	Rev	Note:	Check:
14.08.25	P01	Planning Issue	CP

Key:

— Site Planning Boundary

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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Location Plan

Scale
1: 1250 @ A1

Drawing Created
March 2023

Revision
P01

Drawing No.
998-CPA-ZZ-00-DR-A-0100

14.3 Site Plan - Existing



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14.08.25	P01	Planning Issue	CP

Key:

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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Site Plan - Existing

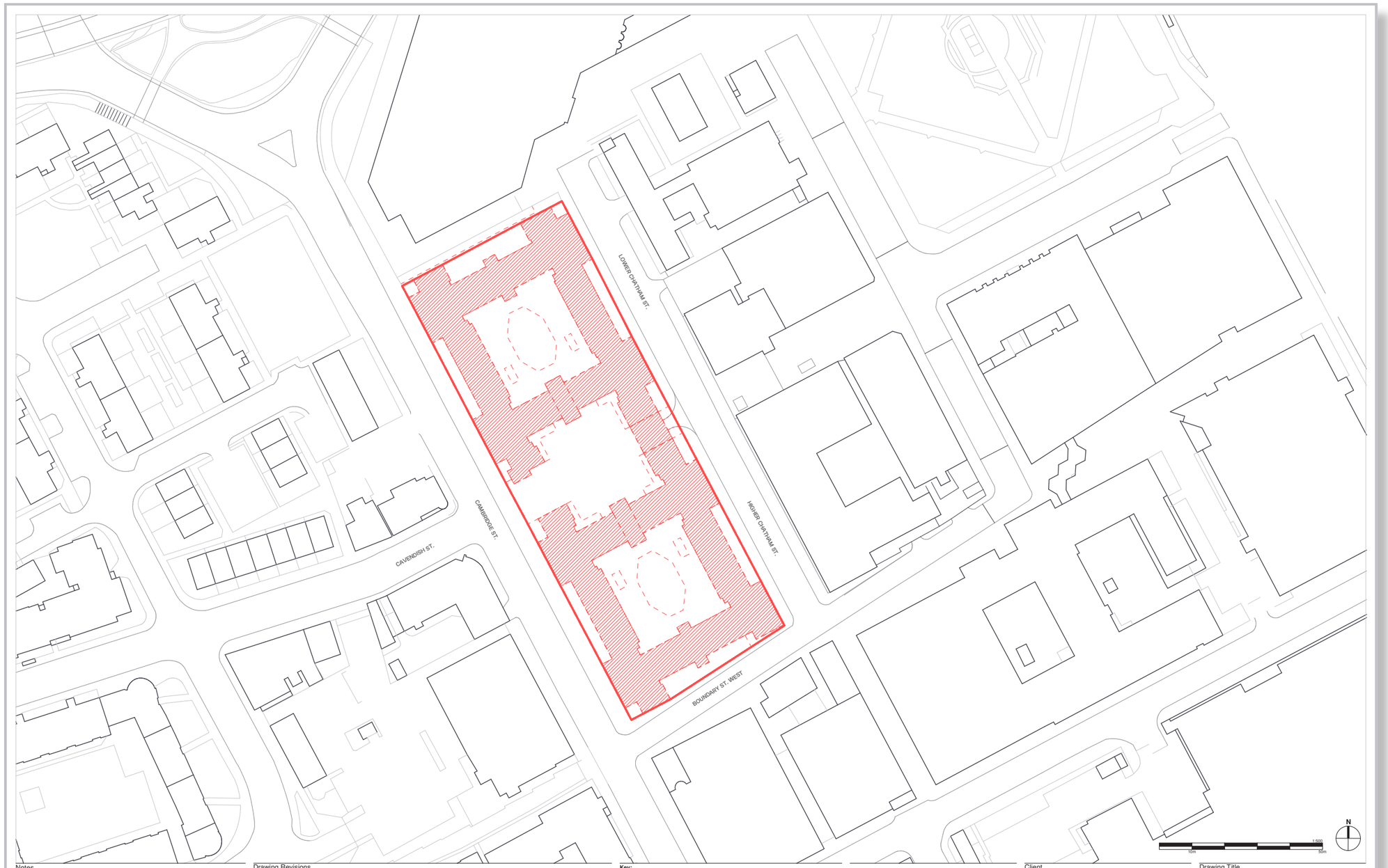
Scale
1:500 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-00-DR-A-0110

14.4 Site Plan - Demolition



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Drawing Revisions

Date:	Rev	Note:	Check:
14.08.25	P01	Planning Issue	CP

Key:

- Site Planning Boundary
- Existing to be demolished

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Client: Unite Students and Manchester Metropolitan University	Drawing Title: Site Plan - Demolition
Project: 998 | Cambridge Halls	Scale: 1:500 @ A1 — Drawing Created: Feb. 2025
Building Name: Cambridge Halls	Revision: **P01**
Drawing Original Size: A1	Drawing No.: 998-CPA-ZZ-00-DR-A-0111

14.5 Site Plan - Proposal



Notes

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Drawing Revisions

Date:	Rev	Note:	Check:
14.08.25	P01	Planning Issue	CP

Key:

- Site Planning Boundary

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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Site Plan - Proposed

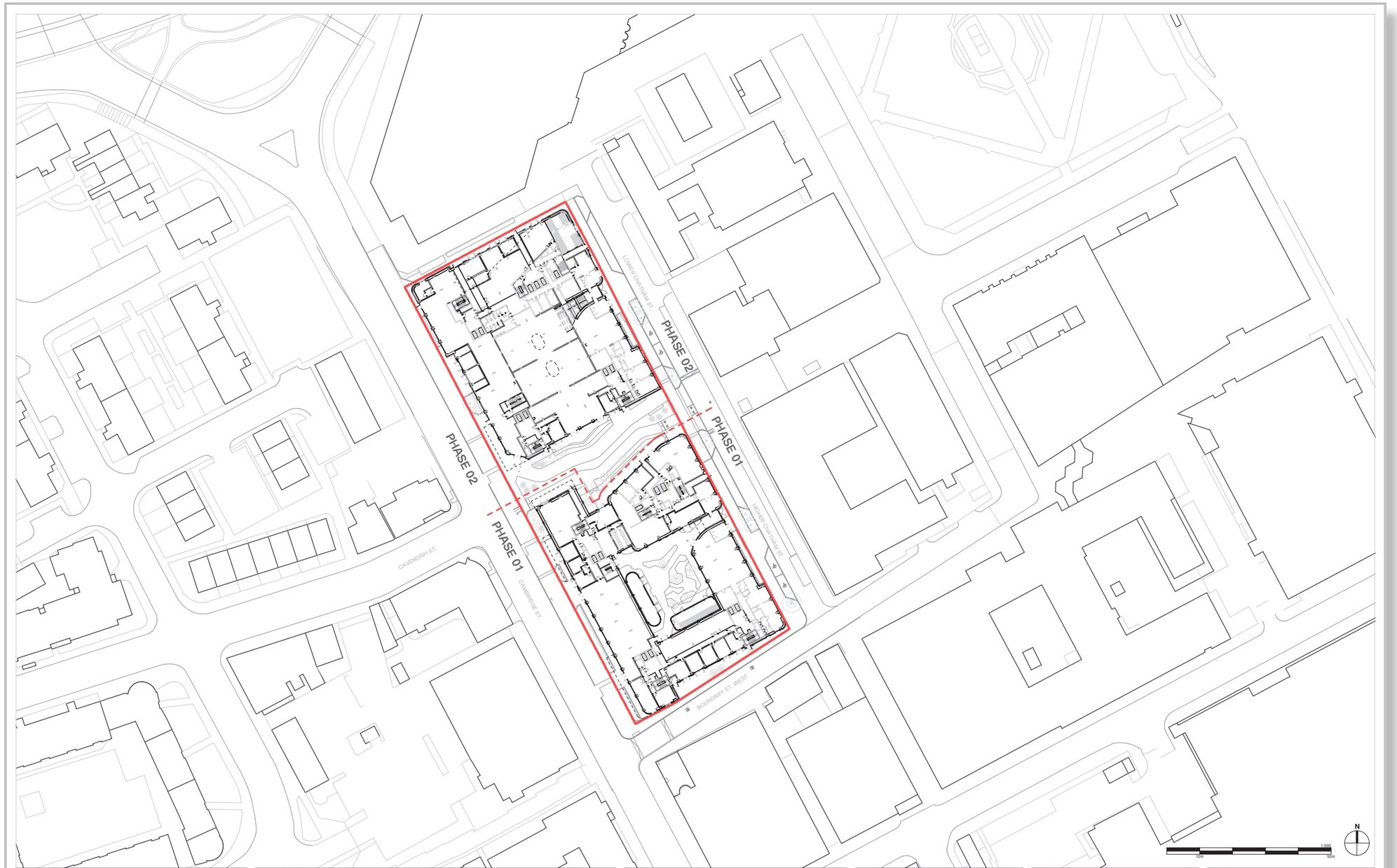
Scale
1:500 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-00-DR-A-0112

14.6 Site Plan - Phasing



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Drawing Revisions

Date:	Rev	Note:
14.08.25	P01	Planning Issue

Check: CP

Key:

Site Planning Boundary

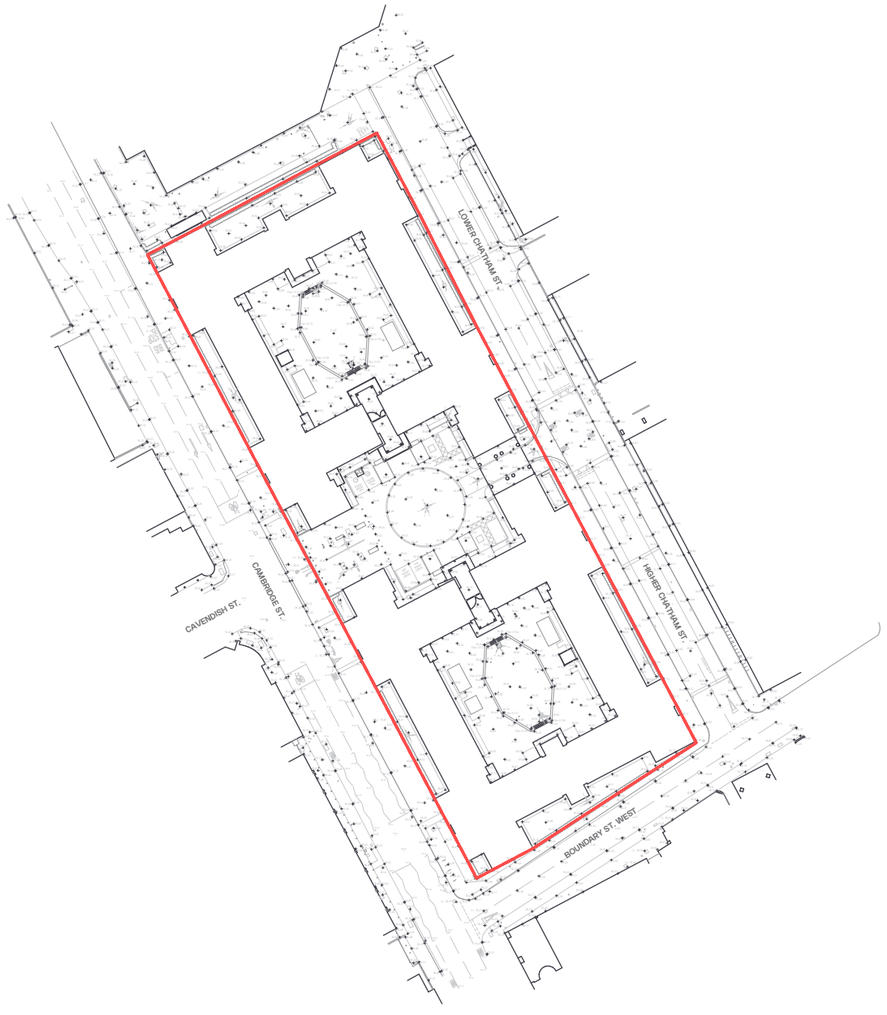
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Client	Unite Students and Manchester Metropolitan University
Project	998	Cambridge Halls
Building Name	Cambridge Halls
Drawing Original Size	A1
Drawing Title	Site Plan - Phasing
Scale	1:500 @ A1
Drawing Created	Feb. 2025
Revision	**P01**
Drawing No.	998-CPA-ZZ-00-DR-A-0113

14.7 Site Plan - Topography



N

1:500
10m 30m

Notes

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Drawing Revisions

Date:	Rev	Note:	Check:
14.08.25	P01	Planning Issue	CP

Key:

— Site Planning Boundary

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Project
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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Site Plan - Existing - Topography

Scale
1:500 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-00-DR-A-0114

14.8 Site Plan - Fire Service



Notes
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Drawing Revisions

Date:	Rev	Note:
14.08.25	P01	Planning Issue

Check: CP

Key:
- Site Planning Boundary
- Emergency vehicle direction of travel
- Firefighting appliance siting
- Water Hydrant location
- WRi Wet Riser Inlet location
- Wet Riser
- Fire Personnel access location
- Firefighting Stairs
- Firefighting Lift
- Firefighting/Evacuation Lift
- LP/TL Existing Lamp Post/Traffic Light location

Note:
- Water hydrant & LP/TL locations based on existing survey information, ref. *24F253/001*, received Sept. 2024

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Project
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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Site Plan - Fire Service

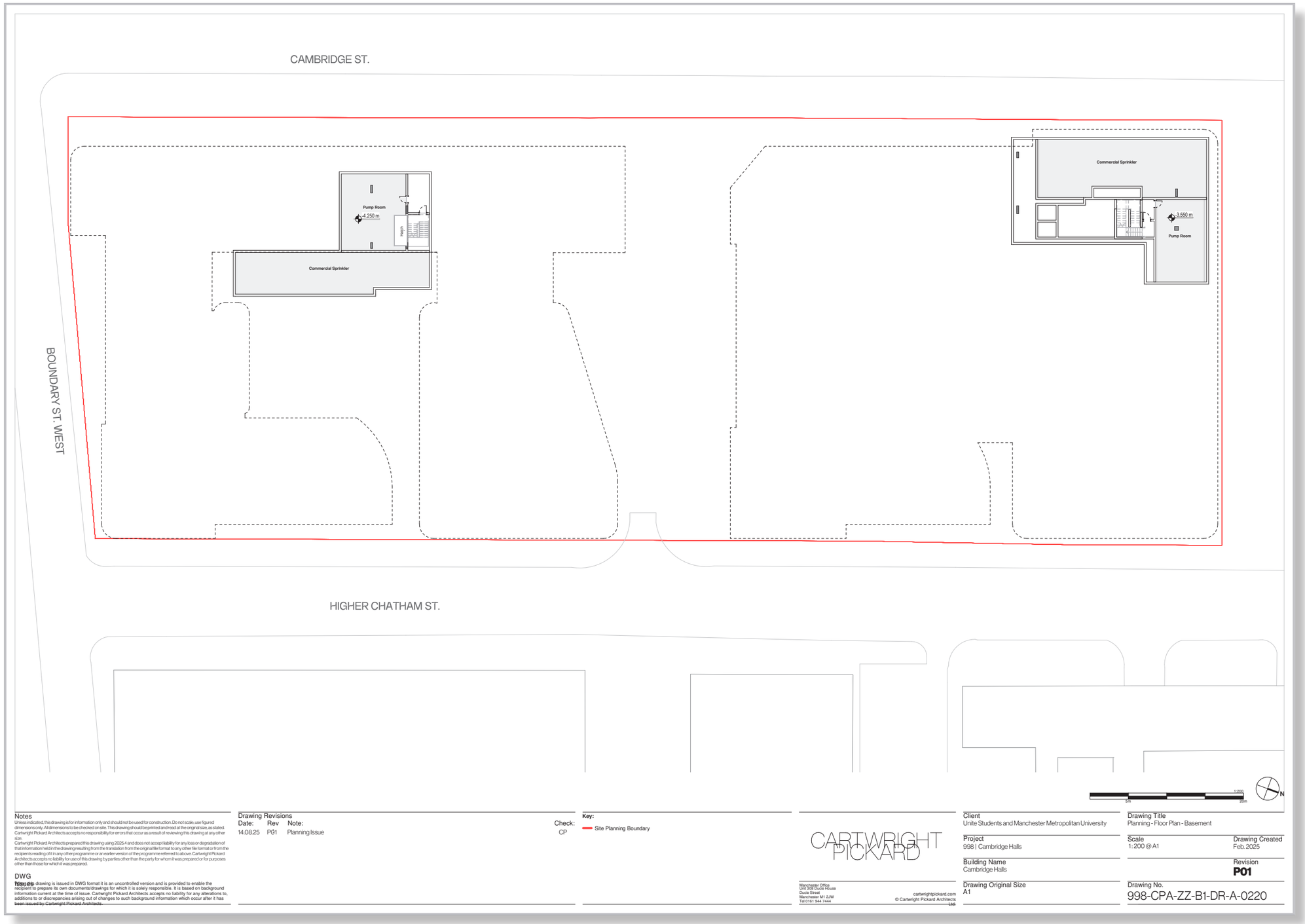
Scale
1:500 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-00-DR-A-0115

14.9 Floor Plan - Basement



Notes

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Drawing Revisions

Date:	Rev	Note:
14.08.25	P01	Planning Issue

Check:
CP

Key:

- Site Planning Boundary

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Client
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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Basement

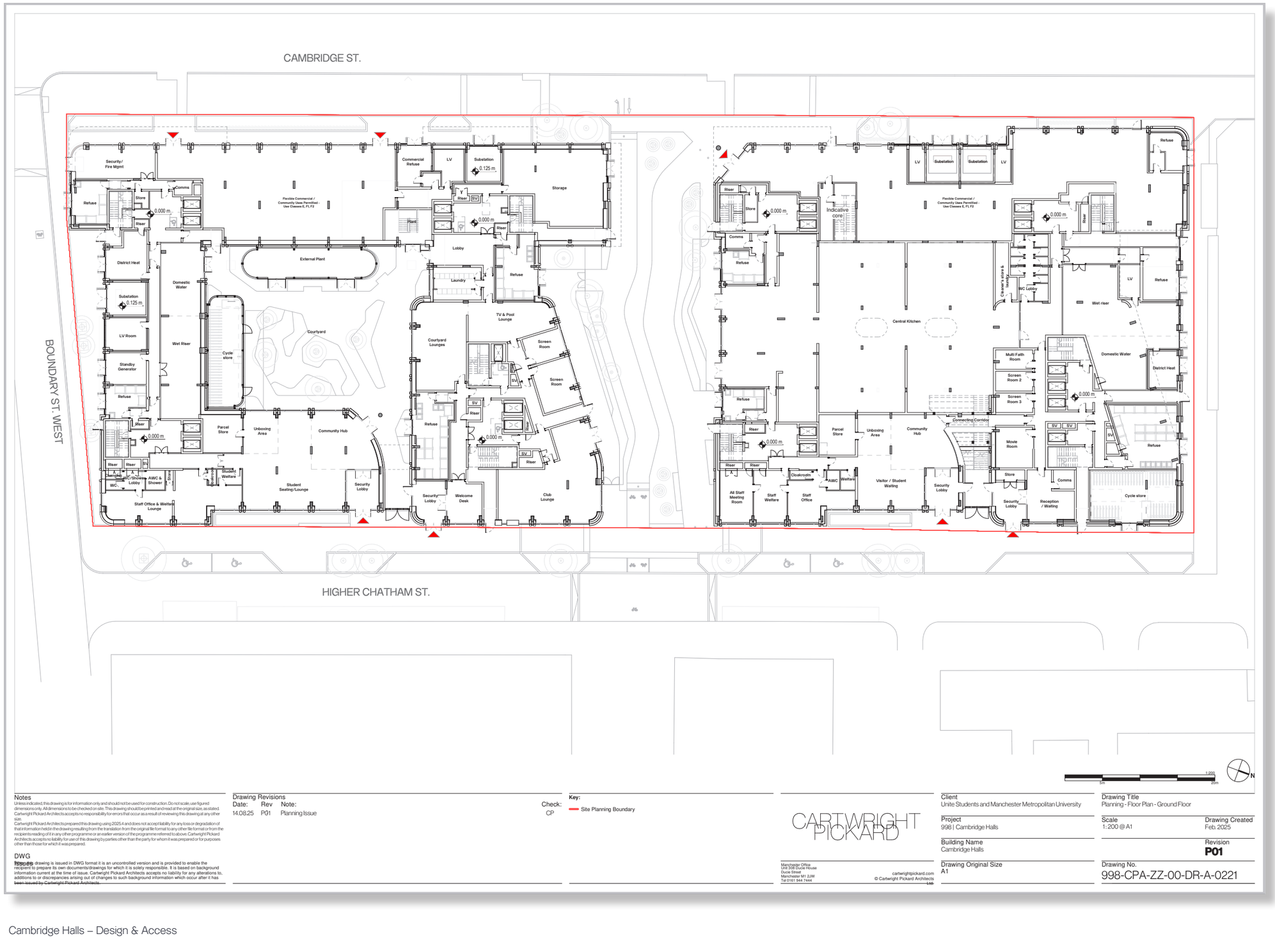
Scale
1:200 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-B1-DR-A-0220

14.10 Floor Plan - Ground Floor



Notes

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Drawing Revisions

Date:	Rev	Note:
14.08.25	P01	Planning Issue

Check: CP

Key:

- Site Planning Boundary

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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Ground Floor

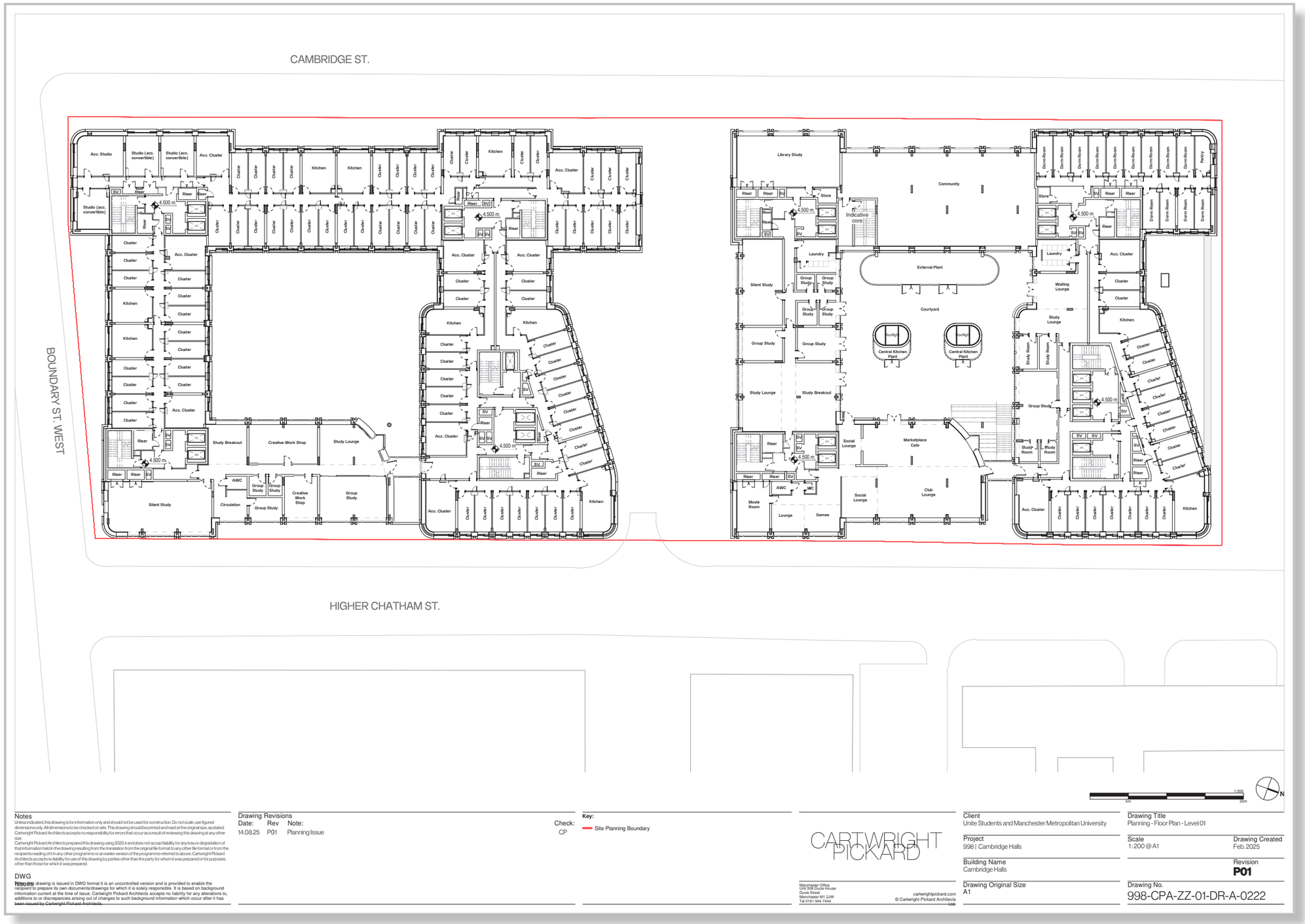
Scale
1:200 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-00-DR-A-0221

14.11 Floor Plan - Level 01



Notes

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Client: Unite Students and Manchester Metropolitan University

Project: 998 | Cambridge Halls

Building Name: Cambridge Halls

Drawing Original Size: A1

Drawing Title: Planning - Floor Plan - Level 01

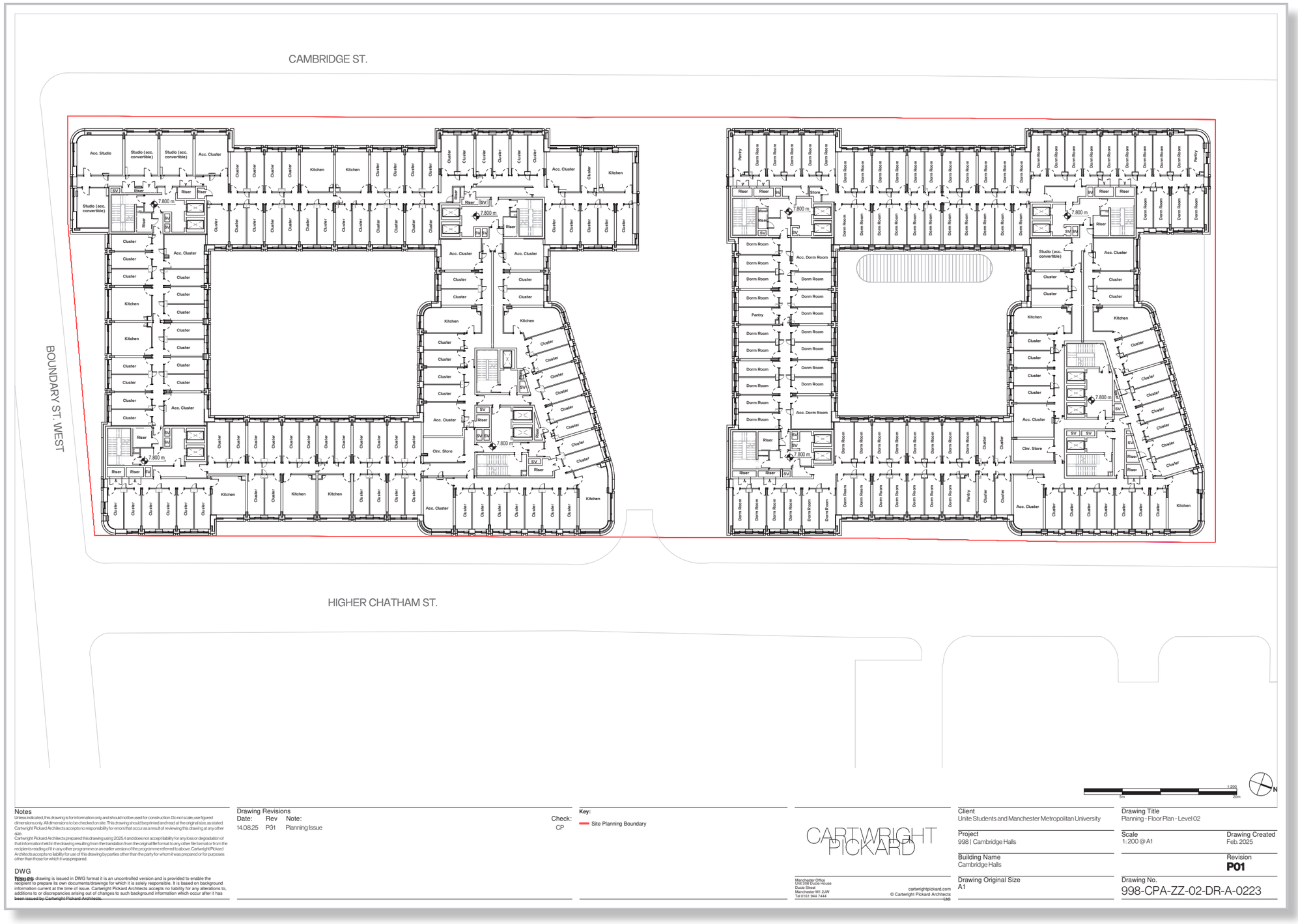
Scale: 1: 200 @ A1

Drawing Created: Feb. 2025

Revision: **P01**

Drawing No.: 998-CPA-ZZ-01-DR-A-0222

14.12 Floor Plan - Level 02



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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 02

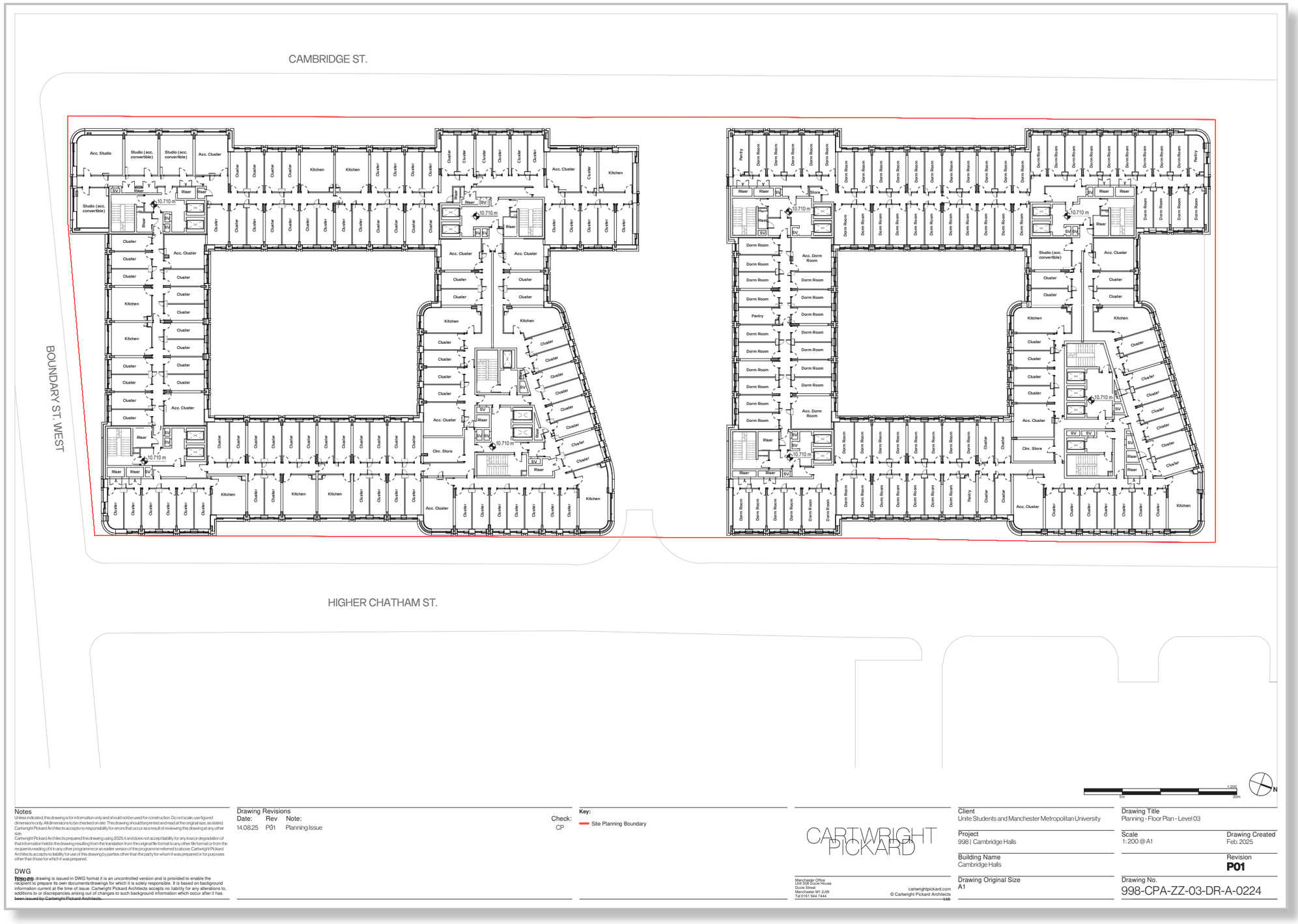
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Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-02-DR-A-0223

14.13 Floor Plan - Level 03



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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 03

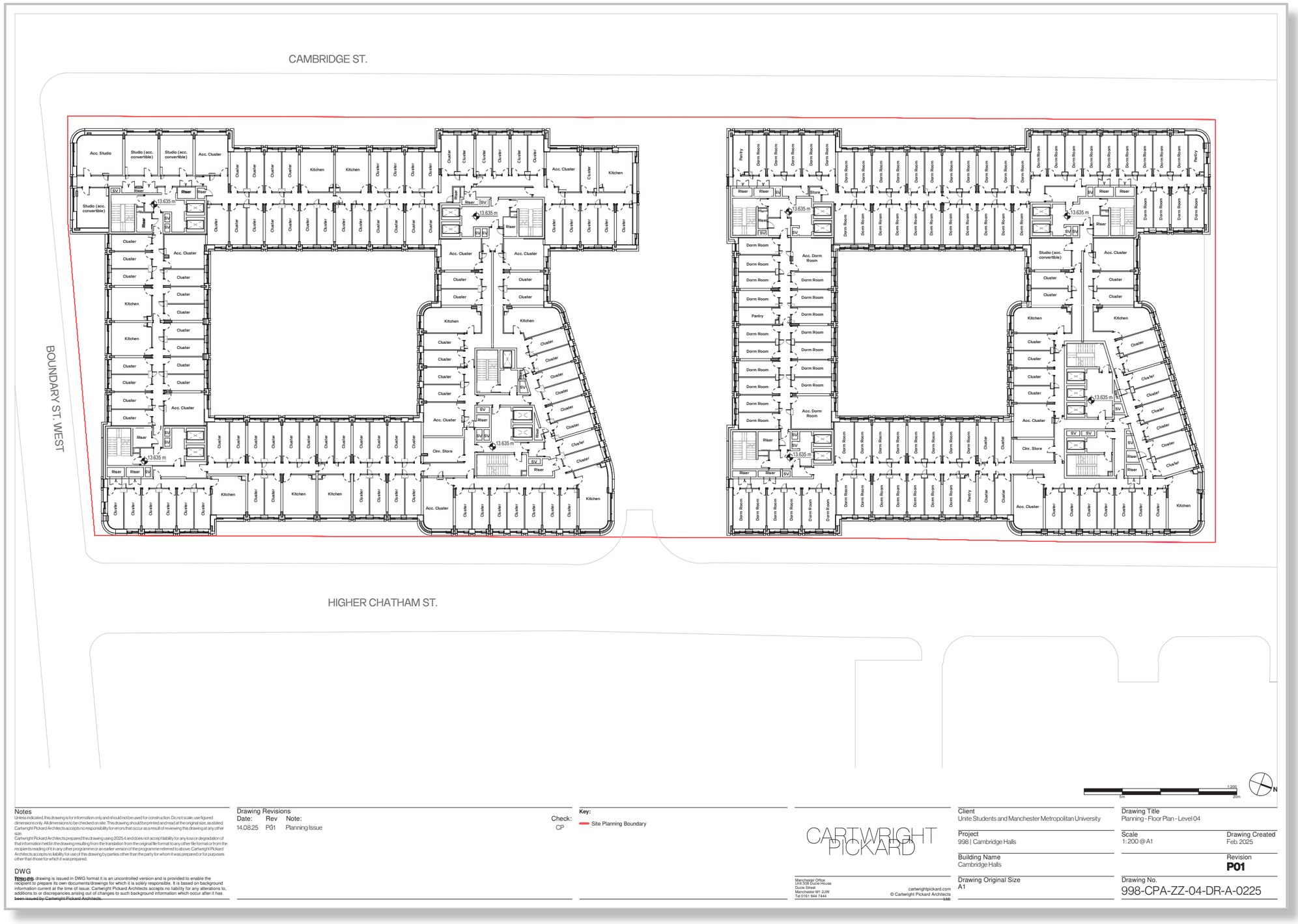
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Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-03-DR-A-0224

14.14 Floor Plan - Level 04



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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 04

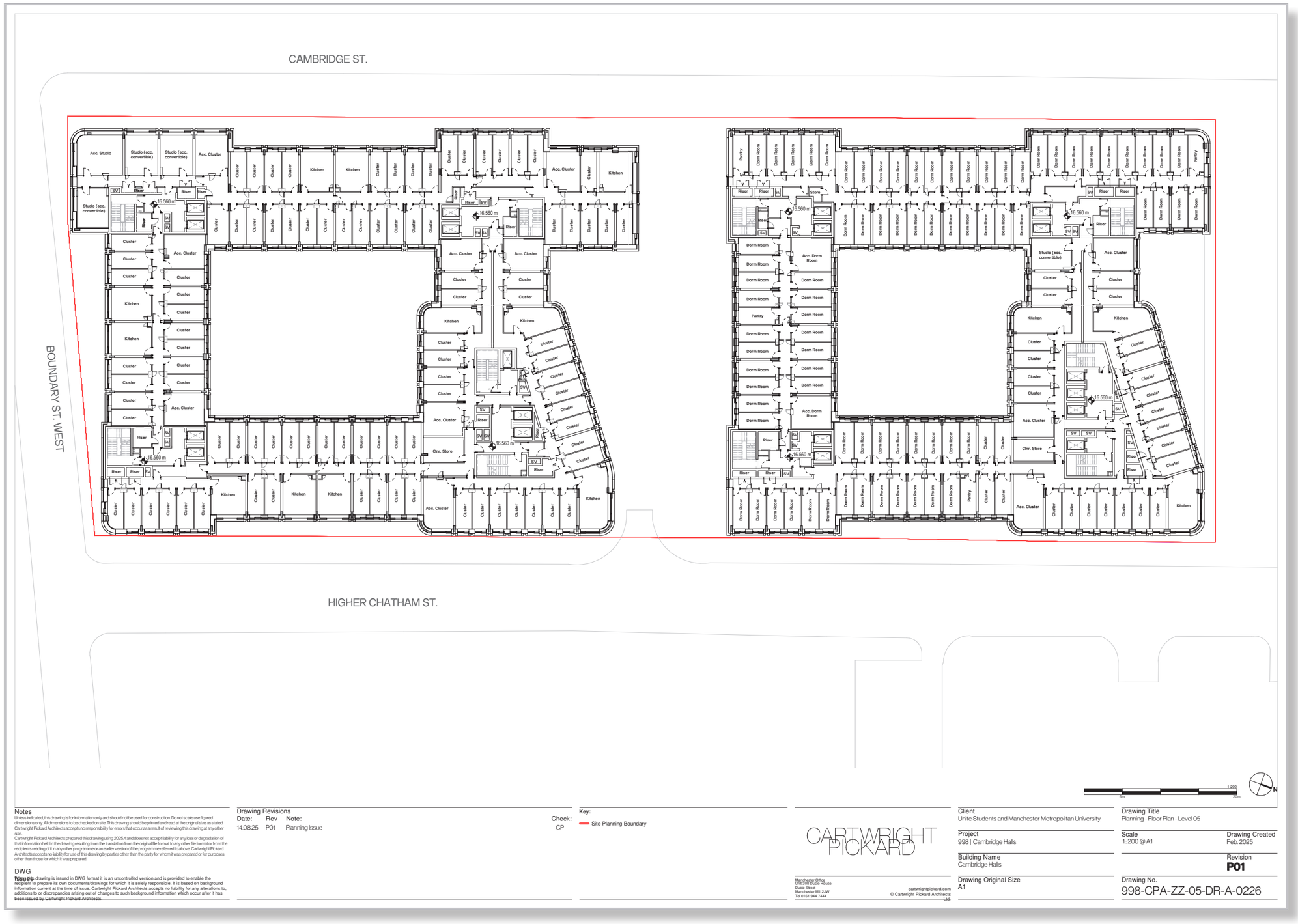
Scale
1:200 @ A1

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Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-04-DR-A-0225

14.15 Floor Plan - Level 05



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Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 05

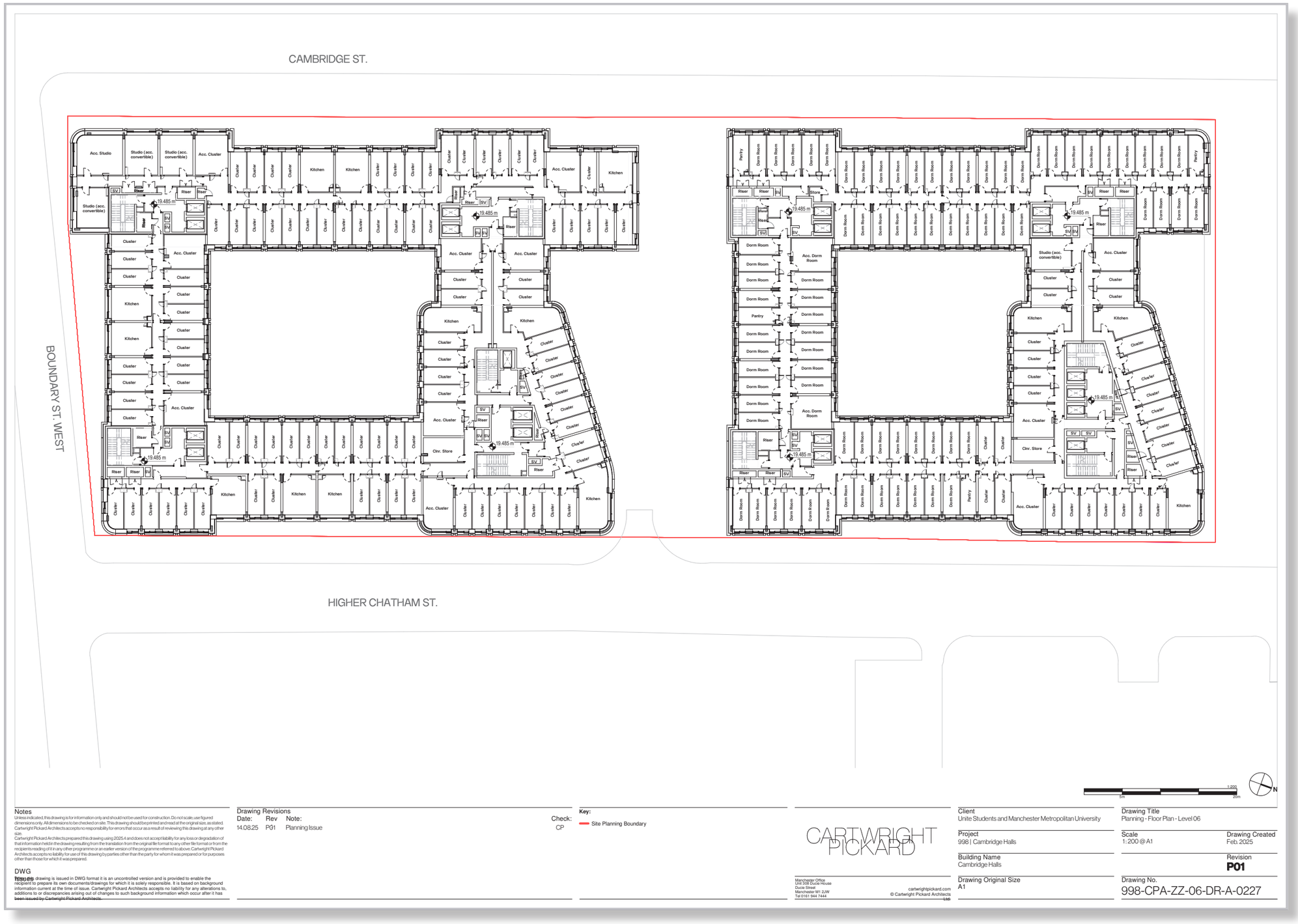
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Revision
P01

Drawing No.
998-CPA-ZZ-05-DR-A-0226

14.16 Floor Plan - Level 06



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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 06

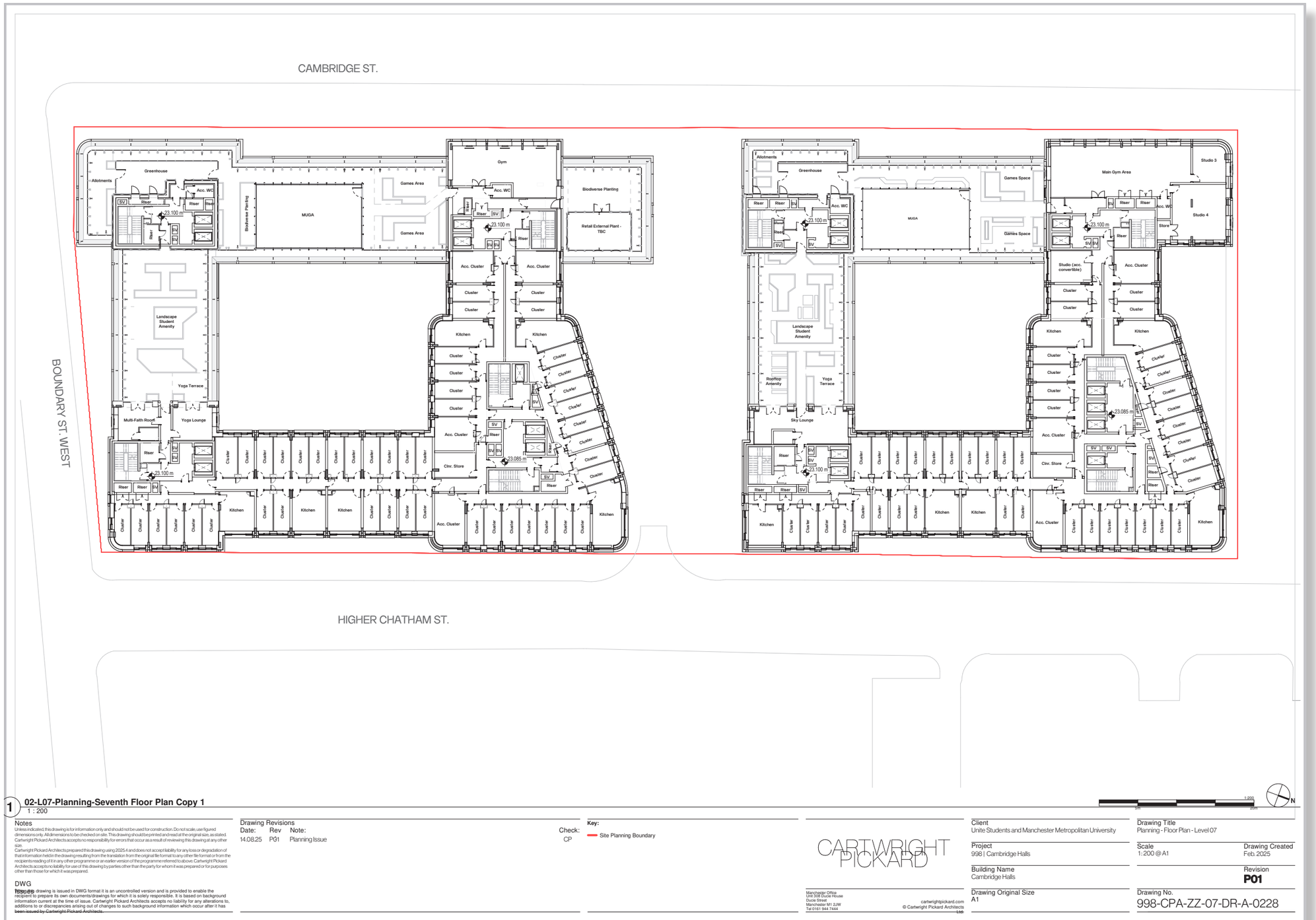
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Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-06-DR-A-0227

14.17 Floor Plan - Level 07



1 **02-L07-Planning-Seventh Floor Plan Copy 1**
1 : 200

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Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 07

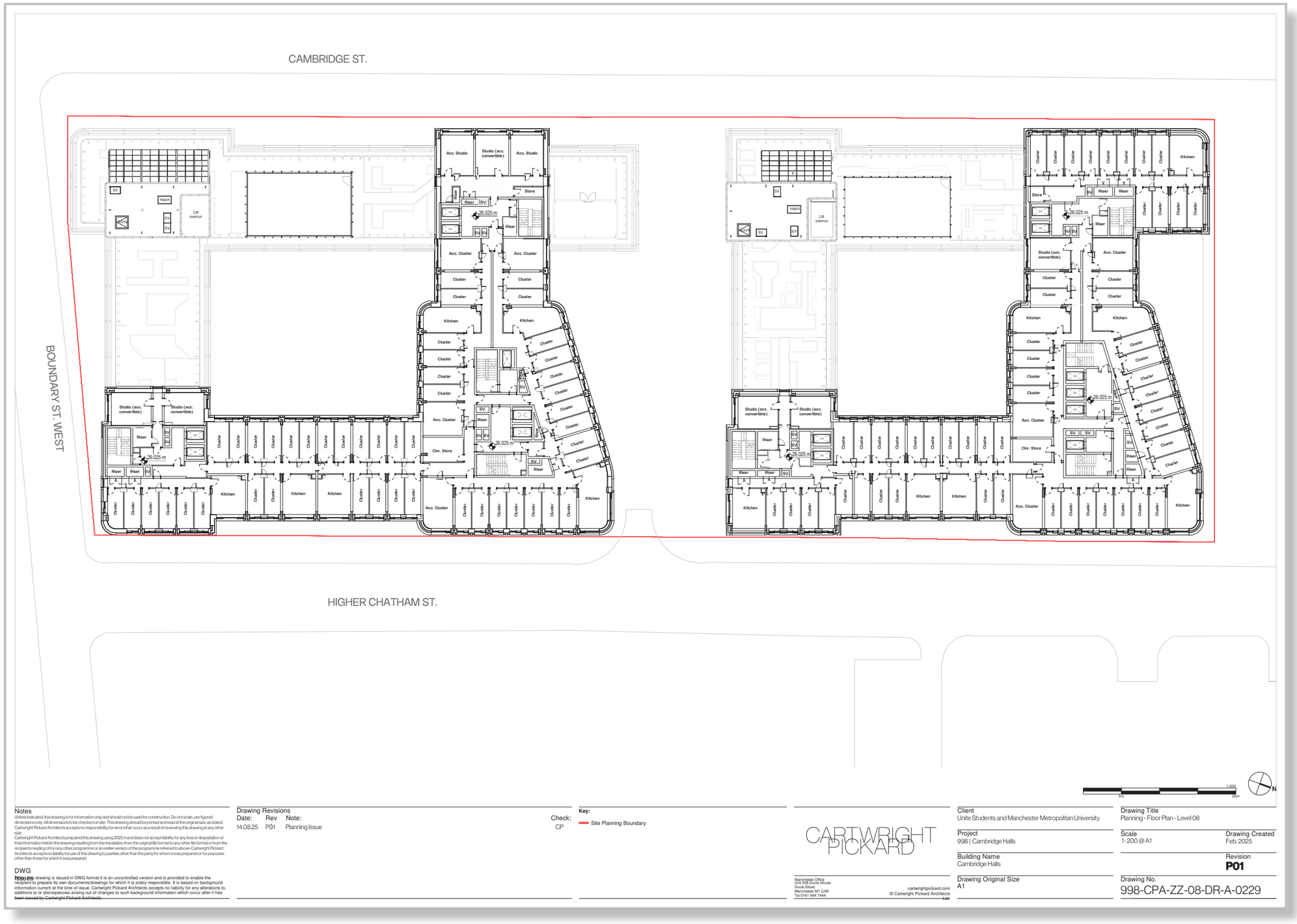
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Drawing Created
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Revision
P01

Drawing No.
998-CPA-ZZ-07-DR-A-0228

14.18 Floor Plan - Level 08



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Building Name
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Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 08

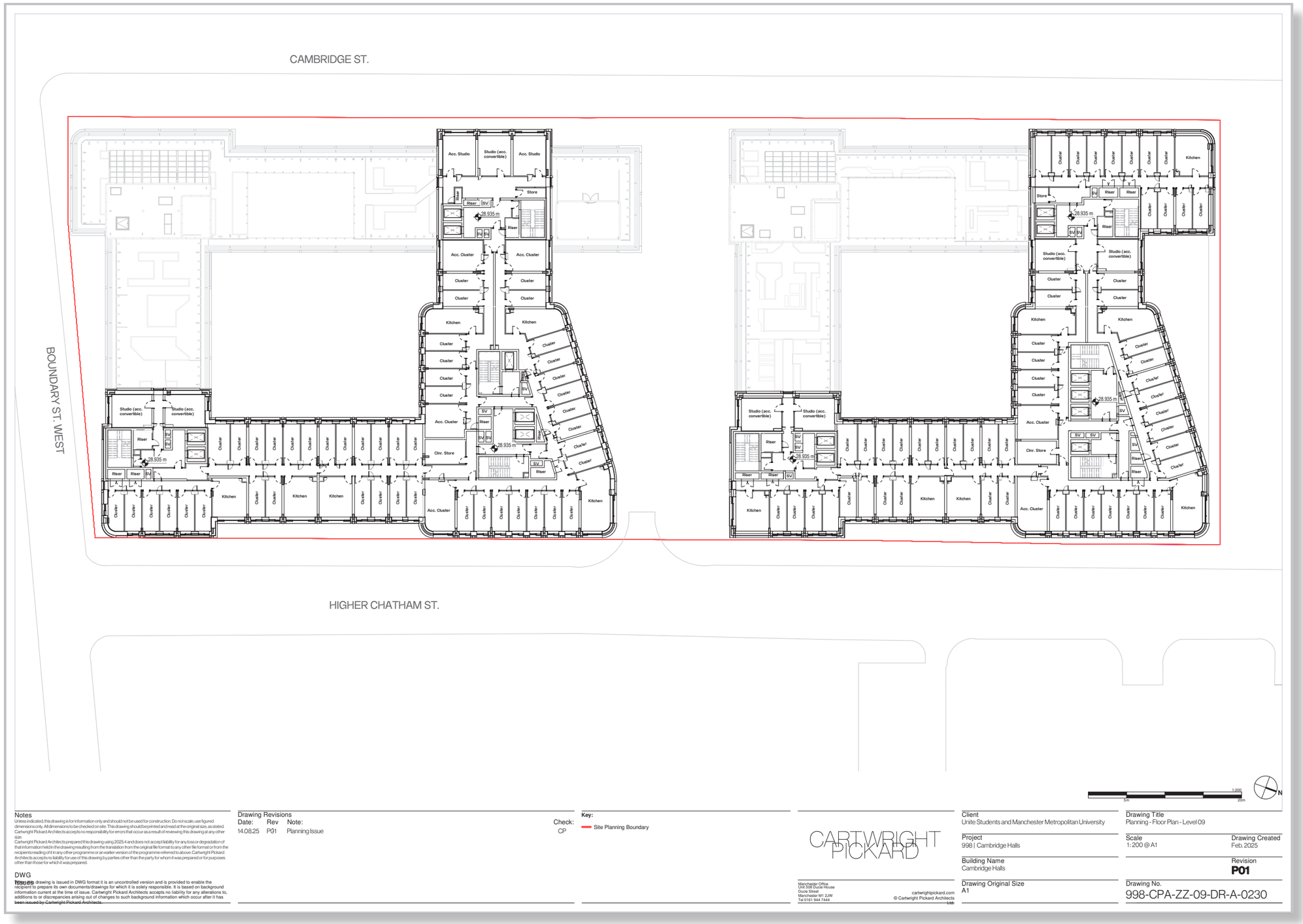
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Revision
P01

Drawing No.
998-CPA-ZZ-08-DR-A-0229

14.19 Floor Plan - Level 09



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Drawing Title
Planning - Floor Plan - Level 09

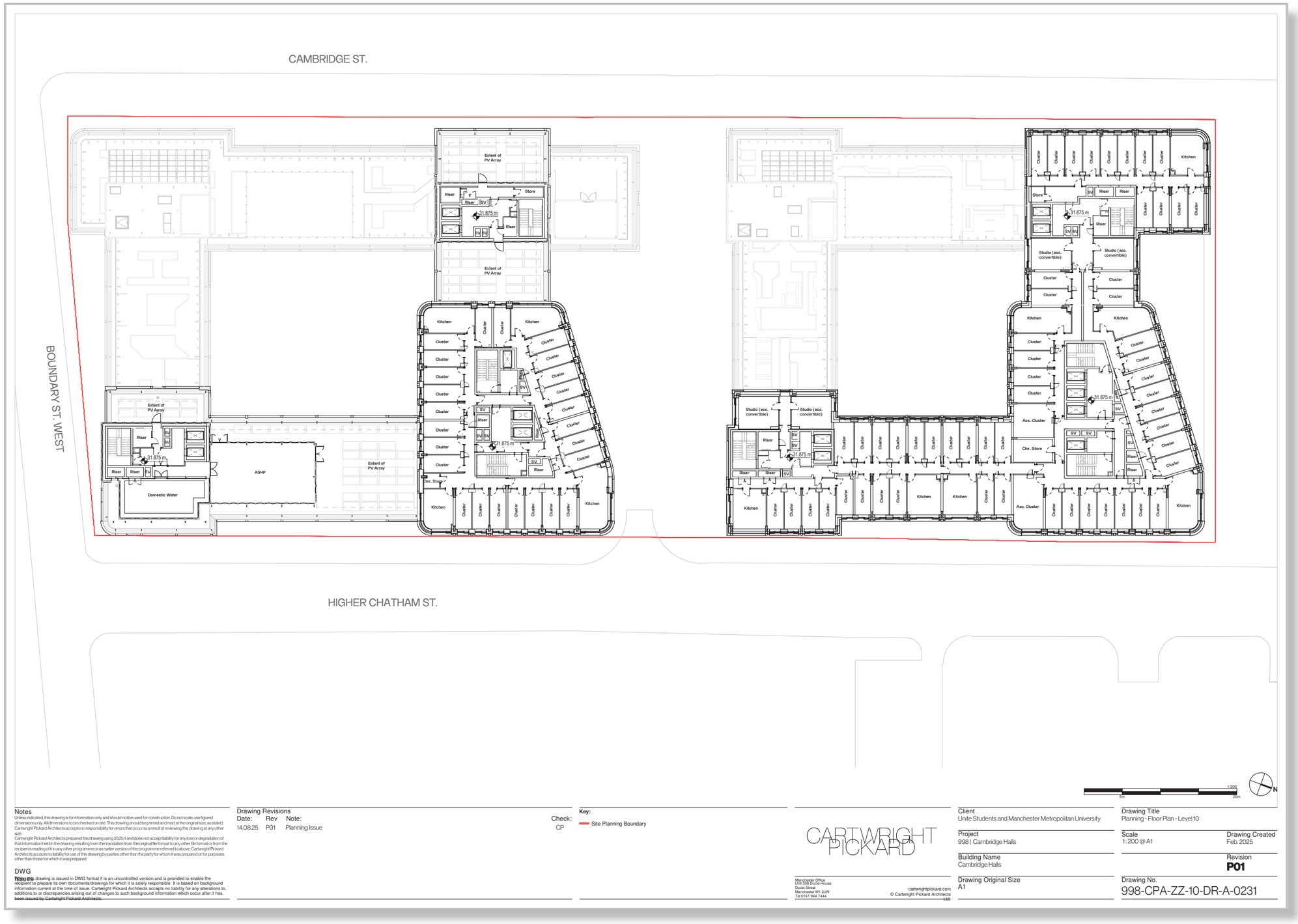
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Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-09-DR-A-0230

14.20 Floor Plan - Level 10



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Building Name
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Drawing Original Size
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Drawing Title
Planning - Floor Plan - Level 10

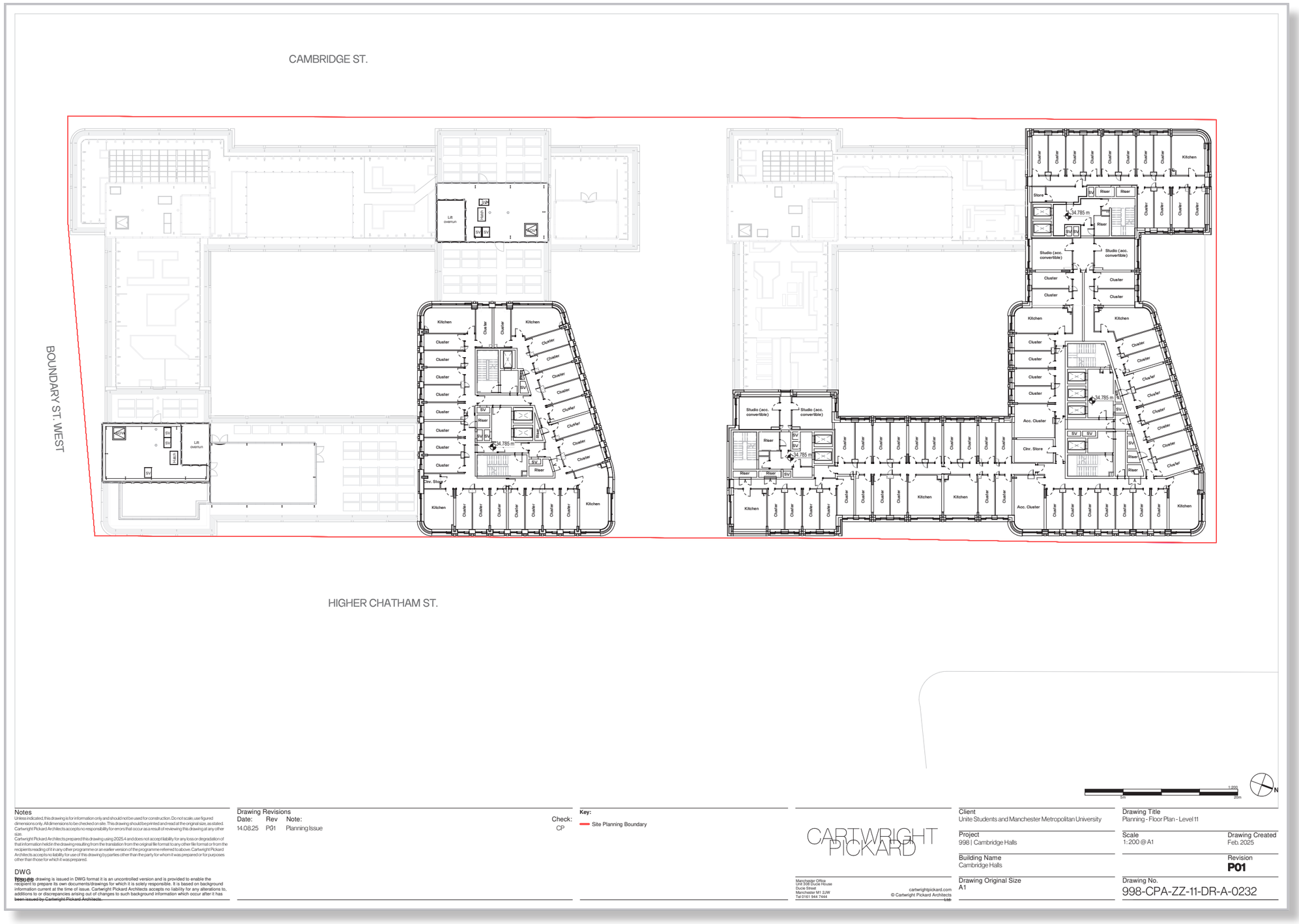
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Drawing Created
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Revision
P01

Drawing No.
998-CPA-ZZ-10-DR-A-0231

14.21 Floor Plan - Level 11



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Building Name
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Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 11

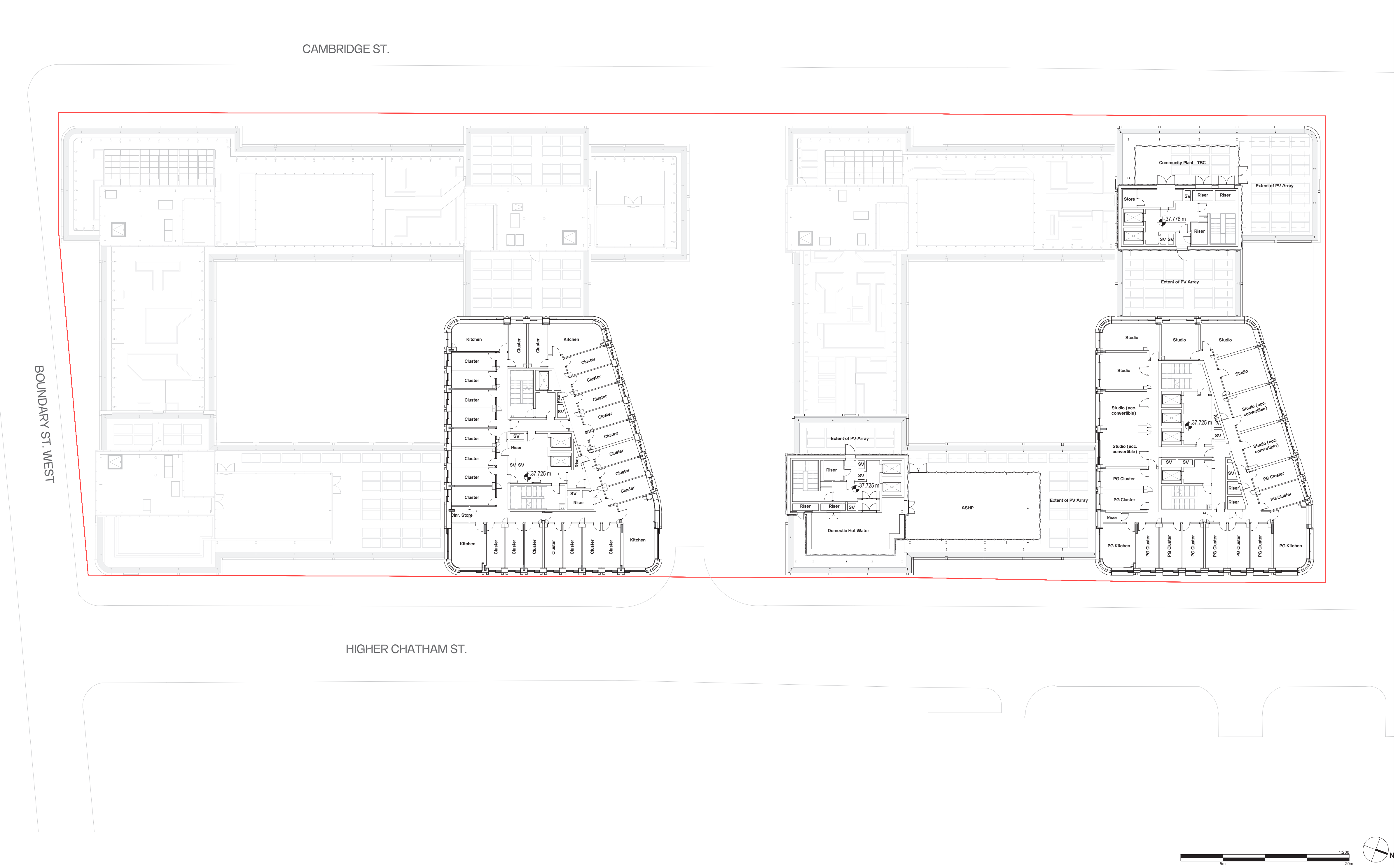
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Revision
P01

Drawing No.
998-CPA-ZZ-11-DR-A-0232

14.22 Floor Plan - Level 12



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Building Name
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A1

Drawing Title
Planning - Floor Plan - Level 12

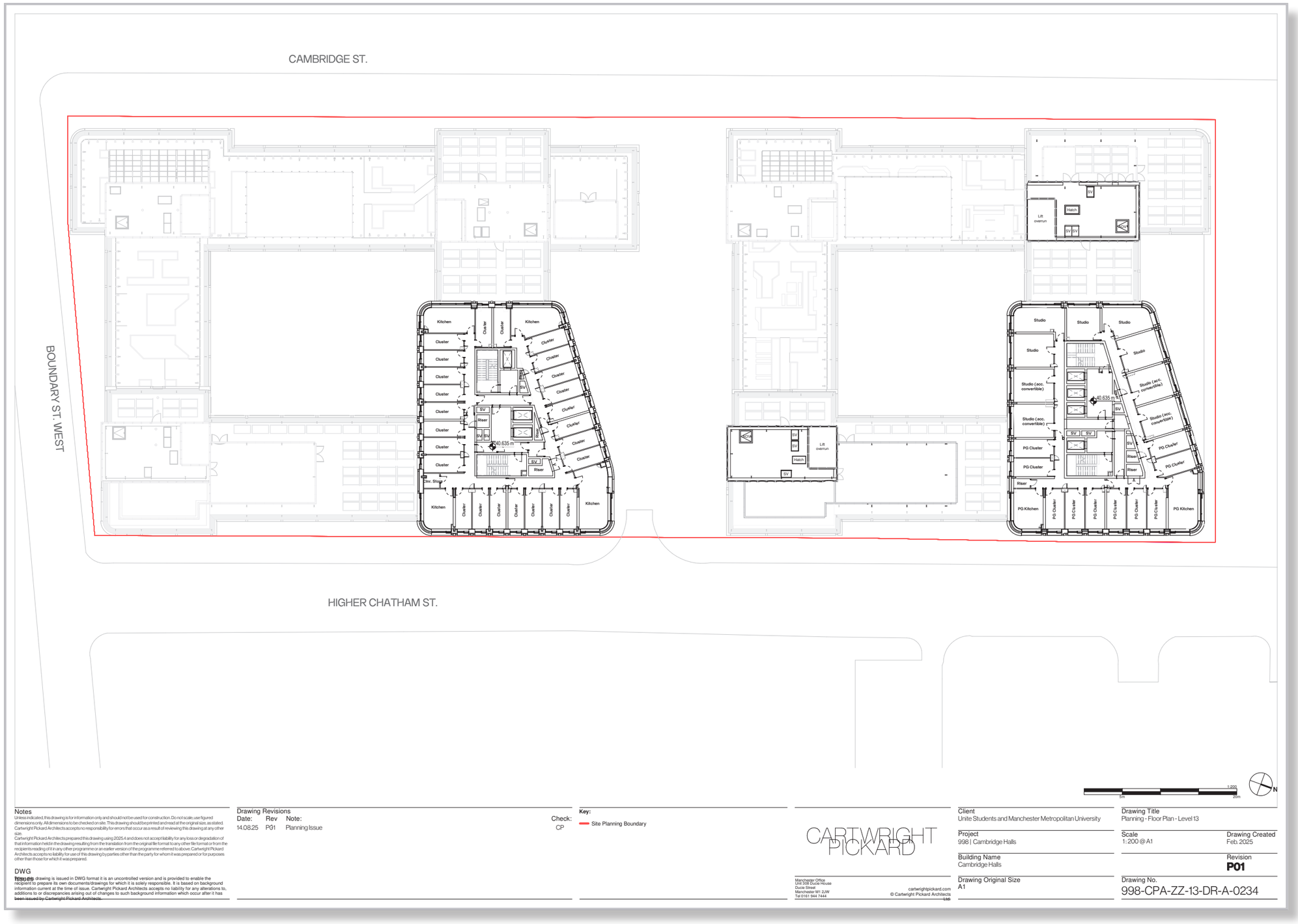
Scale
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Revision
P01

Drawing No.
998-CPA-ZZ-12-DR-A-0233

14.23 Floor Plan - Level 13



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Building Name
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Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 13

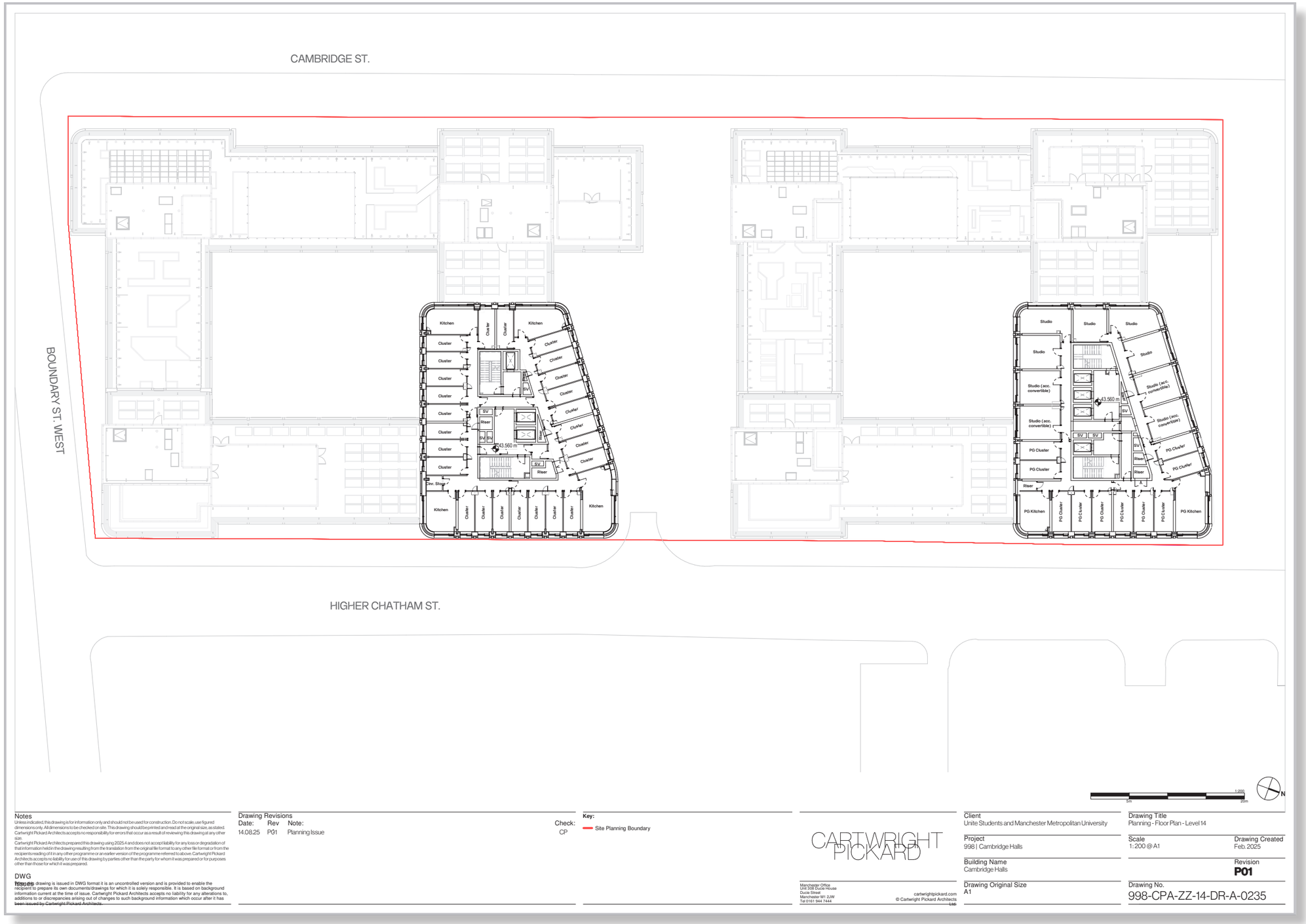
Scale
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Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-13-DR-A-0234

14.24 Floor Plan - Level 14



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Drawing Revisions

Date:	Rev	Note:
14.08.25	P01	Planning Issue

Check: CP

Key:

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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 14

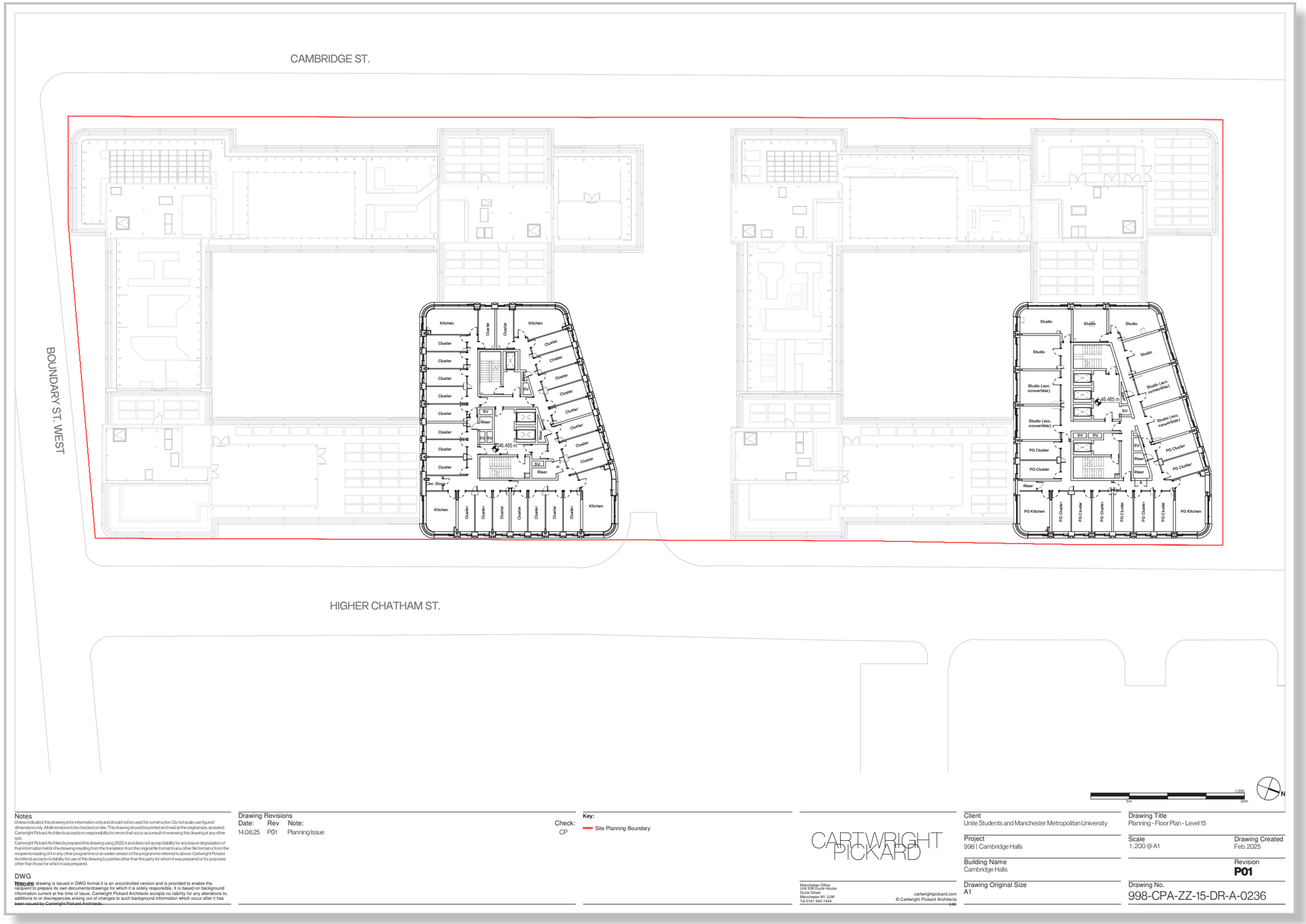
Scale
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Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-14-DR-A-0235

14.25 Floor Plan - Level 15



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Date:	Rev	Note:
14.08.25	P01	Planning Issue

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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 15

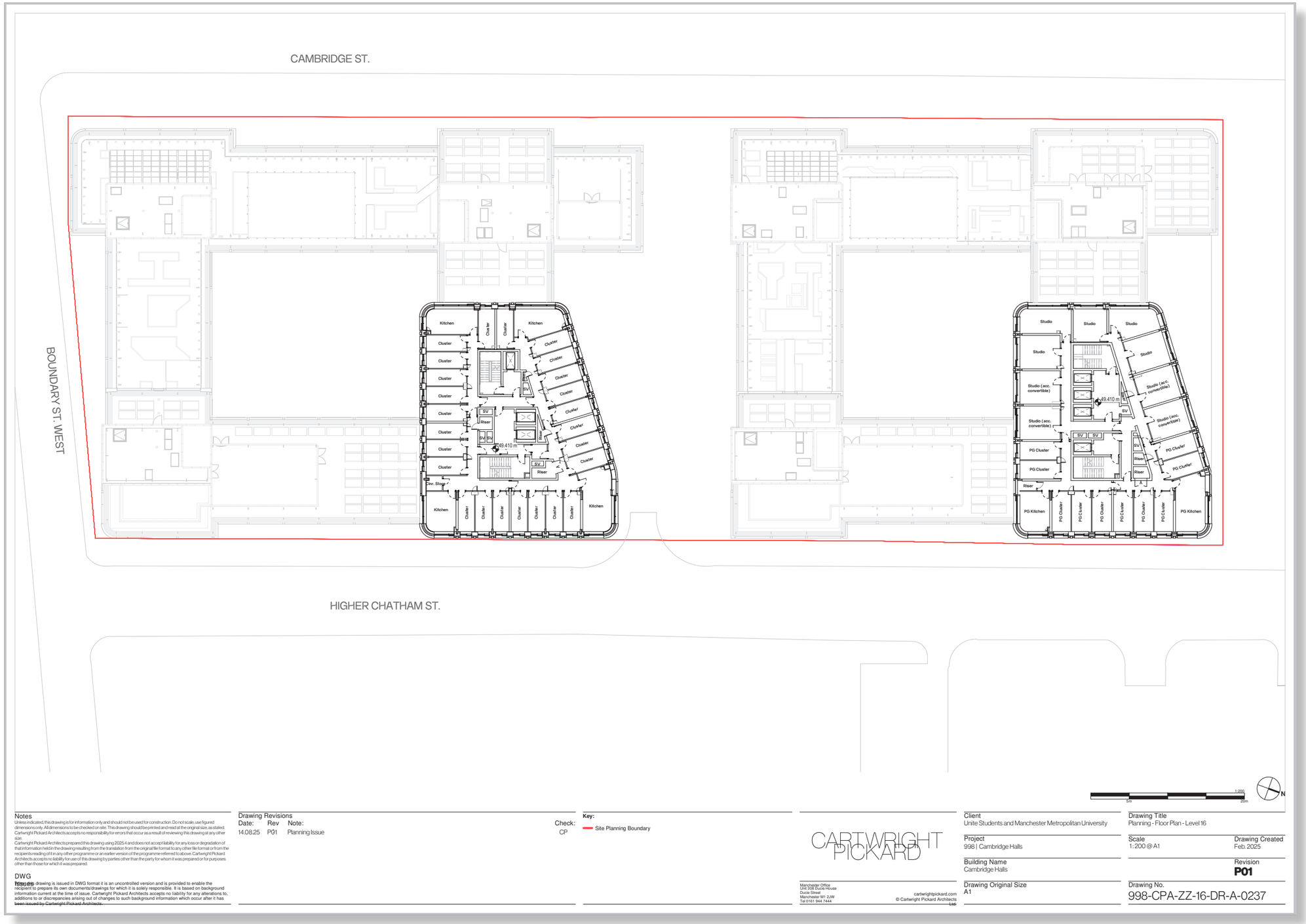
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Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-15-DR-A-0236

14.26 Floor Plan - Level 16



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Date:	Rev	Note:
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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 16

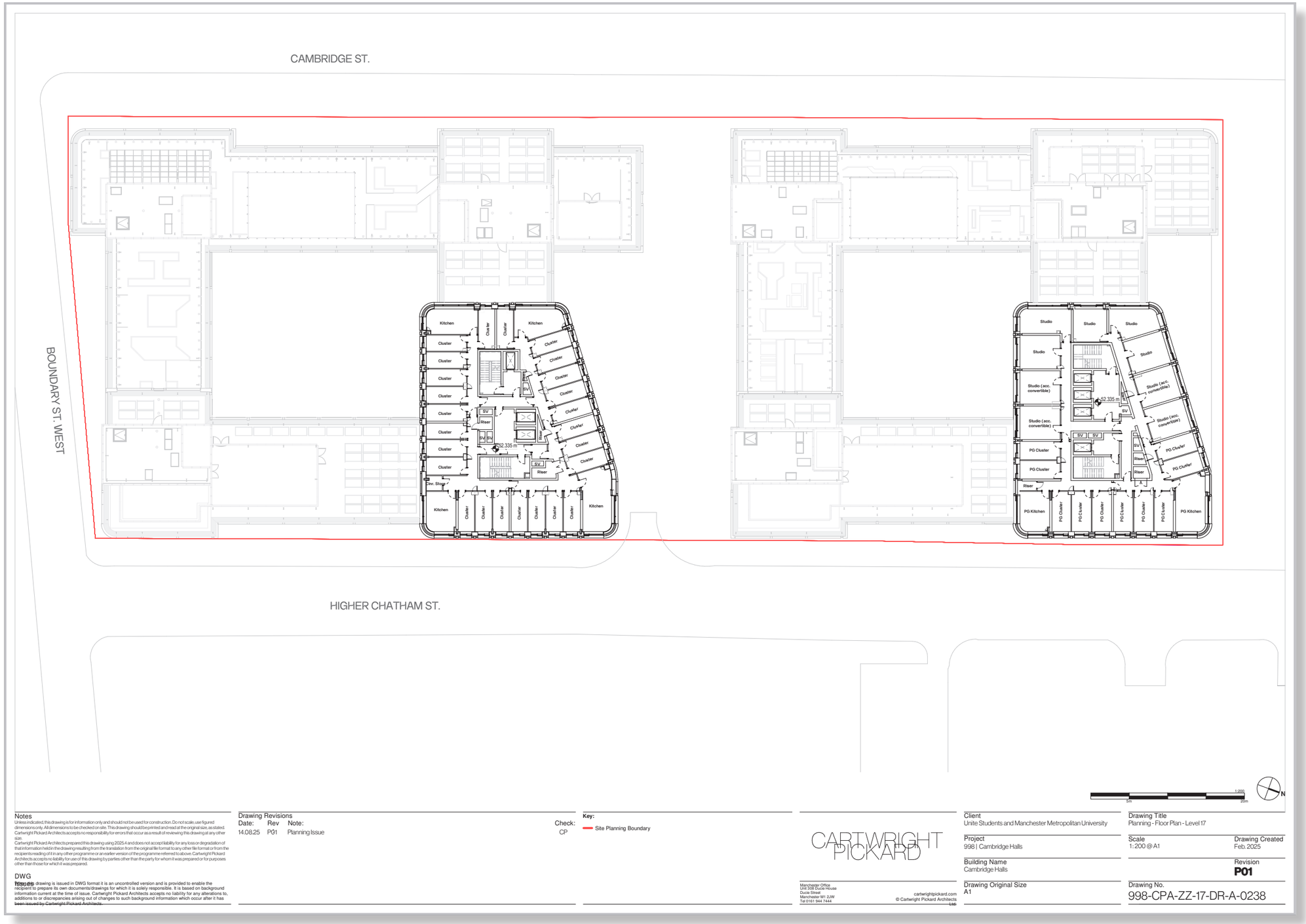
Scale
1:200 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-16-DR-A-0237

14.27 Floor Plan - Level 17



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Date:	Rev	Note:
14.08.25	P01	Planning Issue

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Project: 998 | Cambridge Halls

Building Name: Cambridge Halls

Drawing Original Size: A1

Drawing Title: Planning - Floor Plan - Level 17

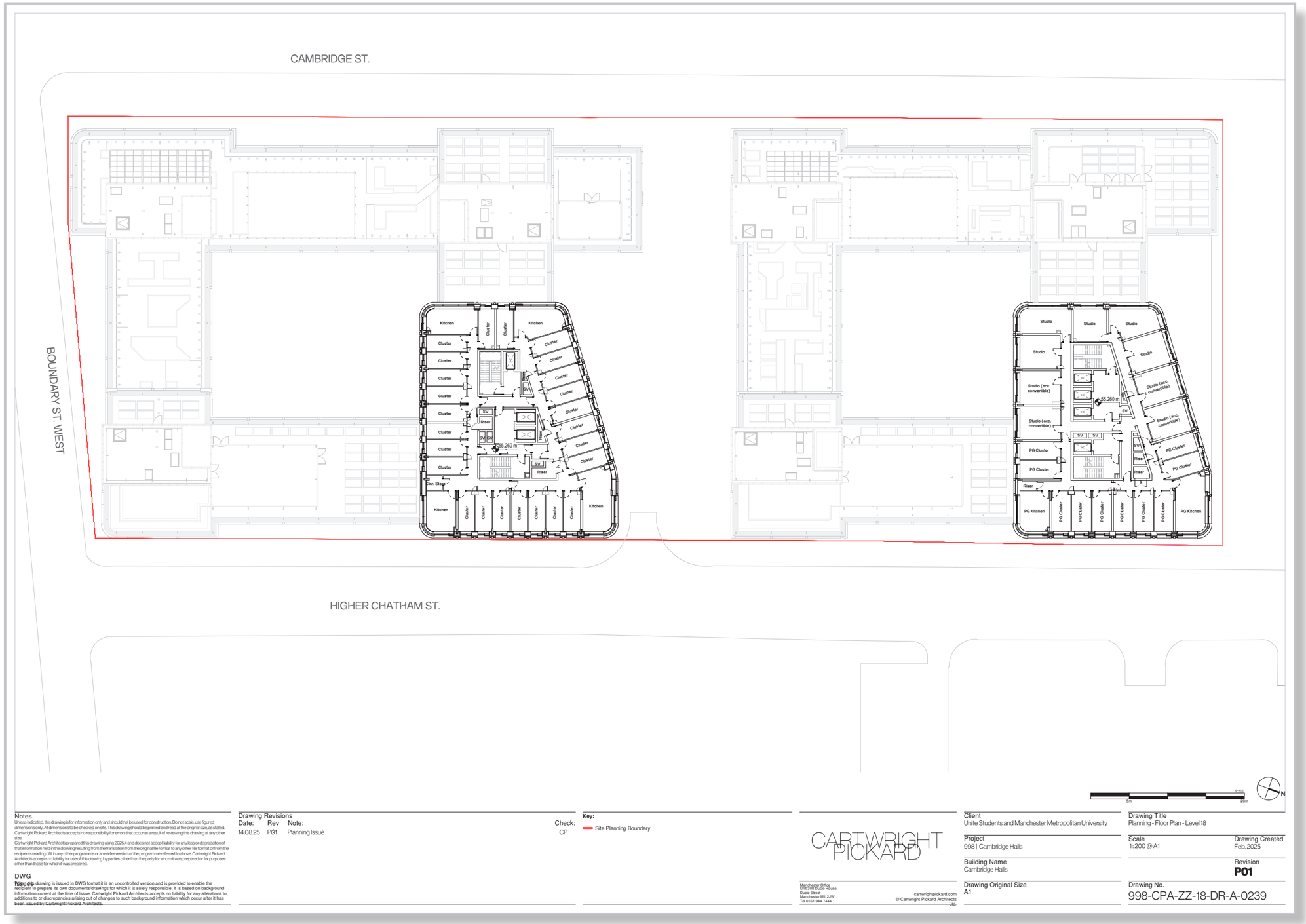
Scale: 1:200 @ A1

Drawing Created: Feb. 2025

Revision: **P01**

Drawing No.: 998-CPA-ZZ-17-DR-A-0238

14.28 Floor Plan - Level 18



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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 18

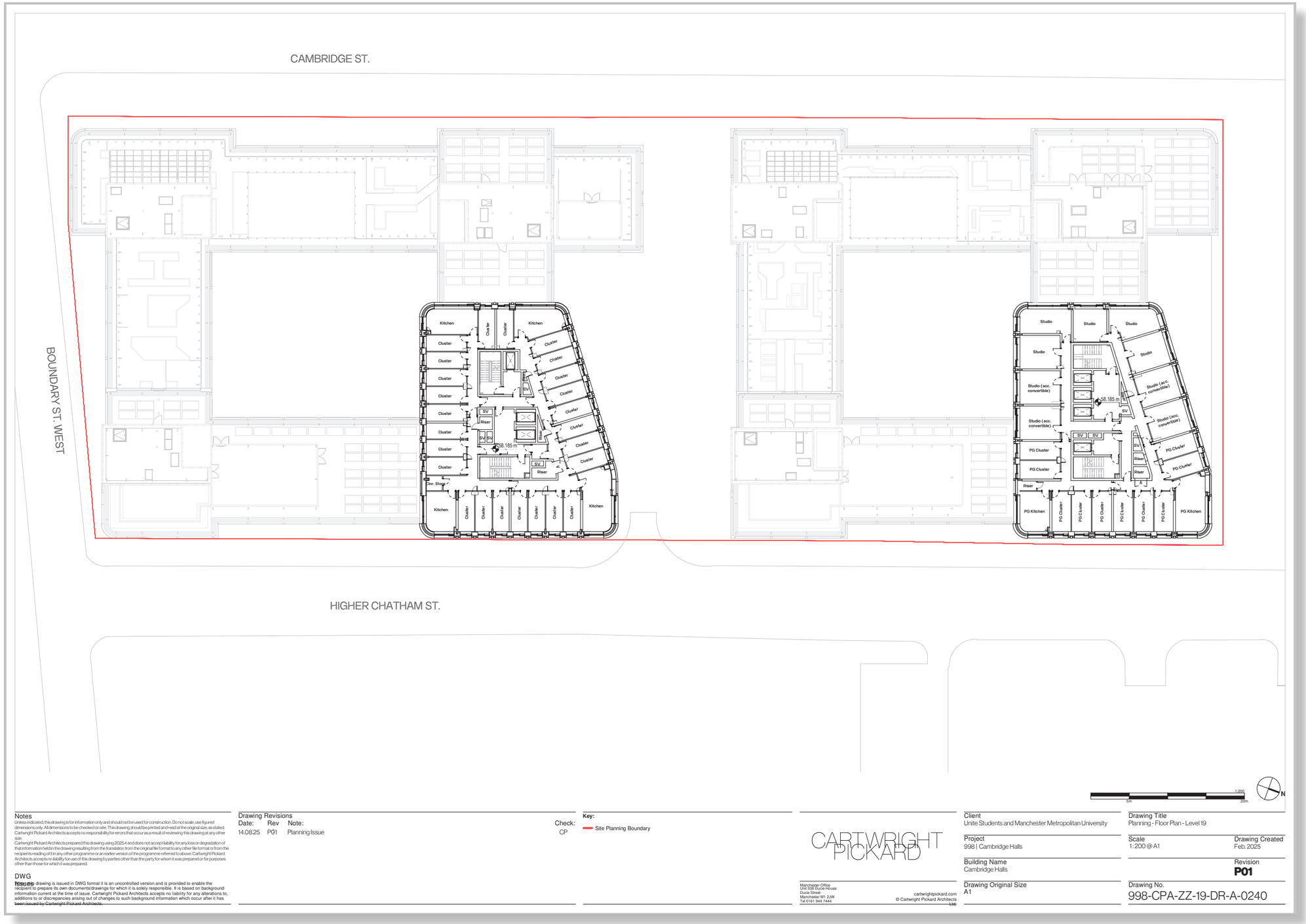
Scale
1:200 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-18-DR-A-0239

14.29 Floor Plan - Level 19



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Date:	Rev	Note:
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Project: 998 | Cambridge Halls

Building Name: Cambridge Halls

Drawing Original Size: A1

Drawing Title: Planning - Floor Plan - Level 19

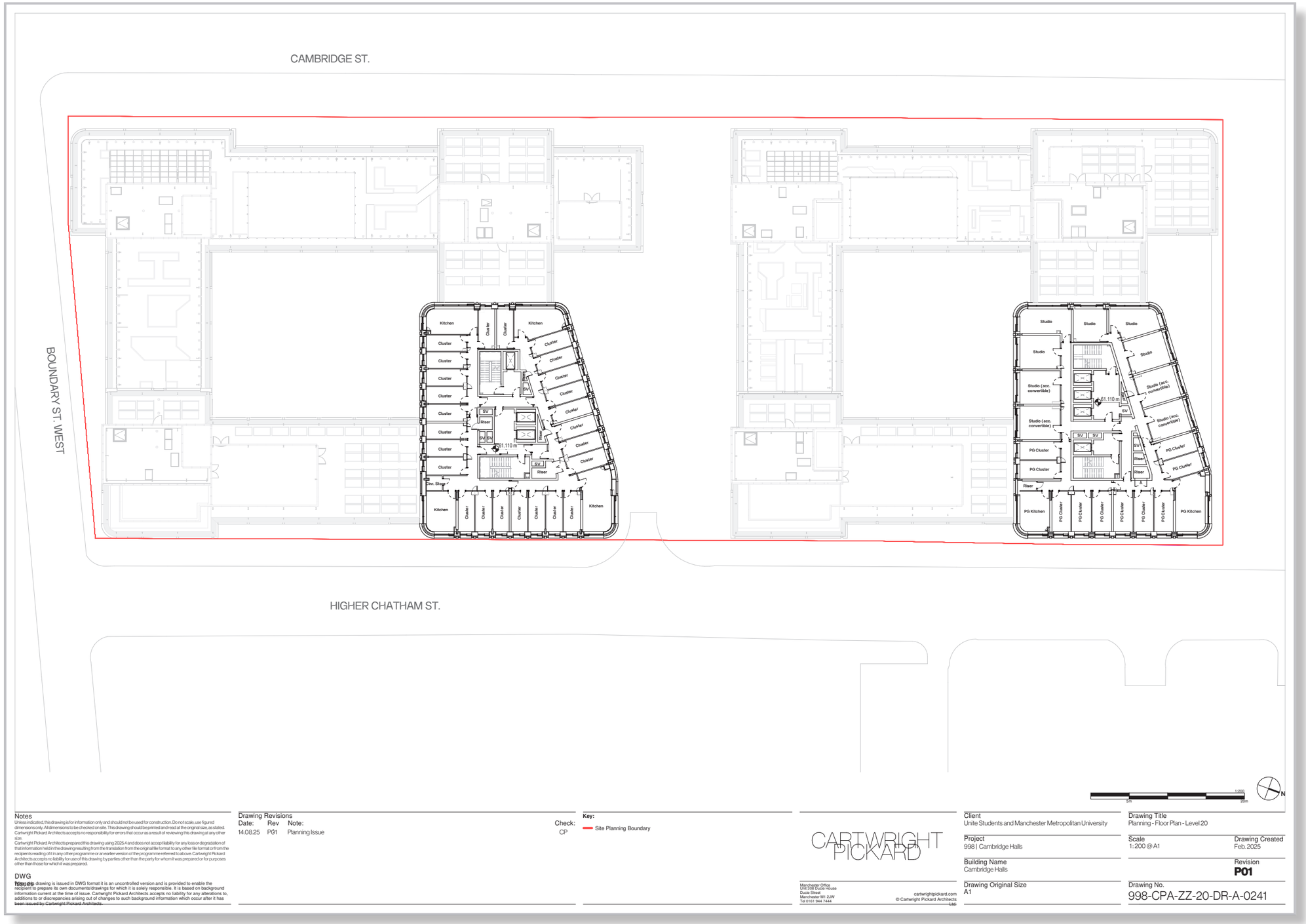
Scale: 1:200 @ A1

Drawing Created: Feb. 2025

Revision: **P01**

Drawing No.: 998-CPA-ZZ-19-DR-A-0240

14.30 Floor Plan - Level 20



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Drawing Revisions

Date:	Rev	Note:
14.08.25	P01	Planning Issue

Check: CP

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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 20

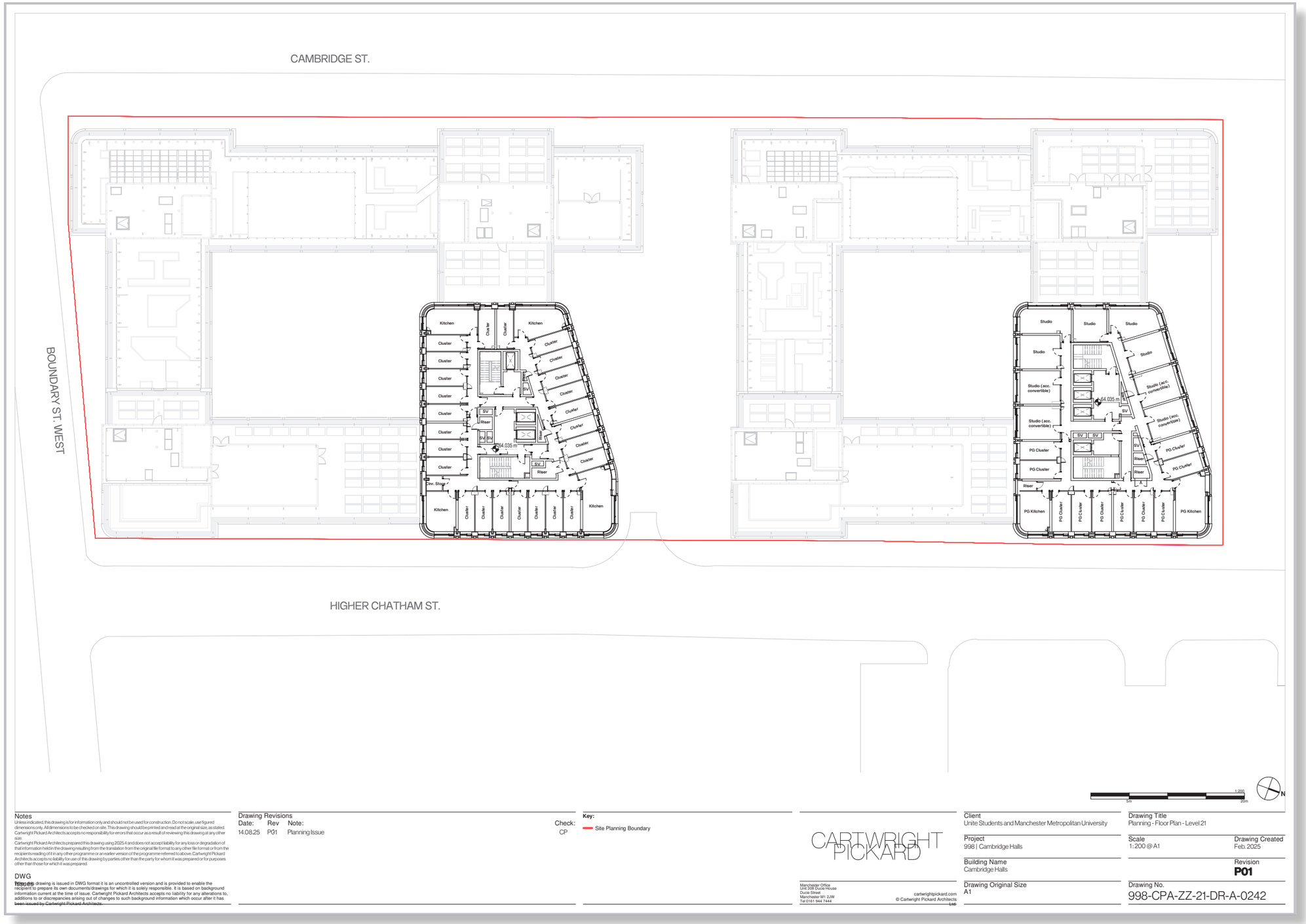
Scale
1: 200 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-20-DR-A-0241

14.31 Floor Plan - Level 21



Notes

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Drawing Revisions

Date:	Rev	Note:
14.08.25	P01	Planning Issue

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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 21

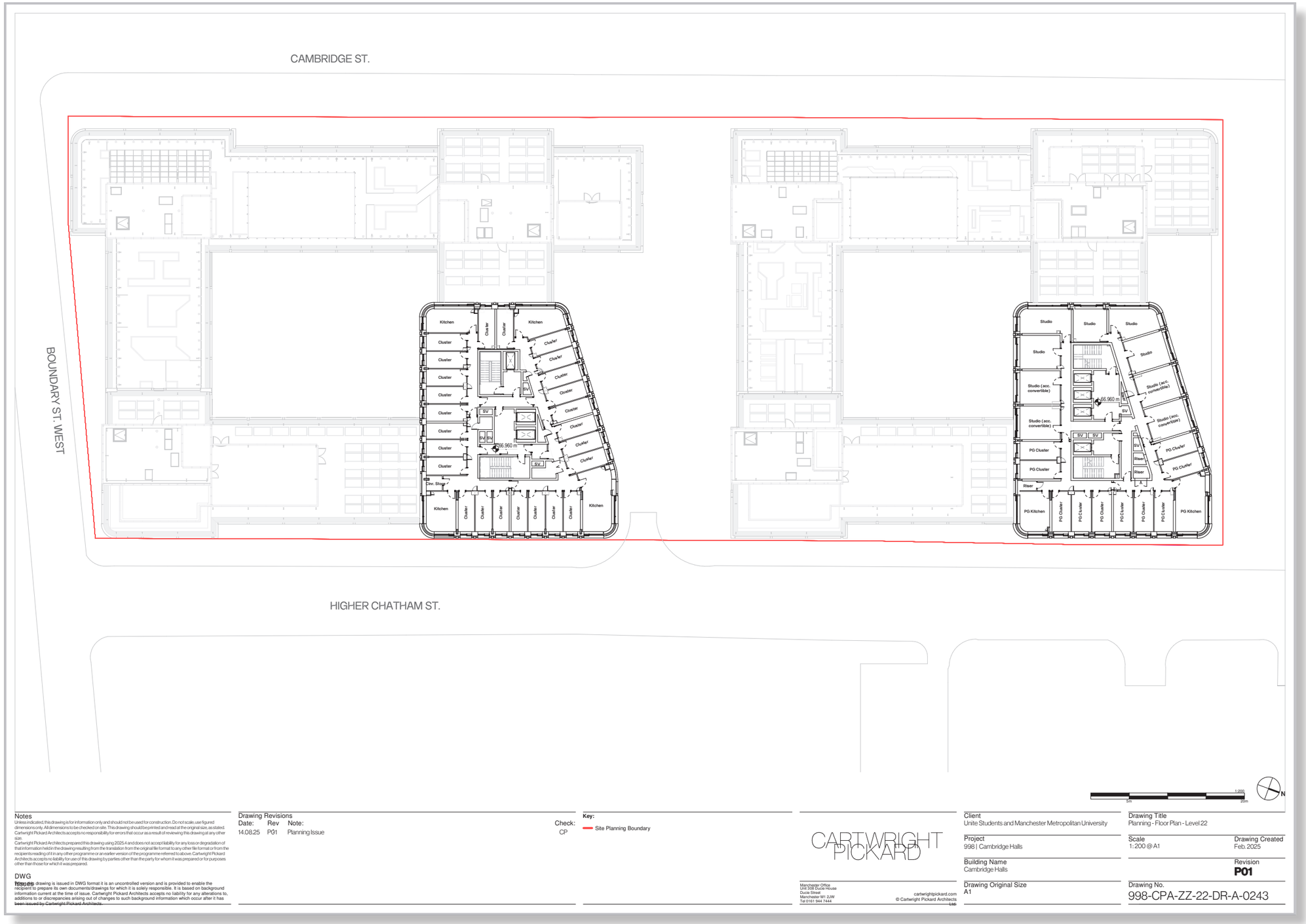
Scale
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Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-21-DR-A-0242

14.32 Floor Plan - Level 22



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Date:	Rev	Note:
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Building Name: Cambridge Halls

Drawing Original Size: A1

Scale: 1:200 @ A1

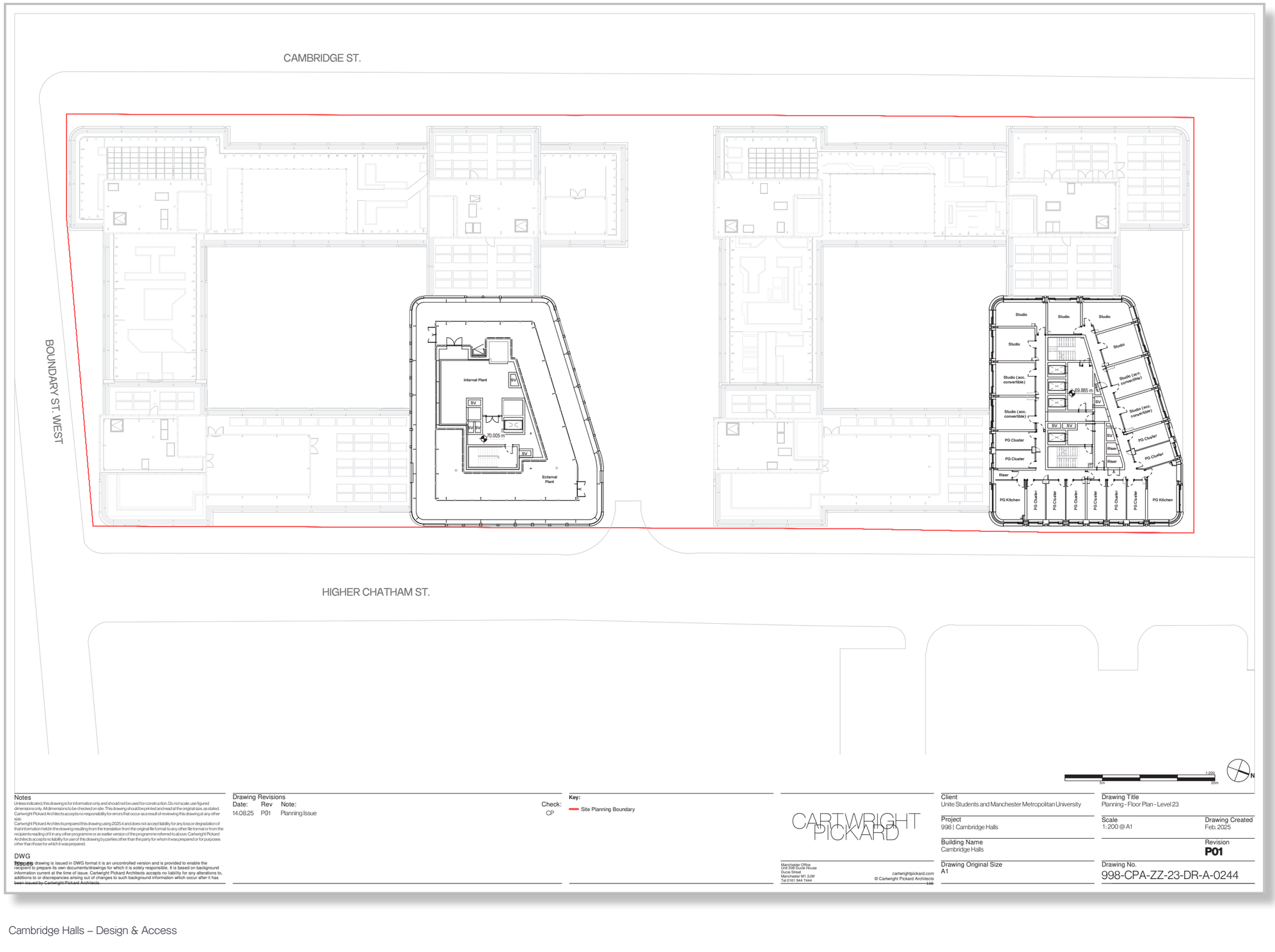
Drawing Created: Feb. 2025

Revision: **P01**

Drawing Title: Planning - Floor Plan - Level 22

Drawing No.: 998-CPA-ZZ-22-DR-A-0243

14.33 Floor Plan - Level 23



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Key:
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Project
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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 23

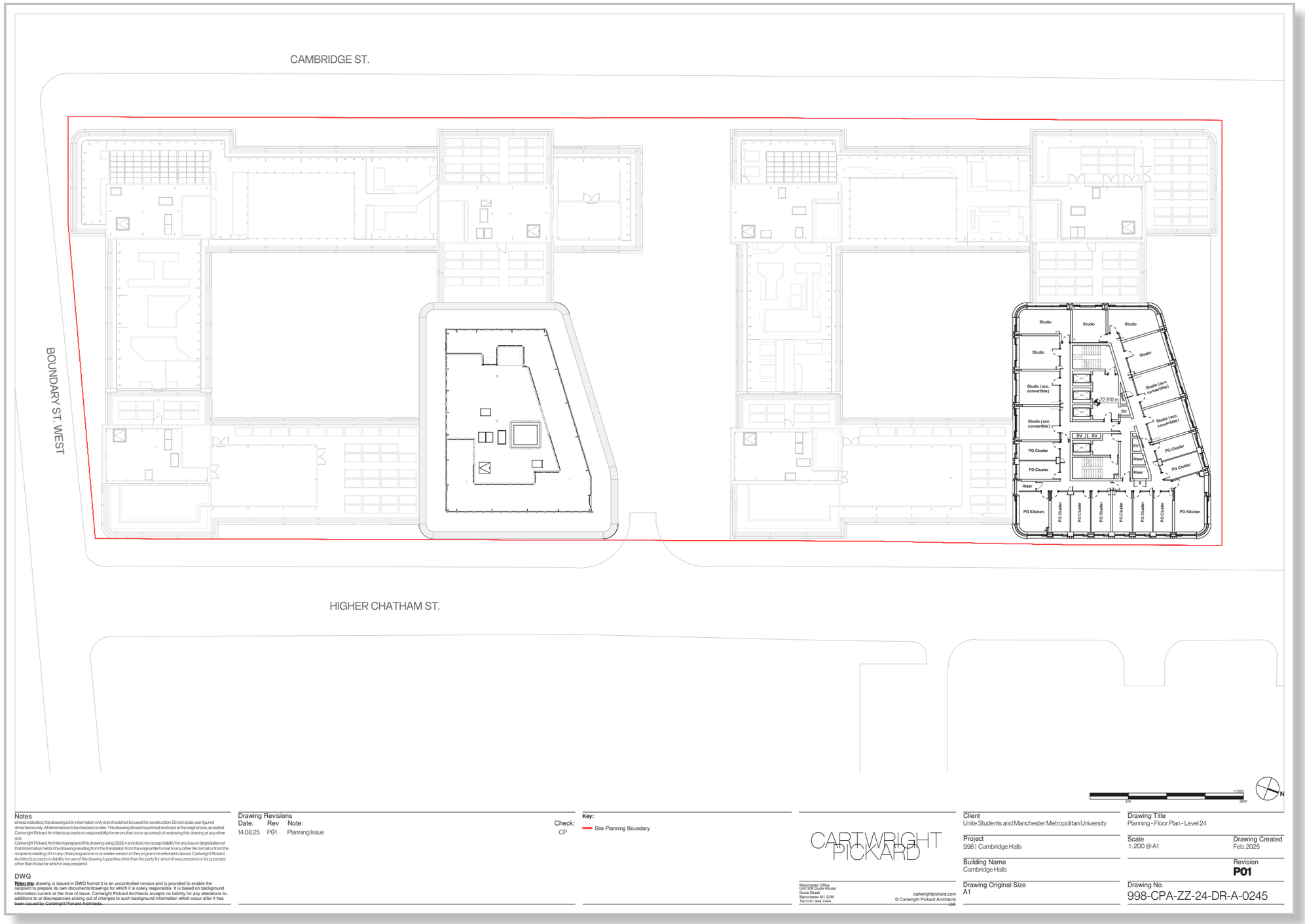
Scale
1:200 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-23-DR-A-0244

14.34 Floor Plan - Level 24



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Drawing Revisions

Date:	Rev	Note:
14.08.25	P01	Planning Issue

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Project
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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 24

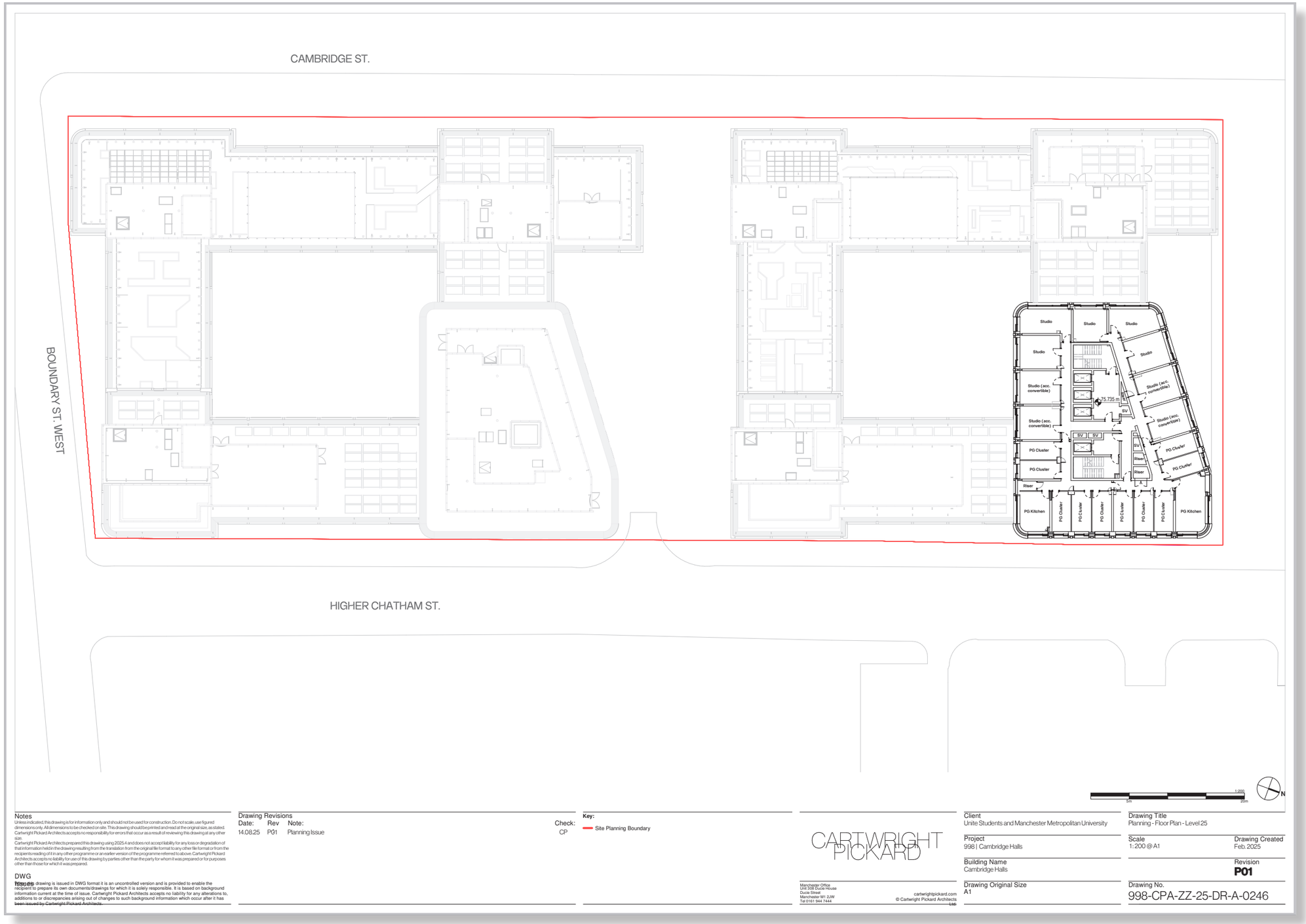
Scale
1:200 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-24-DR-A-0245

14.35 Floor Plan - Level 25



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Project: 998 | Cambridge Halls

Building Name: Cambridge Halls

Drawing Original Size: A1

Drawing Title: Planning - Floor Plan - Level 25

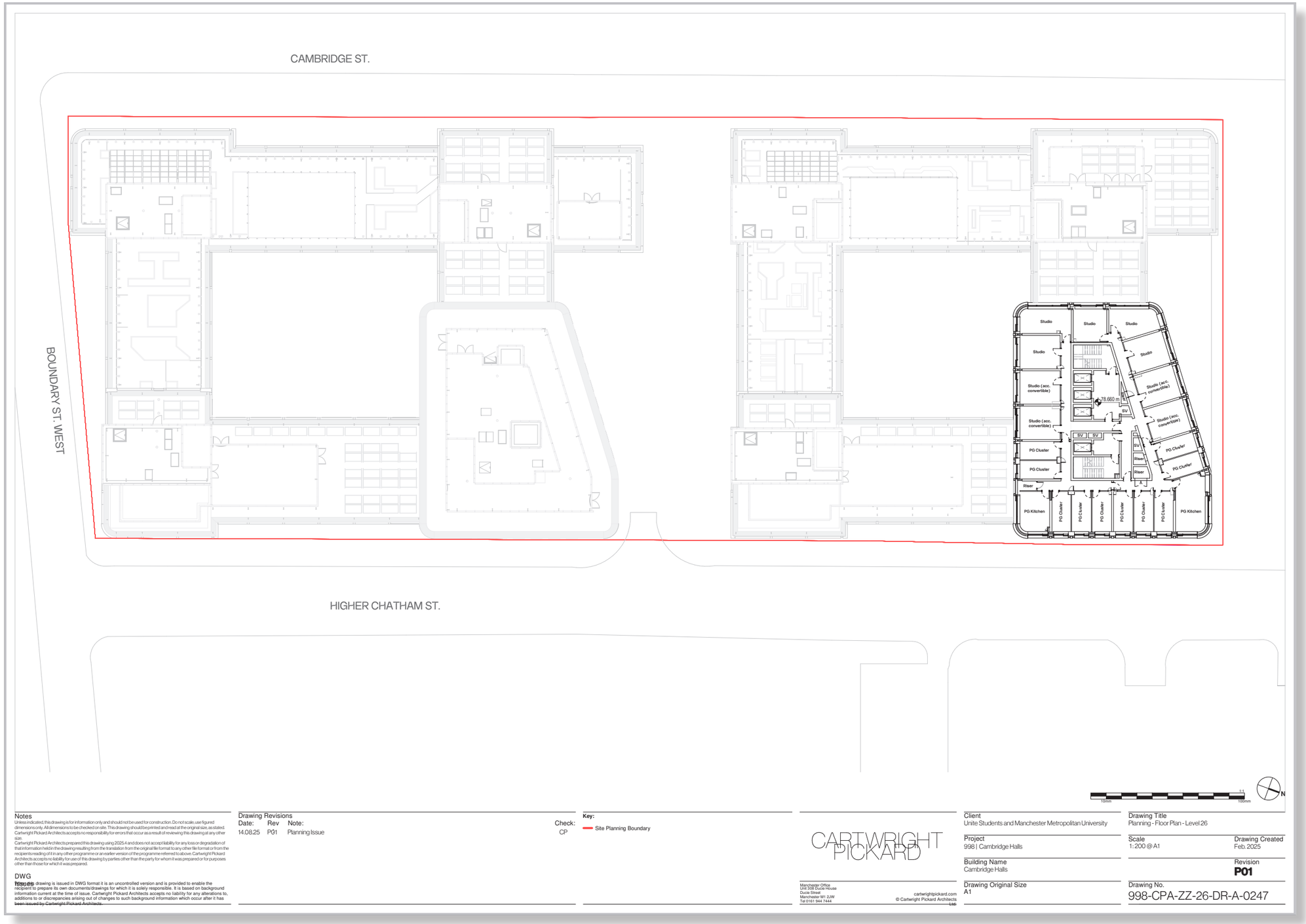
Scale: 1:200 @ A1

Drawing Created: Feb. 2025

Revision: **P01**

Drawing No.: 998-CPA-ZZ-25-DR-A-0246

14.36 Floor Plan - Level 26



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Date:	Rev	Note:
14.08.25	P01	Planning Issue

Check: CP

Key:

- Site Planning Boundary

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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 26

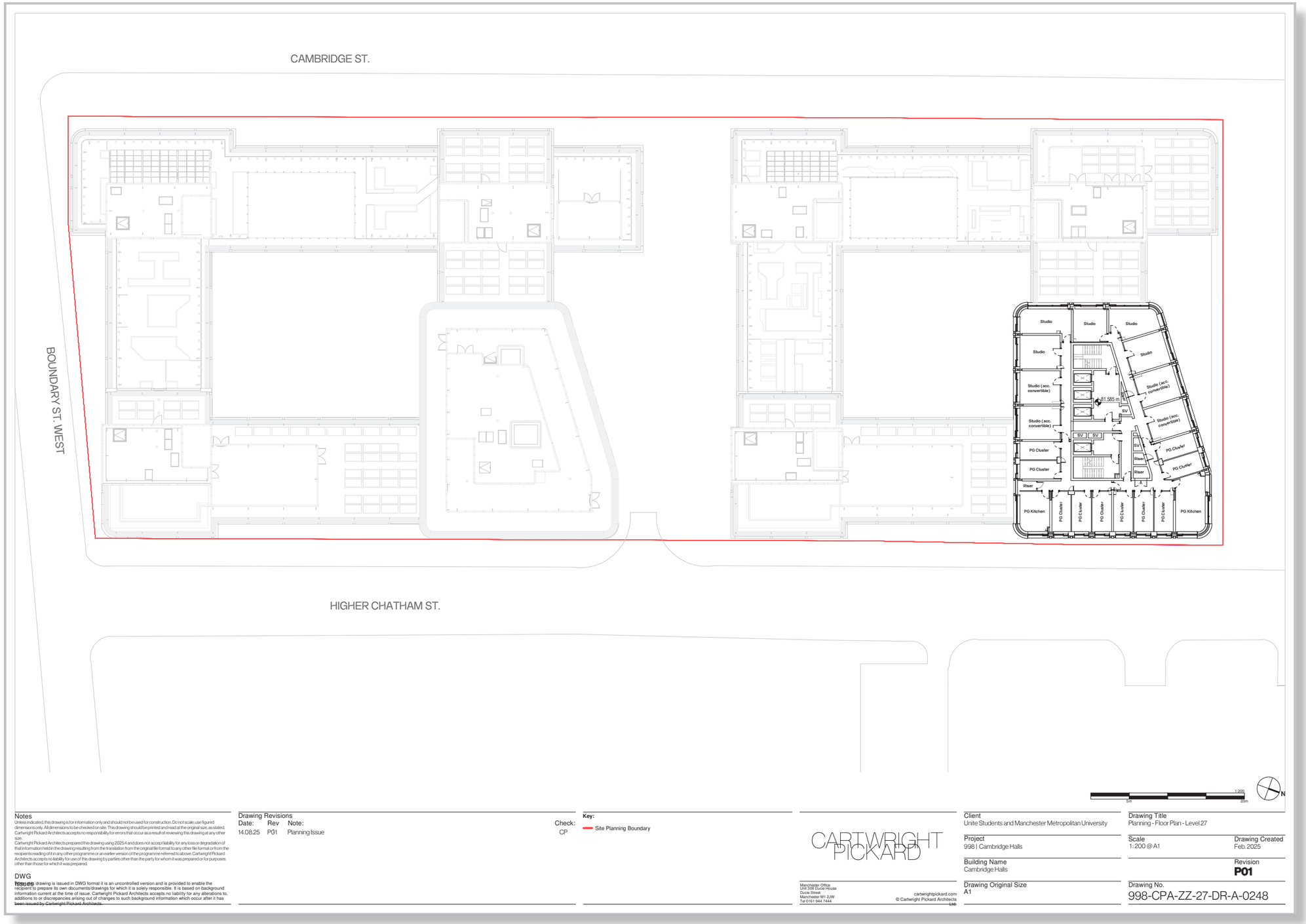
Scale
1: 200 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-26-DR-A-0247

14.37 Floor Plan - Level 27



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Building Name
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Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 27

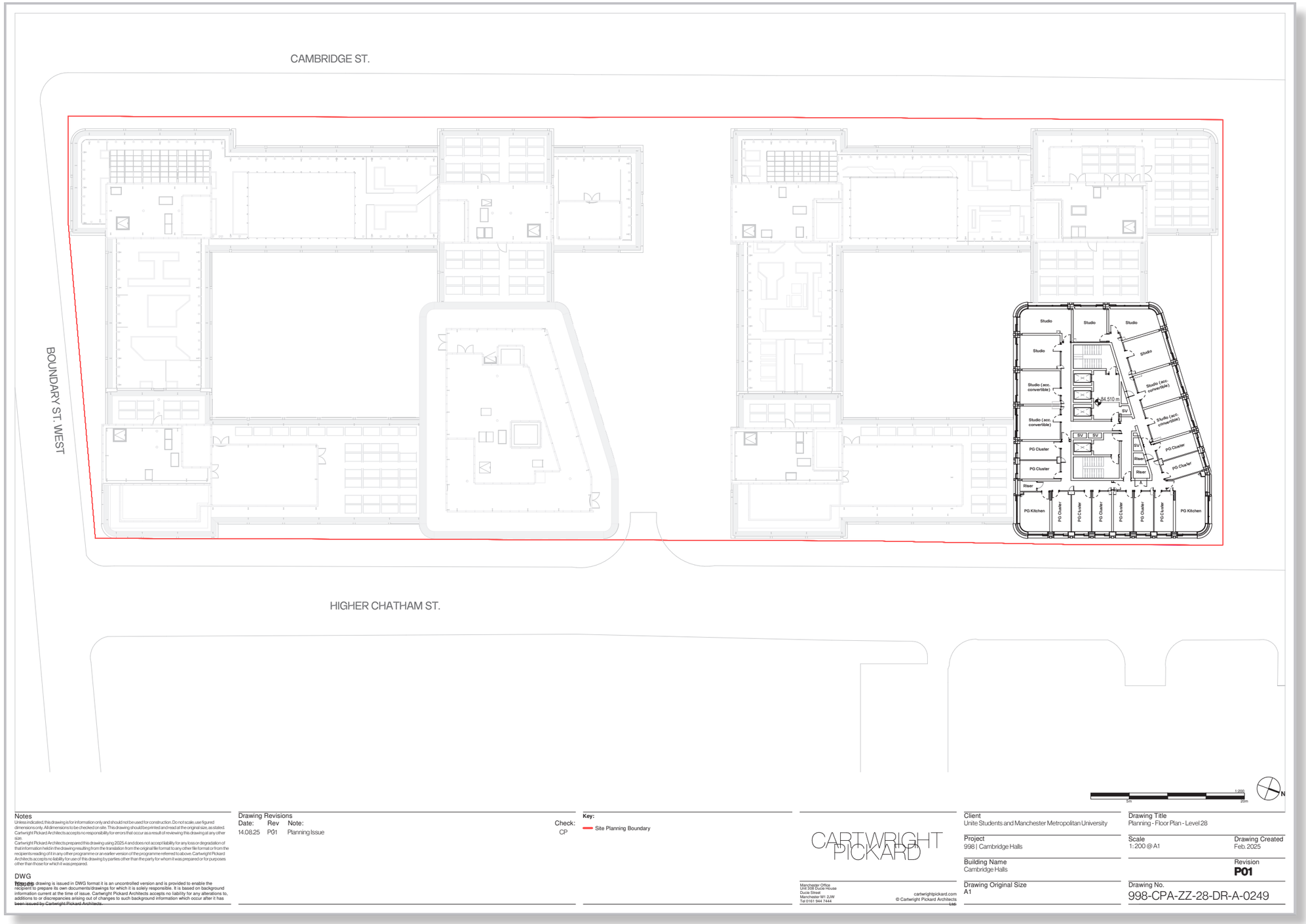
Scale
1: 200 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-27-DR-A-0248

14.38 Floor Plan - Level 28



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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 28

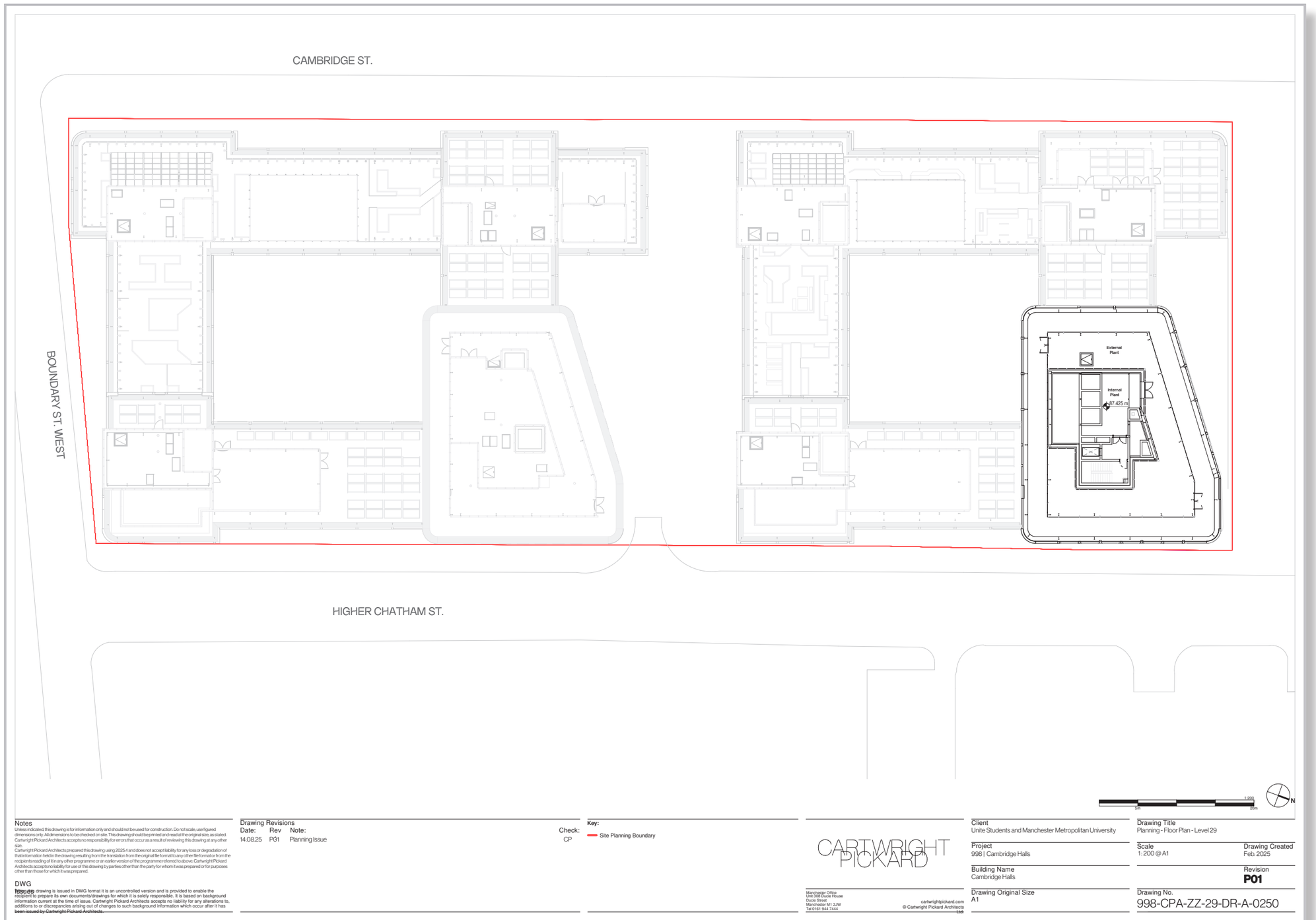
Scale
1:200 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-28-DR-A-0249

14.39 Floor Plan - Level 29



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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Level 29

Scale
1:200 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-29-DR-A-0250

14.40 Floor Plan - Roof



Notes

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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Floor Plan - Roof

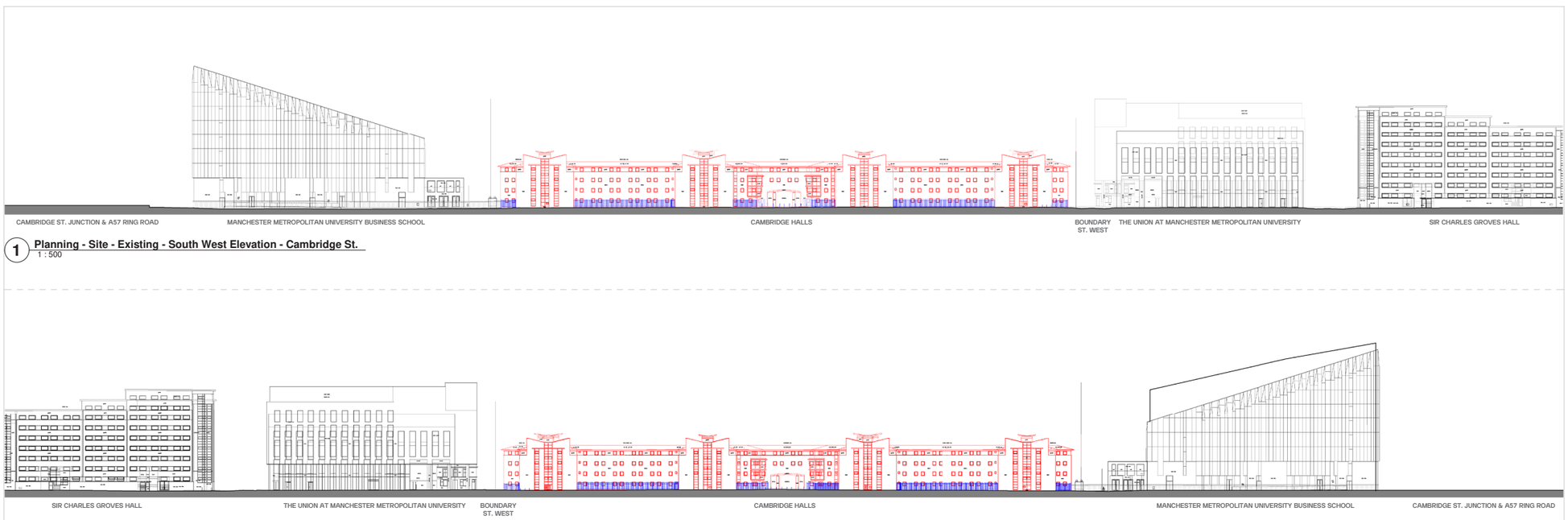
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1:200 @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-ZZ-DR-A-0251

14.41 Elevations - Existing

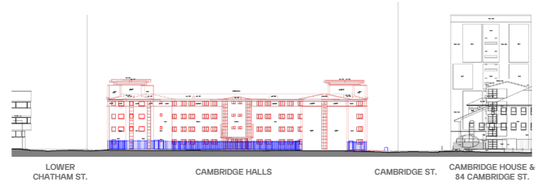


1 **Planning - Site - Existing - South West Elevation - Cambridge St.**
1 : 500

2 **Planning - Site - Existing - North East Elevation - Chatham St.**
1 : 500



3 **Elevation - Existing - South East - Boundary St.**
1 : 500



4 **Elevation - Existing - North West - Service Rd.**
1 : 500

1:500
10m 30m

Notes
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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Site Elevations - Existing

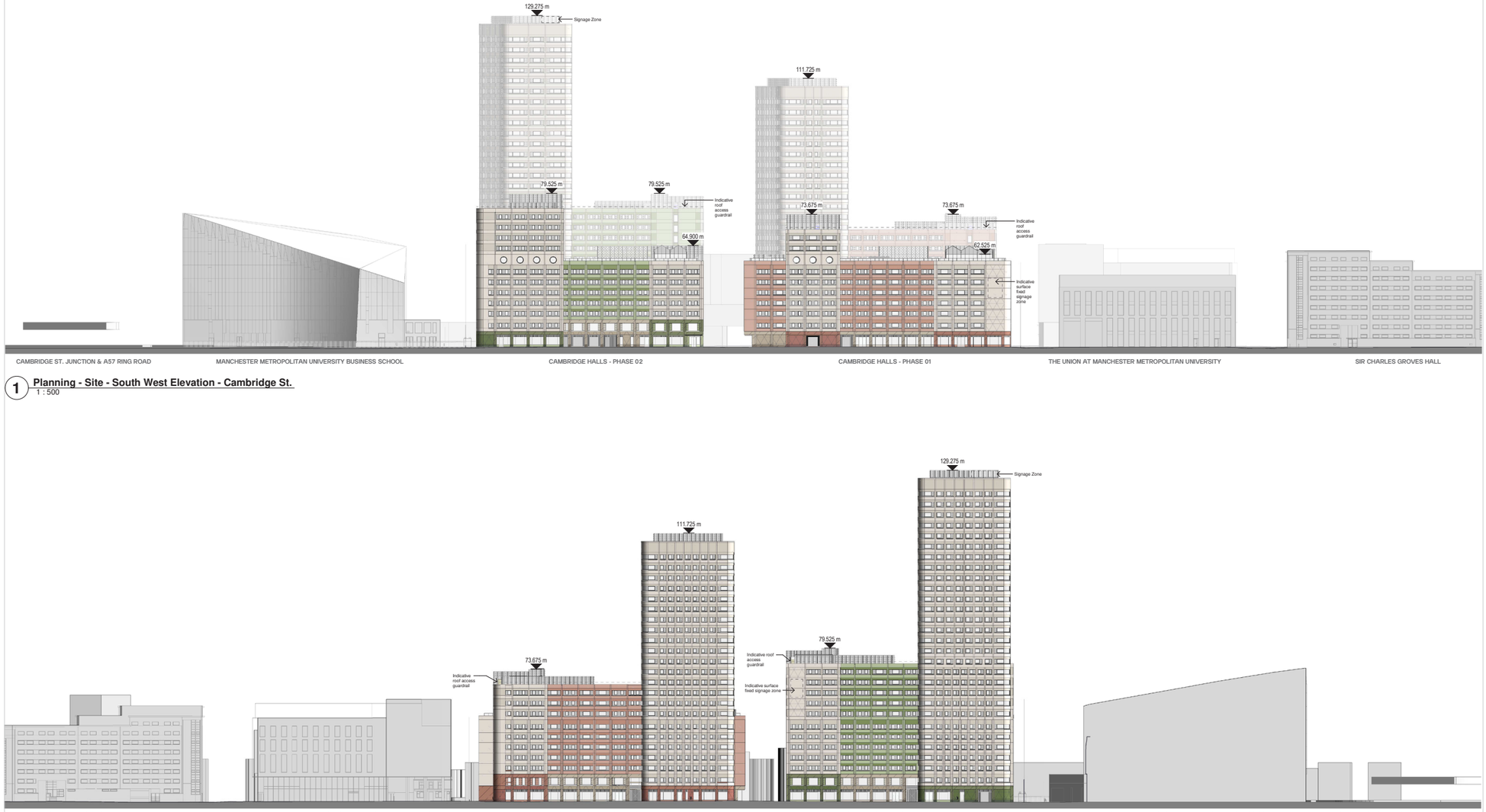
Scale
As indicated @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-ZZ-DR-A-0630

14.42 Elevations - Cambridge St. & Chatham St.



1 **Planning - Site - South West Elevation - Cambridge St.**
1 : 500

2 **Planning - Site - North East Elevation - Chatham St.**
1 : 500

1:500
10m 50m

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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Site Elevations - South West & North East
Cambridge St. & Chatham St.

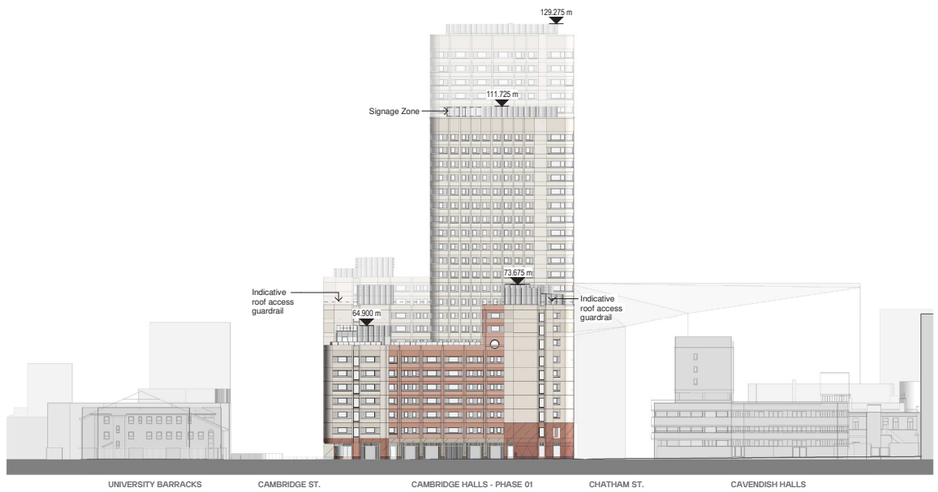
Scale
As indicated @ A1

Drawing Created
Feb. 2025

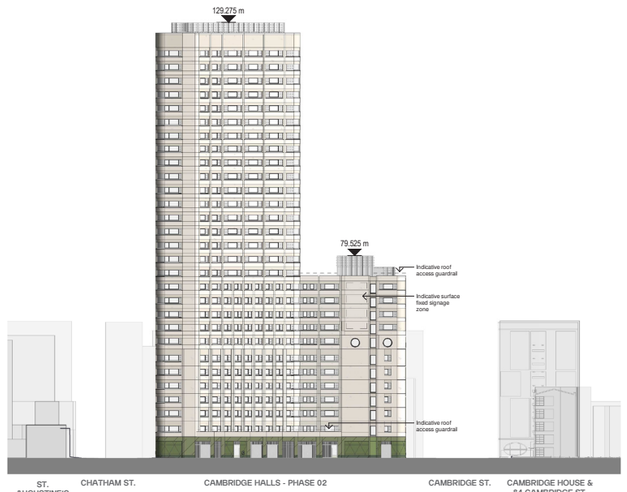
Revision
P01

Drawing No.
998-CPA-ZZ-ZZ-DR-A-0631

14.43 Elevations - Boundary St. West & Service Rd.



1 **Planning - Site - South East Elevation - Boundary St.**
1 : 500



2 **Planning - Site - North West Elevation - Service Rd.**
1 : 500

1:500
10m 50m

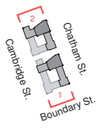
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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Site Elevations - South East & North West Boundary St. West & Service Rd.

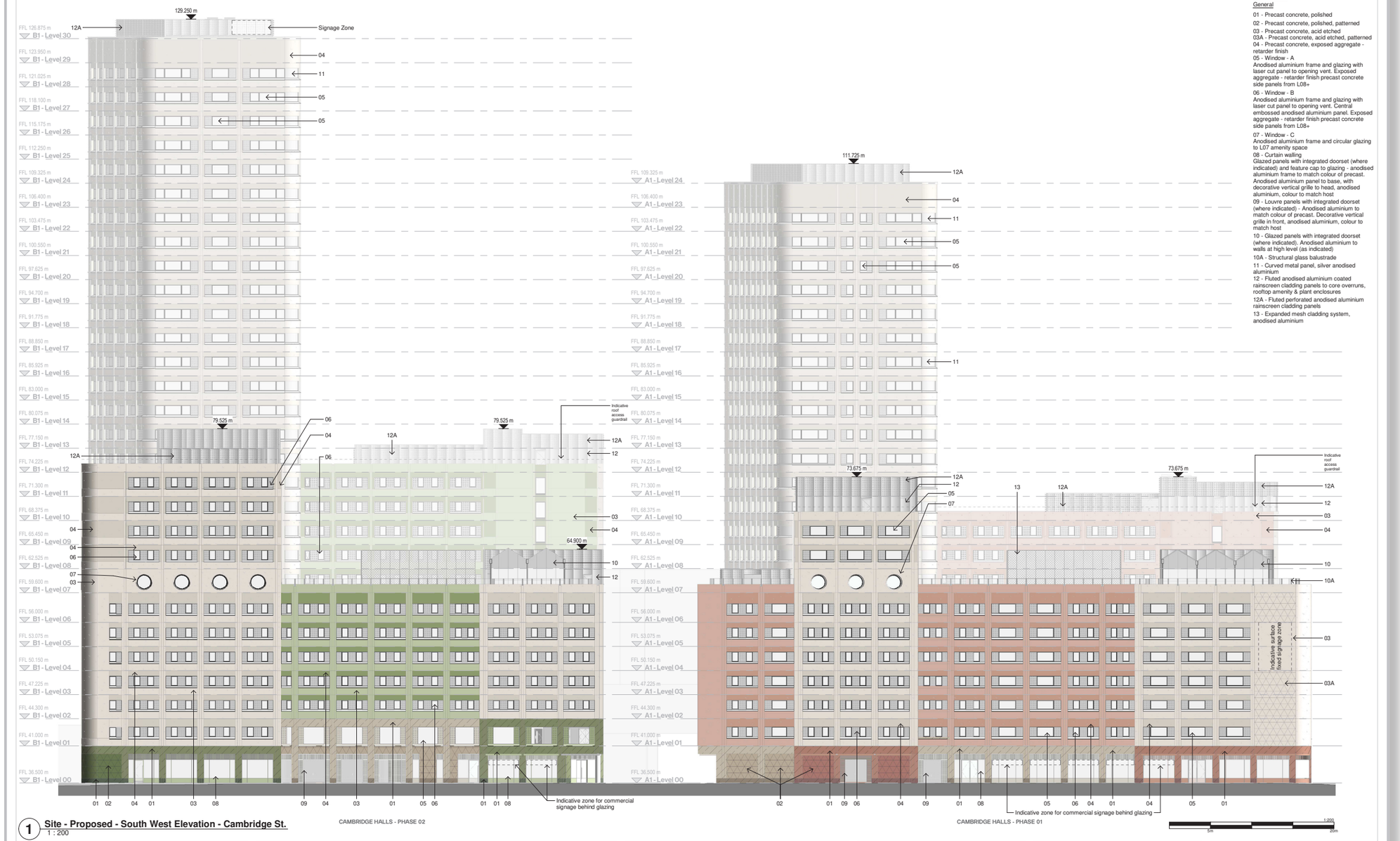
Scale
As indicated @ A1

Drawing Created
Feb. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-ZZ-DR-A-0632

14.44 Elevations - Cambridge St.



1 **Site - Proposed - South West Elevation - Cambridge St.**
1 : 200

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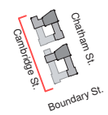
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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Site Elevation - South West - Cambridge St.

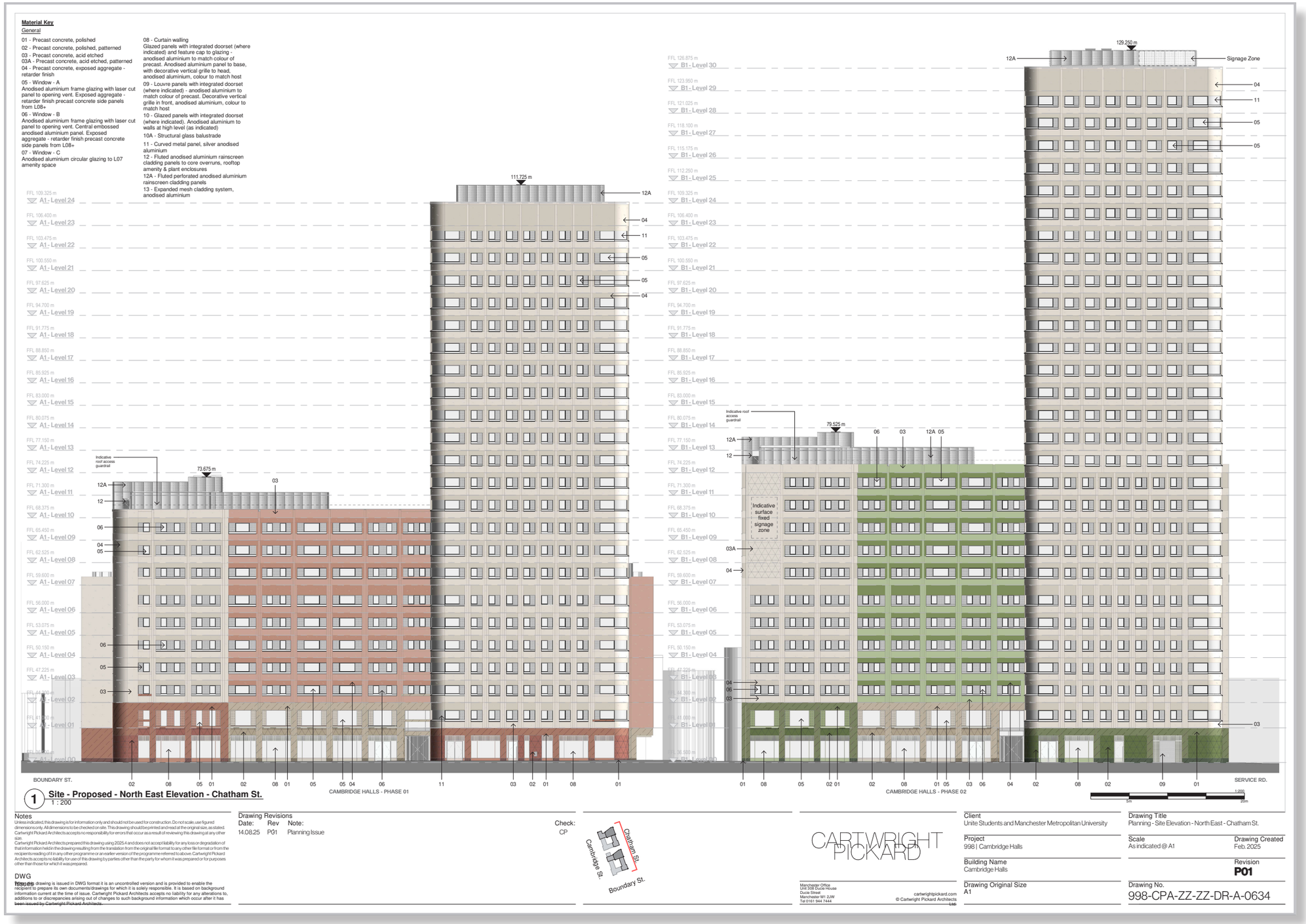
Scale
As indicated @ A1

Drawing Created
Jan. 2025

Revision
P01

Drawing No.
998-CPA-ZZ-ZZ-DR-A-0633

14.45 Elevations - Chatham St.



Notes

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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Site Elevation - North East - Chatham St.

Scale
As indicated @ A1

Drawing Created
Feb. 2025

Revision
P01

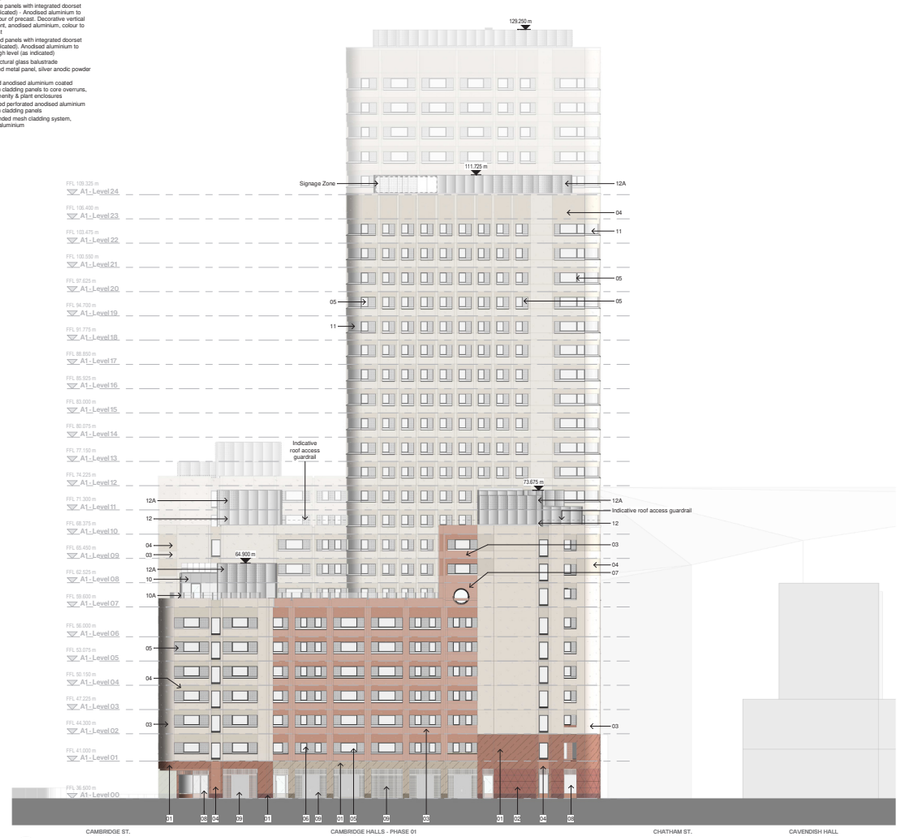
Drawing No.
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14.46 Elevations - Boundary St. West & Service Rd.

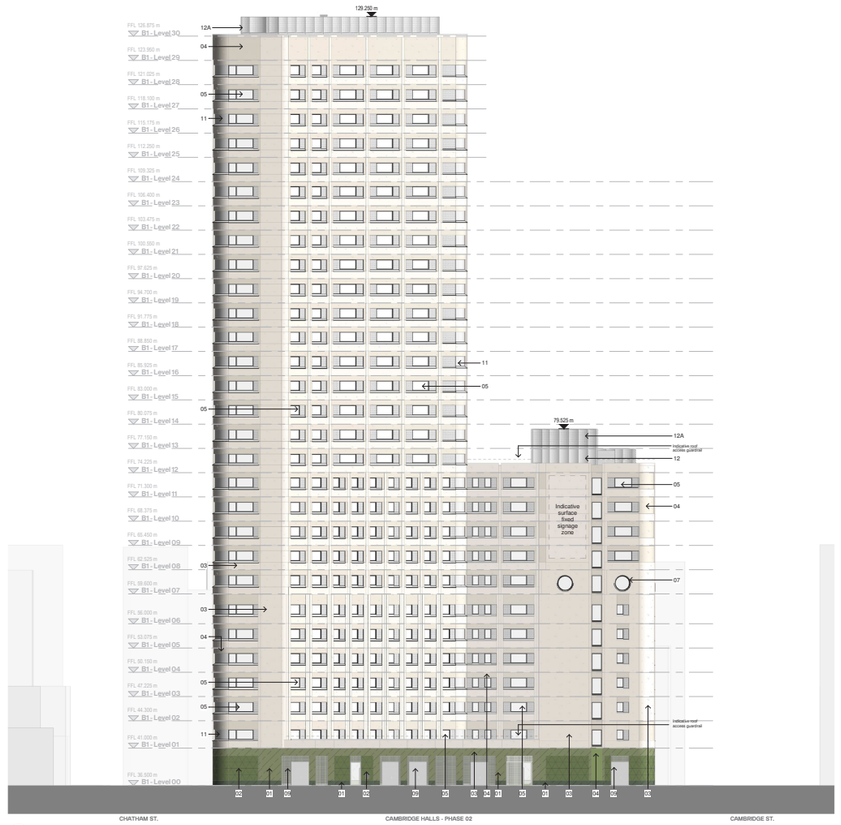
Material Key

General

01 - Precast concrete, polished
02 - Precast concrete, polished, patterned
03 - Precast concrete, acid etched
03A - Precast concrete, acid etched, patterned
04 - Precast concrete, exposed aggregate - retarder finish
05 - Window - A
Anodised aluminium frame and glazing with laser cut panel to opening vent. Exposed aggregate - retarder finish precast concrete side panels from L08+
06 - Window - B
Anodised aluminium frame and glazing with laser cut panel to opening vent. Central embossed anodised aluminium panel. Exposed aggregate - retarder finish precast concrete side panels from L08+
07 - Window - C
Anodised aluminium frame and circular glazing to L07 amenity space
08 - Curtain walling
Glazed panels with integrated doorset (where indicated) and feature cap to glazing - anodised aluminium frame to match colour of precast. Anodised aluminium panel to base, with decorative vertical grille to head, anodised aluminium, colour to match host
09 - Louvre panels with integrated doorset (where indicated) - Anodised aluminium to match colour of precast. Decorative vertical grille in front, anodised aluminium, colour to match host
10 - Glazed panels with integrated doorset (where indicated). Anodised aluminium to walls at high level (as indicated)
10A - Structural glass balustrade
11 - Curved metal panel, silver anodic powder coated
12 - Fluted anodised aluminium coated rainscreen cladding panels to core overruns, rooftop amenity & plant enclosures
12A - Fluted perforated anodised aluminium rainscreen cladding panels
13 - Expanded mesh cladding system, anodised aluminium



1 **Site Elevation - Proposed - South East - Boundary St.**
1 : 200



2 **Site Elevation - Proposed - North West - Service Rd.**
1 : 200

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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A0

Drawing Title
Planning - Site Elevation - South East & North West Boundary St. & Service Rd.

Scale
As indicated @ A0

Drawing Created
Feb. 2025

Revision
P01

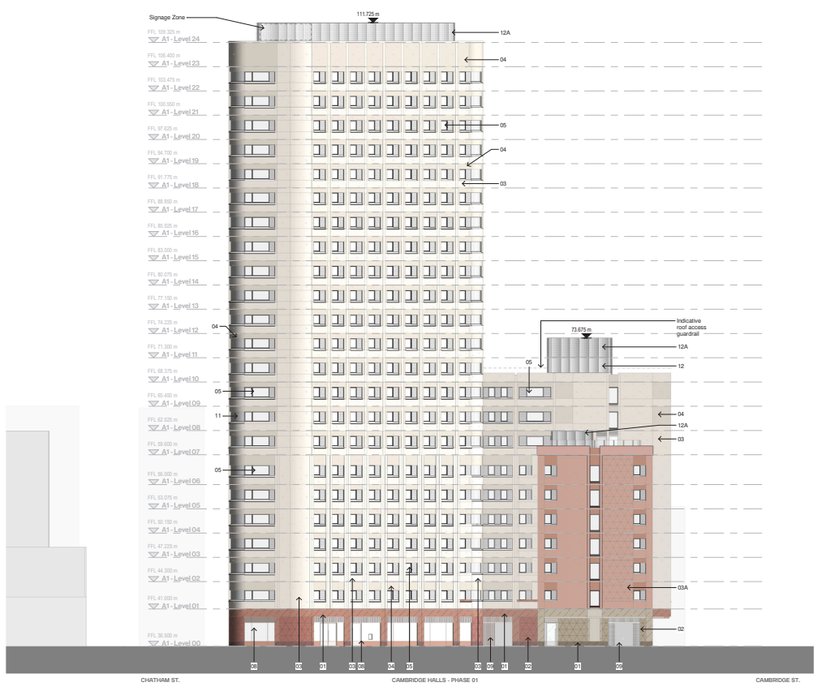
Drawing No.
998-CPA-ZZ-ZZ-DR-A-0635

14.47 Elevations - Link

Material Key

General

01 - Precast concrete, polished
02 - Precast concrete, polished, patterned
03 - Precast concrete, acid etched
03A - Precast concrete, acid etched, patterned
04 - Precast concrete, exposed aggregate - retarder finish
05 - Window - A
Anodised aluminium frame and glazing with laser cut panel to opening vent. Exposed aggregate - retarder finish precast concrete side panels from L06+
06 - Window - B
Anodised aluminium frame and glazing with laser cut panel to opening vent. Central embossed anodised aluminium panel. Exposed aggregate - retarder finish precast concrete side panels from L06+
07 - Window - C
Anodised aluminium frame and circular glazing to L07 amenity space
08 - Curtain walling
Glazed panels with integrated doorset (where indicated) and feature cap to glazing - anodised aluminium frame to match colour of precast. Anodised aluminium panel to base, with decorative vertical grille to head, anodised aluminium, colour to match host
09 - Louvre panels with integrated doorset (where indicated) - Anodised aluminium to match colour of precast. Decorative vertical grille in front, anodised aluminium, colour to match host
10 - Glazed panels with integrated doorset (where indicated). Anodised aluminium to walls at high level (as indicated)
10A - Structural glass balustrade
11 - Curved metal panel, silver anodised aluminium
12 - Fluted anodised aluminium coated rainscreen cladding panels to core overruns, rooftop amenity & plant enclosures
12A - Fluted perforated anodised aluminium rainscreen cladding panels
13 - Expanded mesh cladding system, anodised aluminium



1 **Site Elevation - Proposed - Phase 01 North West Elevation - Link**
1 : 200



2 **Site Elevation - Proposed - Phase 02 South East Elevation - Link**
1 : 200

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Drawing Revisions

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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A0

Drawing Title
Planning - Site Elevation - Link

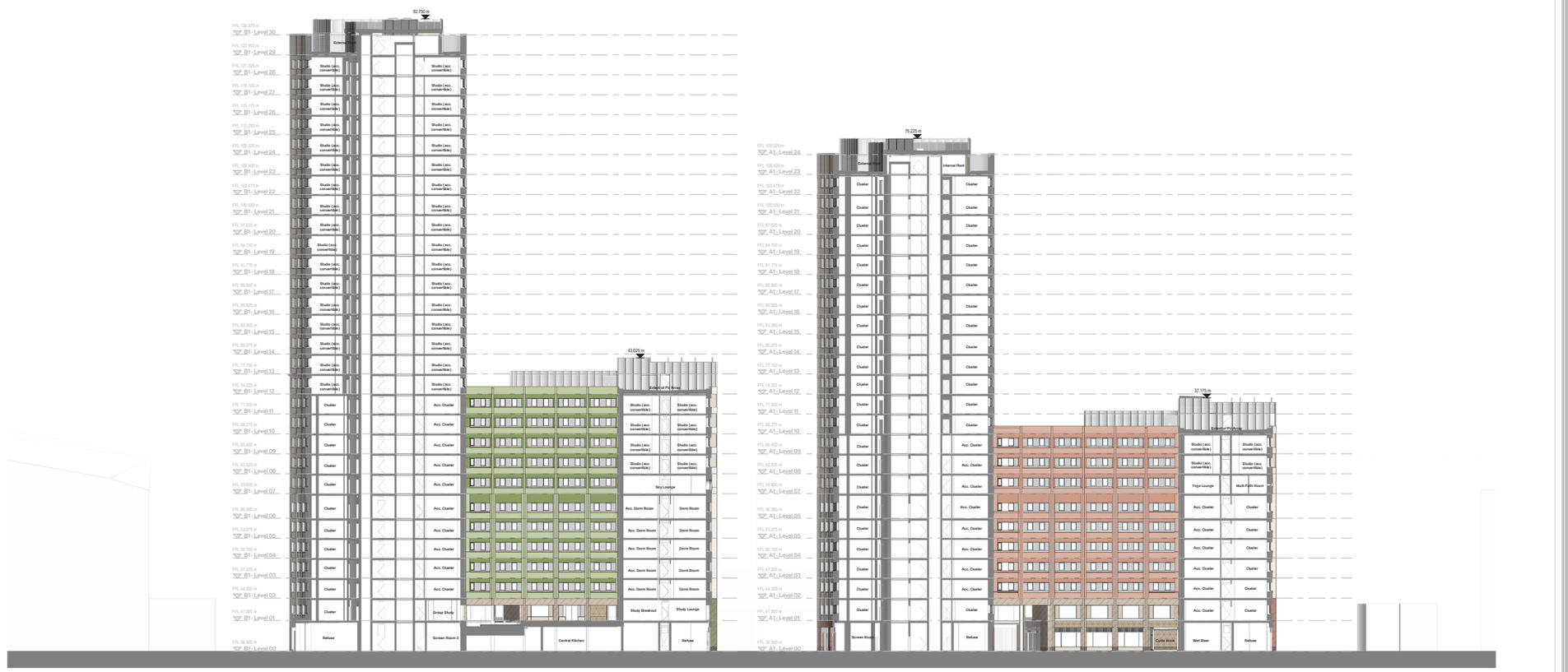
Scale
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Drawing Created
Feb, 2025

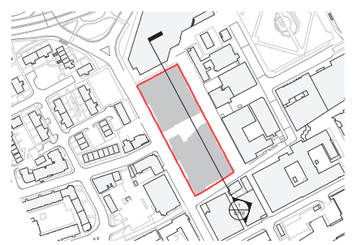
Revision
P01

Drawing No.
998-CPA-ZZ-ZZ-DR-A-0636

14.48 Section AA



1 **Planning - Site Section AA**
1 : 200



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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A0

Drawing Title
Planning - Section AA

Scale
As indicated @ A0

Drawing Created
Feb 2025

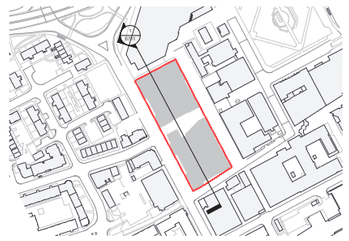
Revision
P01

Drawing No.
998-CPA-ZZ-ZZ-DR-A-0710

14.49 Section BB



1 **Planning - Site Section BB**
1 : 200



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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A0

Drawing Title
Planning - Section BB

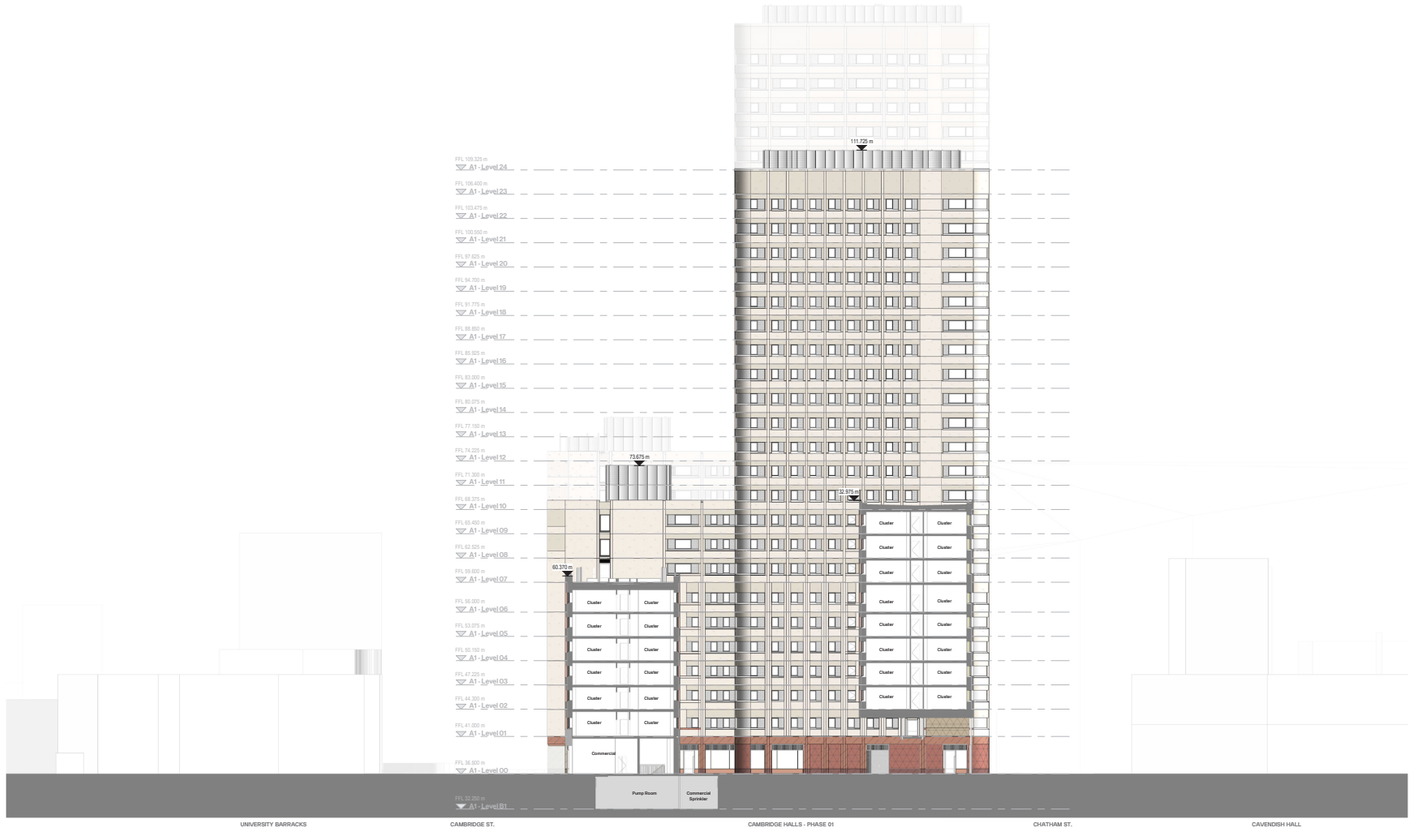
Scale
As indicated @ A0

Drawing Created
Feb-2025

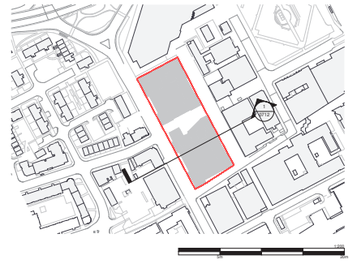
Revision
P01

Drawing No.
998-CPA-ZZ-ZZ-DR-A-0711

14.50 Section CC



1 **Planning - Site Section CC**
1 : 200



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Drawing Revisions

Date:	Rev	Note:	Check:
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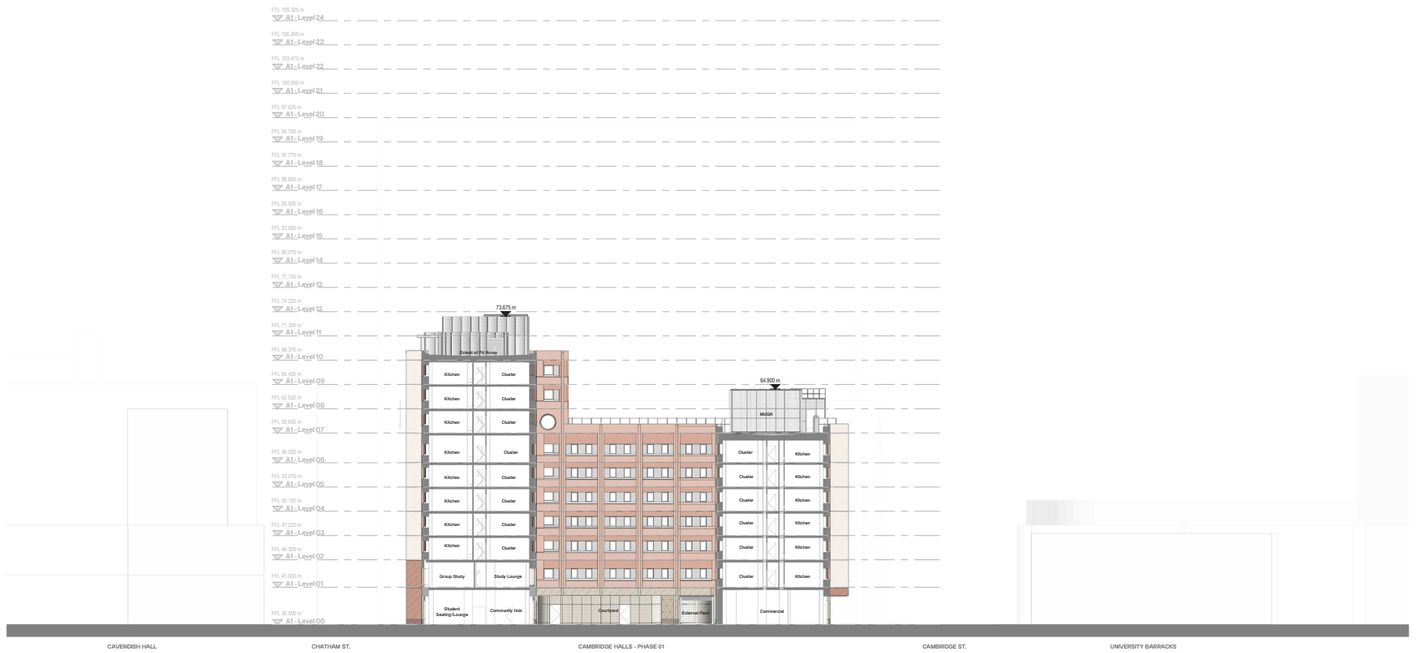
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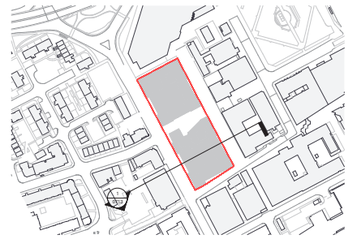
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Client	Unite Students and Manchester Metropolitan University
Project	998	Cambridge Halls
Building Name	Cambridge Halls
Drawing Original Size	A0
Drawing Title	Planning - Section CC - Phase 1
Scale	As indicated @ A0
Drawing Created	Feb 2025
Revision	P01
Drawing No.	998-CPA-AZ-ZZ-DR-A-0712

14.51 Section DD



1 **Planning - Site Section DD**
1 : 200



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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A0

Drawing Title
Planning - Section DD - Phase 1

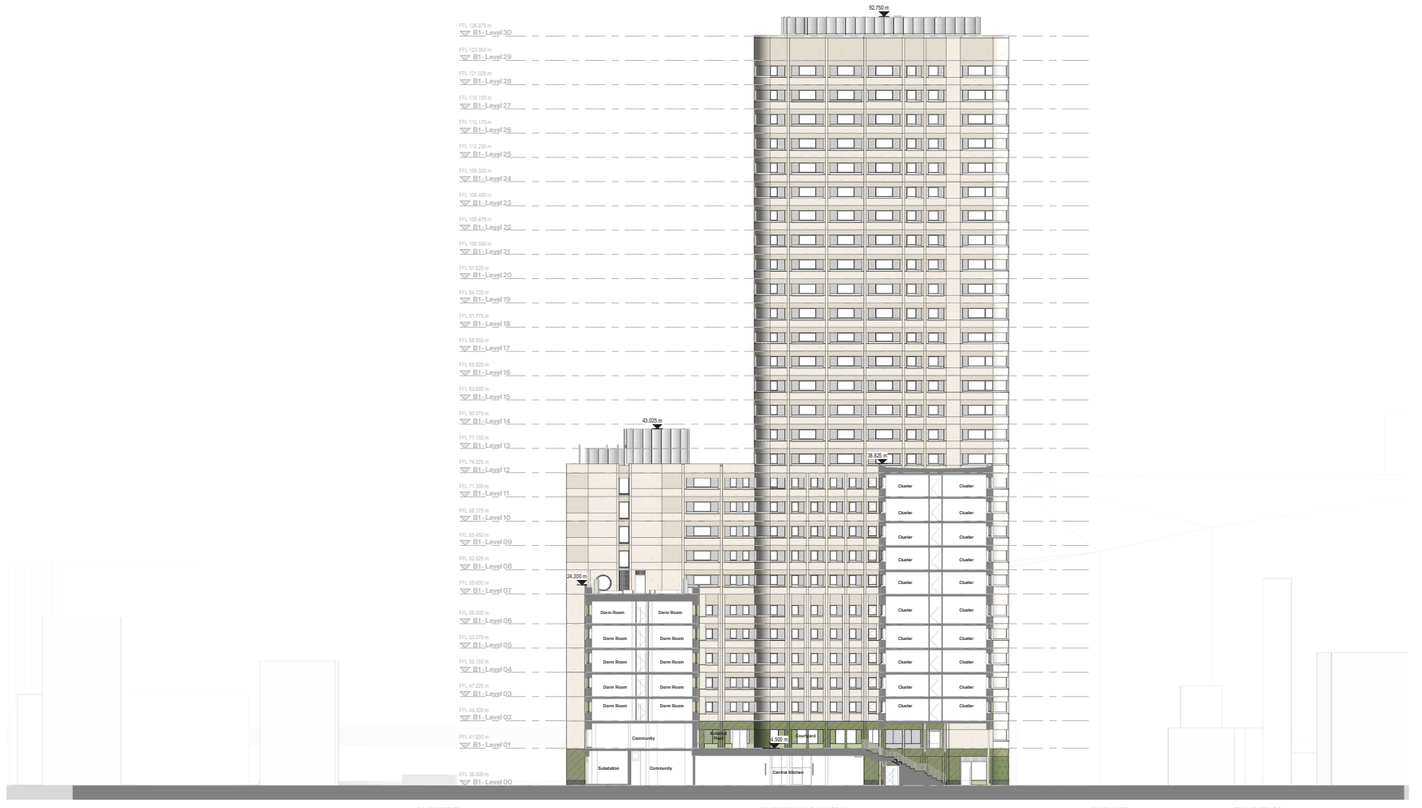
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Drawing Created
Feb 2025

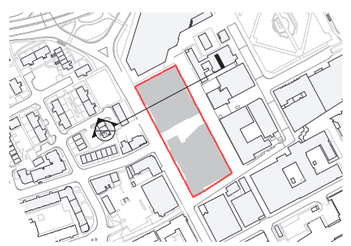
Revision
P01

Drawing No.
998-CPA-AZ-ZZ-DR-A-0713

14.52 Section EE



1 **Planning - Site Section EE**
1 : 200



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998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A0

Drawing Title
Planning - Section EE - Phase 2

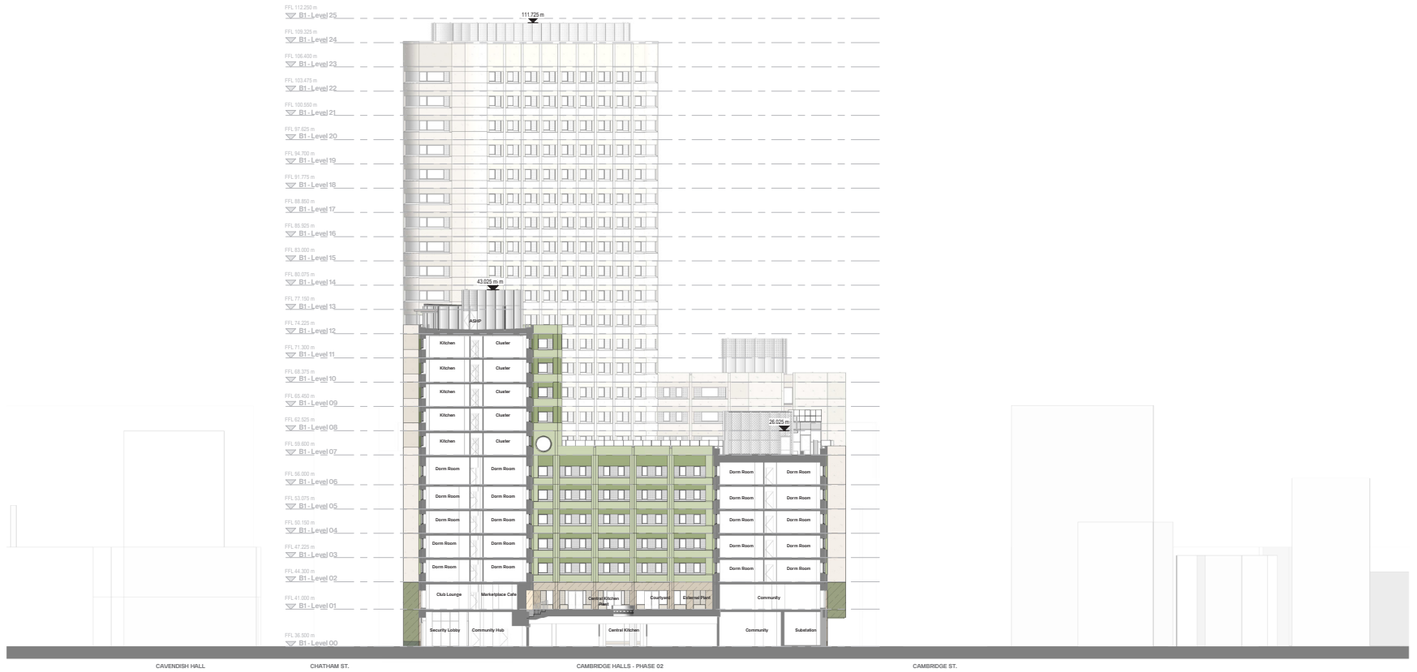
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Drawing Created
Feb 2025

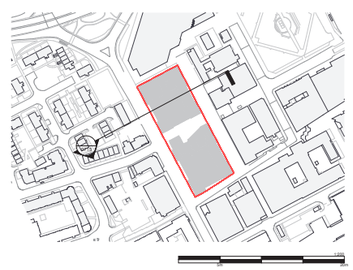
Revision
P01

Drawing No.
998-CPA-BZ-ZZ-DR-A-0714

14.53 Section FF



1 **Planning - Site Section FF**
1 : 200



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DWG

Issues

Drawing Revisions

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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A0

Drawing Title
Planning - Section FF - Phase 2

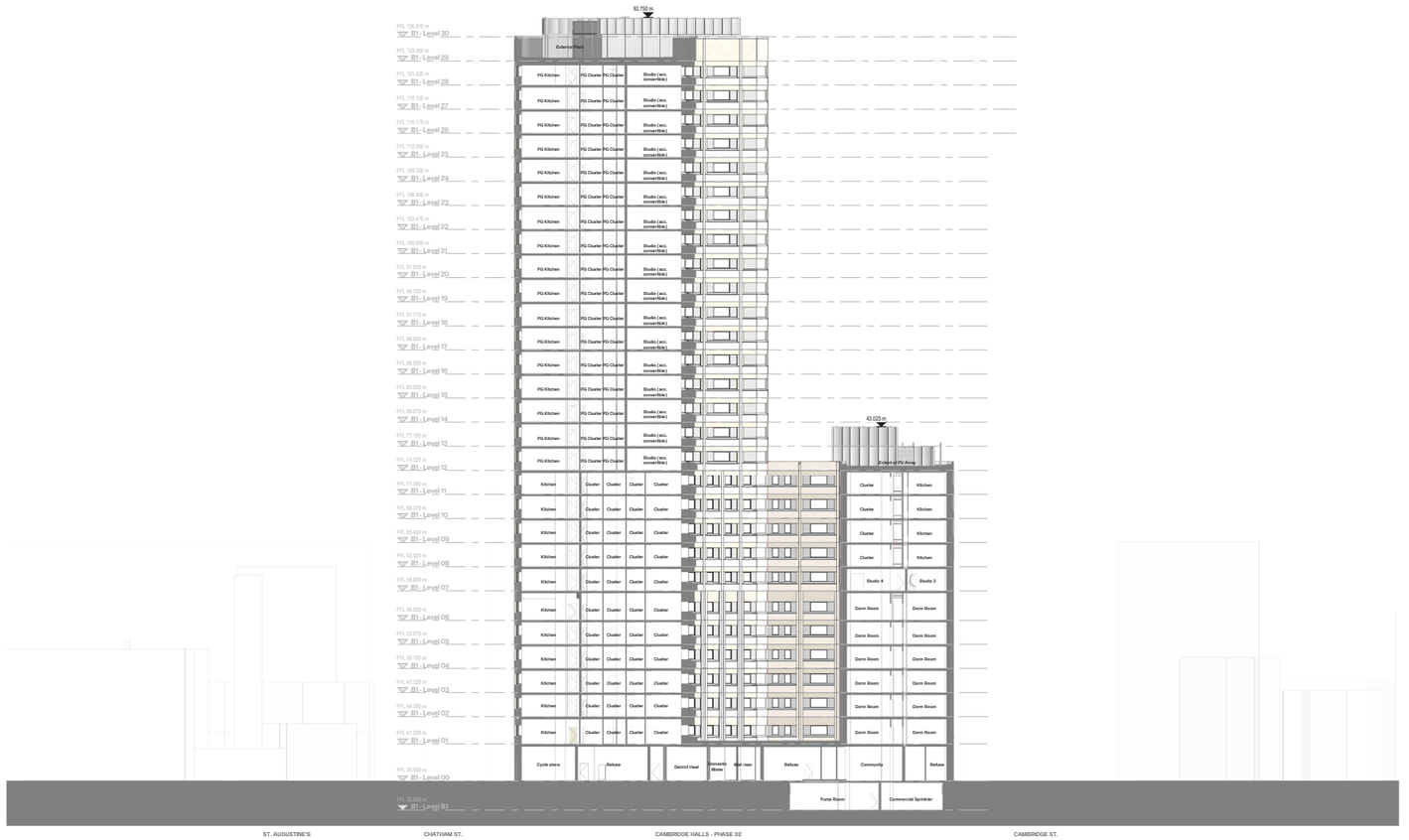
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Feb. 2025

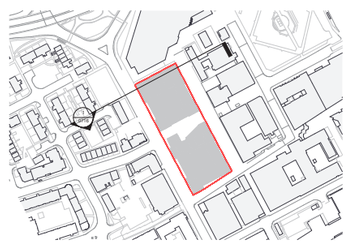
Revision
P01

Drawing No.
998-CPA-BZ-ZZ-DR-A-0715

14.54 Section GG



1 **Planning - Site Section GG**
1 : 200



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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A0

Drawing Title
Planning - Section GG - Phase 2

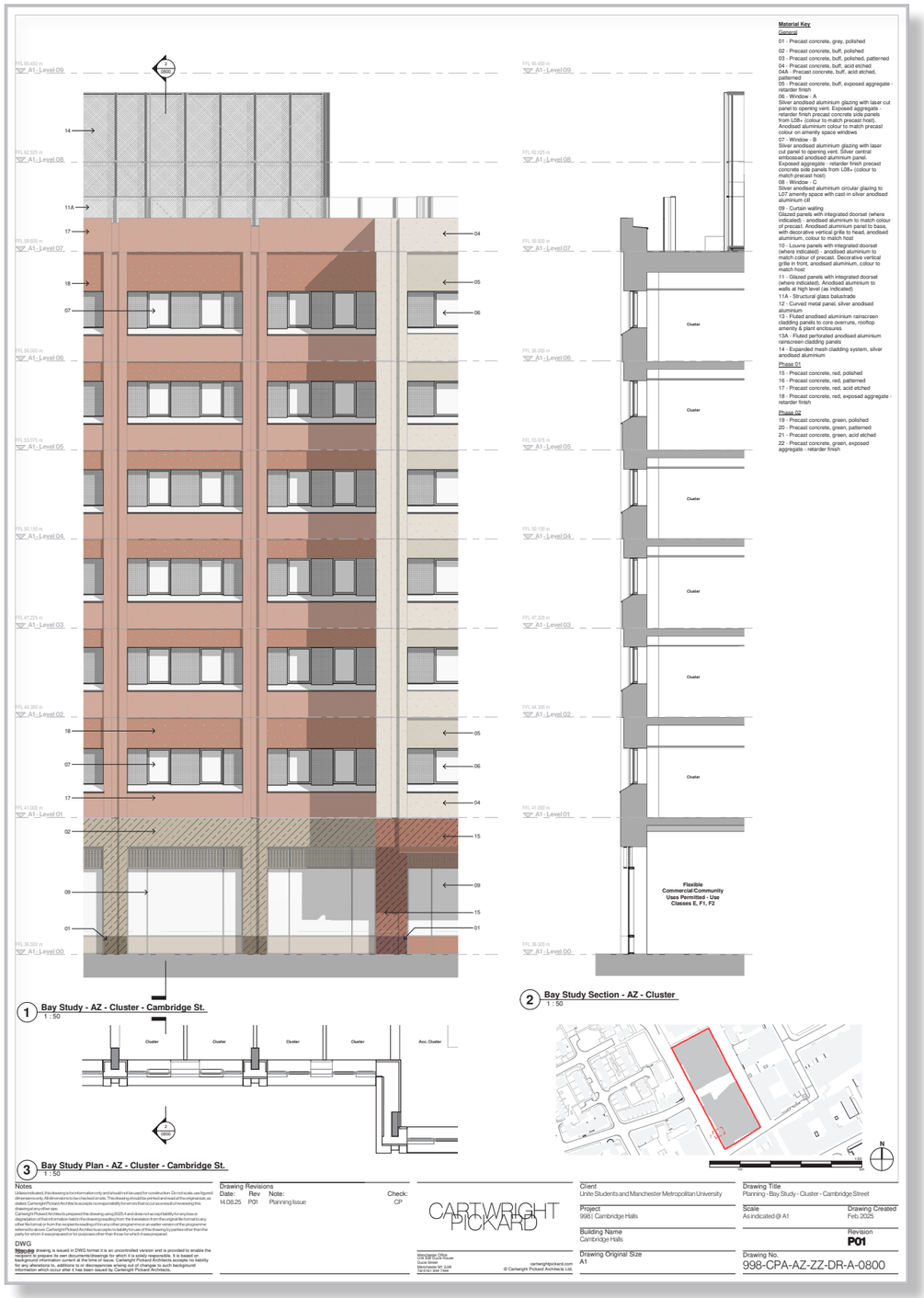
Scale
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Drawing Created
Feb 2025

Revision
P01

Drawing No.
998-CPA-BZ-ZZ-DR-A-0716

14.55 Bay Studies



1 **Bay Study - AZ - Cluster - Cambridge St.**
1 : 50

2 **Bay Study Section - AZ - Cluster**
1 : 50

3 **Bay Study Plan - AZ - Cluster - Cambridge St.**
1 : 50

Material Key

General
01 - Precast concrete, grey, polished
02 - Precast concrete, buff, polished
03 - Precast concrete, buff, polished, patterned
04 - Precast concrete, buff, acid etched
04A - Precast concrete, buff, acid etched, patterned
05 - Precast concrete, buff, exposed aggregate - retarder finish
06 - Window - A
Silver anodised aluminium glazing with laser cut panel to opening vent. Exposed aggregate - retarder finish precast concrete side panels from L08+ (colour to match precast host). Anodised aluminium colour to match precast colour on amenity space windows
07 - Window - B
Silver anodised aluminium glazing with laser cut panel to opening vent. Silver central embossed anodised aluminium panel. Exposed aggregate - retarder finish precast concrete side panels from L08+ (colour to match precast host)
08 - Window - C
Silver anodised aluminium circular glazing to L07 amenity space with cast-in silver anodised aluminium cill
09 - Curtain walling
Glazed panels with integrated doorset (where indicated) - anodised aluminium to match colour of precast. Anodised aluminium panel to base, with decorative vertical grille to head, anodised aluminium, colour to match host
10 - Louvre panels with integrated doorset (where indicated) - anodised aluminium to match colour of precast. Decorative vertical grille in front, anodised aluminium, colour to match host
11 - Glazed panels with integrated doorset (where indicated). Anodised aluminium to walls at high level (as indicated)
11A - Structural glass balustrade
12 - Curved metal panel, silver anodised aluminium
13 - Fluted anodised aluminium rainscreen cladding panels to core overruns, rooftop amenity & plant enclosures
13A - Fluted perforated anodised aluminium rainscreen cladding panels
14 - Expanded mesh cladding system, silver anodised aluminium

Phase 01
15 - Precast concrete, red, polished
16 - Precast concrete, red, patterned
17 - Precast concrete, red, acid etched
18 - Precast concrete, red, exposed aggregate - retarder finish

Phase 02
19 - Precast concrete, green, polished
20 - Precast concrete, green, patterned
21 - Precast concrete, green, acid etched
22 - Precast concrete, green, exposed aggregate - retarder finish

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Project
9981 Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

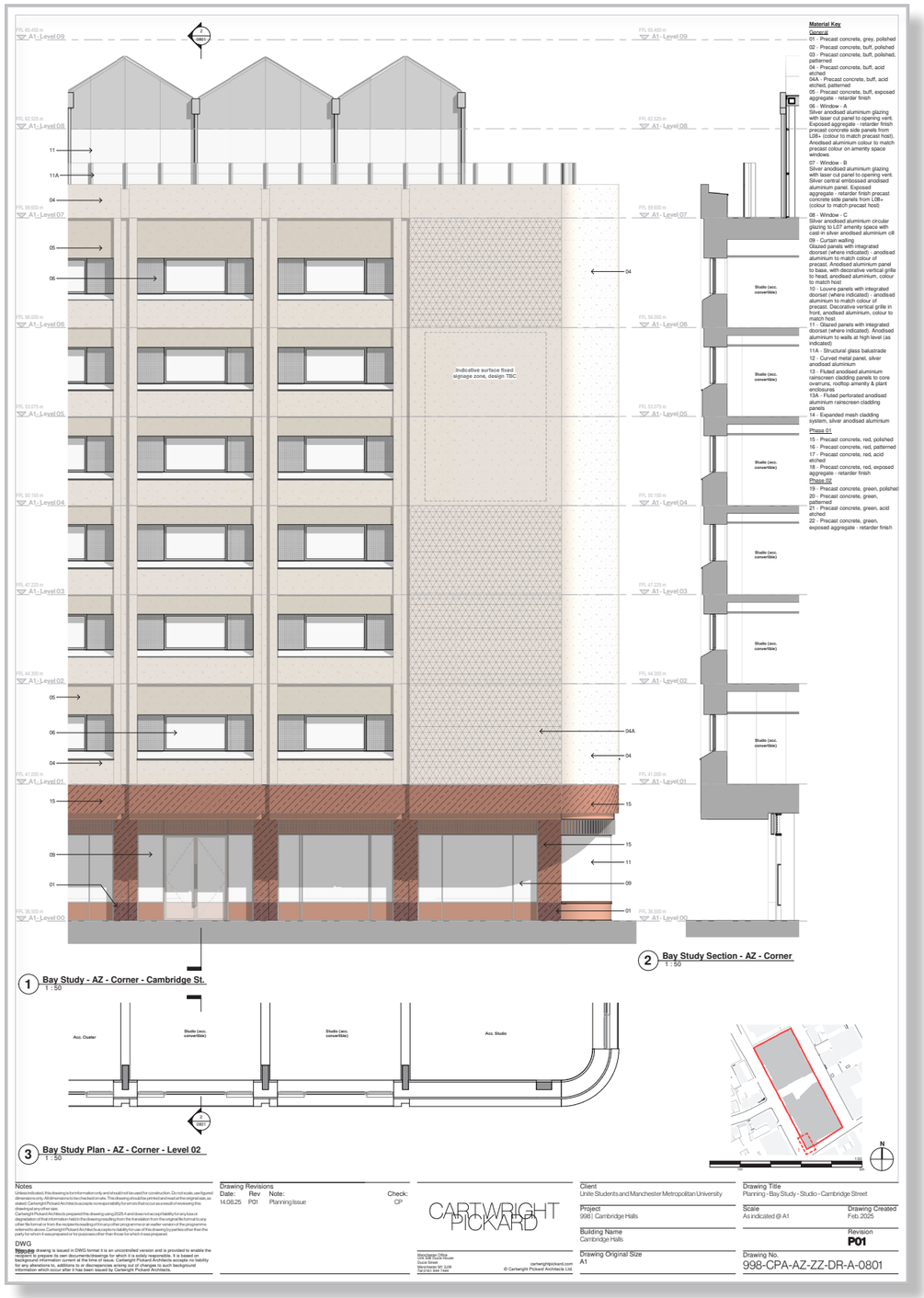
Drawing Title
Planning - Bay Study - Cluster - Cambridge Street

Scale
As indicated @ A1

Drawing Created
Feb 2025

Revision
P01

Drawing No.
998-CPA-AZ-ZZ-DR-A-0800



1 **Bay Study - AZ - Corner - Cambridge St.**
1 : 50

2 **Bay Study Section - AZ - Corner**
1 : 50

3 **Bay Study Plan - AZ - Corner - Level 02**
1 : 50

Material Key

General
01 - Precast concrete, grey, polished
02 - Precast concrete, buff, polished
03 - Precast concrete, buff, polished, patterned
04 - Precast concrete, buff, acid etched
04A - Precast concrete, buff, acid etched, patterned
05 - Precast concrete, buff, exposed aggregate - retarder finish
06 - Window - A
Silver anodised aluminium glazing with laser cut panel to opening vent. Exposed aggregate - retarder finish precast concrete side panels from L08+ (colour to match precast host). Anodised aluminium colour to match precast colour on amenity space windows
07 - Window - B
Silver anodised aluminium glazing with laser cut panel to opening vent. Silver central embossed anodised aluminium panel. Exposed aggregate - retarder finish precast concrete side panels from L08+ (colour to match precast host)
08 - Window - C
Silver anodised aluminium circular glazing to L07 amenity space with cast in silver anodised aluminium cill
09 - Curtain walling
Glazed panels with integrated doorset (where indicated) - anodised aluminium to match colour of precast. Anodised aluminium panel to base, with decorative vertical grille to head, anodised aluminium, colour to match host
10 - Louvre panels with integrated doorset (where indicated) - anodised aluminium to match colour of precast. Decorative vertical grille in front, anodised aluminium, colour to match host
11 - Glazed panels with integrated doorset (where indicated). Anodised aluminium to walls at high level (as indicated)
11A - Structural glass balustrade
12 - Curved metal panel, silver anodised aluminium
13 - Fluted anodised aluminium rainscreen cladding panels to core overruns, rooftop amenity & plant enclosures
13A - Fluted perforated anodised aluminium rainscreen cladding panels
14 - Expanded mesh cladding system, silver anodised aluminium

Phase 01
15 - Precast concrete, red, polished
16 - Precast concrete, red, patterned
17 - Precast concrete, red, acid etched
18 - Precast concrete, red, exposed aggregate - retarder finish

Phase 02
19 - Precast concrete, green, polished
20 - Precast concrete, green, patterned
21 - Precast concrete, green, acid etched
22 - Precast concrete, green, exposed aggregate - retarder finish

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Drawing Revisions
Date: Rev Note:
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Client
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Project
9981 Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Bay Study - Studio - Cambridge Street

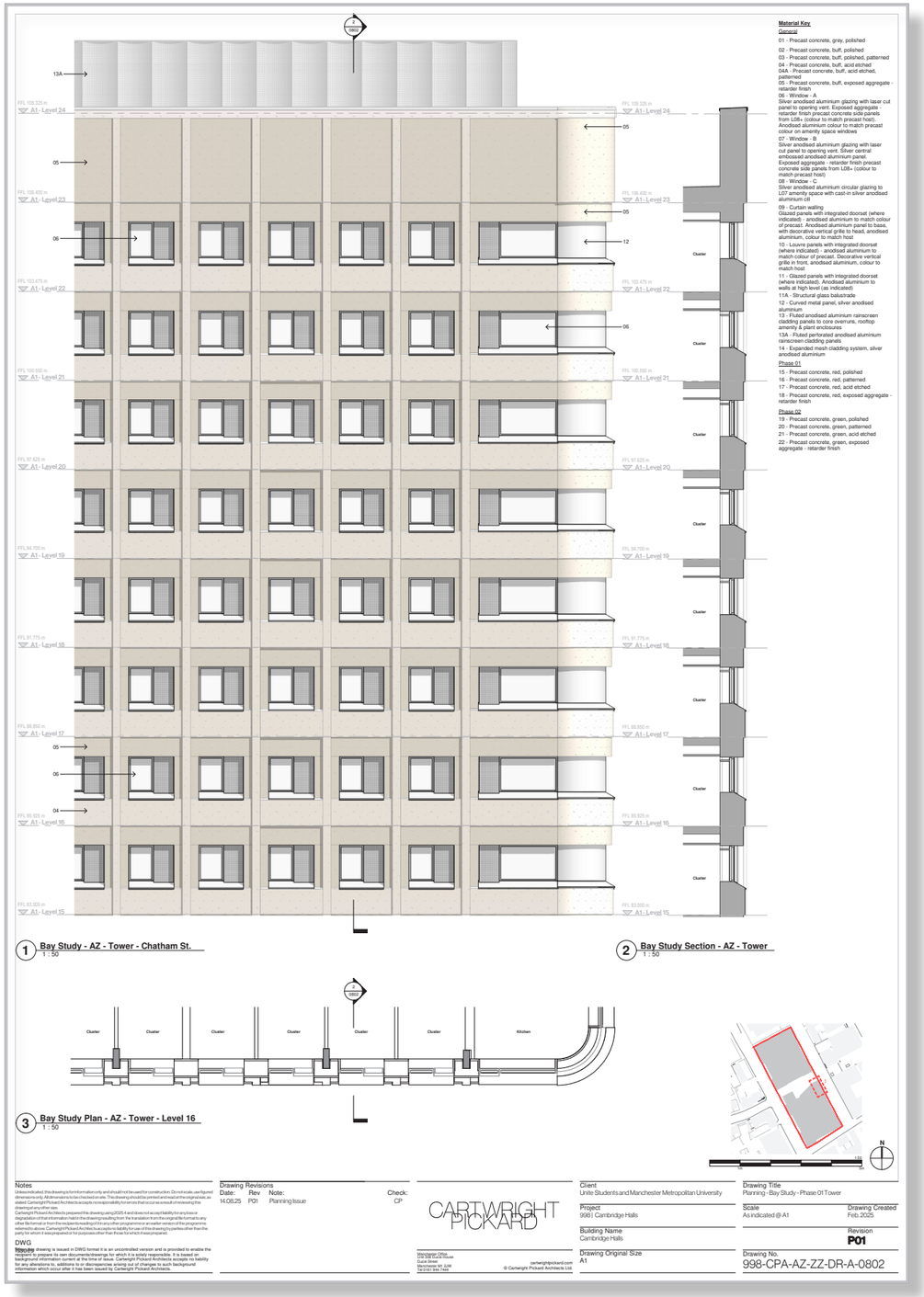
Scale
As indicated @ A1

Drawing Created
Feb 2025

Revision
P01

Drawing No.
998-CPA-AZ-ZZ-DR-A-0801

14.56 Bay Studies



1 **Bay Study - AZ - Tower - Chatham St.**
1 : 50

2 **Bay Study Section - AZ - Tower**
1 : 50

3 **Bay Study Plan - AZ - Tower - Level 16**
1 : 50

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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

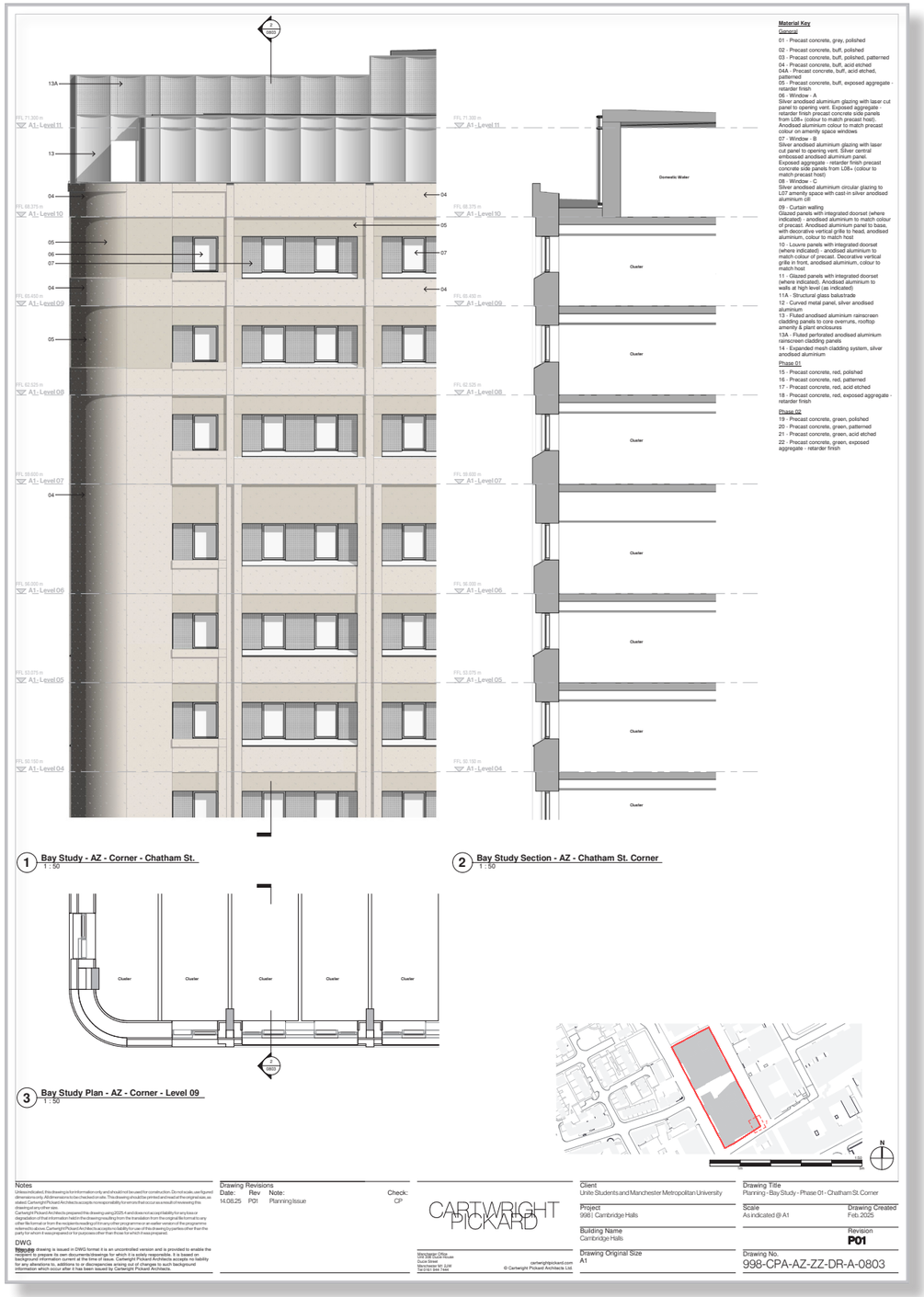
Drawing Title
Planning - Bay Study - Phase 01 Tower

Scale
As indicated @ A1

Drawing Created
Feb 2025

Revision
P01

Drawing No.
998-CPA-AZ-ZZ-DR-A-0802



1 **Bay Study - AZ - Corner - Chatham St.**
1 : 50

2 **Bay Study Section - AZ - Chatham St. Corner**
1 : 50

3 **Bay Study Plan - AZ - Corner - Level 09**
1 : 50

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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Bay Study - Phase 01 - Chatham St. Corner

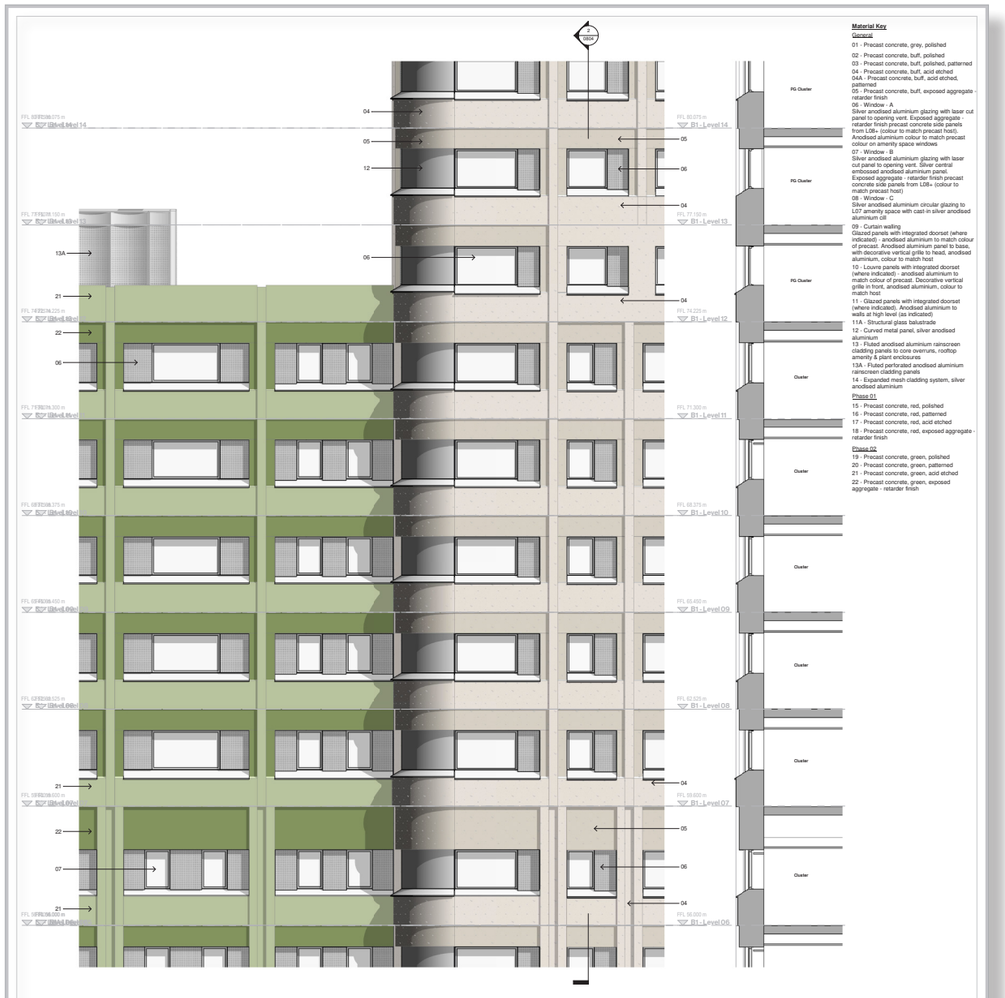
Scale
As indicated @ A1

Drawing Created
Feb. 2025

Revision
P01

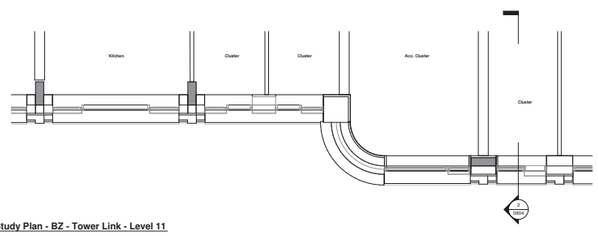
Drawing No.
998-CPA-AZ-ZZ-DR-A-0803

14.57 Bay Studies

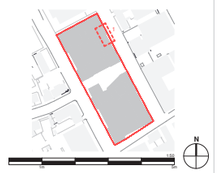


1 **Bay Study - BZ - Tower Link - Chatham St.**
1 : 50

2 **Bay Study Section - BZ - Tower Link**
1 : 50



3 **Bay Study Plan - BZ - Tower Link - Level 11**
1 : 50



Material Key

General

01 - Precast concrete, grey, polished

02 - Precast concrete, buff, polished

03 - Precast concrete, buff, polished, patterned

04 - Precast concrete, buff, acid etched

04A - Precast concrete, buff, acid etched, patterned

05 - Precast concrete, buff, exposed aggregate - retarder finish

06 - Window - A
Silver anodised aluminium glazing with laser cut panel to opening vent. Exposed aggregate - retarder finish precast concrete side panels from LDB+ (colour to match precast host). Anodised aluminium colour to match precast colour on amenity space windows

07 - Window - B
Silver anodised aluminium glazing with laser cut panel to opening vent. Silver central embossed anodised aluminium panel. Exposed aggregate - retarder finish precast concrete side panels from LDB+ (colour to match precast host)

08 - Window - C
Silver anodised aluminium circular glazing to L07 amenity space with cast-in silver anodised aluminium cill

09 - Curtain walling
Glazed panels with integrated doorset (where indicated) - anodised aluminium to match colour of precast. Anodised aluminium panel to base, with decorative vertical grille to head, anodised aluminium, colour to match host

10 - Louvre panels with integrated doorset (where indicated) - anodised aluminium to match colour of precast. Decorative vertical grille in front, anodised aluminium, colour to match host

11 - Glazed panels with integrated doorset (where indicated). Anodised aluminium to walls at high level (as indicated)

11A - Structural glass balustrade

12 - Curved metal panel, silver anodised aluminium

13 - Fluted anodised aluminium rainscreen cladding panels to core overruns, rooftop amenity & plant enclosures

13A - Fluted perforated anodised aluminium rainscreen cladding panels

14 - Expanded mesh cladding system, silver anodised aluminium

Phase 01

15 - Precast concrete, red, polished

16 - Precast concrete, red, patterned

17 - Precast concrete, red, acid etched

18 - Precast concrete, red, exposed aggregate - retarder finish

Phase 02

19 - Precast concrete, green, polished

20 - Precast concrete, green, patterned

21 - Precast concrete, green, acid etched

22 - Precast concrete, green, exposed aggregate - retarder finish

Notes

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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Original Size
A1

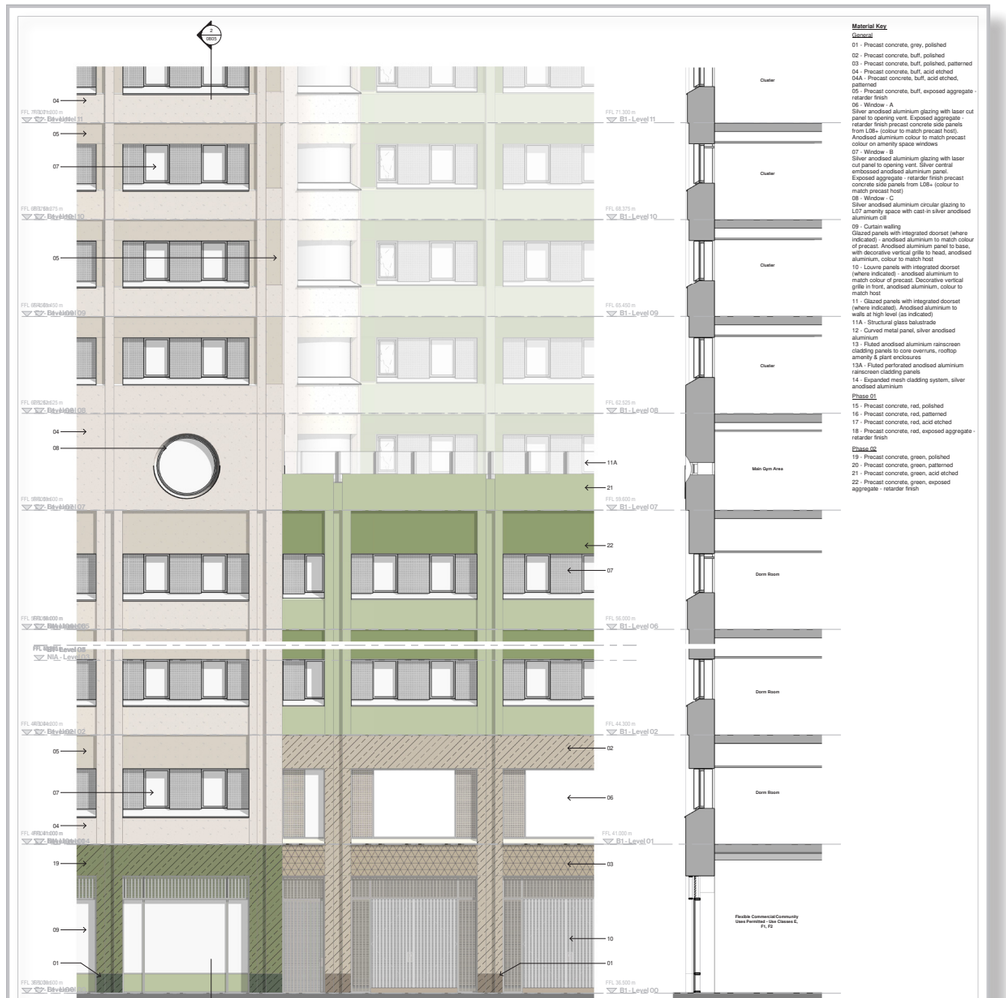
Drawing Title
Planning - Bay Study - Phase 02 - Tower Link - Chatham St.

Scale
As indicated @ A1

Drawing Created
Feb 2025

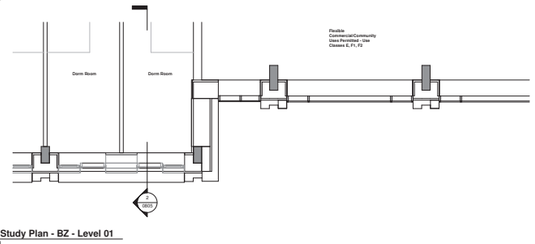
Revision
P01

Drawing No.
998-CPA-BZ-ZZ-DR-A-0804

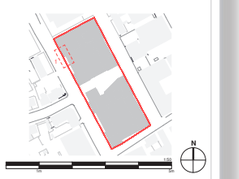


1 **Bay Study - BZ - Cambridge St.**
1 : 50

2 **Bay Study Section - BZ - Cambridge St.**
1 : 50



3 **Bay Study Plan - BZ - Level 01**
1 : 50



Material Key

General

01 - Precast concrete, grey, polished

02 - Precast concrete, buff, polished

03 - Precast concrete, buff, polished, patterned

04 - Precast concrete, buff, acid etched

04A - Precast concrete, buff, acid etched, patterned

05 - Precast concrete, buff, exposed aggregate - retarder finish

06 - Window - A
Silver anodised aluminium glazing with laser cut panel to opening vent. Exposed aggregate - retarder finish precast concrete side panels from LDB+ (colour to match precast host). Anodised aluminium colour to match precast colour on amenity space windows

07 - Window - B
Silver anodised aluminium glazing with laser cut panel to opening vent. Silver central embossed anodised aluminium panel. Exposed aggregate - retarder finish precast concrete side panels from LDB+ (colour to match precast host)

08 - Window - C
Silver anodised aluminium circular glazing to L07 amenity space with cast-in silver anodised aluminium cill

09 - Curtain walling
Glazed panels with integrated doorset (where indicated) - anodised aluminium to match colour of precast. Anodised aluminium panel to base, with decorative vertical grille to head, anodised aluminium, colour to match host

10 - Louvre panels with integrated doorset (where indicated) - anodised aluminium to match colour of precast. Decorative vertical grille in front, anodised aluminium, colour to match host

11 - Glazed panels with integrated doorset (where indicated). Anodised aluminium to walls at high level (as indicated)

11A - Structural glass balustrade

12 - Curved metal panel, silver anodised aluminium

13 - Fluted anodised aluminium rainscreen cladding panels to core overruns, rooftop amenity & plant enclosures

13A - Fluted perforated anodised aluminium rainscreen cladding panels

14 - Expanded mesh cladding system, silver anodised aluminium

Phase 01

15 - Precast concrete, red, polished

16 - Precast concrete, red, patterned

17 - Precast concrete, red, acid etched

18 - Precast concrete, red, exposed aggregate - retarder finish

Phase 02

19 - Precast concrete, green, polished

20 - Precast concrete, green, patterned

21 - Precast concrete, green, acid etched

22 - Precast concrete, green, exposed aggregate - retarder finish

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Project
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Building Name
Cambridge Halls

Drawing Original Size
A1

Drawing Title
Planning - Bay Study - Phase 02 - Cambridge St.

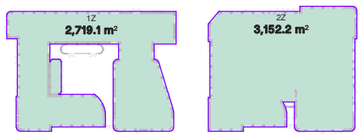
Scale
As indicated @ A1

Drawing Created
Feb 2025

Revision
P01

Drawing No.
998-CPA-BZ-ZZ-DR-A-0805

14.58 GEA Area Plans



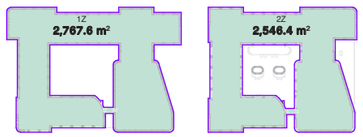
1 GEA - L00
1 : 1000



6 GEA - L10
1 : 1000



11 GEA - L24-28
1 : 1000



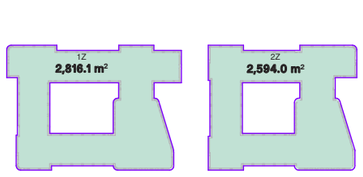
2 GEA - L01
1 : 1000



7 GEA - L11
1 : 1000



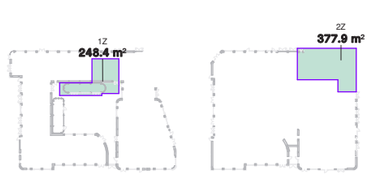
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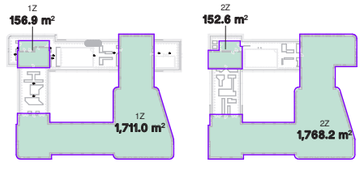
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8 GEA - L12
1 : 1000



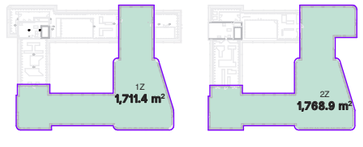
13 GEA - LB1
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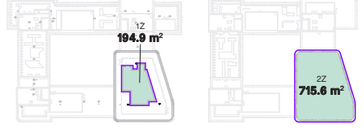
4 GEA - L07
1 : 1000



9 GEA - L13-22
1 : 1000



5 GEA - L08-09
1 : 1000



10 GEA - L23
1 : 1000

Area Schedule (GEA)

Name	Level	Area (rounded)	Perimeter
1Z	B1 - Level B1	248.4 m²	81,880
1Z	B1 - Level 00	2,719.1 m²	380,742
1Z	B1 - Level 01	2,767.6 m²	393,870
1Z	B1 - Level 02	2,815.3 m²	372,949
1Z	B1 - Level 03	2,816.1 m²	373,069
1Z	B1 - Level 04	2,815.3 m²	372,949
1Z	B1 - Level 05	2,815.3 m²	372,949
1Z	B1 - Level 06	2,815.3 m²	372,949
1Z	B1 - Level 07	156.9 m²	50,754.5
1Z	B1 - Level 07	1,711.0 m²	242,986.5
1Z	B1 - Level 08	1,711.4 m²	243,036.5
1Z	B1 - Level 09	1,710.2 m²	242,866.5
1Z	B1 - Level 10	715.6 m²	104,586
1Z	B1 - Level 10	117.0 m²	45,399
1Z	B1 - Level 10	168.4 m²	54,106.5
1Z	B1 - Level 11	715.6 m²	104,586
1Z	B1 - Level 12	715.6 m²	104,586
1Z	B1 - Level 13	715.6 m²	104,586
1Z	B1 - Level 14	715.6 m²	104,586
1Z	B1 - Level 15	715.6 m²	104,586
1Z	B1 - Level 16	715.6 m²	104,586
1Z	B1 - Level 17	715.6 m²	104,586
1Z	B1 - Level 18	715.6 m²	104,586
1Z	B1 - Level 19	715.6 m²	104,586
1Z	B1 - Level 20	715.6 m²	104,586
1Z	B1 - Level 21	715.6 m²	104,586
1Z	B1 - Level 22	715.6 m²	104,586
1Z	B1 - Level 23	194.9 m²	65,664.5
		34,885.0 m²	
2Z	B1 - Level B1	377.9 m²	87,444
2Z	B1 - Level 00	3,152.2 m²	256,546
2Z	B1 - Level 01	2,546.4 m²	363,199
2Z	B1 - Level 02	2,594.0 m²	342,442.5
2Z	B1 - Level 03	2,594.0 m²	342,442.5
2Z	B1 - Level 04	2,594.0 m²	342,442.5
2Z	B1 - Level 05	2,594.0 m²	342,442.5
2Z	B1 - Level 06	2,594.0 m²	342,442.5
2Z	B1 - Level 07	1,768.2 m²	251,287
2Z	B1 - Level 07	152.6 m²	52,914.5
2Z	B1 - Level 08	1,768.9 m²	251,387
2Z	B1 - Level 09	1,766.7 m²	251,068.5
2Z	B1 - Level 10	1,768.5 m²	251,337
2Z	B1 - Level 11	1,768.9 m²	251,387
2Z	B1 - Level 12	118.4 m²	45,724
2Z	B1 - Level 12	161.9 m²	53,379
2Z	B1 - Level 12	715.6 m²	104,586
2Z	B1 - Level 13	715.6 m²	104,586
2Z	B1 - Level 14	715.6 m²	104,586
2Z	B1 - Level 15	715.6 m²	104,586
2Z	B1 - Level 16	715.6 m²	104,586
2Z	B1 - Level 17	715.6 m²	104,586
2Z	B1 - Level 18	715.6 m²	104,586
2Z	B1 - Level 19	715.6 m²	104,586
2Z	B1 - Level 20	715.6 m²	104,586
2Z	B1 - Level 21	715.6 m²	104,586
2Z	B1 - Level 22	715.6 m²	104,586
2Z	B1 - Level 23	715.6 m²	104,586
2Z	B1 - Level 24	715.6 m²	104,586
2Z	B1 - Level 25	715.6 m²	104,586
2Z	B1 - Level 26	715.6 m²	104,586
2Z	B1 - Level 27	715.6 m²	104,586
2Z	B1 - Level 28	715.6 m²	104,586
2Z	B1 - Level 29	178.6 m²	58,580.5
		40,664.4 m²	
GEA Total		75,549.4 m²	

1:1000
10m 100m

N

Drawing Original Size
A1

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Note:
- Areas rounded to the nearest tenth

Drawing Revisions

Date:	Rev:	Note:	Check:
14.08.25	P01	Planning Issue	CP

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Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Title
Planning - GEA Area Plans

Scale
1:1000 @ A1

Drawing Created
Feb. 2025

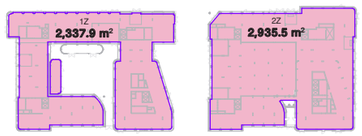
Revision
P01

Drawing No.
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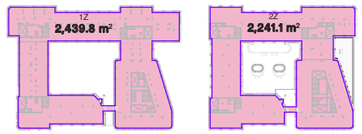
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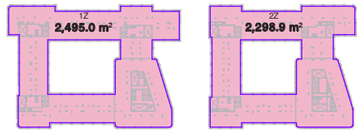
14.59 GIA Area Plans



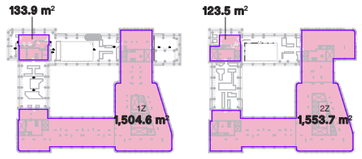
1 GIA - L00
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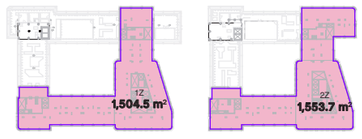
2 GIA - L01
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3 GIA - L02-06
1 : 1000



4 GIA - L07
1 : 1000



5 GIA - L08-09
1 : 1000



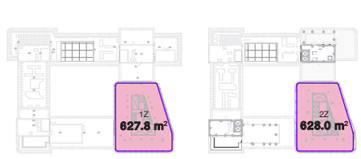
6 GIA - L10
1 : 1000



7 GIA - L11
1 : 1000



8 GIA - L12
1 : 1000



9 GIA - L13-22
1 : 1000



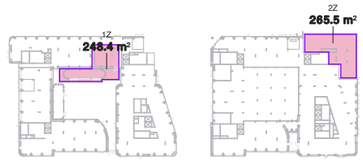
10 GIA - L23
1 : 1000



11 GIA - L24-28
1 : 1000



12 GIA - L29
1 : 1000



13 GIA - LB1
1 : 1000

Area Schedule (GIA)		
Name	Level	Areas (rounded)
1Z	B1 - Level B1	248.4 m²
1Z	B1 - Level 00	2,403.3 m²
1Z	B1 - Level 01	2,439.8 m²
1Z	B1 - Level 02	2,516.6 m²
1Z	B1 - Level 03	2,495.0 m²
1Z	B1 - Level 04	2,516.6 m²
1Z	B1 - Level 05	2,516.6 m²
1Z	B1 - Level 06	2,516.6 m²
1Z	B1 - Level 07	1,638.5 m²
1Z	B1 - Level 08	1,504.5 m²
1Z	B1 - Level 09	1,518.2 m²
1Z	B1 - Level 10	842.3 m²
1Z	B1 - Level 11	627.9 m²
1Z	B1 - Level 12	627.8 m²
1Z	B1 - Level 13	627.8 m²
1Z	B1 - Level 14	633.9 m²
1Z	B1 - Level 15	633.9 m²
1Z	B1 - Level 16	633.9 m²
1Z	B1 - Level 17	633.9 m²
1Z	B1 - Level 18	633.9 m²
1Z	B1 - Level 19	633.9 m²
1Z	B1 - Level 20	633.9 m²
1Z	B1 - Level 21	633.9 m²
1Z	B1 - Level 22	633.9 m²
1Z	B1 - Level 23	159.3 m²
		30,904.3 m²
2Z	B1 - Level B1	265.5 m²
2Z	B1 - Level 00	2,935.5 m²
2Z	B1 - Level 01	2,241.1 m²
2Z	B1 - Level 02	2,319.4 m²
2Z	B1 - Level 03	2,298.9 m²
2Z	B1 - Level 04	2,319.4 m²
2Z	B1 - Level 05	2,319.4 m²
2Z	B1 - Level 06	2,319.4 m²
2Z	B1 - Level 07	1,677.2 m²
2Z	B1 - Level 08	1,553.7 m²
2Z	B1 - Level 09	1,567.7 m²
2Z	B1 - Level 10	1,553.7 m²
2Z	B1 - Level 11	1,553.7 m²
2Z	B1 - Level 12	836.3 m²
2Z	B1 - Level 13	628.0 m²
2Z	B1 - Level 14	633.9 m²
2Z	B1 - Level 15	633.9 m²
2Z	B1 - Level 16	633.9 m²
2Z	B1 - Level 17	633.9 m²
2Z	B1 - Level 18	633.9 m²
2Z	B1 - Level 19	633.9 m²
2Z	B1 - Level 20	633.9 m²
2Z	B1 - Level 21	633.9 m²
2Z	B1 - Level 22	633.9 m²
2Z	B1 - Level 23	628.0 m²
2Z	B1 - Level 24	628.0 m²
2Z	B1 - Level 25	633.9 m²
2Z	B1 - Level 26	633.9 m²
2Z	B1 - Level 27	633.9 m²
2Z	B1 - Level 28	633.9 m²
2Z	B1 - Level 29	148.7 m²
		36,034.3 m²
GIA total		66,938.6 m²

1 : 1000
10m 100m

N

Drawing Original Size
A1

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Note:
- Areas rounded to the nearest tenth

Drawing Revisions

Date:	Rev:	Note:	Check:
14.08.25	P01	Planning Issue	CP

CARTWRIGHT PICKARD

Client
Unite Students and Manchester Metropolitan University

Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Title
Planning - GIA Area Plans

Scale
1: 1000 @ A1

Drawing Created
Feb. 2025

Revision
P01

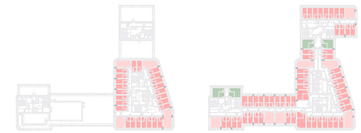
Drawing No.
998-CPA-ZZ-ZZ-DR-A-8911

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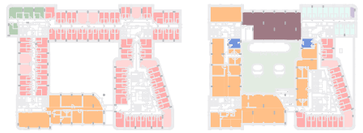
14.60 NIA Area Plans



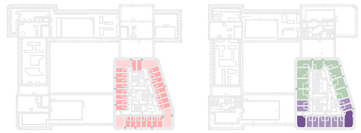
1 **NIA - L00**
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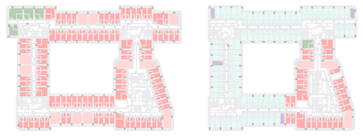
6 **NIA - L10-11**
1 : 1000



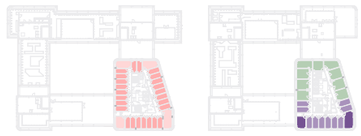
2 **NIA - L01**
1 : 1000



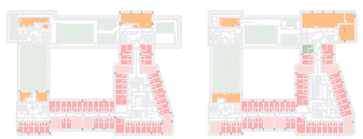
7 **NIA - L12-18**
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3 **NIA - L02-06**
1 : 1000



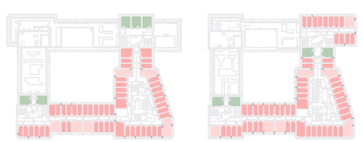
8 **NIA - L19-22**
1 : 1000



4 **NIA - L07**
1 : 1000



9 **NIA - L23-28**
1 : 1000



5 **NIA - L08-09**
1 : 1000

- Bedrooms
- Bedrooms (dorm)
- Community
- External Amenity
- Hallway
- Kitchen
- Life Admin
- Pantry
- PG Bedrooms
- PG Kitchen
- Qualitative Common Areas
- Retail
- Studio

Area Schedule - External Amenity Provision

CPA Zone	Level	Occupancy	Area (rounded)
1A			
1A	A1 - Level 00	External Amenity	470.0 m²
			470.0 m²
1Z			
1Z	A1 - Level 07	External Amenity	492.1 m²
			492.1 m²
2A			
2A	B1 - Level 01	External Amenity	405.4 m²
			405.4 m²
2Z			
2Z	B1 - Level 07	External Amenity	107.2 m²
			107.2 m²
Total External: 11			1,474.7 m²

Area Schedule - P1 - NIA (Inclusive Net to Gross)

Level	Occupancy	Area (rounded)
A1 - Level 00	Life Admin	726.0 m²
A1 - Level 00	Qualitative Common Areas	308.8 m²
A1 - Level 00	Retail	353.5 m²
A1 - Level 01	Bedrooms	978.7 m²
A1 - Level 01	Kitchen	191.2 m²
A1 - Level 01	Qualitative Common Areas	346.5 m²
A1 - Level 01	Studio	97.6 m²
A1 - Level 02	Bedrooms	1,234.9 m²
A1 - Level 02	Kitchen	260.0 m²
A1 - Level 02	Studio	97.6 m²
A1 - Level 03	Bedrooms	1,234.9 m²
A1 - Level 03	Kitchen	260.0 m²
A1 - Level 03	Studio	97.6 m²
A1 - Level 04	Bedrooms	1,234.9 m²
A1 - Level 04	Kitchen	260.0 m²
A1 - Level 04	Studio	97.6 m²
A1 - Level 05	Bedrooms	1,234.9 m²
A1 - Level 05	Kitchen	260.0 m²
A1 - Level 05	Studio	97.6 m²
A1 - Level 06	Bedrooms	1,236.8 m²
A1 - Level 06	Kitchen	259.2 m²
A1 - Level 06	Studio	97.4 m²
A1 - Level 07	Bedrooms	619.4 m²
A1 - Level 07	Kitchen	147.4 m²
A1 - Level 07	Qualitative Common Areas	169.5 m²
A1 - Level 08	Bedrooms	618.9 m²
A1 - Level 08	Kitchen	147.3 m²
A1 - Level 08	Studio	111.9 m²
A1 - Level 09	Bedrooms	619.3 m²
A1 - Level 09	Kitchen	146.5 m²
A1 - Level 09	Studio	110.9 m²
A1 - Level 10	Bedrooms	280.9 m²
A1 - Level 10	Kitchen	94.1 m²
A1 - Level 11	Bedrooms	280.9 m²
A1 - Level 11	Kitchen	94.1 m²
A1 - Level 12	Bedrooms	280.9 m²
A1 - Level 12	Kitchen	94.2 m²
A1 - Level 13	Bedrooms	280.9 m²
A1 - Level 13	Kitchen	94.2 m²
A1 - Level 14	Bedrooms	280.9 m²
A1 - Level 14	Kitchen	94.2 m²
A1 - Level 15	Bedrooms	280.9 m²
A1 - Level 15	Kitchen	94.2 m²
A1 - Level 16	Bedrooms	280.9 m²
A1 - Level 16	Kitchen	94.2 m²
A1 - Level 17	Bedrooms	280.9 m²
A1 - Level 17	Kitchen	94.2 m²
A1 - Level 18	Bedrooms	280.9 m²
A1 - Level 18	Kitchen	94.2 m²
A1 - Level 19	Bedrooms	280.9 m²
A1 - Level 19	Kitchen	94.2 m²
A1 - Level 20	Bedrooms	280.9 m²
A1 - Level 20	Kitchen	94.2 m²
A1 - Level 21	Bedrooms	280.9 m²
A1 - Level 21	Kitchen	94.2 m²
A1 - Level 22	Bedrooms	283.3 m²
A1 - Level 22	Kitchen	93.0 m²
Total P1 NIA		18,534.1 m²

Area Schedule - P2 - NIA (Inclusive Net to Gross)

Level	Occupancy	Area (rounded)
B1 - Level 00		384.6 m²
B1 - Level 00	Community	494.6 m²
B1 - Level 00	Life Admin	594.5 m²
B1 - Level 00	Qualitative Common Areas	823.5 m²
B1 - Level 01		297.0 m²
B1 - Level 01	Bedrooms	243.5 m²
B1 - Level 01	Bedrooms (dorm)	145.8 m²
B1 - Level 01	Community	304.2 m²
B1 - Level 01	Kitchen	54.6 m²
B1 - Level 01	Life Admin	42.6 m²
B1 - Level 01	Pantry	9.9 m²
B1 - Level 01	Qualitative Common Areas	793.4 m²
B1 - Level 02		447.9 m²
B1 - Level 02	Bedrooms	378.5 m²
B1 - Level 02	Bedrooms (dorm)	923.0 m²
B1 - Level 02	Kitchen	77.8 m²
B1 - Level 02	Pantry	41.7 m²
B1 - Level 02	Studio	21.3 m²
B1 - Level 03	Bedrooms	378.7 m²
B1 - Level 03	Bedrooms (dorm)	923.0 m²
B1 - Level 03	Kitchen	77.7 m²
B1 - Level 03	Pantry	41.8 m²
B1 - Level 03	Studio	21.3 m²
B1 - Level 04	Bedrooms	378.7 m²
B1 - Level 04	Bedrooms (dorm)	923.0 m²

Area Schedule - P2 - NIA (Inclusive Net to Gross)

Level	Occupancy	Area (rounded)
B1 - Level 04	Kitchen	77.7 m²
B1 - Level 04	Pantry	41.8 m²
B1 - Level 04	Studio	21.3 m²
B1 - Level 05	Bedrooms	378.7 m²
B1 - Level 05	Bedrooms (dorm)	923.0 m²
B1 - Level 05	Kitchen	77.7 m²
B1 - Level 05	Pantry	41.8 m²
B1 - Level 05	Studio	21.3 m²
B1 - Level 06		168.3 m²
B1 - Level 06	Bedrooms	380.1 m²
B1 - Level 06	Bedrooms (dorm)	923.1 m²
B1 - Level 06	Kitchen	78.2 m²
B1 - Level 06	Pantry	41.9 m²
B1 - Level 06	Studio	21.3 m²
B1 - Level 07		47.2 m²
B1 - Level 07	Bedrooms	559.8 m²
B1 - Level 07	Kitchen	145.5 m²
B1 - Level 07	Qualitative Common Areas	266.9 m²
B1 - Level 07	Studio	21.3 m²
B1 - Level 08	Bedrooms	693.8 m²
B1 - Level 08	Kitchen	168.0 m²
B1 - Level 08	Studio	64.8 m²
B1 - Level 09	Bedrooms	671.5 m²
B1 - Level 09	Kitchen	167.9 m²
B1 - Level 09	Studio	86.3 m²
B1 - Level 10	Bedrooms	671.5 m²
B1 - Level 10	Kitchen	167.9 m²
B1 - Level 10	Studio	86.3 m²
B1 - Level 11	Bedrooms	671.5 m²
B1 - Level 11	Kitchen	168.2 m²
B1 - Level 11	Studio	86.3 m²
B1 - Level 12		50.0 m²
B1 - Level 12	PG Bedrooms	130.7 m²
B1 - Level 12	PG Kitchen	48.3 m²
B1 - Level 12	Studio	198.6 m²
B1 - Level 13	PG Bedrooms	130.1 m²
B1 - Level 13	PG Kitchen	48.3 m²
B1 - Level 13	Studio	198.6 m²
B1 - Level 14	PG Bedrooms	130.1 m²
B1 - Level 14	PG Kitchen	48.3 m²
B1 - Level 14	Studio	198.6 m²
B1 - Level 15	PG Bedrooms	130.1 m²
B1 - Level 15	PG Kitchen	48.3 m²
B1 - Level 15	Studio	198.6 m²
B1 - Level 16	PG Bedrooms	130.1 m²
B1 - Level 16	PG Kitchen	48.3 m²
B1 - Level 16	Studio	198.6 m²
B1 - Level 17	PG Bedrooms	130.1 m²
B1 - Level 17	PG Kitchen	48.3 m²
B1 - Level 17	Studio	198.6 m²
B1 - Level 18	PG Bedrooms	130.1 m²
B1 - Level 18	PG Kitchen	48.3 m²
B1 - Level 18	Studio	198.6 m²
B1 - Level 19	PG Bedrooms	130.1 m²
B1 - Level 19	PG Kitchen	48.3 m²
B1 - Level 19	Studio	198.6 m²
B1 - Level 20	PG Bedrooms	130.1 m²
B1 - Level 20	PG Kitchen	48.3 m²
B1 - Level 20	Studio	198.6 m²
B1 - Level 21	PG Bedrooms	130.1 m²
B1 - Level 21	PG Kitchen	48.3 m²
B1 - Level 21	Studio	198.6 m²
B1 - Level 22	PG Bedrooms	130.1 m²
B1 - Level 22	PG Kitchen	48.3 m²
B1 - Level 22	Studio	198.6 m²
B1 - Level 23	PG Bedrooms	130.1 m²
B1 - Level 23	PG Kitchen	48.3 m²
B1 - Level 23	Studio	198.6 m²
B1 - Level 24	PG Bedrooms	130.1 m²
B1 - Level 24	PG Kitchen	48.3 m²
B1 - Level 24	Studio	198.6 m²
B1 - Level 25	PG Bedrooms	130.1 m²
B1 - Level 25	PG Kitchen	48.3 m²
B1 - Level 25	Studio	198.6 m²
B1 - Level 26	PG Bedrooms	130.1 m²
B1 - Level 26	PG Kitchen	48.3 m²
B1 - Level 26	Studio	198.6 m²
B1 - Level 27	PG Bedrooms	130.1 m²
B1 - Level 27	PG Kitchen	48.3 m²
B1 - Level 27	Studio	198.6 m²
B1 - Level 28		106.3 m²
B1 - Level 28	PG Bedrooms	130.1 m²
B1 - Level 28	PG Kitchen	49.2 m²
B1 - Level 28	Studio	198.7 m²
B1 - Level 29		24.7 m²
Total P2 NIA		23,355.1 m²

1:1000
10m 100m

N

Drawing Original Size
A1

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Note:
- Areas are rounded to the nearest tenth.
- NIA includes cluster beds, studios kitchens, bike / bin stores, qualitative common areas, life admin, Retail and Community GP (Phase 1 - Student rooms + Kitchens, Retail. Phase 2 - Student rooms + Kitchens, Community GP).
- External areas excluded from net-to-gross calculations.
CPA Zone 'A1' is Phase 1, 'B1' is Phase 2

Drawing Revisions

Date:	Rev:	Note:	Check:
14.08.25	P01	Planning Issue	CP

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Client
Unite Students and Manchester Metropolitan University

Project
998 | Cambridge Halls

Building Name
Cambridge Halls

Drawing Title
Planning - NIA Area Plans

Scale
1:1000 @ A1

Drawing Created
Feb, 2025

Revision
P01

Drawing No.
998-CPA-ZZ-ZZ-DR-A-8912

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