Haymarket Tech Hub

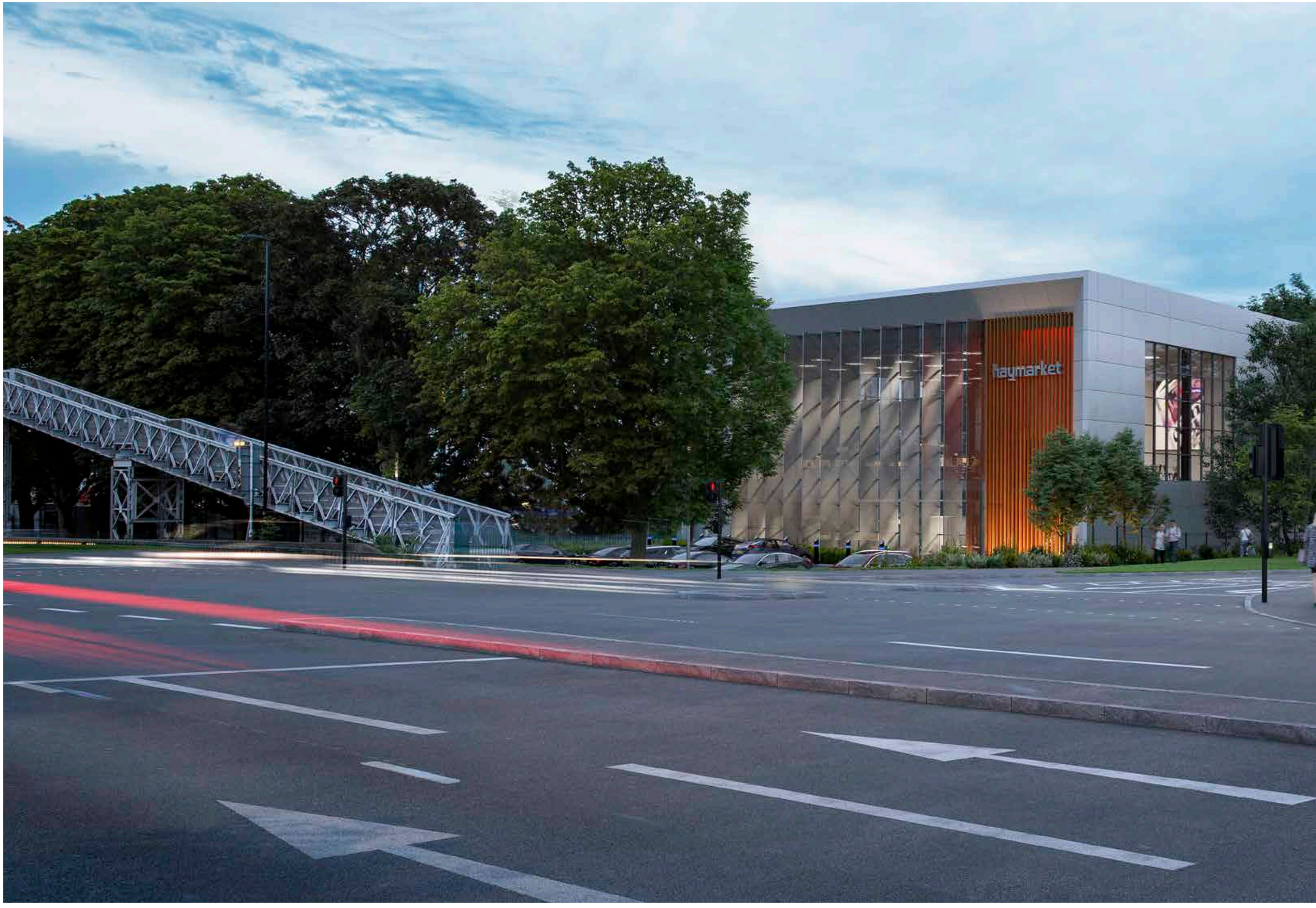
REEC Campus

Design & access statement

29th July 2019

A11597/0T/0004 Rev P2

tp bennett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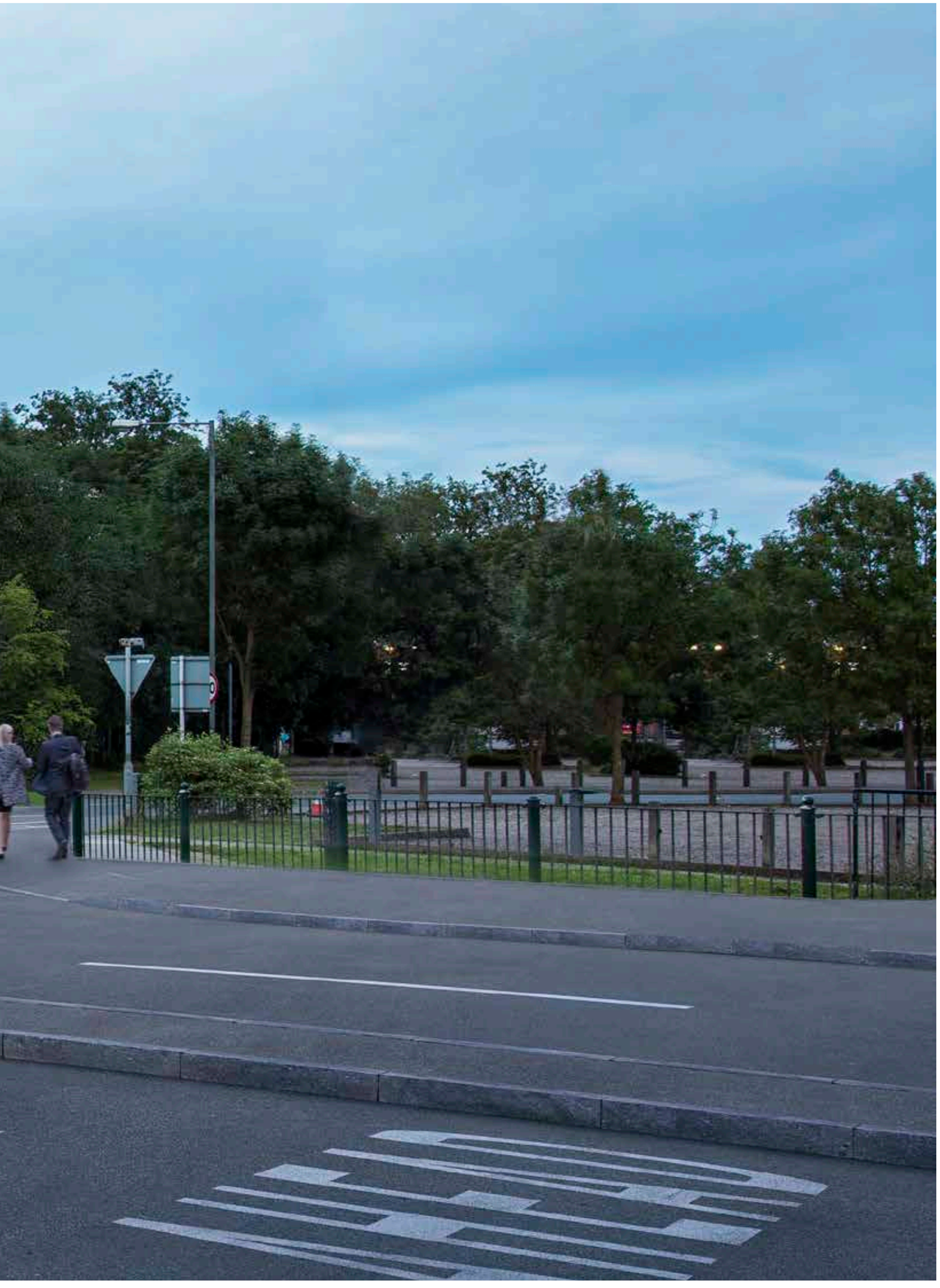

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01 Introduction

Document aims

This Design and Access Statement has been prepared by tp bennett on behalf of the Haymarket Media Group and forms part of the reserved matters planning application for the redevelopment of the tech hub site within the Richmond Education and Enterprise Campus (REEC) masterplan development in Twickenham. The document focuses on the more detailed architectural and landscape design solutions for the regeneration of this site and sets out to demonstrate how the new tech hub building complies and underlines the design parameters illustrated in the consented Outline Planning proposal for the campus masterplan.

The proposed development will be a two storey B1 office unit for Haymarket Media Group together with hard and soft landscape proposals for the surrounding site. External works will also include new car parking, cycle storage, bin store and delivery area.

The structure of this document has been prepared the follow the guideline document prepared CABE for ‘Design and Access Statements (June 2006). Throughout the report further reference will be made to the consented outline planning documents including the Richmond-Upon Thames College Redevelopment ‘Design Code’ (2016) and parameters plans prepared by HoK Architects.

The Design and Access Statement (DAS) will briefly assess the local context in relation to the Tech Hub development zone. Further historical analysis of the surrounding areas has been previously submitted as part of other RM matters applications for the school and college buildings and therefore has been excluded in this statement. As the immediate surrounding area and buildings have been and will be subject to new developments associated with other developments within the masterplan proposal, the report will also draw reference to these future schemes and how the design of the Tech Hub building will relate to the changing context including new college buildings and alterations to road and pathways.

The DAS will address the following considerations:

- Assessment of the site
- Vision and Design Evaluation
- Layout
- Scale
- Appearance
- Landscape
- Access and Movement

02 Project overview

Project overview

REEC outline planning consent

Outline Planning Application (OPA) 15/3038/OUT consent for the REEC campus was granted on 16th August 2016. Following the granting of the outline planning consent for the REEC masterplan scheme, the first phase of the development on the campus commenced in 2017 with the new secondary school that was completed last June. The main college building is currently under construction with a forecast completion for the first quarter of 2020. In addition to the proposed Haymarket office site, the campus will include a new sports building, a science and technology college building (STEM) and approximately 2 hectares of residential development (190 residential units), all of which are imminently due to, or have been submitted to achieve Reserved Matters planning consent.

The new Tech Hub forms a unique and integral part of an overall campus development and the adjacent Harlequin site. Due to the existing Sports Building remaining in operation on the site, the construction of the Tech Hub will occur in the later phases of the overall masterplan development after the sports facilities are relocated to new premises. The vision of the REEC is to create a campus with an enterprise commercial element that provides opportunities through partnership between business and education for developing skills through work experience, apprenticeships and, potential employment in the media sector. Whilst the tech hub forms part of the overall Haymarket commercial portfolio, it's unique place on the campus will encourage the company to work alongside the college in the shared commitment to quality, innovation and enterprise.

Outline Plan

HOK masterplan

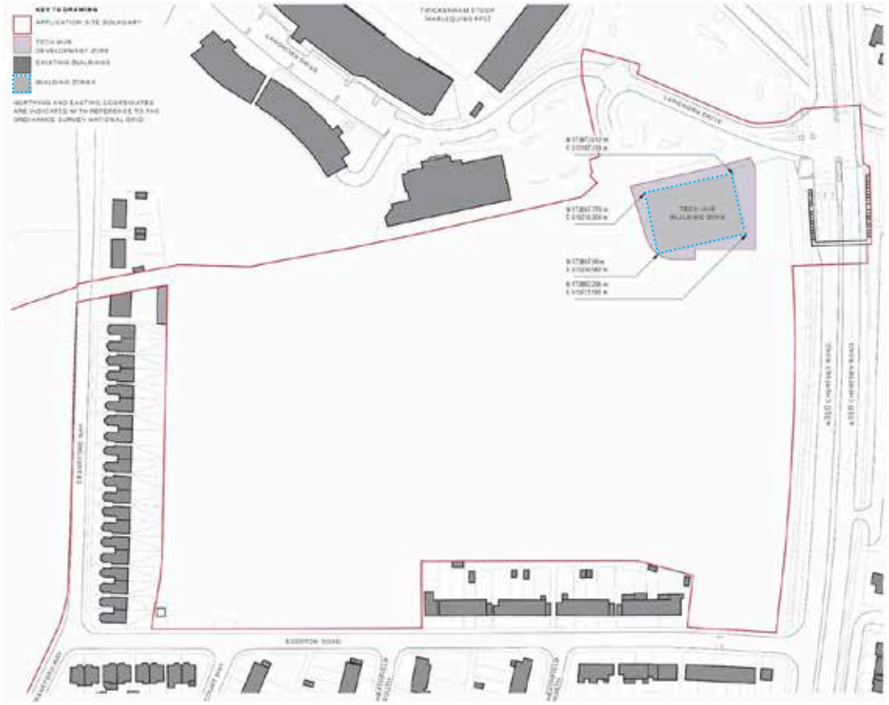
Development parameter plans

The OPA consent covers the proposed broad principles of the development on the campus, such as access, height, density of development of buildings and a site wide Design Code. The OPA consent also contains several conditions which must be discharged, some prior to any development works taking place. The OPA consent is not sufficient to commence a lawful development on the site. This Reserved Matters application will contain the planning details not included in the OPA consent, such as, the final form and appearance of the proposed office building.

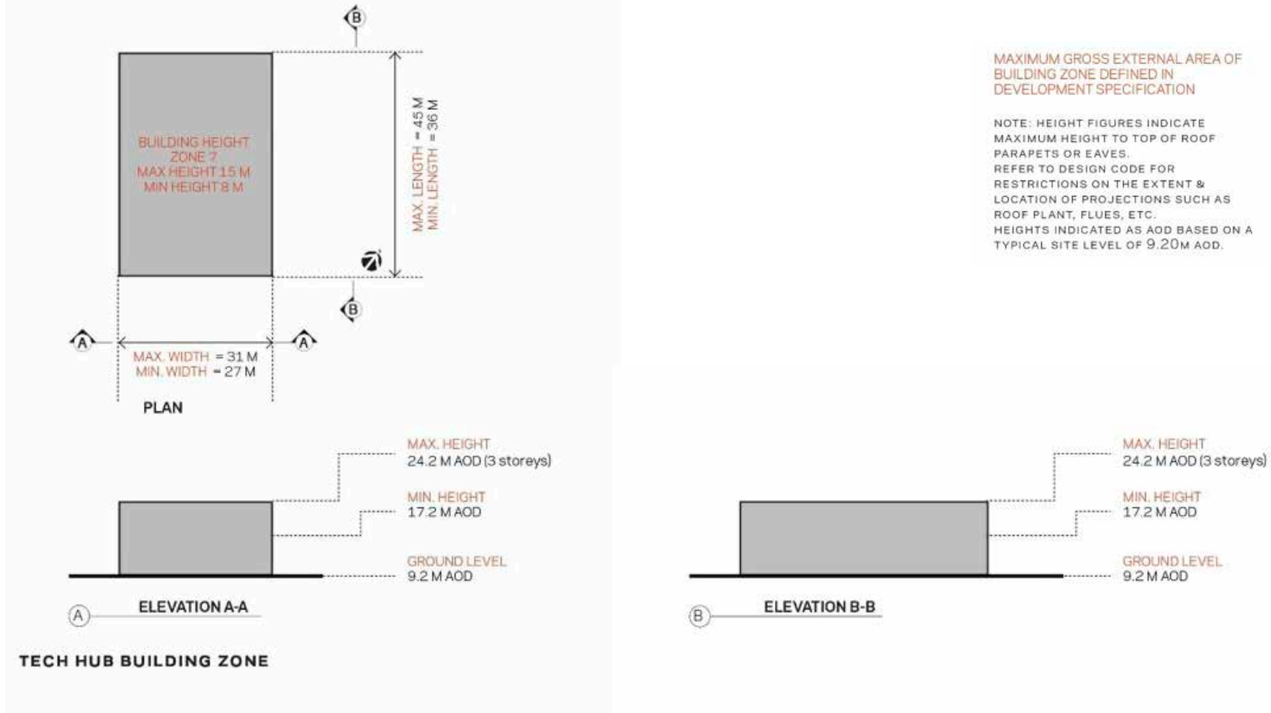
The campus masterplan scheme is divided into separate Development Zones (DZ) and the OPA consent provides for separate “Reserved Matters” applications for each DZ. The Haymarket office site is known as the “Tech Hub” DZ and the OPA defines key development maximum and minimum parameters for this zone. The tech hub’s site falls within the development zone of the masterplan outline application and is shown in the light blue area on the building zone parameter plan.

The principal parameters for development of this site are consented as:

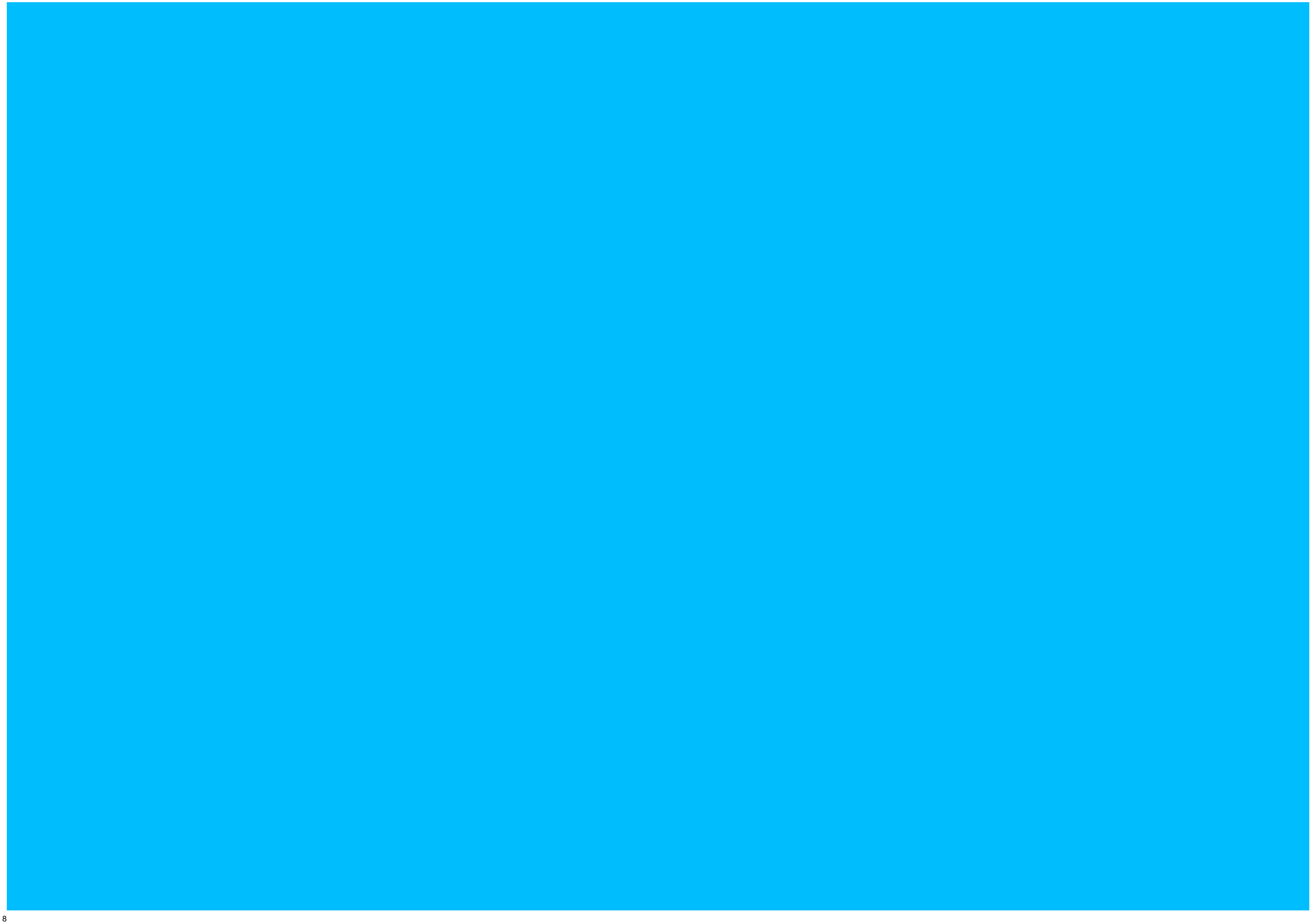
- Use: Planning Class B1 (Office use);
- Building Length – minimum 36m; maximum 45m;
- Building width – minimum 27m; maximum 31m;
- Minimum building height (top of parapet) - 8m (above +9.2m ordinance datum);
- Maximum building height (top of parapet) -15m (above +9.2m ordinance datum);
- Minimum gross floor area 1,200m2 Gross External Area (GEA)
- Maximum gross floor area 1,700m2 GEA;
- Maximum number of storeys – 3 storeys;
- Maximum number of 10 car parking spaces of which at least 1 must meet accessible standards; and
- Minimum of 15 cycle space must be provided.



Building zone parameter plan



Building Parameters



03 Assessment

Site location & access

The proposed tech hub site is in the north-west corner of the campus adjacent to the A316 arterial road and neighbouring the Stoop, home to Harlequins. Chertsey Road (A316) to the north, is a major London thoroughfare road for traffic in and out of the city to the south west and the M25. At present the closest crossing from this road to the residential development and Twickenham Stadium to the north is via a pedestrian bridge immediately in line with the site. Vehicular access to the site is from the A316, via Langhorn Drive (part of the Harlequins site). A new vehicular access will be installed at the head of Langhorn Drive to permit a right turn on to the A316 (currently left turn only) – TfL are understood to be planning these works for the summer of 2020.

Twickenham main line station is approximately 0.7 miles away, a walk of around 10-15 minutes via the Heatham Estate residential zone to the east of the main campus. This station provides a train service with direct links to Waterloo and Reading and will be expected to carry the majority of commuting staff. There are further bus routes close to the site on Whitton Road to the north and east.

Site context

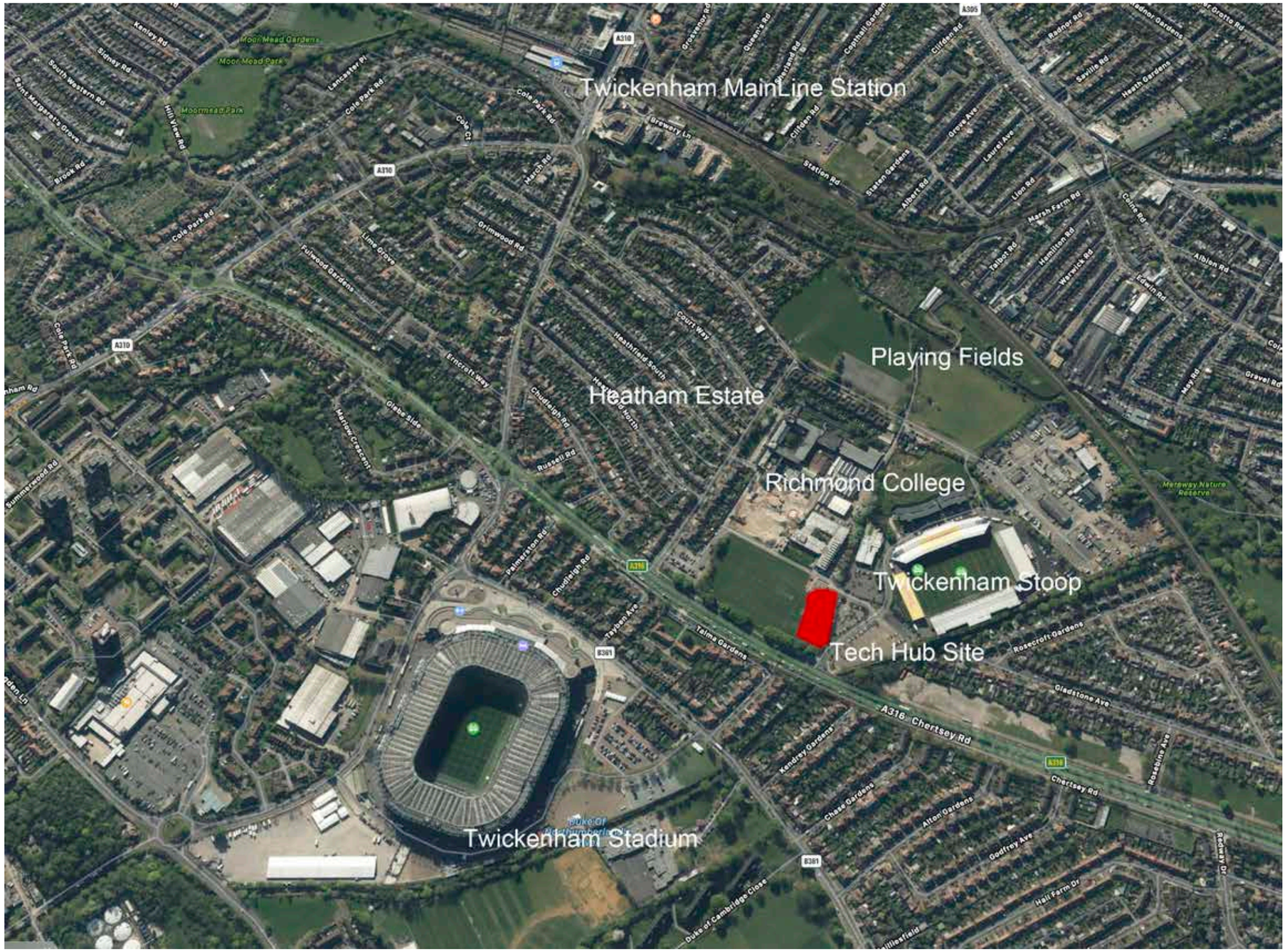
The site area is approximately 0.22 hectares and is relatively flat with little variation of level. The busy Chertsey Road is partially visually obscured from the site with a tree lined embankment on a raised level allowing pedestrian and cycle access to the site via a moderately descending ramp from the main junction of Langhorn Drive and the A316 onto Marsh Farm Lane. The western edge of the site is bounded by the narrow pedestrian Marsh Farm Lane pathway bordered by mature trees and fence to the east of the lane and a low retaining wall on the western edge where the Harlequins parking is located. The remainder of the perimeter of the site to the south and east forms the new college development. The entrance to the Twickenham ‘Stoop’ is found to the south west of the site separated by series of parking zones and Langhorn Drive between Marsh Farm Lane and the stadium. Further beyond the Harlequin stadium is the council depot with the Duke of Northumberland River to the west of the stadium.

The character of the site is a combination of sports buildings and college buildings. By the nature of their functions these surrounding buildings are large in scale and materially consist of glass, concrete and metal. Currently the existing concrete clad STEM building is quite dated and scheduled to be demolished. To the east the new college building is in a well advance state of construction and is clad in a predominately silver tone anodized aluminium rainscreen cladding with bronze feature panels framing the larger windows.

Beyond the masterplan scheme for this site there are only a couple low rise suburban residential streets nearby consisting of Talma Gardens to the north and Gladstone Ave to the west. These residential developments are relatively distance from the site and any direct views toward the site is either at an oblique angle or screened by a line of trees. Furthermore, Chertsey Road and the Duke of Northumberland river act as impenetrable physical barriers between the housing estates and the site with only one means of connection via a pedestrian bridge over the A316 from the north.

Spatially the immediate adjacent college buildings are set back from the proposed Tech Hub building zone but are still close enough to enable a formal relation between the buildings to be created in the form of a public realm space. This is the aspiration of the masterplan design code. The Harlequins entrance on the other hand has little visual impact on the Tech Hub as it is more remote by virtue of the open car parking zones and row of mature trees along Marsh Farm Lane.

Currently the site is occupied by a red brick sports and leisure building and ancillary smaller buildings on the southern edge. The existing leisure buildings have little architectural prominence and has been earmarked for demolition within the outline consent to allow for a new sports center to be built to the south of the new STEM building within the new campus development. Until the new sports building is built, the existing premises will be retained after which demolition will take place to enable the new tech hub to commence in Q4 2021.



Tech hub site context

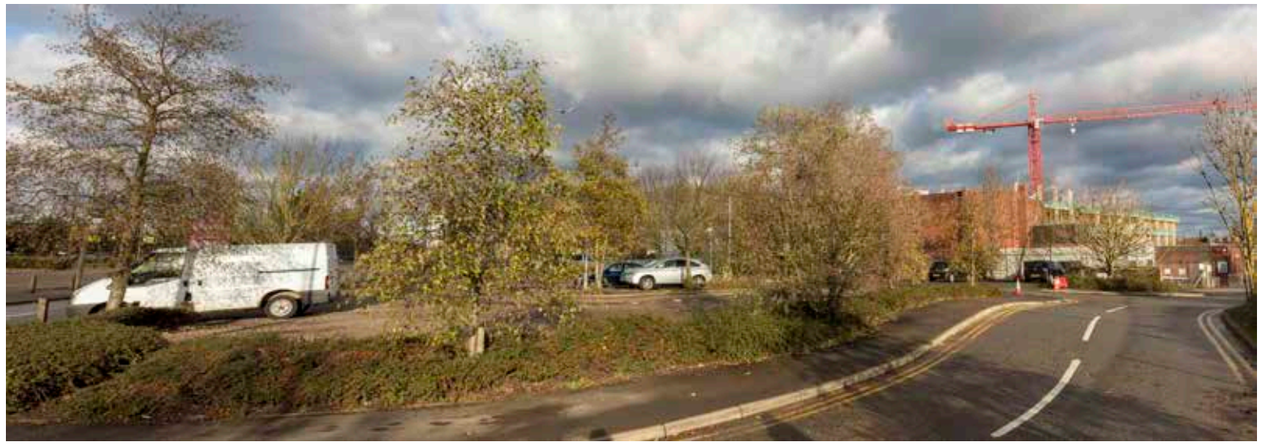
Social and economic context

There are no offices within the immediate vicinity of site so the inclusion of a commercial building on this site offers a unique opportunity to integrate a commercial establishment with the recreation and education sectors. Rather than being an isolated business entity within a college campus the proposal follows the principle of the outline application which identifies the benefit of a collaborative relationship of a media company to the rest of the college.

The aspiration of the Tech Hub is to have a symbiotic relation with the college and community by being a place for career talks, workshops, workplace placement and providing scheduled access to equipment and expertise in the media sector.

Existing site context photographs

View from Chertsey Road Junction



View from Langhorn Drive

View from Chertsey Road Pedestrian Bridge

View from Harlequins

View at junction on Marsh Farm Lane

View looking north on Marsh Farm Lane

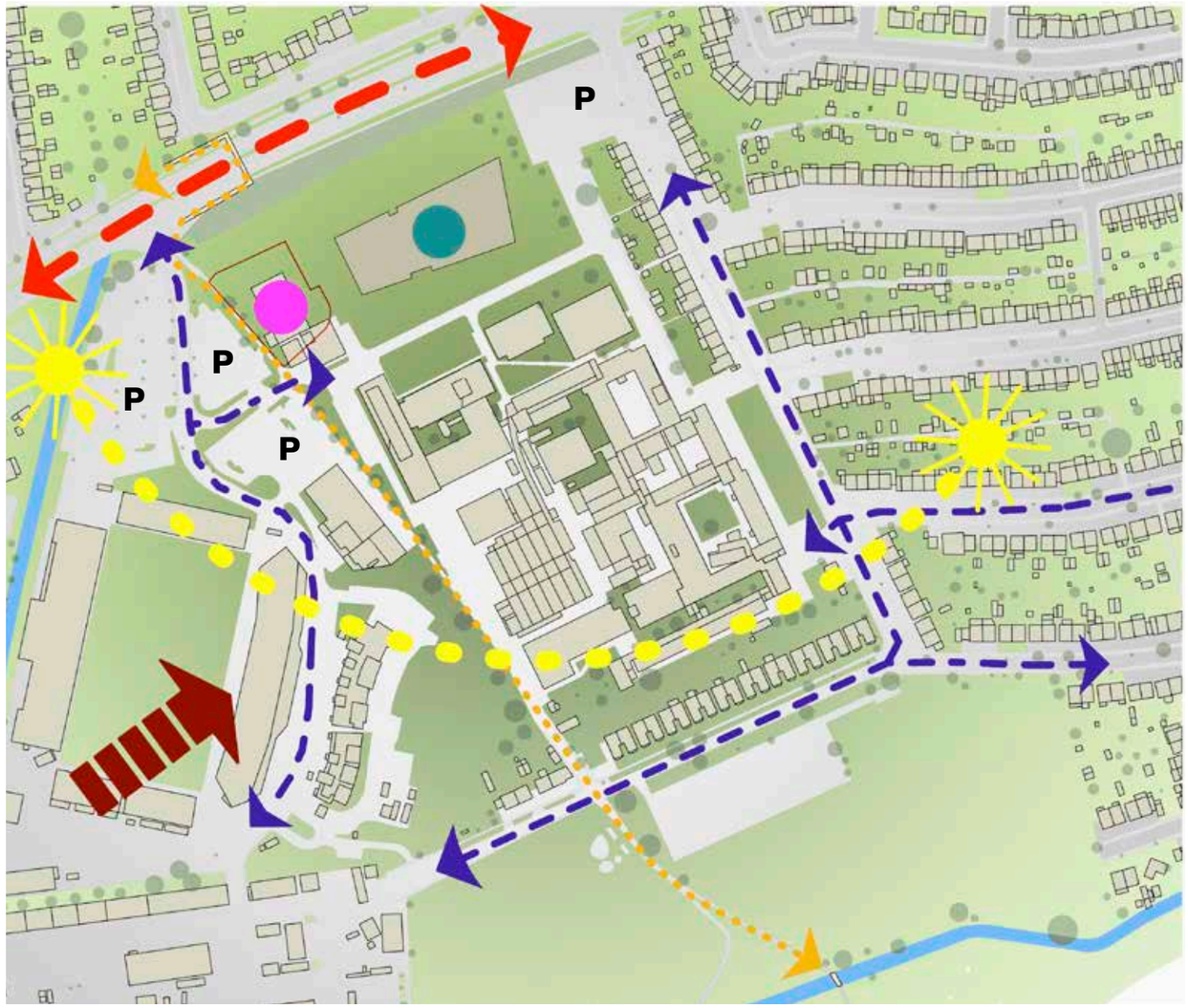
View looking south on Marsh Farm Lane

View of Existing STEM Building

View of Sports Centre

View of Sports Centre

Site analysis – constraints & opportunities



Proposed Tech Hub Site

College Building Under Construction

Prevailing Winds

Sun Path

Primary Vehicle Route

Secondary Vehicle Route

Existing Public Footpath

Waterways

P Parking

Site analysis

Constraints

- Compliance of building parameters to be within outline planning plans and Design Code
- Traffic noise from Chertsey Road
- Aircraft noise on Heathrow flight path
- Consideration of trees and roots that will be retained
- Public right of way for college and access to Harlequins grounds
- Impact on neighbouring education buildings during construction
- Limited vehicle access and provision
- Proximity of the building line to the below ground surface attenuation tank in the parking zone to the east of the site

Opportunities

- Key position of the site on masterplan scheme provides an opportunity for a distinct landmark building along Chertsey Road as well being a gateway to the college
- Southern approach allows prominent entrance to the building that is easily identifiable
- Rear of the site allows servicing operations and refuse collection to be visually removed from main public areas
- Relatively low building height allows easy maintenance to building fabric
- Encouragement of the pedestrian and cycling routes to the tech hub with cycle racks and improved pedestrian routes
- Potential to connect to the existing college complex of buildings and enhance the quality of the public realm with a unified design approach to the front plaza area
- Improvements to the security and landscape of Marsh Farm Lane will make this route more inviting
- Opportunity to enhance the biodiversity on the site with new planting areas and green roof
- Orientation of the building to the south allows maximum solar orientation of daylight and passive energy from photovoltaics
- Consideration of sustainable strategy with a new building will improve the energy strategy and allow a BREEAM excellent to be achieved

04 Vision & design evaluation

Design code guidelines

The OPA sets out several parameters for the size, location and design of the building as outlined above. The Design Code for the Tech Hub DZ provides guidance to what the proposed development is expected to look like in terms of massing, alignment and orientation within the site. It is the intent for the Tech Hub to be designed as a pavilion with an attractive entrance facing the public realm plaza. To the rear will be reserved for more utilitarian functions such as parking and a service area for the building. On the east face is the Cross-Site Right-of-Way which is primarily allocated for college parking and access. The Marsh Farm Lane to the west will be widened and resurfaced to improve the usage of the shared pathway for both cyclists and pedestrians. As there is a significant difference of levels between Chertsey Road and the site, any further modifications to the lane levels as a result of design changes to the nearby Langhorn Drive road junction must use shallow gradients in order to ensure the path is accessible and inclusive.

The code recommends a minimum setback from the property borders to ensure the building mass appears spatially independent with ample space that clearly defines the surrounding public and private open spaces. Marsh Farm Lane in particular has been identified under section 3.38 of the Design Code to retain its current landscape features as part of a habitat corridor and provide a protective buffer between the lane and the Tech Hub. View from the building onto the lane were also considered important for creating a sense of security for users along the path.

The building should not compete for prominence with the college building but should reflect the design of the college. The building being at the main gateway of the campus from the Langhorn Drive access road should serve as an important landmark in the public realm that reinforces the visual impact toward the new college building.

Active frontage

The design of the Tech Hub in accordance with 2.3.4.4 and section 5 of the Design Code should also contain an active frontage on key elevations to maximize the extent of activities around the building as much as practical. The entrance frontage will include a portion of the new plaza that seamlessly integrates as a shared public realm space with the campus. The active façade should be articulated with maximum transparency that is visually permeable to the activities inside and offer passive surveillance and increased security over the adjoining public spaces. Any inactive frontage according to the design code should not exceed 15m in length, be limited in frequency and constitute no more than one third of any one façade.

Vehicle & pedestrian access

The design code is prescriptive on vehicle and pedestrian access to and around the site. Key design elements for vehicle and pedestrian access include:

- Access to and from the site will be via the A316 in order to minimise traffic impacts on the existing neighbourhood.
- In order to encourage a legible access onto the campus from the A316, the Cross-Site Right-of-Way will be routed around the south and east of the site borders. As such the road makes a major contribution to the first impression of the Tech Hub and college buildings beyond.
- Pedestrian and cycle access is to be encouraged and designed to maximise improved connections to the town centre particularly via Marsh Farm Lane and the new footpath through Twickenham Rough to the train station.
- Tech Hub will incorporate a delivery area to the rear of the (north) of the building and should be accessed off the ‘Cross Site Right of Way zone.’
- Marsh Farm Lane will be upgraded to provide a benefit to the wider community through improvements and widening of the existing lane to 3m to encourage better pedestrian and cycle access
- Area in the Cross Site Right-of-Way will incorporate a portion of the car parking serving the Tech Hub. The remaining greater number of car spaces are to be located to the rear beside the service area. A maximum of 10 car spaces are permitted with at least one space provided for disabled use.

DIAGRAM 2.3.3
EXTERNAL AREAS

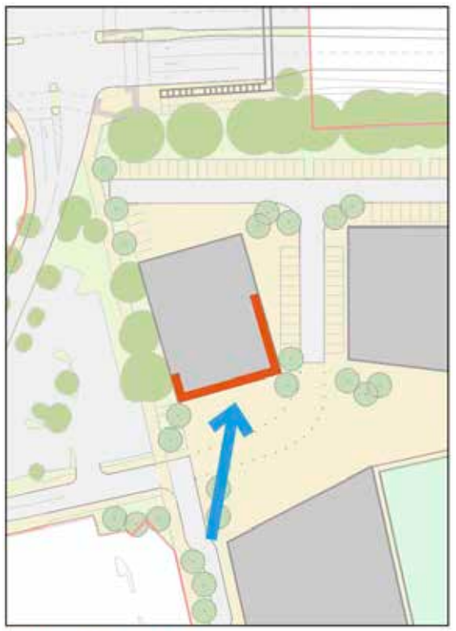


DIAGRAM 2.3.5
ENTRANCES & ACTIVE FRONTAGES

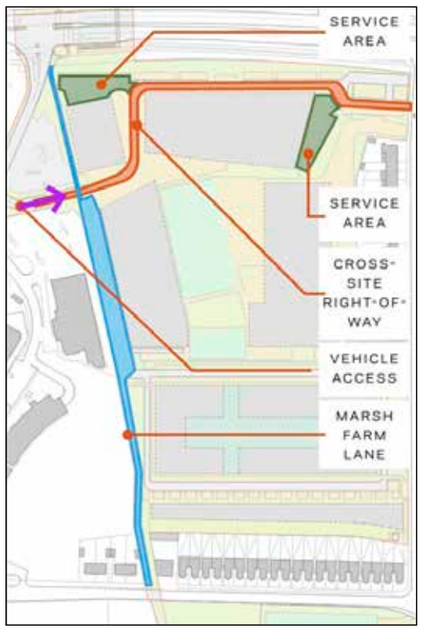


DIAGRAM 2.2.4
ACCESS ROUTES ON COLLEGE SITE

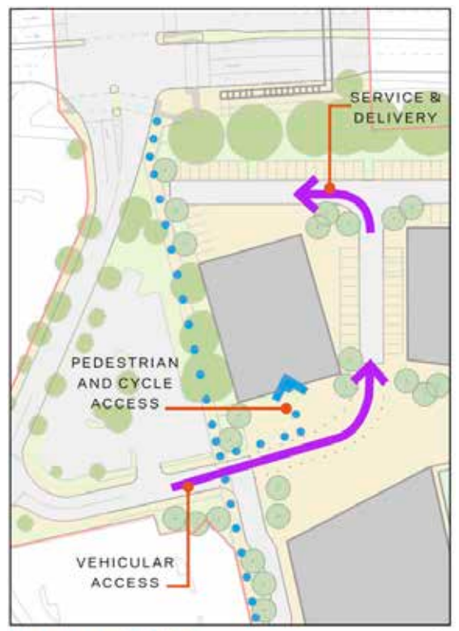


DIAGRAM 2.3.2
ACCESS

Client requirements and vision

Haymarket Media Group is a global specialist media company involved in brand development and publications. The architectural brief for the Technical Hub is to provide a spaciously bright, flexible open plan space to allow Haymarket staff to work collaboratively within one dynamic space. Due to the nature of their work there will be high end IT facilities suitable for mobile working and other support areas such break out lounge areas, recreational games area, kitchen/tea facilities and meeting rooms.

The precise details of Haymarket's occupation of the proposed new tech hub building are not currently readily definable. The business's requirements have changed significantly over the last few years and given the building will not be ready for occupation until at least Q1 2023, the brief would be expected to permit further changes. Therefore, the key requirements for the proposed building design are flexibility and adaptability to enable change in business need over the next couple of years and into the future. Haymarket is an expanding media based company and this office on the college campus is a positive contribution to their property portfolio to meet their expansion plans.

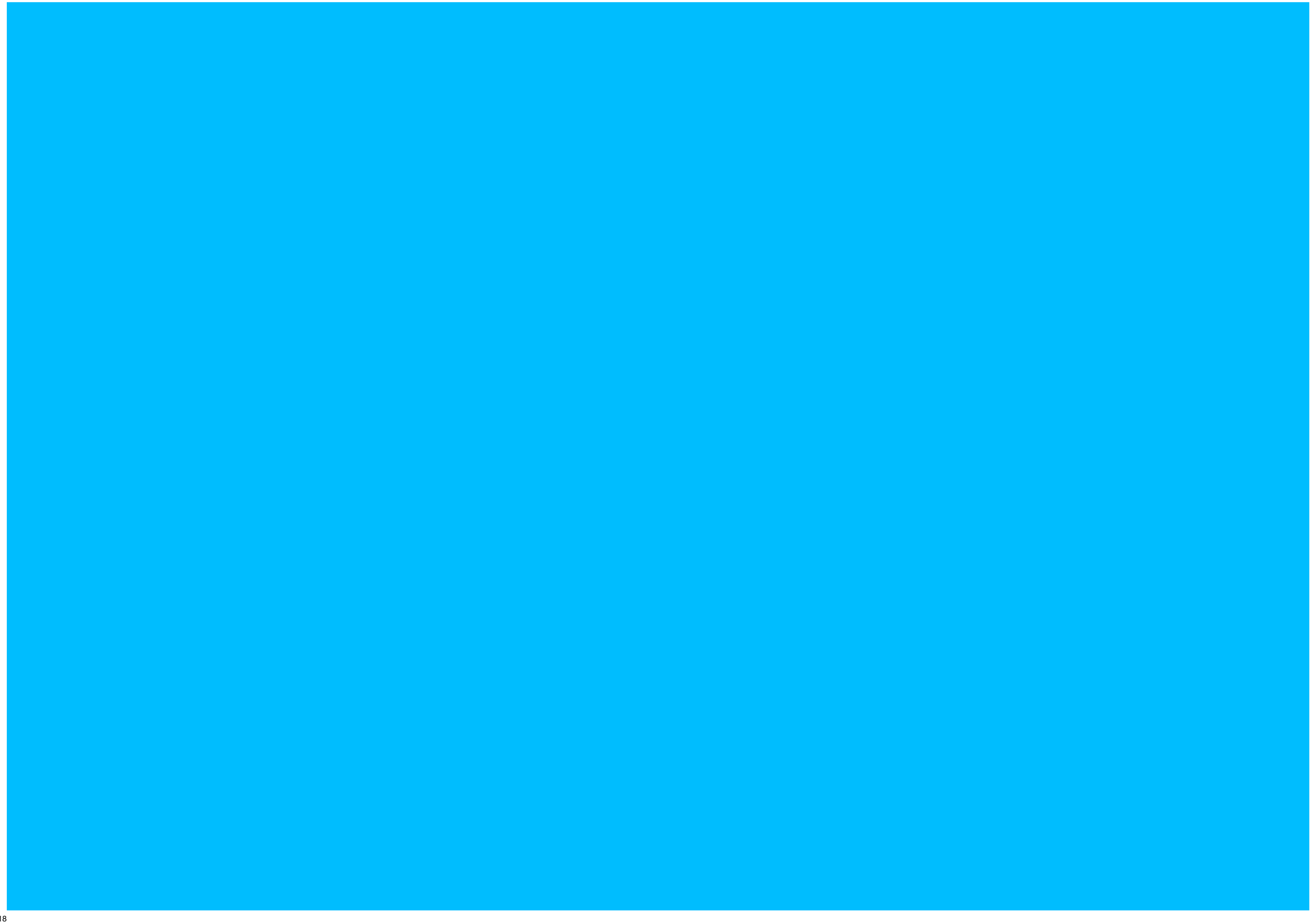
Haymarket's commitment to the masterplan principles is representative in their aspiration for a contemporary building using high quality materials that reflects themselves as a forward-thinking company. Their desire is a building that provides flexible workplace standards for staff and will be an attractive and innovative centre for visitors to come to. The building should communicate their brand standards and be intentionally open for the public to view into as well allow the staff to be connected to the outside.

As in the nature of operations for any media company, the layouts would be to be readily adaptable for individuals and project teams that provides frequent and speedy access to online information and servers wherever they are in the building. Whilst a portion of the support spaces such as kitchen facilities, IT rooms, plant and core areas will be fixed, the remaining spaces will largely be open plan spaces made up of unassigned desking, presentation areas and break out areas for informal meetings and workgroups. As such the interior finishes should be more robust in character utilizing exposed services in the ceilings to minimize time and cost to refit for future changes to the layouts. The layout should primarily be open floor spaces with high ceilings coupled with a trademark feature stair within a large central atrium volume to ensure there is easy communication between floors.







05 Consultation & engagement

Public Consultation

Since the proposal to redevelop the Richmond upon Thames College site was announced in 2012, there has been extensive consultation on the plans, thousands of people have been given the opportunity to have their say. This includes:

Initial Visioning Consultation
This consultation, undertaken in January 2013, gave residents and stakeholders the opportunity to comment on the high level proposals. This feedback helped inform later designs.

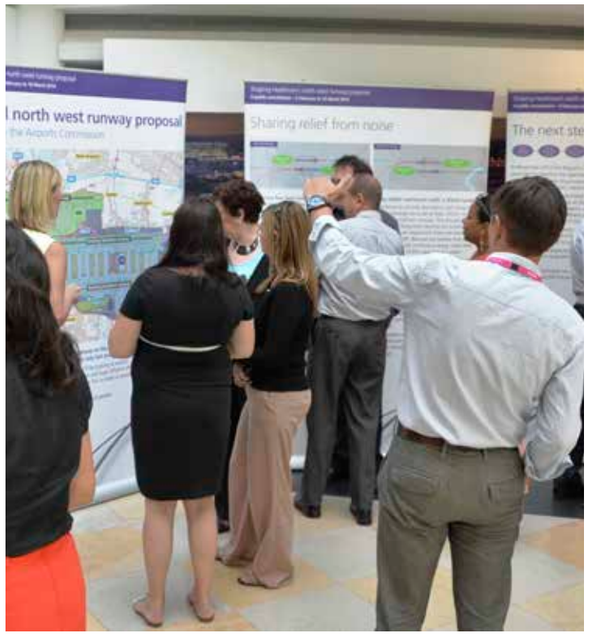
Three Pre-Planning Consultations
As the proposals were developed, each iteration was presented to the public and stakeholders for feedback. These sessions were held in April 2014, October 2014 and January 2015. A public meeting was held on the 21st April 2015, enabling residents to hear the latest plans and see how their views had been incorporated.

College Reserved Matters Application
In December 2016, the College submitted a Reserved Matters planning application for their phase 1 development zone. The application included detailed proposals for the external appearance of the College building and external hard and soft landscaping areas. As part of the application, both local residents and stakeholders were given the opportunity to comment on the proposals, as they had done for the Outline Application.

School Reserved Matters Application
In August 2016, the Council submitted a Reserved Matters planning application for the new Secondary School and SEN School within the School Development Zone. The application included detailed proposals for the external appearance of the school building and external hard and soft landscape areas. Again, as part of the application, both local residents and stakeholders were given the opportunity to comment on the proposals.

Sports Building Reserved Matters Application
Richmond Council and Richmond upon Thames College submitted a Reserved Matters planning application for the new Sports Facility in May 2017. The application considered external elevations, landscaping, parking, materials and construction access. A consultation exercise inviting both local residents and stakeholders took place prior to submission of the planning application.

Haymarket Reserved Matters Application
Haymarket Media Group commenced the consultation process on the detailed design proposals for the Tech Hub Reserved Matters on Wednesday 10th July 2019, alongside the consultation for the College's STEM building and Craneford Way playing fields. The consultation ran to Monday 22nd July 2019 and considered external elevations, landscaping, parking, materials and construction access. A joint drop in session was held on Tuesday 16th July 2019 from 4pm - 8pm at Richmond upon Thames College which was attended by a representative of the Haymarket team, the College team and the Community Liaison Officer. Consultation boards were prepared and were on display at the college and available on the College website. An example of one of the boards is shown below. The Community Liaison Officer distributed the consultation documentation via the Development Management Group.



There were 5 people who attended the event during the afternoon and evening. Attendees were invited to fill out a survey at the drop in session and the survey was also available on the College's website.

Community Liaison Officer
The S106 Agreement for the Outline Planning Application has a requirement for a Community Liaison Officer (CLO) to be appointed by the Council. The CLO will coordinate the Richmond College Development Monitoring Group, responsible for monitoring community liaison in respect of the development. The CLO will also be the principal point of contact between local residents, the College and the Schools in dealing with any issues arising from the development. The CLO was appointed in 2018 and has been involved in advising the Haymarket Tech Hub design team on the consultation held in July 2019.

The Proposed Site

The Site forms part of the Richmond Education and Enterprise Campus (REEC). The entire campus development was granted outline planning consent in August 2016. Development of the campus commenced in 2017 and the new secondary school was completed last June. The main college building is currently under construction with a forecast completion of Q1 2020. In addition to the proposed Haymarket office site, the campus also includes a new sports building, science and technology college building and approximately 2 hectares of residential development (190 residential units), all of which are still to achieve Reserved Matters planning consent.

The proposed office site is in the north-west corner of the campus adjacent to the A316 arterial road and neighbouring the Stoop, home to Harlequins.

The proposed Site area is approximately 0.22 hectares and is mainly on level ground. The western edge of the site will be bounded by a new widened tree lined pedestrian pathway along Marsh Farm Lane. The remainder of the perimeter of the site is bounded by the college site.

Vehicular access to the office site is from the A316, via Langhorn Drive (part of the Harlequins site). A new vehicular access will be installed at the head of Langhorn Drive to permit a right turn on to the A316 (currently left turn only) – TfL are understood to be planning these works for summer 2020. Pedestrian and cycle access points are via Marsh Farm Lane which in turn can be accessed from the A316 or Craneford Way. Twickenham Station is approximately 0.7 miles away, a walk of around 10-15 minutes.

Outline Planning Approval

Outline Planning Application (OPA) consent for the REEC campus was granted on the 16th August 2016. This consent covers the proposed broad principles of the development on the campus, such as access, height, density of development of buildings and a site wide Design Code. The OPA consent also contains several conditions that needs to be discharged, some prior to any development works taking place.

The Haymarket office site is known as the "Tech Hub" DZ and the OPA defines key development maximum and minimum parameters for this zone. The principal parameters for development of this site are consented as:

- Use: Planning Class B1 (Office use);
- Building Length – minimum 36m; maximum 45m;
- Building width – minimum 27m; maximum 31m;
- Minimum building height (top of parapet) -8m (above +9.2m ordinance datum);
- Maximum building height (top of parapet) -15m (above +9.2m ordinance datum);
- Minimum gross floor area 1,200m² Gross External Area (GEA)
- Maximum gross floor area 1,700m² GEA;
- Maximum number of storeys – 3 storeys;
- Maximum number of 10 car parking spaces of which at least 1 must meet accessible standards; and
- Minimum of 15 cycle space must be provided.

The Design Code for the Tech Hub DZ suggests that the building should be designed as a pavilion set within an attractive public realm and should not compete for prominence with the college building. It should also contain an active frontage to key elevations such as the plaza area.

Outline planning parameter plans

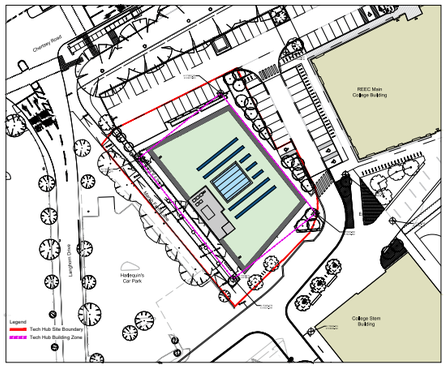
Master plan | Development zone | Building parameters

Outline planning site design code guidelines

Access | Entrances & active frontages

External areas | Landmark elements

Proposed tech hub site plan



Tech hub design proposal | haymarket | LUC | tp bennett

Project Description

Haymarket Media Group is a global specialist media company involved in brand development and publications. The architectural brief for the technical hub is to provide a spaciously bright, flexible open plan space to allow Haymarket staff to work collaboratively within one dynamic space and support its work within the extended campus. There will be high end IT facilities suitable for mobile working and other support areas such as break out lounge areas, recreational games area, kitchen/ tea facilities and meeting rooms. The new building is on the north west corner site within the existing Richmond Education and Enterprise Campus.

Architectural Massing

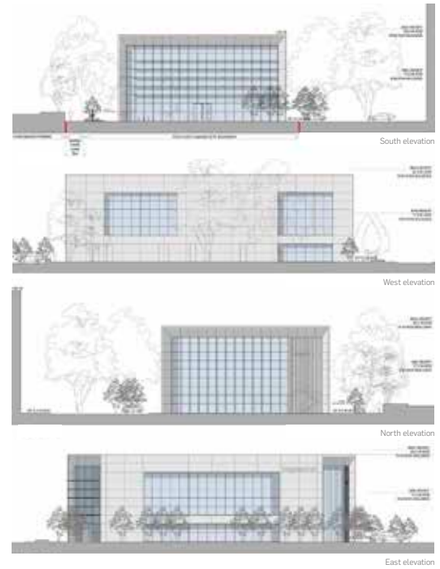
The new building parapet line will be no higher than 14.15 metres above ground level. The height allows the building to retain a visual prominent presence yet not dominate its immediate college neighbour buildings. The plan form is trapezoidal in shape derived from the existing site conditions with the rear facade continuing the line of the college building running parallel with the A316. The angle in the front responds to the line of the STEM building opposite and is a gesture that opens up the view from the college entrance into the campus.

The form of the building provides two recessed fully glazed facades on the front and back with slick metal panel wrapped walls with flush glazing to the longer sides. The intent is create an open-ended tunnel like structure that provides views through the building.

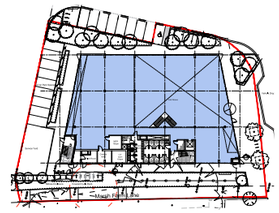
Floor Layouts

The proposed floor plan accords with the maximum OPA consent will have a full ground floor and L-shape first floor configuration that will provide a triple height void on the south face of the building. On the west side of the building there is a single lift, toilet block, one escape stair and riser/ plant provision. On the ground floor, there will be additional showers and plant areas. The covered cycle storage racks and refuse rooms are in ancillary buildings enclosures to the rear of the main building adjacent to the service area.

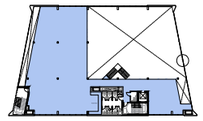
View from entrance



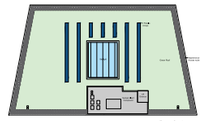
South elevation | West elevation | North elevation | East elevation



Ground floor



First floor



Roof plan

Material Palette

The limited material palette reflects the simple form of the building to appear minimalist and restrained. The front and rear facades are with full height glass recessed back within a chamfered framed panel and given further articulation and depth with sun screening louvres. The side elevations will be large format metal panels that will fit in with the language of the materials of the adjacent college buildings.

Alucobond metal cladding | Glass curtain wall | Rear open stair timber slats | Vertical brise soleil perforated metal

Tech hub design proposal | haymarket | LUC | tp bennett

Landscape Proposal

Site Wide Principles

The landscape for the Tech Hub follows the masterplan principles for the REECC consisting of:

Distinct Identities & Access
Creation of a series of legible places adjacent to the campus, each with their own distinct identities.

Cohesive Whole, Shared Access
Maintain a cohesive, unified feel as across the Campus

Vibrant & Characterful
Areas set out on a landscape garden principle to create safe and comfortable environments.

Managed Boundary, Clear Interior
Supervision and secure boundaries are key.

Aerial view from South west

Tech Hub Landscape

Around 20 new trees are proposed to be planted as part of the development, predominantly native species. 70% of the roof will be a green roof made of native wildflower species. Improvement are also proposed to Marsh Farm Lane with an ecological corridor providing connectivity for pollinators as well as providing benefits for visual screening, cooling of the adjacent buildings, and providing benefits to storm water drainage.

Whilst observing the site wide principles of the Campus, the proposed landscape around the tech hub is driven by function, robustness and resilience. External areas around the building will consist mainly of block-paving – including permeable paving and blocks made with recycled aggregates, which ties into the treatment around the neighbouring college development zones. Shared surface principles are adopted throughout the development to transfer priority to pedestrians. Demarcation of pedestrian zones will be handled through changes in materials and/or colour. Cycle spaces are provided, including 4 short-stay for visitors in the public realm, and 12 covered long-stay for staff within a fenced of secure area.

Tech hub landscape proposal | haymarket | LUC | tp bennett

06 Final design proposals

Design concepts within masterplan

Following considerable review of the Design Code Guidelines and subsequent consented planning conditions, this section outlines the ways in which these have been satisfied and justify any minor variations to the design codes. The overall goals and design intent of masterplan scheme has not been challenged as they have provided the basis for a viable design scheme that meets Haymarket's needs whilst sitting comfortably within the design codes. It is also worth noting that insofar the proposed building provides the maximum development area of 1700 square metres (GEA), it does so with a building that is below the maximum height permitted in the outline consented plans.

Use

The Tech Hub is a B1 purpose made office building for Haymarket Media Group. Haymarket as a locally based media company has several office facilities within the Twickenham town centre. The Tech Hub will not serve as their head office but is being developed to complement existing offices and enable future expansion as the company grows as well acquiring and utilizing the latest creative and IT technologies to meet this growth. The building fit out will not be built to a speculative office specification but will be fitted out to Haymarket's own brand standards from the outset.

Amount

Schedule of areas

	Building GEA	Building GIA	Office NIA	Max occupancy @ 1:8
	sqm	sqm	sqm	people
Ground Floor	1084	1051	835	104
First Floor	616	589	524	65
Total	1,700	1,640	1,359	169

Design evolution and development

The parameter plans indicated a building zone area utilising a rectangular shape centrally placed within an irregular site outline. Early massing studies that attempted to maximise the full potential building zone identified four design issues that lead to further refinements to the building configuration:

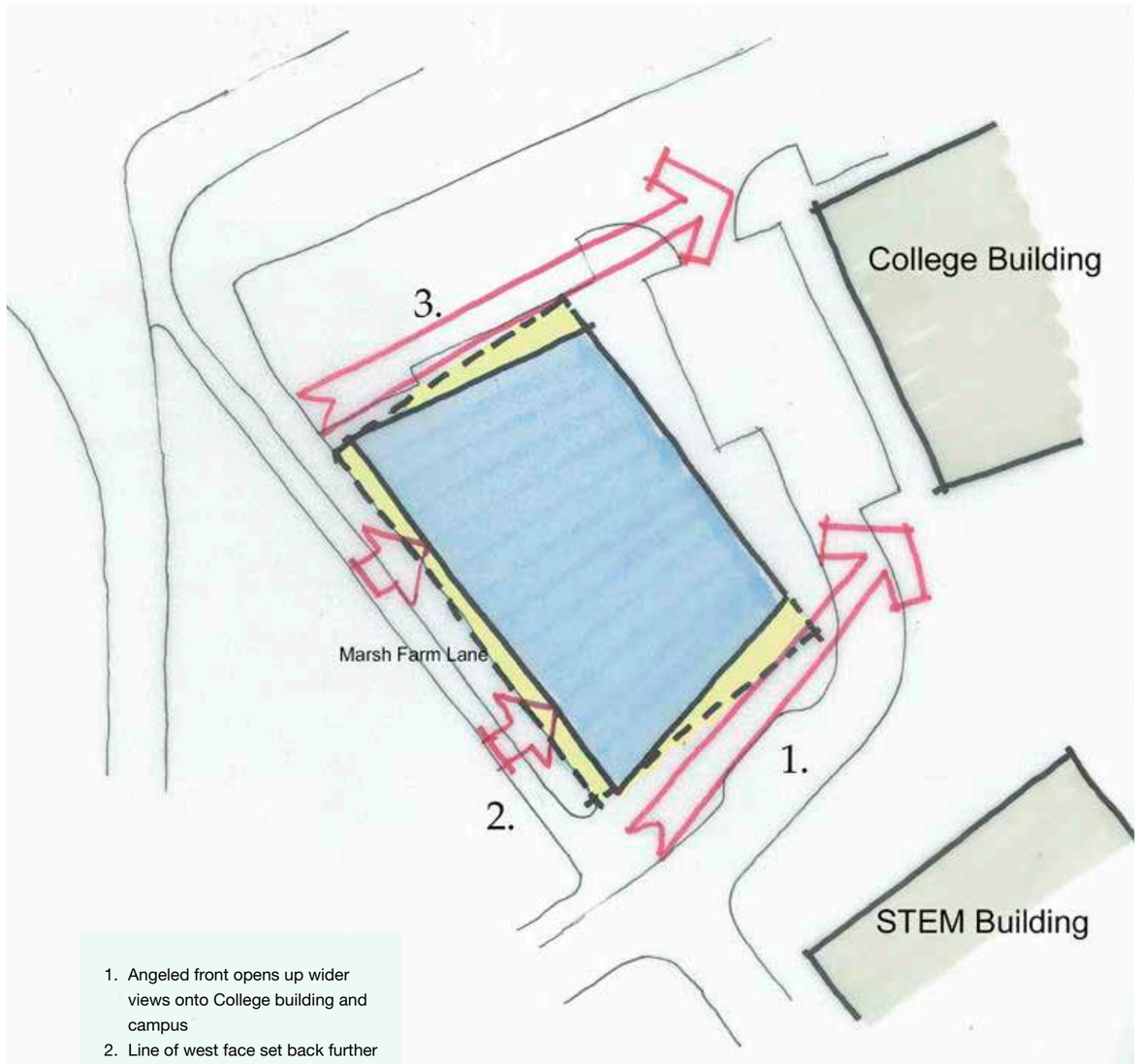
1. The building line fronting Marsh Farm Lane was too close to the pedestrian path and would have resulted with a loss of existing trees and any open landscape area between the building and lane would be insignificant
2. The south east corner of the building was also too close to the adjacent site boundary. If the building was extended to this corner, it left very little breathing room around the building as well as potentially obscuring a good part of the wider views toward the college from the Langhorn Drive entrance
3. The area along the east elevation contains a row of parking spaces for the Tech Hub and College. The proximity of the four Tech Hub allocated car bays closest to the south edge are particularly squeezed against the elevation leaving little space for pedestrian pathways or landscaping
4. The placement and rectangular shape of the building within the site is almost arbitrary and has a poor formal relation with the neighbouring college buildings or the line of Chertsey Road to the north to form a coherent urban ensemble

In response to these observations it was decided to retain the building line along the east side of the building zone by pulling the west line if the Tech Hub away from Marsh Farm Lane and as a consequence, reducing the width of the permitted building outline. The issue of the cramped parking for the Tech Hub car parking zone to the east boundary in the Cross-Site Right-of-Way zone is resolved by relocating three of the spaces to the rear of the building and retaining only one disabled bay here as it would be closest to the main entrance. The additional space allows a wide walkway that could also be utilized for maintenance to the building. Relocating the cars to the north also benefits the overall scheme by and visually screening the remaining car parking spaces from the plaza area with trees and shrubbery in the newly created planter.

The remaining nine car spaces to the rear was replanned so that they were placed on a continuous run parallel with the proposed college spaces along Chertsey Road. This gives a more logical and orderly arrangement of the parking and allows a further formal walkway to be created between the building and the car spaces.

The development of the shape building massing has sought to address the importance of the urban context and how the Tech Hub relates and fits into the site. The line of the south face has been angled away from the college entrance to create a funneled open view toward the plaza and college building. This alignment also orientates the perceived front of the Tech Hub directly toward the plaza and the facing STEM building. The angle is then repeated on the north face to run parallel with the proposed parking and Chertsey Road. This building line also aligns with the new college buildings providing a more direct response to the views from Chertsey Road.

The resulting trapezoid shape of the Tech Hub now orientates all four of the elevations to key parts of the adjacent site context. Whilst the building outline in plan is largely well within the permitted building zone, the end corner projections at each side of the west elevation marginally extends beyond this line on the north and south faces by approximately 1 metre. This corner projection contributes to reducing solar gain and will not result in any additional net increase of floor area or obstructs the width of any road or footpath. As the extended façade corner projections on the western face provides further shading it is accordance with the Design Code Guidelines section 5.10.8 that permits a projection of 1 metre beyond the edge of the building zone.



1. Angeled front opens up wider views onto College building and campus
2. Line of west face set back further from Marsh Farm Lane to retain existing trees
3. Angeled rear elevation aligns with future college building facade along Chertsey Road

Layout

Design objectives within an urban/campus context

The key design objectives within urban/campus context for the Tech Hub building will be in accordance with Design Code section 4.3.9 and are as follows:

- In order to encourage a legible access onto the campus from the A316, the Cross-Site Right-of-Way will be routed around the south and east of the site borders. As such the road makes a major contribution to the first impression of the Tech Hub and college buildings beyond
- The entrance area to the Tech Hub and college buildings are to provide a new large, predominately landscape plaza for the public realm that 'should symbolize the bringing together of education and enterprise on one campus'. The plaza area should be of a scale befitting the proportions of the buildings that surround it with minimum use of bollards and markings and give priority for pedestrians
- The plaza should be civic in character and reinforce a unified design approach across the campus

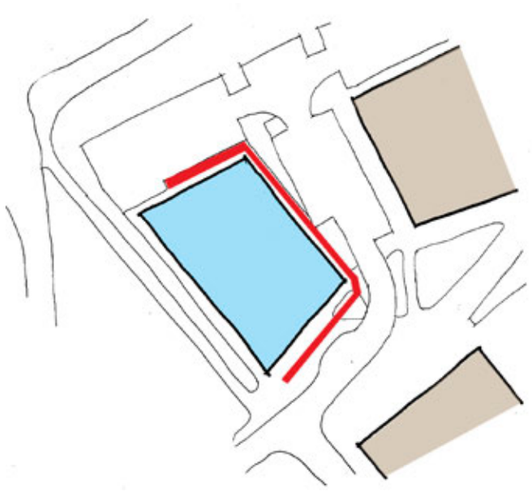
With the detail development and layout of the building on the site, it was paramount that the building is an integral part of a cohesive overall masterplan scheme. The design code section 3.4.7 states 'Views to the college buildings should be an important characteristic of the public realm….The design of the tech hub should not obscure or compete with the college building.' In the final proposed layout, the orientation of the building on the site and the placement of the ancillary buildings responds to the surrounding current and future developments in the follow positive ways:

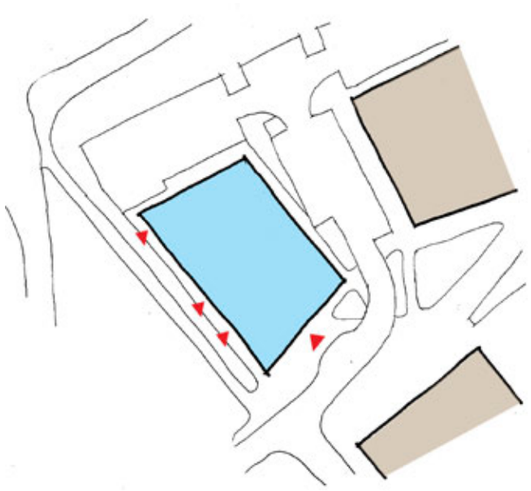
- Angular frontage opens up the plaza and provides more open views toward the college building from the campus entrance
- Creates an urban setting with an assembly of buildings that orientates the Tech Hub building toward the plaza and the STEM building opposite
- Shared entrance area reinforcing the ties between the college and the Tech Hub
- Building shelters the public realm plaza from external noises and pollution of Chertsey Road
- Car parking and service areas assumes a visually less prominent presence within the site by being placed to the rear of the building.
- Aligns the north elevation with the adjacent college building as seen from Chertsey Road
- All sides of the building will incorporate parts of their borders with soft landscaped edges and retained trees to help define and articulate the boundary and enhance the local character

Active frontages

The Tech Hub is a stand-alone building with a pedestrian pathway around all elevations at street level. The primary active frontage is the south elevation facing the plaza area that contains a clearly legible entrance and full glazing offering transparent views from the plaza into the building and vista from the building onto the plaza and college. In accordance with Section 5.2 of the Design Code this visual connection between the public and building users ensures the scheme is engaging with the context that in turn promotes a safe and secure environment.

To a lesser degree, the other elevations will also encourage activities associated to the movement of people to and from the rear and side parking areas, cyclists dropping the cycles in the bike racks, leisurely access to the Marsh Farm green corridor, and ongoing gods drop off and pick up in the rear service area. In these less populated areas, further safety measures such as CCTV monitors will be introduced.





Entrances

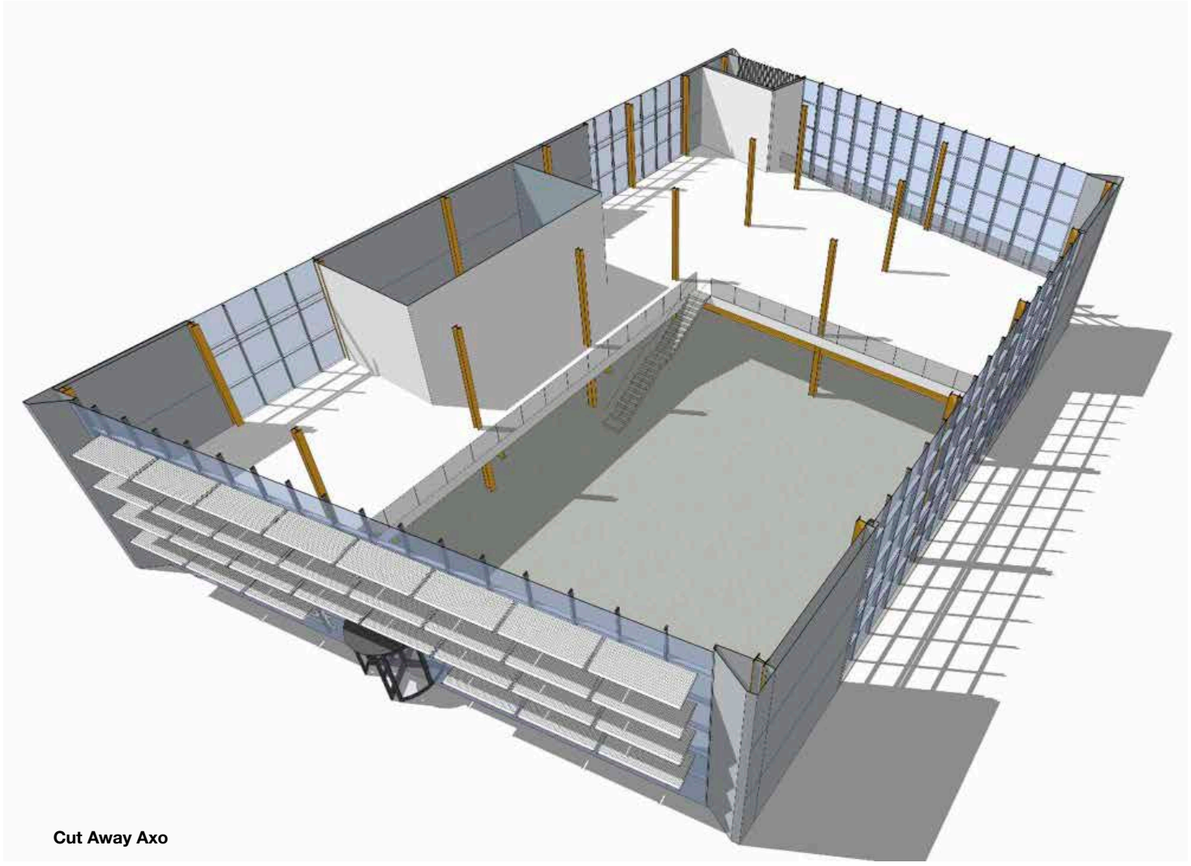
The final proposal follows the principle of the Design Code with the placement of the primary entrance point on the southern entrance plaza. The central position and prominence of the revolving door will provide a clear well marked main entrance for all users. There will be supplementary doors on the west elevation for cyclist access, plant rooms and means of escape. Most of these will be off an external secure area along Marsh Farm Lane.

Internal plan layout

The building has been conceived as one linear open space with a single vertical core placed to the side so as not to interrupt the visual continuity through the large volume. The treatment of the void space is open and transparent with the introduction of a free standing full height glazed curtain wall on front and rear façades with that will open up the north south axial views through the building to the surrounding areas. The intent is emphasize the openness of the office that allow users to be visually connected to the outside regardless where they may working within the building. For those looking into the building, the open views to the working activities will impart a sense of a busy dynamic and creativity space symptomatic of this type of working environment.

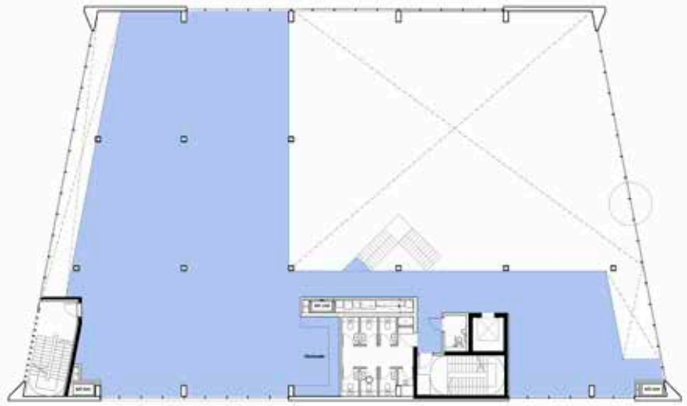
The entrance to the south will consist of a high volume space reaching the full height of the building. The first floor, set back from the reception, will overlook the entrance and other specialist areas on the ground floor. Within a clear view from the reception, there will be a feature stair to the first floor designed as a structural piece to encourage people to use and partake in spontaneous meetings and discussions with colleagues.

The final layouts will evolve over time to meet the changing company structure and needs. What is critical is the need for the space to be as flexible as possible at the outset.



Cut Away Axo

Ground floor



First floor

Mechanical & ventilation proposal

Plant & riser strategy

The ground floor north-west corner plantroom contains the main electrical plant including the combined Comms and LV intake and switchroom. It also houses the water intake and potable cold water storage tank with pumpset and the domestic hot water generating plant.

Two separate mechanical ventilation plant strategies have been investigated; localised on-floor mechanical ventilation and centralised rooftop located mechanical ventilation.

Under the localised scheme each floor has two mechanical ventilation with heat recovery (MVHR) air handling units (AHUs) located either side of the lift, toilet and stair core in dedicated plantrooms.

Under the centralised scheme all floors will be provided with fresh air by a large mechanical ventilation with heat recovery air handling unit placed on the roof on top of the stair core / lift overrun area.

The rooftop plant enclosure will also contain the heat rejection plant that serves the indoor air conditioning units.

Risers are located on the west side of the building adjacent to the showers, toilets and stair and lift core. The risers shall contain the main LV and comms distribution, including distribution boards. Risers shall also include boosted potable cold water pipework with a capped off connection for future tea point/canteen next to the core zone. Rainwater downpipes are envisaged to be concealed and to follow structural columns depending on final roof layout/falls. The foul drainage pipework will drop the behind the toilets.

Mechanical services

Comfort heating and cooling will be provided by taking air in at high level and supplying it into a raised floor void plenum beneath them. The conditioned air will then be released at low level into the office space via floor mounted fan tile units. The UfAC units will be paired one-to-one to external condensers located on the roof.

Office ventilation

The ground and first floor office areas will be provided with fresh air from a dedicated centralised air handling unit (AHU) located on the western side of the building roof. Vitiated air will be extracted by the same AHU. Intake and exhaust for the AHU will be local to the AHU at roof level.

The Office AHU will be provided with attenuation on both intake and discharge in order to reduce any noise reverberation within the ductwork and to prevent any noise breakout to the local environment.

Ground floor showers and WC extract

Air extracted from the ground floor unisex WC and showers will be extracted to a dedicated twin motor toilet extract fan and then exhausted at high level ground floor via a louvre located on the western façade of the building. Make-up air will be provided by the Office AHU via dedicated supply air terminals within the space.

Space shall be allowed for attenuation on intake and discharge sides of the extract fan if required to meet the acoustic breakout requirements of the site.

Smoke extract

There is no dedicated mechanical or natural ventilation smoke extract system exhaust.

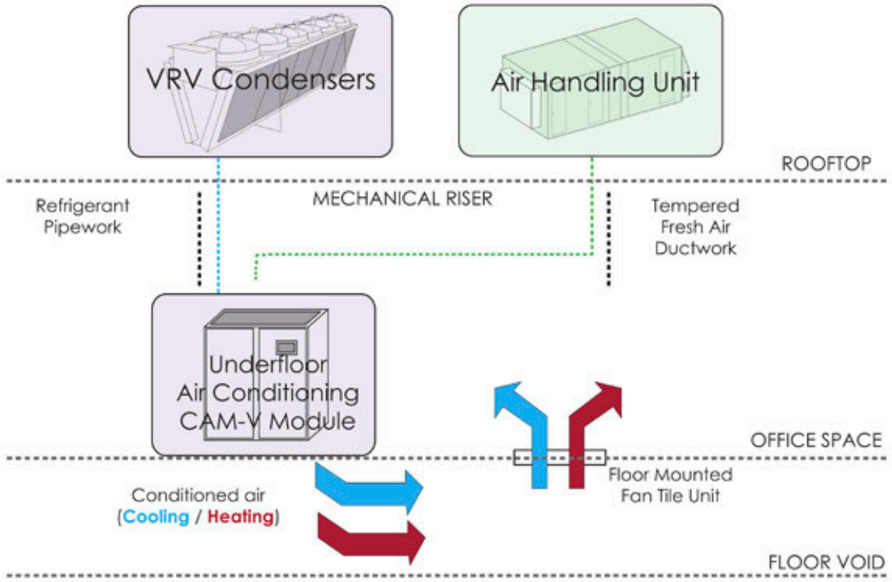
First floor WC extract

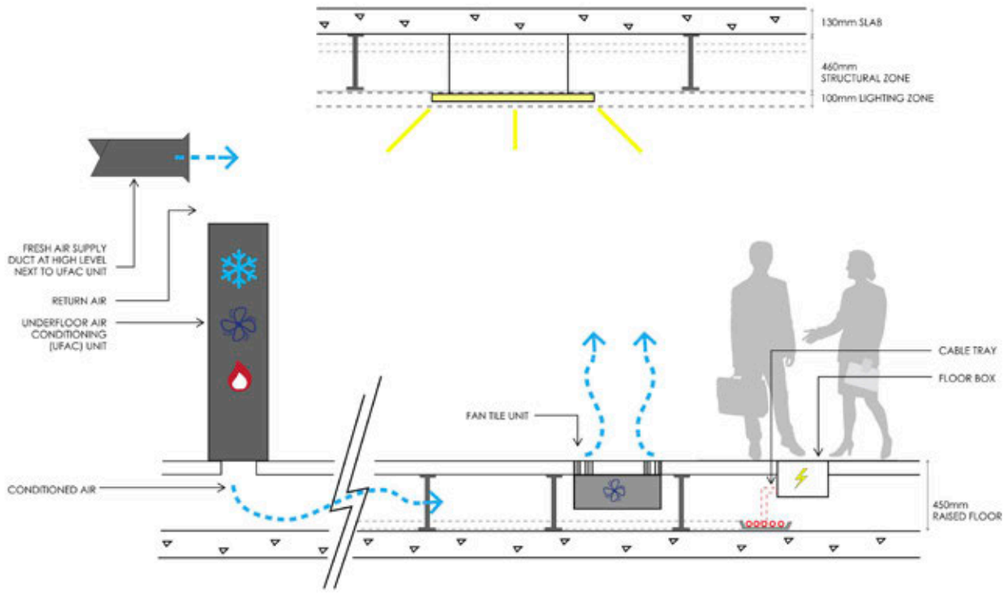
Air extracted from the first floor unisex WC will be extracted to a dedicated twin motor toilet extract fan and then exhausted at high level first floor via a louvre located on the western façade of the building. Make-up air will be provided by the Office AHU via dedicated supply air terminals within the space.

Space shall be allowed for attenuation on intake and exhaust sides of the extract fan if required to meet the acoustic breakout requirements of the site.

Kitchen extract ventilation

There is no commercial kitchen planned for the site.





Scale

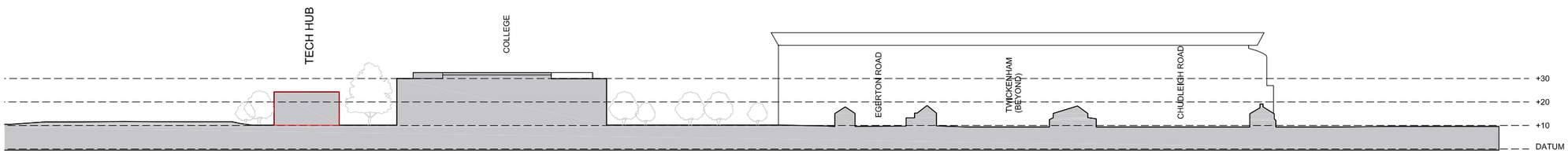
Section 5.6 of the Design Code requires the building massing being consistent and continuous to the urban block and street layout. In context to the masterplan area, the outline consent parameter plans have suggested an appropriate scale and form of development that would be best suitable to the site ranging in height from 8 metres to 15 metres. In comparison to the surrounding area there is a mixture of distant low-rise housing on the other side of Chertsey Road and the much higher Harlequins sport stadium building to the south west. At the time of writing this report, the new college building to the east is nearing completion and stands at just under 20 metres and to the south, the yet-to-be-built STEM building will be 19 metres in height.

Early massing studies showing the maximum and minimum permitted development for the building lead to the conclusion that the parameter plan minimum height would have resulted in a diminutive building that would be overwhelmed by the adjacent college buildings when seen from the southern plaza area. The studies lead to proposing a building at the higher massing as it would provide a better urban fit that was both in scale and complementary with the college buildings without obscuring them. The building massing as proposed positively responds to the surrounding larger buildings as it is slightly smaller but sits comfortably with the college buildings and the existing taller treeline to the west and north.

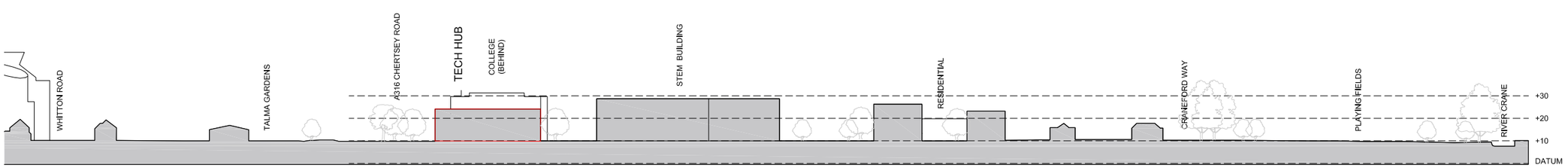
Following the strategy of the college building design, the perceived scale and mass of the building will be minimised through the articulation of large glass areas incorporated into the solid metal panel façade elements. The façade on the two primary building faces will be chamfered into the building with a deep recess then further layered with projecting sun shading screens laid vertically on the north elevation and horizontally on the south elevation. These in turn will cast deep shadows providing depth to the otherwise flat building face. The scale of the sun screening devises are intentionally different sizes and orientation with the larger massive vertical fins to the north responding to the busy highway by the merging overlapping vertical panels when seen from the speeding vehicles passing on Chertsey Road, while the south façade's horizontal louvres are raised high above the pedestrian areas to permit unobstructed views into the building. The horizontal positioning of the protruding louvres compliments the façades composition whilst producing an appropriate human scale at the ground level by appearing less visually dominant.

When viewed from key viewing positions along the Chertsey Road the line of the parapet is already perceptually lower because the actual site ground level sits approximately 1.9 metres below the pavement of the main road. This also justified the higher building line as this would provide the building with more visual prominence from the corner of the main road without needing to extend the overall height beyond the permitted 15 metres. It is worth noting that the building will be visually obscure from the Chertsey Road due to existing mature trees along the northern embankment and Marsh Farm Lane. Views along this road from both directions reveals only partial glimpses of the building through gaps between the existing trees and large pedestrian bridge structure.

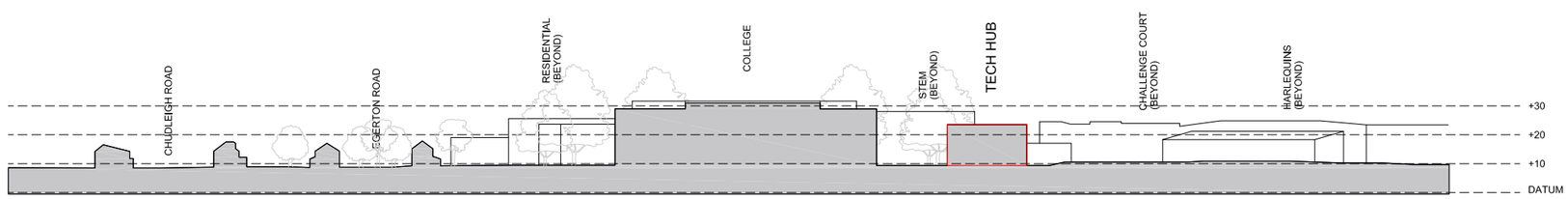
In accordance with the Design Code 5.9.1, the parapet line is set 1100 mm above the top of the roof to allow all low-level plant equipment, skylight projections and lift overruns to be hidden below the parapet. Any larger plant equipment will be placed within a lower plant compound well above the current core area to ensure the integrity of the parapet line with no projections is retained on all elevations.



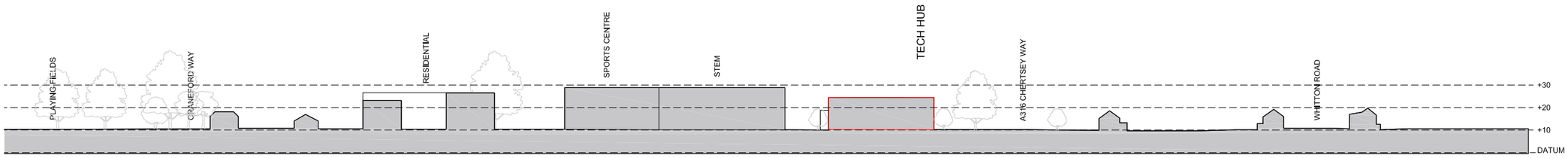
Site Section 1-1



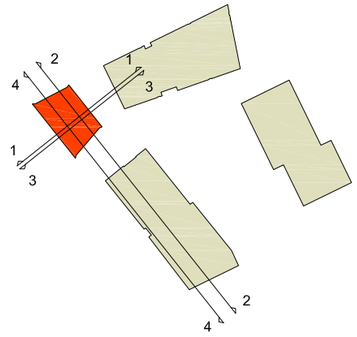
Site Section 2-2



Site Section 3-3



Site Section 4-4



Appearance

Building design objectives

The key building design objectives for the Tech Hub building will be in accordance with Design Code 5.1.6, 5.1.9 and 5.1.10 and are as follows:

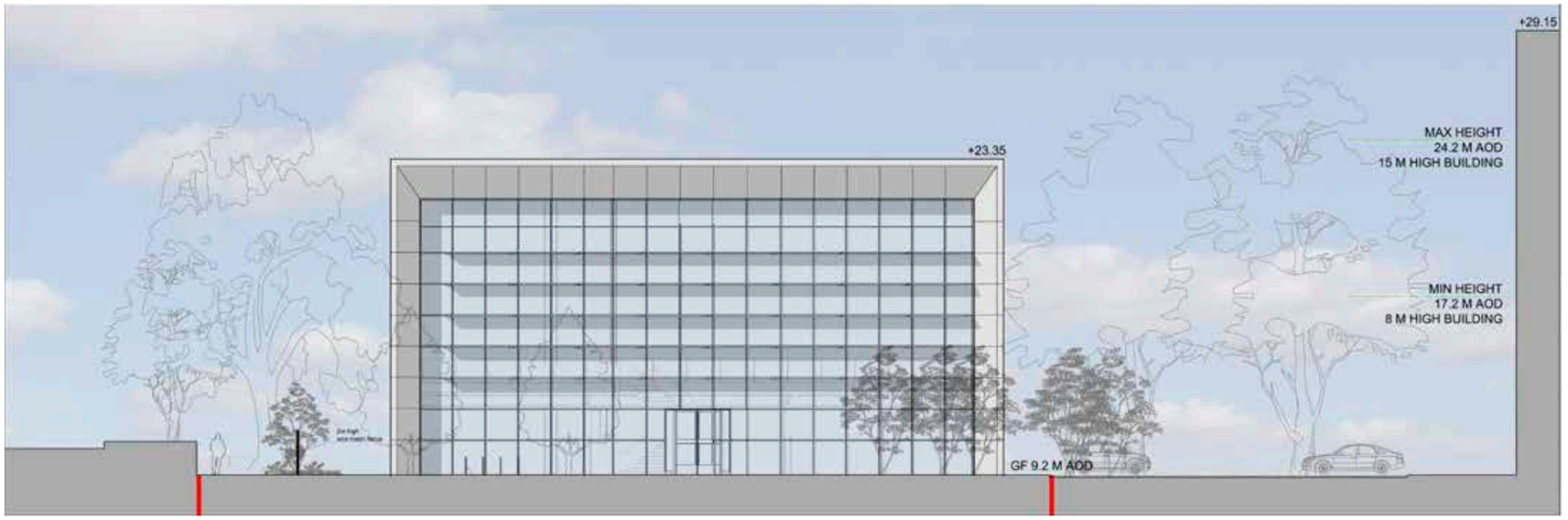
- Façades should be designed with consideration of appearance from their surroundings. The cladding on the Tech Hub should not only be of a palette of materials that complements each other but should 'provide continuity between different places within the redevelopment, and the existing context'
- Tech Hub should be built using materials of a high quality, durable and resilient. The materials should be selected to avoid vandalism, water staining, uneven weathering and decay
- Signage should be integral to the building and the sympathetic and suitable to the scale and character of the public realm space it faces onto

The Design Code stipulates under section 1.3.31 that built fabric should be a high standard, attractive and appropriate to their context. As the site on an open site with public views from any angle, all faces of the building will be uniformly clad with the same quality materials. Full height glass cladding on all four elevations draws in natural light and views. Transparency gained by the large format glazed areas to the front and rear plays a key part for visually opening the activities of the tech hub to the outside. This equally benefits the staff with views out to ensure they feel part of the wider campus community. Clear views overlooking the external areas also provides a sense of security for the public realm and minimises the use of defensive elements such as walls and bollards.

The neutral colour light silver finished for the rain screen metal cladding panels will be set out in standard widths and heights thus creating uniformity and order throughout the façade. The panels are in a modular large format with vertical spacing heights that correspond to the level changes between the floors. The equally distributed stacked 1.4 m high panels provide a generous full height 2 panel window module and an additional single 1.4 spandrel to separate the ground and first floor.

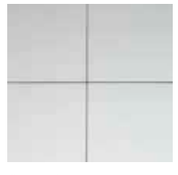
The cladding anodized like finish will only cast a fine sheen in direct sunlight whilst retaining a metallic appearance. The finish is not reflective but has been selected to avoid sunlight glare for passing motorists and the surrounding buildings. Likewise the potential risk of reflection from the north elevation on a late summer evening will be omitted with the application of vertical protruding perforated metal sun shading screens. Such concerns are in response to U07945 solar gain condition which seeks to mitigate the potential risks of glare and reflection from the sun on motorists and pedestrians. Following earlier studies submitted to support the effects of the sun on the college building RM application, it has been established that overall the college building will not have an adverse effect on the local environment. Insofar the Tech Hub will be constructed of similar materials and will be further screened from the sun, it is not anticipated there will any major problems.

One material stands out as an exception to the otherwise neutral palette on the rear elevation facing Chertsey Road. The escape stairway is an external stair but is enclosed and set behind open vertical timber members. The introduction of timber slats here is a reflection of the surrounding trees that provides a warmer counterpoint to the colder metal finishes. The use of the long vertical slats of timber visually resemble the closed pages of a book that metaphorically alludes to the origins of Haymarket as a publishing company.

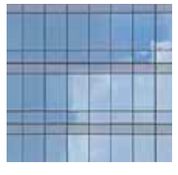


South elevation

West elevation



Alucobond metal cladding



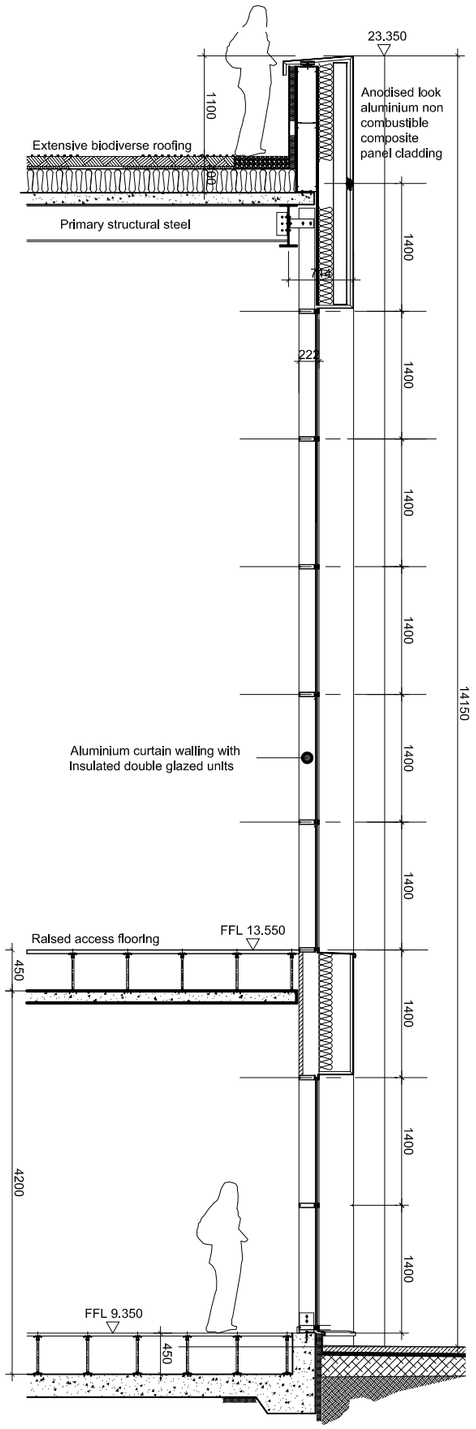
Glass curtain wall

Rear open stair timber slats

Vertical brise soleil perforated metal

North elevation

East elevation



View to main entrance and plaza

View of north elevation from Marsh Farm Lane

Access

The development strategy for pedestrian access adheres to sections 1.3.8 and 2.3.2 of the Design Code whereby pedestrians and cyclist would utilise the upgraded Marsh Farm Lane from the southern campus approach and Chertsey Road to the north. The lane will be marked to segregate pedestrian and cyclist along shared sections of the path. Direct access from the west through the college and school would be generally restricted to college staff and students as access routes from Twickenham town centre via this route would be longer and convoluted. There will be no direct pedestrian connection onto the site from the northern junction of Chertsey Road, Langhorn Drive and Marsh Farm Lane due to level differences and a high fence along the perimeter edge.

Vehicle access to the Tech Hub will be off the A316 via Langhorn Lane so as to minimise the impact of motor vehicles on nearby housing estates. Once inside the college area, all cars and service vehicles will be directed through the Cross-Site Right-of -Way zone to the parking and servicing area to the north of the building. The rear parking area serving both the Tech Hub and college and service will be on a dead-end branch of the access road and therefore any vehicles in this area would be relatively few.

As the primary building entrance faces the access curving road to the campus, there has been two vehicle spaces (currently outside the development zone) to serve as a drop off zone for taxis and drop off facilities. Due to the relatively narrow road serving the main access for the college and Tech Hub for staff, emergency vehicles and service vehicles, it was imperative that there is provision at this key point along the access road not to obstruct the flow of in and out traffic. The lay-by forming the drop off zone will have a drop curb for ease of access for wheel chair users and will be clearly sign posted as a place for temporary drop-off only.

Inclusive design

Careful consideration in the design has ensured all areas in and around the Tech Hub is fully accessible to all regardless of disability and as required by the following statutes:

- Equality Act 2010
- Building Regulations Approve Documents Part M
- British Standards BS8300
- Designing for Accessibility 2012
- SLL Code for Lighting 2012

The key inclusive design objectives for the Tech Hub building will be in accordance with sections 1.3.29 and 5.4 of the Design Code and are as follows:

- Ensures required standards for accessibility are met and the building primary entrance meets the ground with a level transition from the outside to the inside
- Design beyond the minimum requirements for Part M and Part L to ensure all people regardless of age, sex or ability can use and enjoy the building and surrounding site
- Create forms and of vertical circulation (lifts and stairs) that are compliant with current standards
- Provide sufficient circulation space to ensure the accommodation is accessible to all
- Spread appropriate sanitary facilities including shower facilities for disabled use throughout the building
- Provide at least one disabled parking

These objectives will be paramount in discharging condition U07960.

Inclusive design means designing beyond the minimum requirements of the Building Regulations Approved Document Part M, to ensure that all people regardless of ability can use and enjoy the built environment.

The Tech Hub will maximise access to all parts of the building, surrounding areas, support facilities and services for all employees and visitors. The new office will have a single designated disabled parking space located adjacent to the college parking because this bay is closest to the front entrance.

At the ground floor, level access to entrances from within the site will be via the plaza, parking zones and pedestrian routes. As the site is relatively flat there is no requirement for ramps, however the front entrance will have a slight gradient from the external levels up to the front entrance to compensate for the 150mm height difference to ensure the entrance door used for disabled users will have a level threshold. The accessible door for wheel chair and other disabled users will have push button automatic opening capabilities. The scheme is an inclusive design as all parts of the building (excluding the roof plant) will be fully accessible to disabled users. The lift will be suitable for wheelchair users and there is one disabled WC on each floor and an ambulant WC in each of the washrooms. Each stair will have a refuge area at each main landing with a call point for assistance in the event of an emergency evacuation.

Car parking

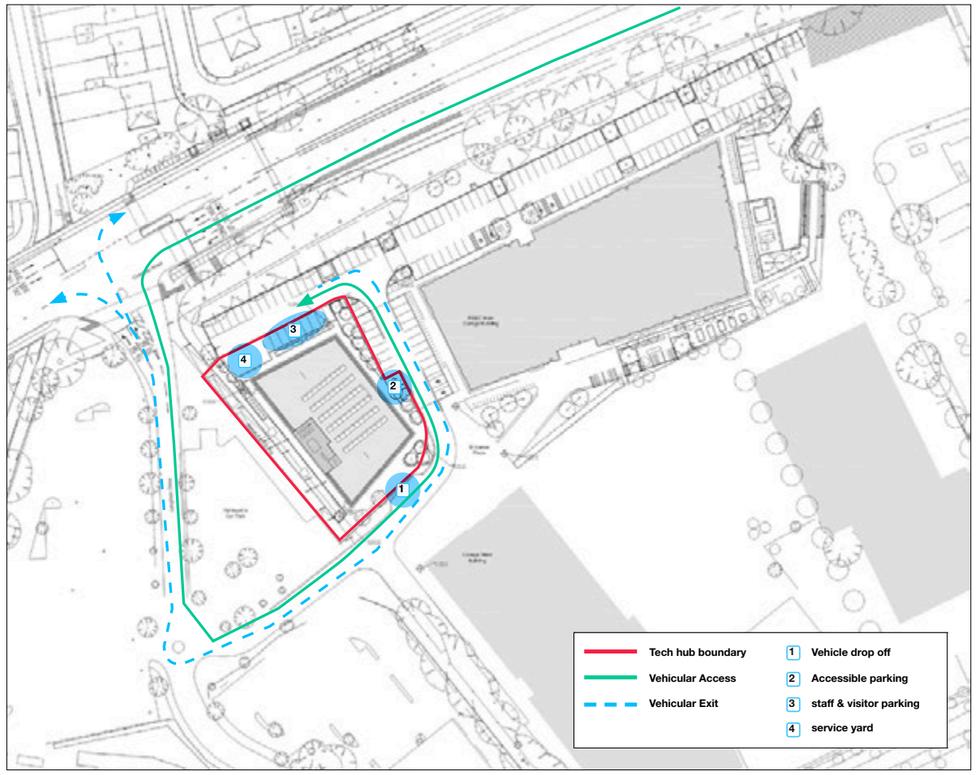
The main objective in developing the car park design strategy is to minimise the visual impact of car parking on the site. There are only 10 spaces permitted as part of the Tech Hub development of which one needs to for disabled use. Access to the car parking will be via the Cross-Site Right-of-Way zone

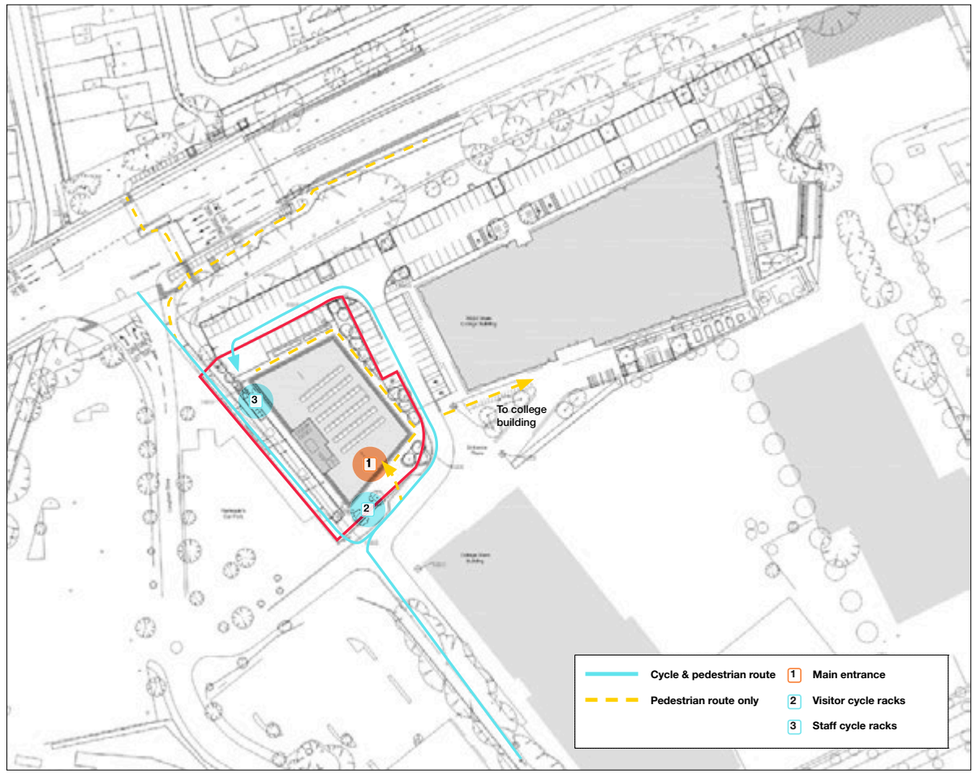
The proposed car parking in the outline plans has been rationalize by placing the majority of the standard space on a single row to the north. These spaces will be partially shielded from direct views form the office with landscape planting in accordance with the Design Code 3.6.1 guidelines. Further consideration to enhance the sustainable character of the development, proposes each of these spaces will be furnished with an electrical car charging point in anticipation of the future growth of this technology in the car industry and the increasing acceptance of the public of electrical vehicles. The disabled space has been relocated closer to the main entrance on the first bay on the eastern boundary.

Cycle provision

The current proposal will satisfy the numbers of cycle racking required. There will be 2 Sheffield type racks in the front accommodating 4 cycles and 5 weather covered Sheffield racks on the western boundary for staff. Staff cycles will be within a secure fenced area that will be access from the rear gates beside the service area. It is anticipated there will be further growth in cycle usage so additional shower and locker facilities have already been catered for on the ground floor for future growth. Staff showers will have unisex shower rooms with retractable seating for changing. One of the showers will be fully compliant for disabled use.

Access to the shower rooms will be via a secure external door opposite the external cycle racks. Once showered staff will then be able to directly access the office area from these common facilities.





Refuse strategy

The removal of waste and recycling materials from the development will be provided by a licensed, commercial waste contractor. The weekly collection periods are yet to be determined, but general waste is expected to be picked up at least two to three times a week and a similar pick up regime for the recyclable materials. The refuse vehicle will be the largest service vehicle to routinely visit the site and a tracking plan for a standard size refuse vehicle has been produced to demonstrate how the access roads will accommodate the truck so that the reversing segment of the journey is minimise to the length of rear parking zone in order to avoid disruption to other vehicles and ensure the refuse vehicle will leave the site in a forward direction.

The office will utilize three 1100-litre size refuse bins that will be permanently located within a remote locked and naturally ventilated enclosure on the north west corner of the site. Each waste bin will be clearly signed with the type of waste it will contain. The facilities and cleaning staff will be responsible for taking waste form the office to the bins on a daily basis ready the collection periods. As the bins are stored remotely there will be no requirement for attendance by staff members during the pick-up times.

The commercial waste strategy will allow for the following additional provisions:

- Separate cardboard, paper, plastic and glass recycling
- Hygienic waste storage to be collected separately
- Special collection of grass, tree and vegetation removal in conjunction with a long term maintenance strategy for the green roof, gardens and planters

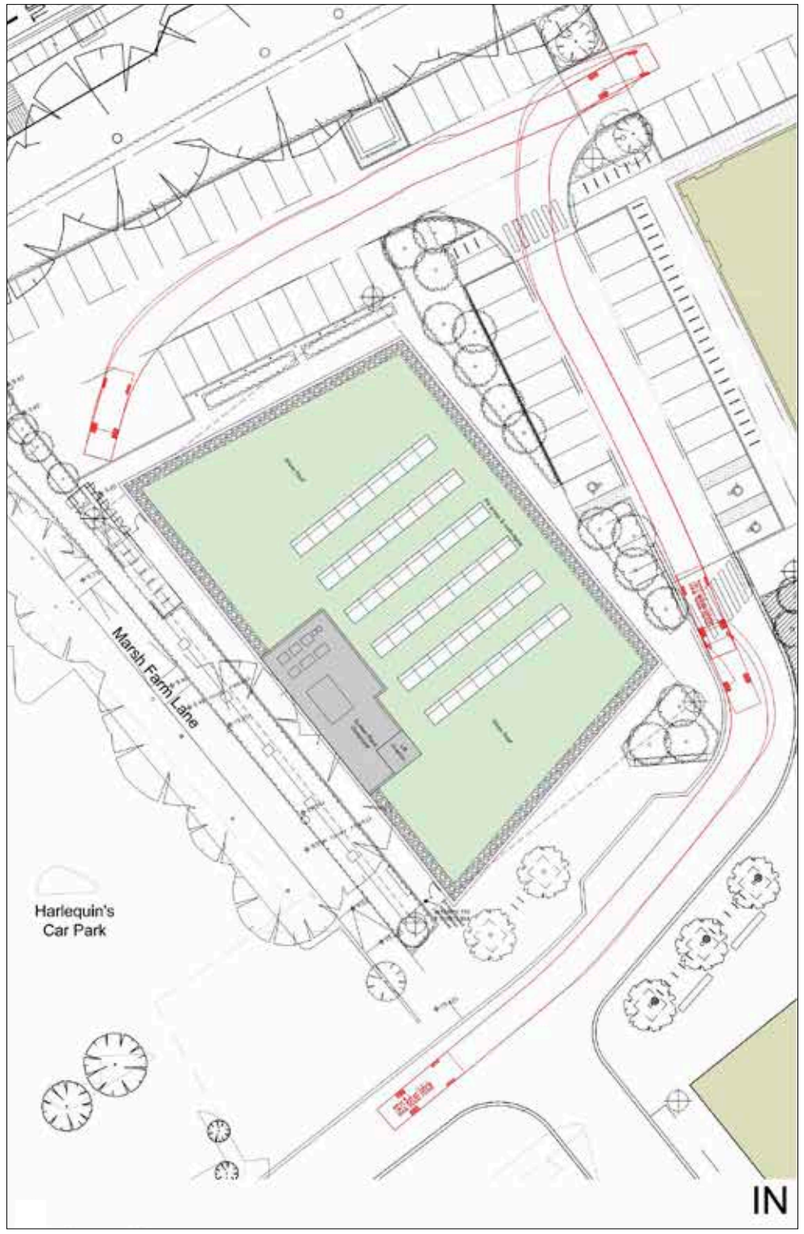
Maintenance strategy

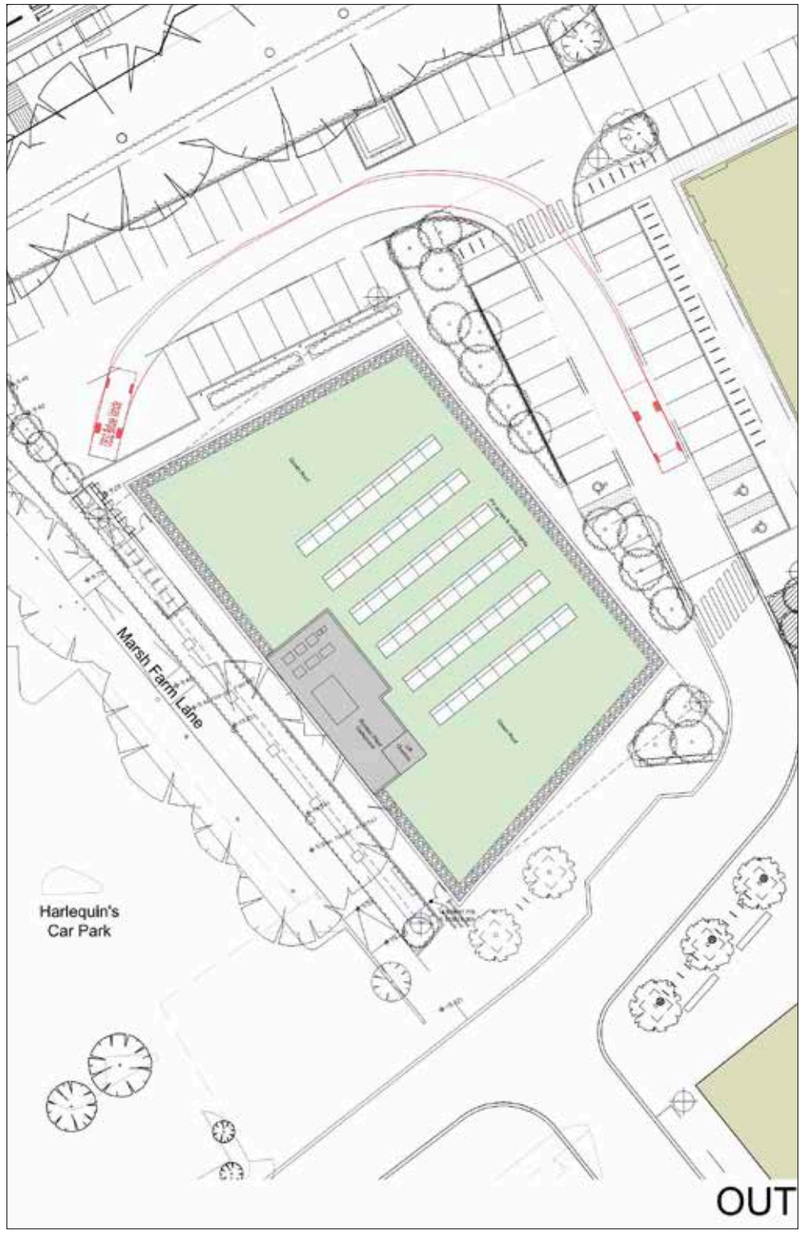
All external façades will be either accessible for safe cleaning with a cherry picker from the hard landscaped areas or by the use of extendable cleaning apparatus (Tucker Poles) from the soft and hard landscaped areas. For more major works on the external façades, there is a continuous 2m wide walkway around the perimeter of the building for scaffolding or mobile platform devices such as cherry pickers.

Cleaning of the high atrium glazing north lights and lamp replacement will be via a mobile cherry picker which can be manually manoeuvred into the building via the front disabled access door.

Access to the roof will be from the upper floor landing through a sliding access door at the top of the stair. From the lower plant well there will be a metal stair taking maintenance personal onto the main roof area. There will be a 1100mm high perimeter fence around the plant well. Once on the roof there will be a proprietary designated walkway system on the green roof will be provided across the flat roof to the plant equipment and photovoltaic arrays. No man safe systems will be provided on the roof as the entire building perimeter will have a 1100mm parapet wall.

The majority of plant is located on the ground floor with direct access to outside avoiding any requirement to go through the office space. There will be routine maintenance to the limited roof plant however replacement of larger, heavier items will require mobile crane access from adjacent streets. On floor plant can be removed via the stair cores or using the passenger lift provided total weight does not exceed lift capacity.





Secure by design

In accordance with the guidelines in the Design Code the design should be safe and secure and design out crime. As previously mentioned there will already be a considerable amount of passive crime prevention due to the large expanse of windows immediately overlooking the open spaces. All car parking spaces are within a few metres of an office window and therefore readily monitored by staff. Boundary treatment around the site will have planting areas with mature trees and shrubbery.

tp bennett has consulting with the Designing Out Crime Officers to review the scheme and establish what measures will be expected in the design to reduce the risk of crime in and around the scheme. The current RM application scheme has focused on the external areas and in due course there will be follow up discussions with the officers to review the internal area. Steps to combat any criminal activity will include:

- The external areas to the rear will be well lit by both mask lighting adjacent to the parking areas and wall mounted lights compliant to BS5489:2013 uniformly illuminating the pathways around the building with increased levels of lighting around the entrances and cycle rack storage. These will be incorporated and concealed into the cladding system making them more vandal resistant than standard bollard lights.
- Use of laminate glass on inner and outer pane on ground floor windows and doors all certified to PAS 24, STS202, STS204 and LPS 1175 standards
- Boundary treatment along Marsh Farm Lane will incorporate 2 metre high wire mesh fencing to prevent direct public access to the parking and service areas
- All external cycle storage areas can be overlooked from within the building. The staff cycle racks adjacent to Marsh Farm Lane will be under a covered roof and given additional security protection of being within the fenced enclosure that will be locked and accessible only to staff
- All external doors serving plant room areas and direct access to shower facilities will also be located within the fenced enclosure.
- The building's security systems will include a CCTV system, Intruder Alarm and Access Control Systems
- The CCTV system will be provided to include surveillance and facial recognition to all entrances and external elevations using fixed / pan, tilt & zoom (PTZ) cameras located within domed housings, monitored from a central control station
- Central recording facilities will be provided and incorporated within the office IT system for immediate access and review
- Panic alarm buttons shall be provided at the proposed reception desk. The panic alarm button shall be fully monitored by the intruder alarm system. Entrance doors to the front entrance will also be able to be remotely locked by the receptionists to prevent unauthorized access into the building
- An access control system will be provided to control access to designated areas. At each access control door there will be a proximity card reader, egress button, green emergency break glass and monitored electronic locks
- All external doors associated with the Landlord's areas, offices and communal spaces will be monitored and alarm if forced entry is detected

External lighting

The Tech Hub site includes very limited external areas which will be lit with due concern for light spillage and light pollution. It is the design intention to use the same luminaires or equivalent performance as deployed elsewhere across the campus for consistency and in response to OPA Condition No. U07941 and U08039. The detailed lighting design for the external areas of the Tech Hub site will be developed at the next design stage and submitted for approval prior to construction commencing.

07 Landscape proposal

Landscape

Site wide landscape principles

The landscape for the Tech Hub zone follows the masterplan principles for the Richmond Education and Enterprise Campus, consisting of:

- Distinct identities & access
- Creation of a series of legible places within the campus, each with their own distinct visual identities
- Cohesive whole, shared access
- Maintain a cohesive, unified feel across the campus
- Vibrant and characterful
- Areas set out on a landscape garden principle to create safe and comfortable environments
- Managed boundary, clear interior
- Supervision and secure boundaries are key

General arrangement

1. Application boundary
2. Electric vehicle charging points
3. Accessible parking bay within 50m of front entrance
4. Native malus hedge between EVCPs and window
5. 2nr Sheffield stands for visitor cycle parking
6. Native planting creating ecological corridor along Marsh Farm Lane
7. Welded mesh fencing to Marsh Farm Lane, set minimum 1m back from back edge of footway
8. Marsh Farm Lane, minimum 3.0m length for full length. Shared footway/cycleway.
9. Refuse store and cycle shelter (6nr Sheffield stands) with biodiverse green roof over the top.
10. Biodiverse roof

Scale 1:400 @ A3

0 10m

Soft Landscape

The tech hub follows similar principles to the other development zones, focussing native planting on the site boundary in order to create a joined-up ecological corridor.

These corridors link to the buffer planting to the north of the college site. Improvement are proposed to Marsh Farm Lane where the ecological corridor provides connectivity for pollinators as well as providing benefits for visual screening, cooling of the adjacent buildings, and providing benefits to storm water drainage. This link extends down to the residential development zone and to Craneford Way and the River Crane.

Existing Trees
One tree is proposed for removal as part of the works as shown on the GA (drawing reference 10743.PLN.100). Other existing trees on site are proposed for careful retention, with no-dig and other construction techniques used where required.

New Trees
21 new trees are proposed to be planted as part of the development, predominantly native species. New trees are shown on the soft landscape drawing 10743.PLN.400.

Tree are planted as semi-mature specimens minimum size 18/20cm girth, and into prepare pits. Refer to drawing 10743.DET.620 for the tree planting detail.

Species	Specification	Nr
Betula utilis jacquemontii	350-400cm height, RB, 4x, multi-stemmed & bushy, 3 stems minimum	15
Sorbus aucuparia	18-20cm girth, 350-400cm height, RB	4
Liquidambar styraciflua	20-25cm girth, 450-500cm height, RB	2

Other Planting
Planting is shown on drawing 10743.PLN.400 - predominantly native planting is proposed along Marsh Farm Lane to the west of the building, whilst more ornamental species is proposed elsewhere, creating a link to the scheme around the college. Illustrative images are shown here, to the right.


Betula utilis jacquemontii


Sorbus aucuparia


Liquidambar styraciflua


Iris foetdissima


Dryopteris affinis


Min 2.0m width Ecological Corridor - mixed native species flowering shrub and native species herbaceous understorey


Flowering native species hedge


Luzula sylvatica

Hard Landscape

Paved surfaces
Whilst observing the site wide principles of the Campus, the proposed landscape around the tech hub is driven by function, robustness and resilience. External areas around the building will consist mainly of block-paving – including permeable paving and blocks made with recycled aggregates, which ties into the treatment around the neighbouring college development zones. Demarcation of pedestrian zones will be handled through changes in materials and/or colour. Silver grey precast kerbs are used throughout, tying in with those used elsewhere on the campus.

Site fixtures
Cycle spaces are provided, including 4 short-stay for visitors in the public realm, and 12 covered long-stay for staff. The 12 nr covered stands for staff are provided within the fenced off area, and covered by a steel shelter with green roof.

Ref	Description	Image
P1	Precast concrete paving with exposed granite aggregate surface. Forterra 'Cornish Silver Grey' finish. Permeable. Matches paving used elsewhere on campus.	
P2	Tarmac to Marsh Farm Lane	
E1	Marshalls conservation kerbs in silver grey.	
E2	Welded mesh fencing - galvanised and ppc black. 3.0m high.	
F1	Stainless steel 'portman' tree grille	
F2	Sheffield type cycle stands in brushed steel - to match those used elsewhere on the campus	

Ref	Description	Image
F3	Cycle shelter by Green Roof Shelters. Steel structure with pre-seeded biodiverse roof, coverscycle parking and bin stores.	

08 Sustainability

Sustainable design objectives

The scheme is being developed to minimise energy consumption and thus its carbon footprint with the objective of achieving a BREEAM rating of ‘Excellent’. The client and consultants are committed to delivering a project that is truly sustainable.

The design team are working in close collaboration with Hurley Palmer Flatt, leaders in providing technical and consulting excellence in design and delivery of sustainable built environments. This approach is reflected in the BREEAM Sustainability Report submitted by HPF as part of this planning application.

The principles contained in the Sustainability Report are intrinsic to the design proposals. These will continue to inform the scheme development in securing truly sustainable design solutions, implementation during construction, and finally operational aspects throughout the life of the scheme.

The key sustainable objectives for the Tech Hub building will be in accordance with Design Code and Outline consent as follows:

- Achieve a BREEAM ‘Excellent’ rating to satisfy condition U07955.
- Shall incorporate a minimum of 35% carbon reduction measures through use of low and zero carbon passive design and mow energy technologies and at least 20% contribution of total energy demand provided by renewable energy sources.
- The building designed to optimize passive design principles and mitigate the effects of adverse environmental conditions. (Design Code 5.1.2)

The creation of a new building provides the opportunity to introduce passive and active improvements to the building fabric and services to conserve energy and reduce needless consumption. There will also be extensive ecological enhancements through planting and biodiversity provisions such as the intensive green roof. Throughout the design process the design team have given careful consideration to the sustainability issues to the site, and how these can be enhanced. It is our belief that the proposal will be a sustainable and future proof by means of meeting relevant sustainable criteria, and in a number of areas, exceeding them.

Below is a list of key design incentives considered in the proposal to ensure a sustainable development is created.

- Redeveloping a new building on an existing ‘brownfield’ site means there will be no loss of natural land. During the demolition works it is the intent to reuse whenever feasible the existing brick and concrete debris as aggregate in for new works so as to reduce the amount on material going into land filled sites
- The majority of the existing trees within the green spaces adjacent to the main roads will be retained and habitats for birds will be installed
- A BREEAM assessment was undertaken at the early stages of the design and the building proved to be able to achieve a ‘Excellent’ rating
- The inclusion of a new photovoltaic arrays on the roof is covered in greater detail in the energy renewable report, however the key point is this plant equipment will meet the council’s requirement to achieve 20% of the building’s energy output from an energy renewable source
- New plant equipment will be selected to be more energy efficient
- Lighting will be designed to be responsive to external lighting condition with automatic dimming lighting devices to compensate for sunny periods
- The inclusion of an intensive ‘green roof’ not only benefits the biodiversity of insect species on the natural landscape, but assists in reducing surface water run off
- The architectural intent for an open glazed curtain wall façade will reduce any solar heat gains with the application of horizontal solar glazing on the south and vertical shading fins on the north façades. The resulting large area of glazing will result in lower lighting loads as the office is less dependent on lighting being left on throughout the day.
- Alternative and sustainable means of transportation to and from the site has been introduced in the proposal with secure cycle racks and shower facilities that exceed the minimum requirements stipulated by the council planning guidelines
- Water consumption will be reduced by introducing low volume WC cisterns and aerated fittings on basins and showers

Photovoltaics

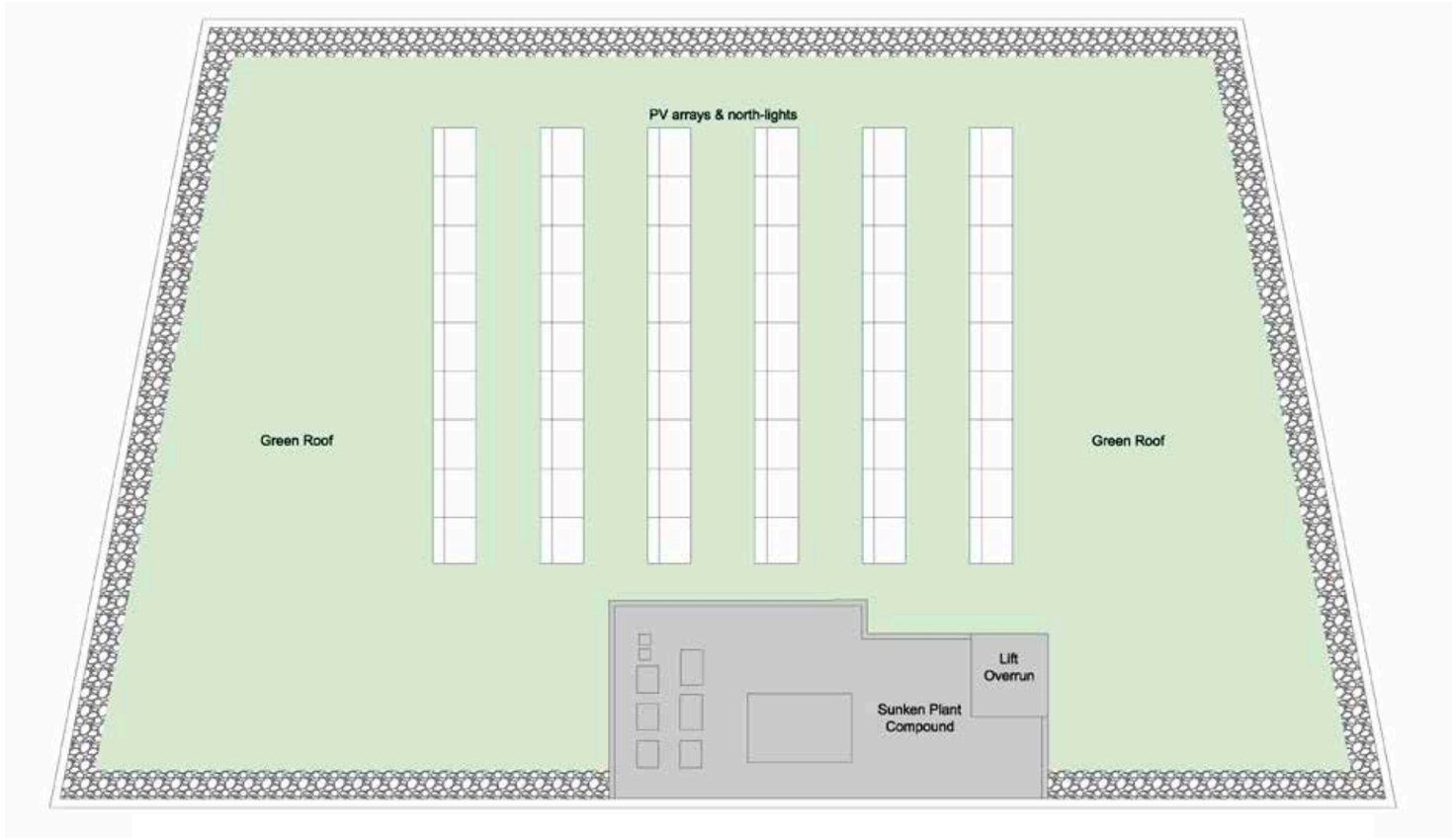
Car charging

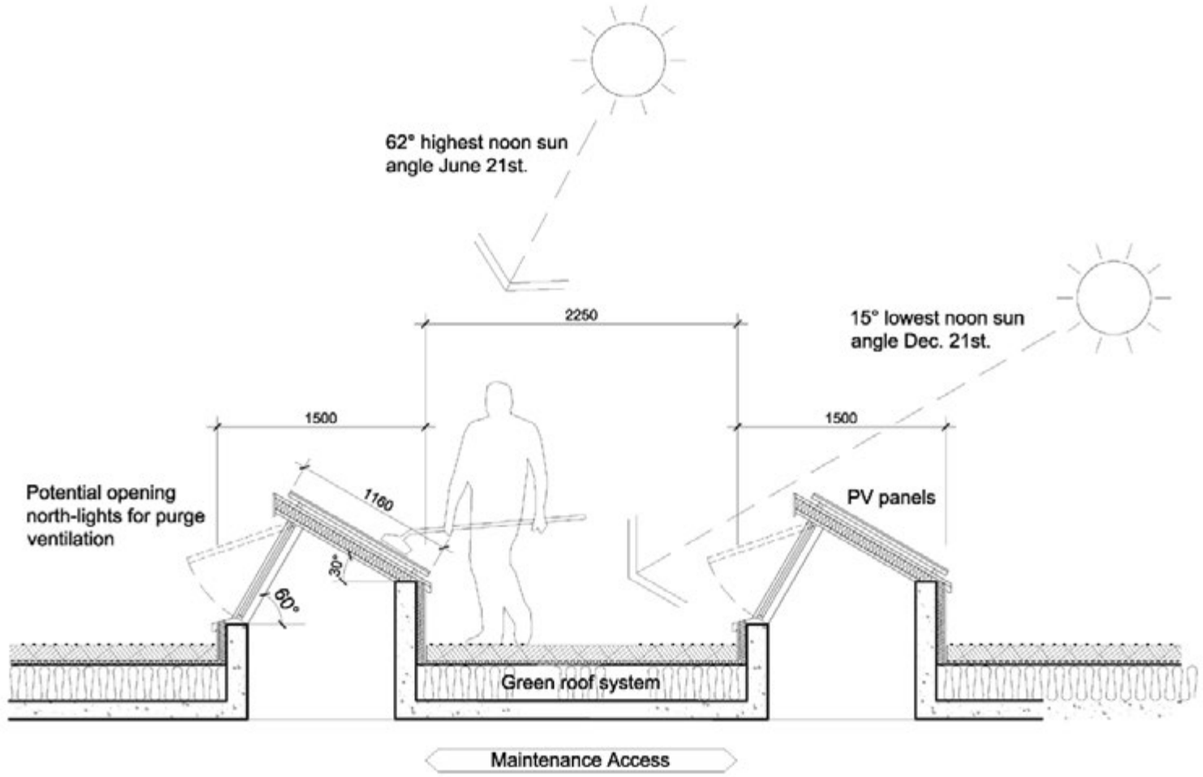
Green roof proposal

In compliance with the London Plan and section 5.8 of the Design Code, a living green roof is proposed, that will assist in providing compensation for the loss of open vegetation from the masterplan scheme. The current site has minimum planting and therefore the green roof will enhance the site with the provision of a living roof to enhance local wildlife and provide a visual amenity from the college buildings overlooking the roof. The green roof will take up more than 70% of the roof area as the roof plant area has been intentional designed to take up the smallest footprint possible.

The green roof system is proposed to be an extensive biodiverse made up of local native wild flowers placed over a 60-80mm growing bed substrate that will be fully drained. The system will allow a certain amount of rainwater retention thus improving the SUDS for the site.

Currently there are 54 photovoltaic panels fixed the sloping southern face of the north skylights. The final quantities of panels will be determined once a full energy assessment is complete to determine the number panels required to meet the renewable criteria. There is sufficient space between the rows of panels to ensure there is a good working area and the angle of the PV panels will avoid any panels over shading the next row of panels.

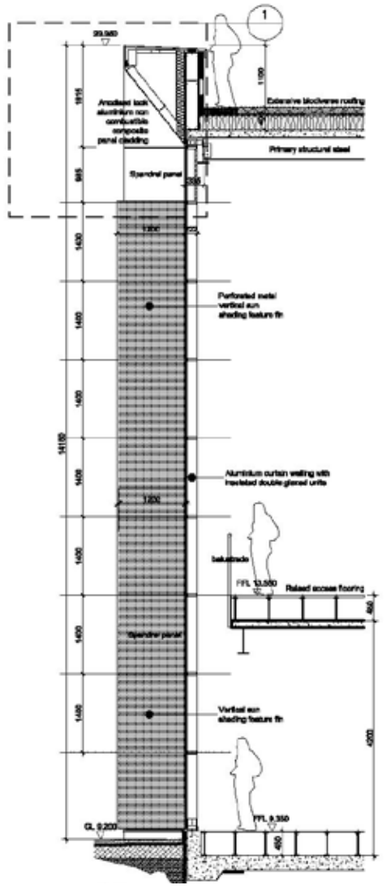




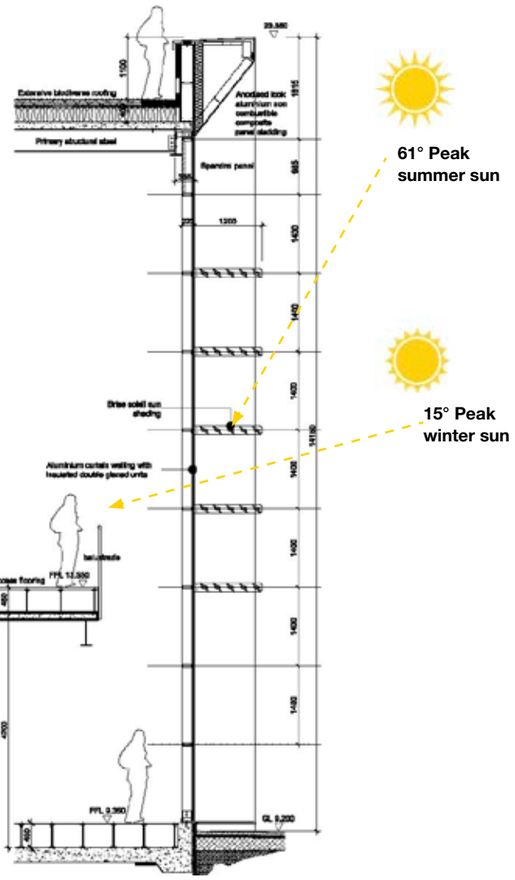
Appendix 1 - Sun shading studies

Solar shading studies

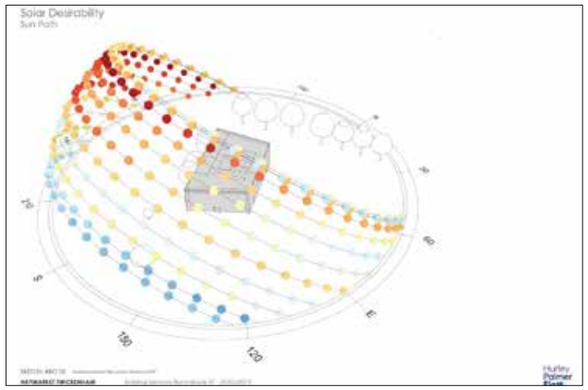
Following studies of the sun shading illustrating key dates and times during the year illustrate the impact of the proposed building mass on the sun and shadows on the surrounding areas. It is clear from these studies that the building will have little impact on sun exposure on adjacent buildings.

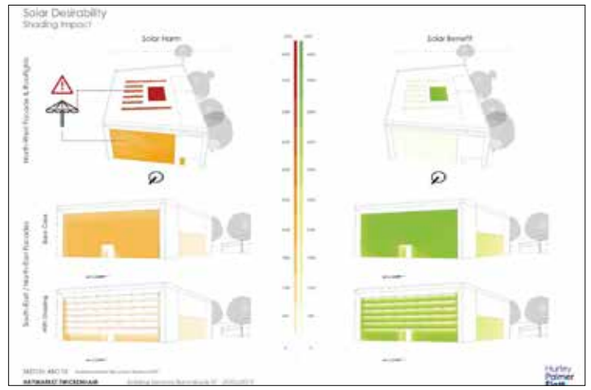


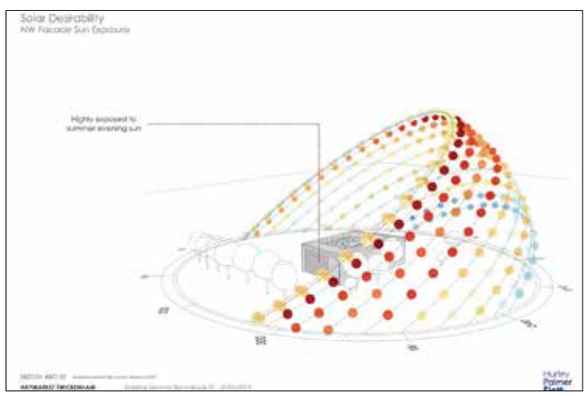
Section of north elevation vertical sun shading fins

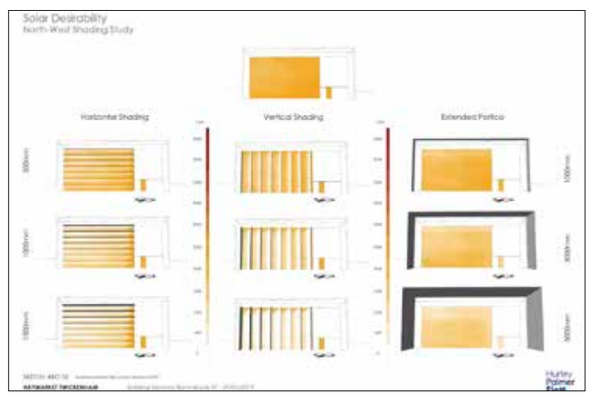


Section of south elevation horizontal sun shading brise-soleil

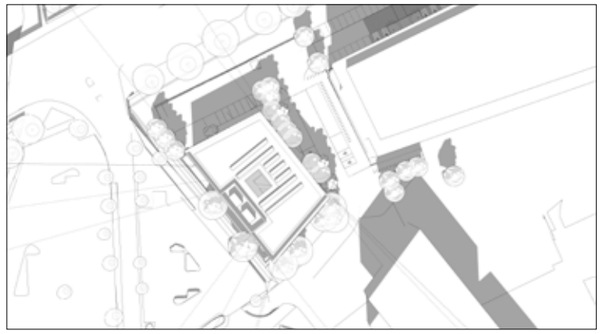








Sun shading diagrams



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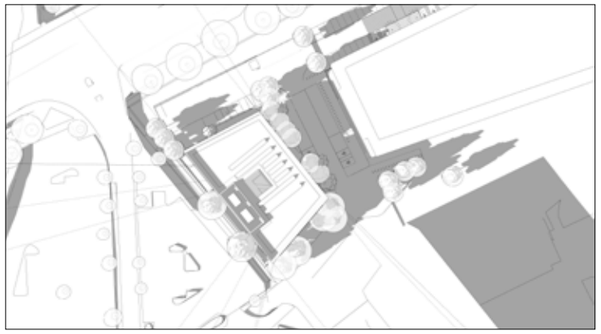
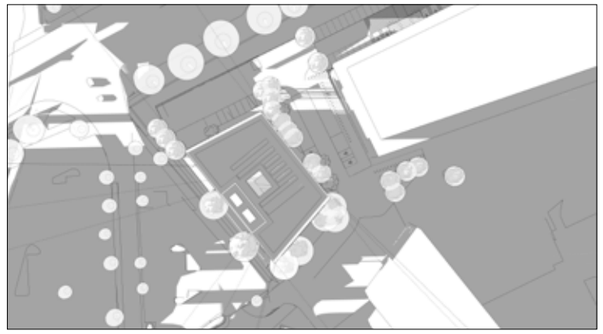
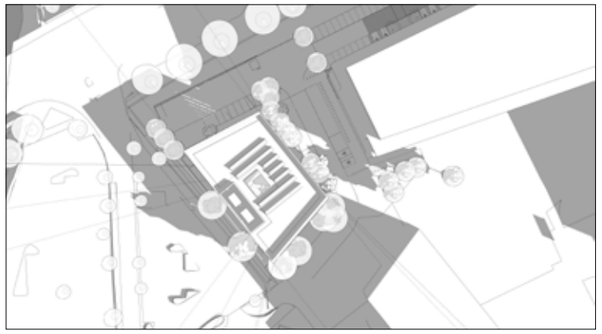


March 1200 am



March 1600 pm



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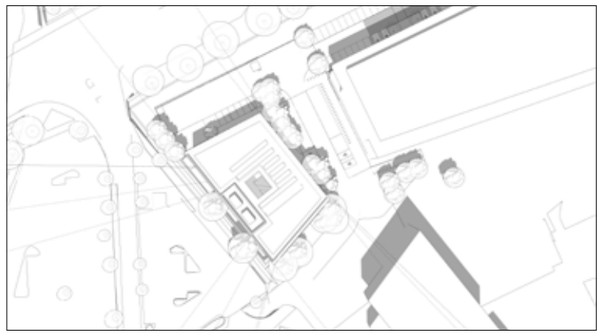

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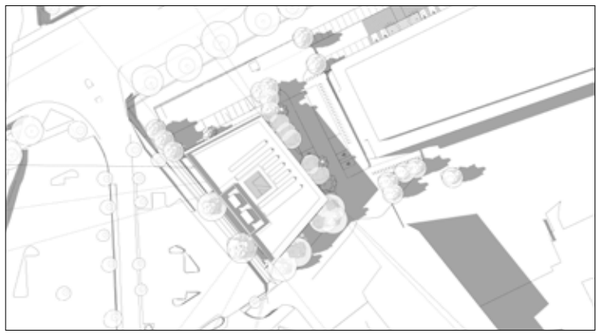

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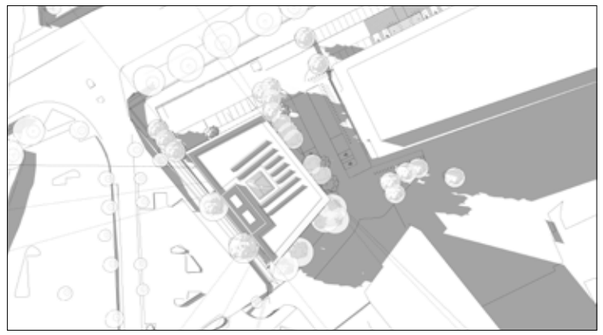

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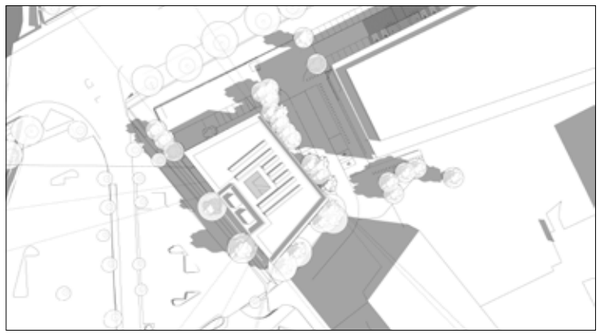

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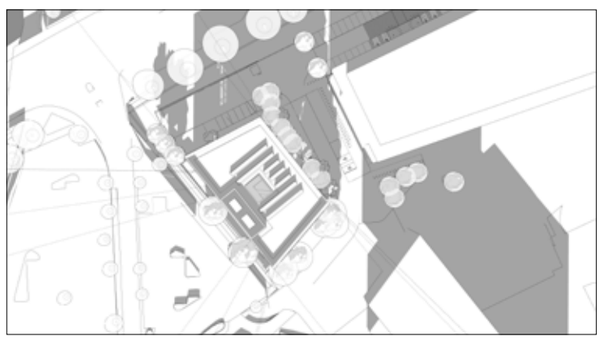
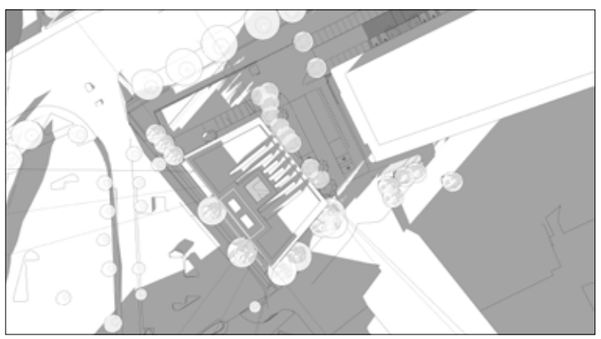
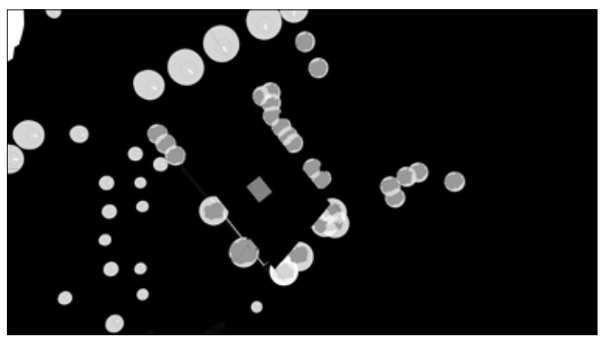


December 800 am



December 1200 am



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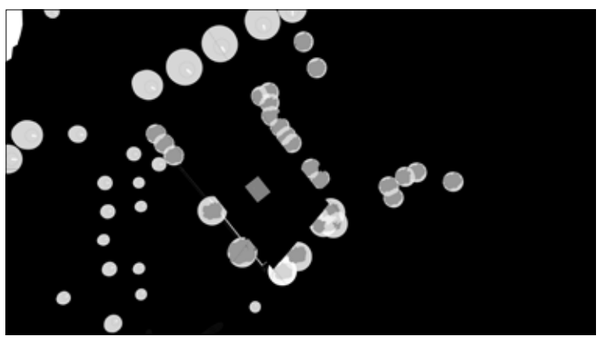

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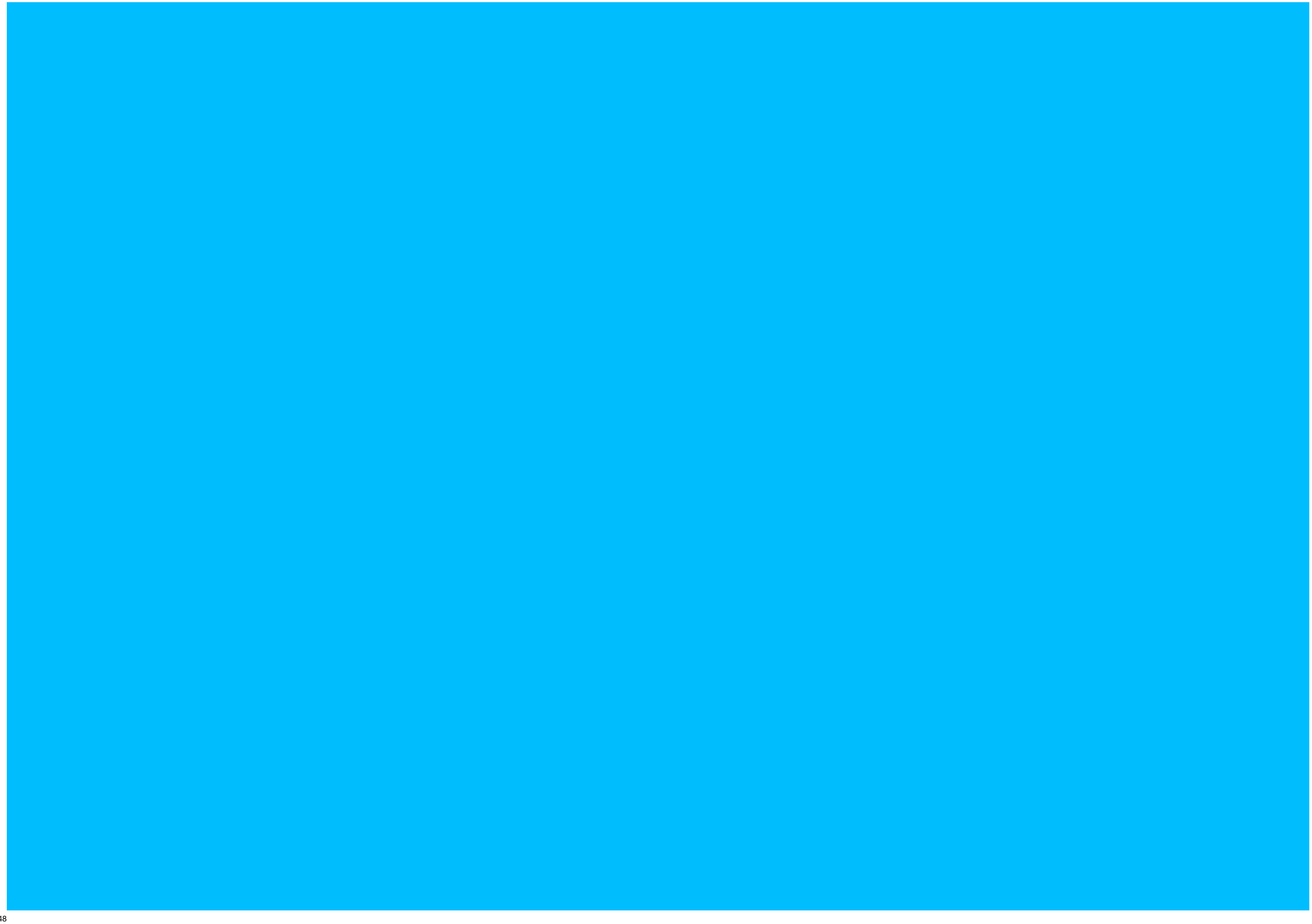
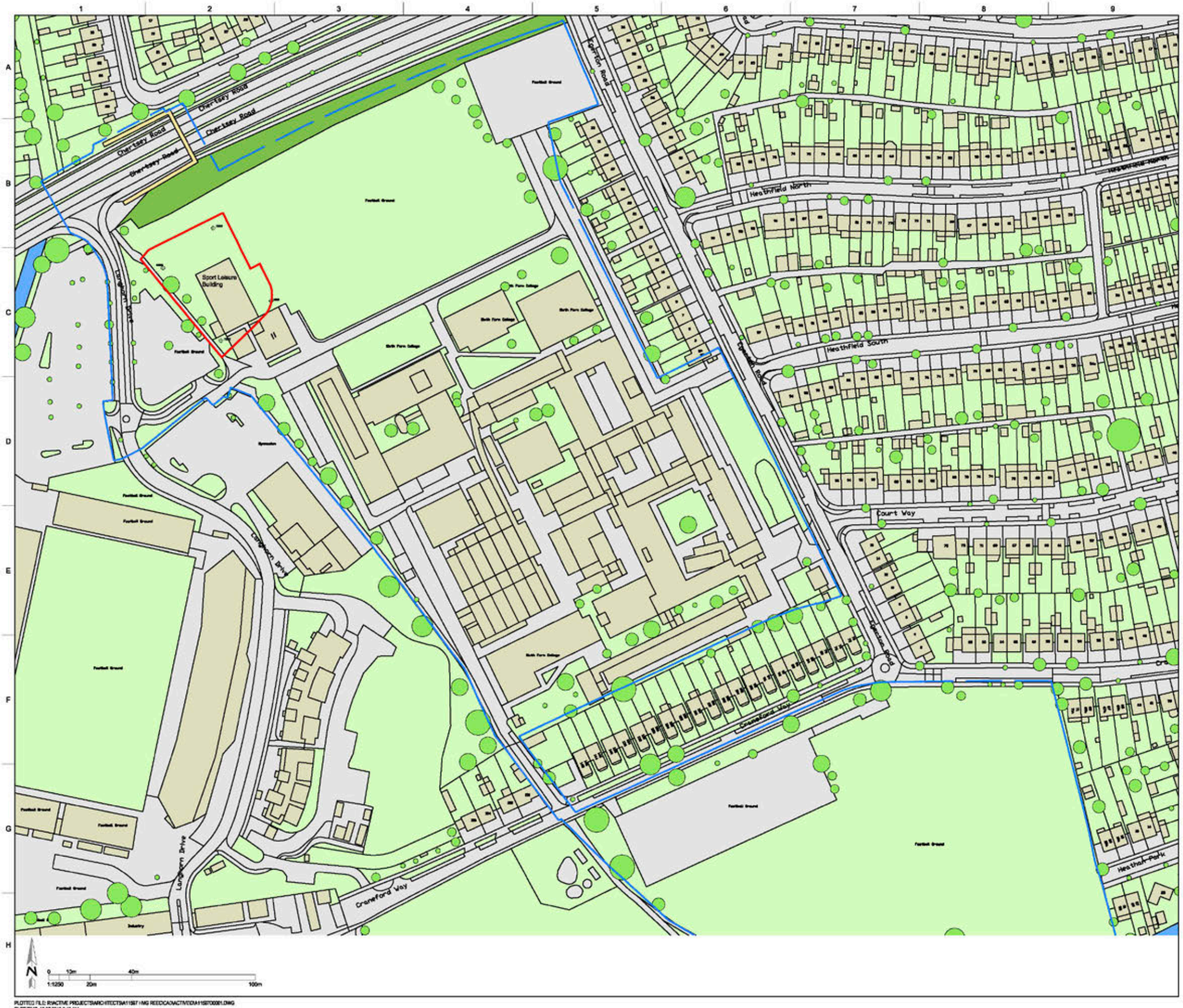


Appendix 2 – planning application drawings



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PLOT TIME: 15.07.2019 8:48 AM

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Key to colours:

- College outline application boundary Ref: 15/3038/OUT
- Tech Hub Development Zone Boundary as per outline application

No.	Date	Comment	Drawn	Chk'd
P2	15.07.19	First Issue	aj	GP
P1	04.07.19	First Issue	KT	GP

Revisions

Issue Status
PLANNING

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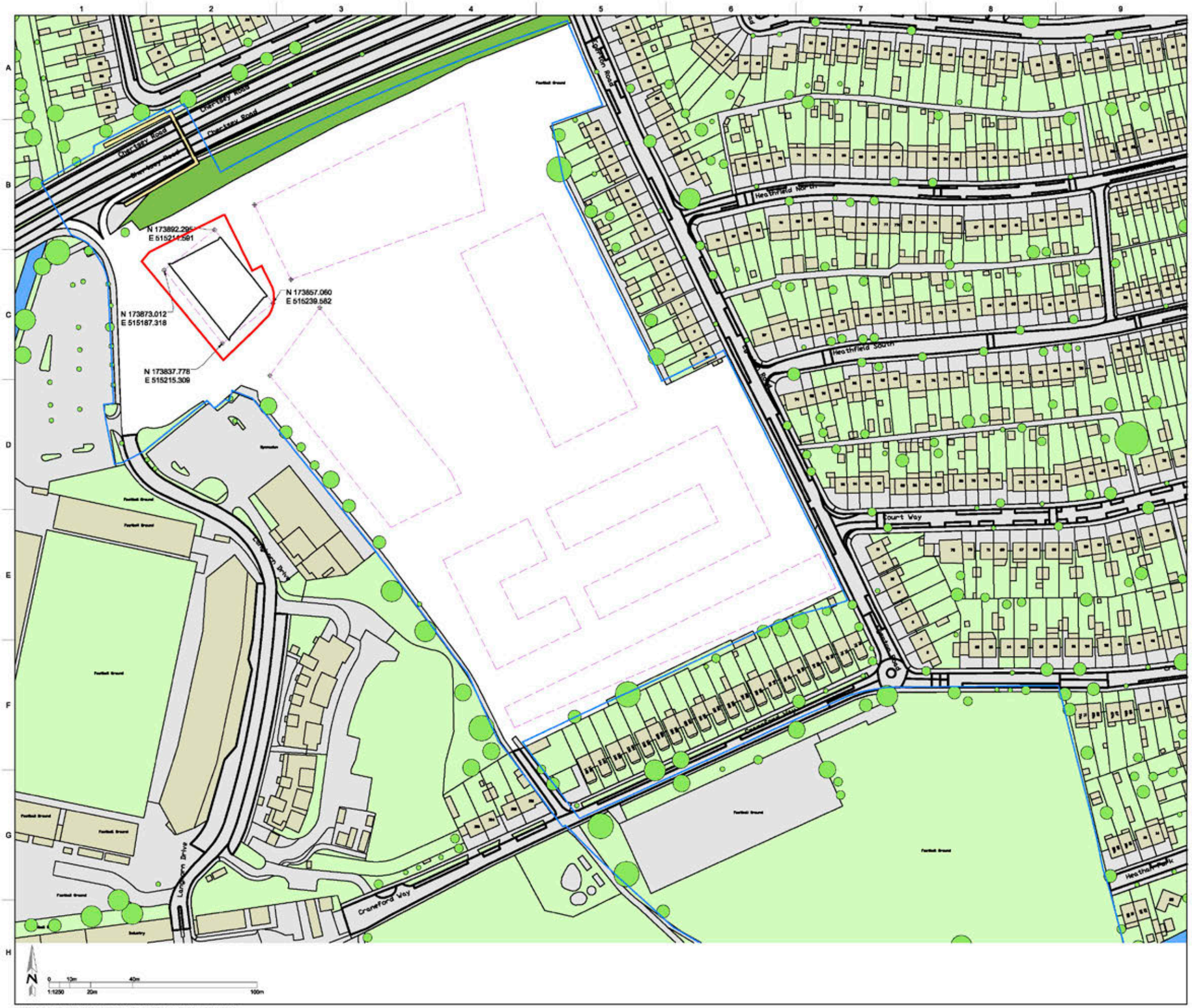
Royal Mills Unit 28 17 Redhill Street Manchester M4 5BA UK (0) 161 694 7700 www.tpbennett.com

Project
Haymarket Tech Hub REEC
Twickenham

Drawing Title
Location Plan
Site Survey Plan

Drawn	Date	Scale @ A2	Alt. Ref.
KT	04.07.2019	1:1250	–

tp bennett Project No.	Drawing Number	Rev
A11597	D 0001	P2



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PLOT TIME: 15.07.2019 9:22 AM

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Key to colours:

- College outline application boundary
- Tech Hub Planning Site Boundary as per outline application
- Maximum extents of buildings permitted under outline application (including coordinates)
- Proposed Tech Hub Building Outline

No.	Date	Comment	Drawn	Chk'd
P2	15.07.19	Site boundary updated	aj	GP
P1	04.07.19	First Issue	KT	GP

Revisions

Issue Status
PLANNING

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Royal Mills Unit 28 17 Redhill Street Manchester M4 5BA UK (0) 161 694 7799 www.tpbennett.com

Project
Haymarket Tech Hub REEC
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Drawing Title
Location Plan
Site Boundary

Drawn	Date	Scale @ A2	Alt. Ref.
KT	04.07.2019	1:1250	–

tp bennett Project No.	Drawing Number	Rev
A11597	D 0002	P2

Chertsey Road

TURN LEFT

TURN RIGHT

TURN LEFT

TURN RIGHT

Marsh Farm Lane

Langhorn Drive

Harlequin's Car Park

REEC Main College Building

Entrance Plaza

College Stem Building

Green Roof

Green Roof

N 173892.295
E 515211.591

N 173904.351
E 515230.739

N 173822.315
E 515238.149

N 173804.826
E 515262.112

N 173837.090
E 515238.552

N 173837.778
E 515215.309

N 173822.315
E 515238.149

N 173837.778
E 515215.309

N 173822.012
E 515167.318

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Legend

Tech Hub Site Boundary

Tech Hub Building Zone

No.	Date	Comment	Drawn	Chkd
P8	11.07.19	Roof plan updated	AJ	GP
P7	04.07.19	Planning Submission	PG	GP
P6	03.07.19	Landscape Plan Updated	KT	GP
P5	02.07.19	Landscape Plan Updated	DK	GP
P4	13.06.19	Landscape Plan Updated	DK	GP
P3	12.06.19	Site boundary amended.	KT	GP
P2	10.06.19	Pre-app meeting issue.	KT	GP
P1	05.04.19	Issue for information.	KT	GP

Revisions

Issue Status
PLANNING

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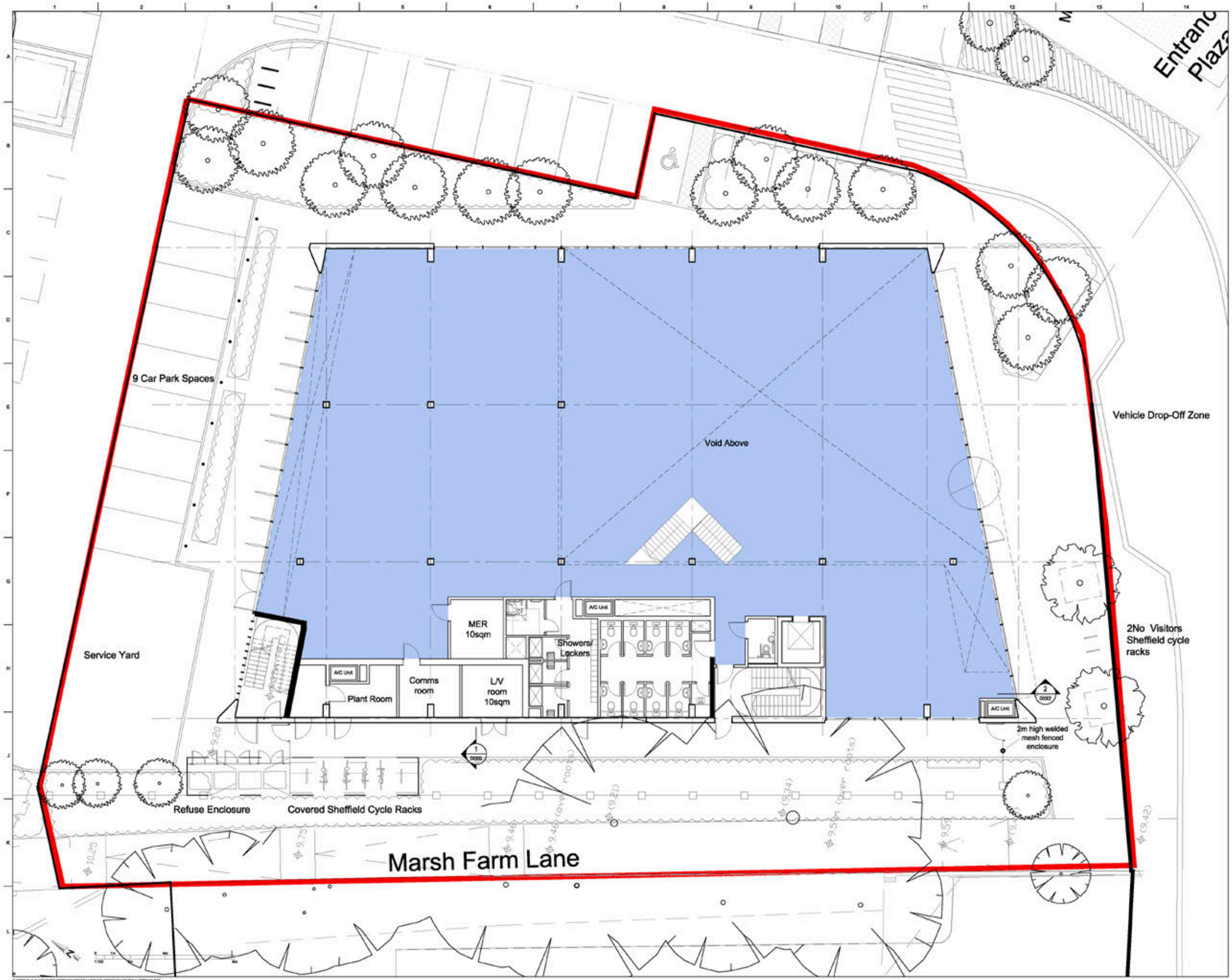
One Aldwych Street London WC2B 4BZ UK +44 (0) 20 7520 3600 www.tpbennett.com

Project
Haymarket Tech Hub REEC
Twickenham

Drawing Title
Proposed Site Plan

Drawn	Date	Scale @ A1	Alt. Ref.
KT	22.02.2019	1:500	–

tp bennett Project No.	Drawing Number	Rev
A11597	D 0010	P8



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KEY PLAN

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P6	17.07.19	Stair revised	AJ	GP
P5	11.07.19	ReUse enclosure updated	AJ	GP
P4	03.07.19	Plan updated to suit elevations. Landscape amended.	KT	GP
P3	02.07.19	Landscape Plan Updated	KT	GP
P2	19.06.19	Landscape Plan Updated	DK	GP
P1	10.06.19	Pre-app meeting issue.	KT	GP
No	Date	Comment	Drawn	Chkd

Revisions

Issue Status
PLANNING

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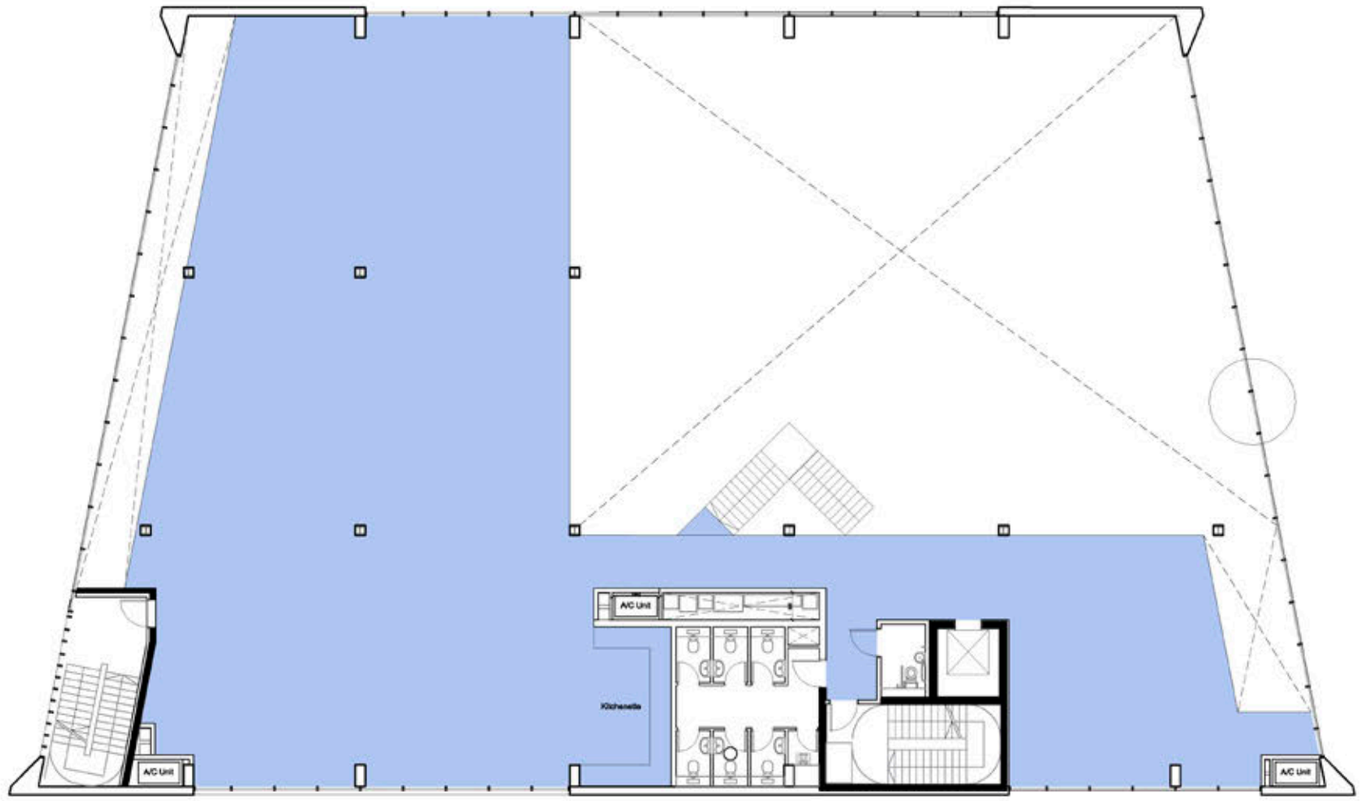
One Aldwych Street London WC2B 4BZ UK +44 (0) 20 7208 2000 www.tpbennett.com

Project
Haymarket Tech Hub REEC
Twickenham

Drawing Title
Proposed Ground Floor Plan

Drawn	Date	Scale @ A1	Alt. Ref.
KT	03.06.2019	1:100	–

tp bennett Project No.	Drawing Number	Rev
A11597	D 0100	P6



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No	Date	Comment	Drawn	Chkd
P4	03.07.19	Plan updated to suit elevations. Landscape amended.	KT	GP
P3	02.07.19	Landscape Plan Updated	KT	GP
P2	19.06.19	Landscape Plan Updated	DK	GP
P1	10.06.19	Pre-app meeting issue	KT	GP

Revisions

Issue Status
PLANNING

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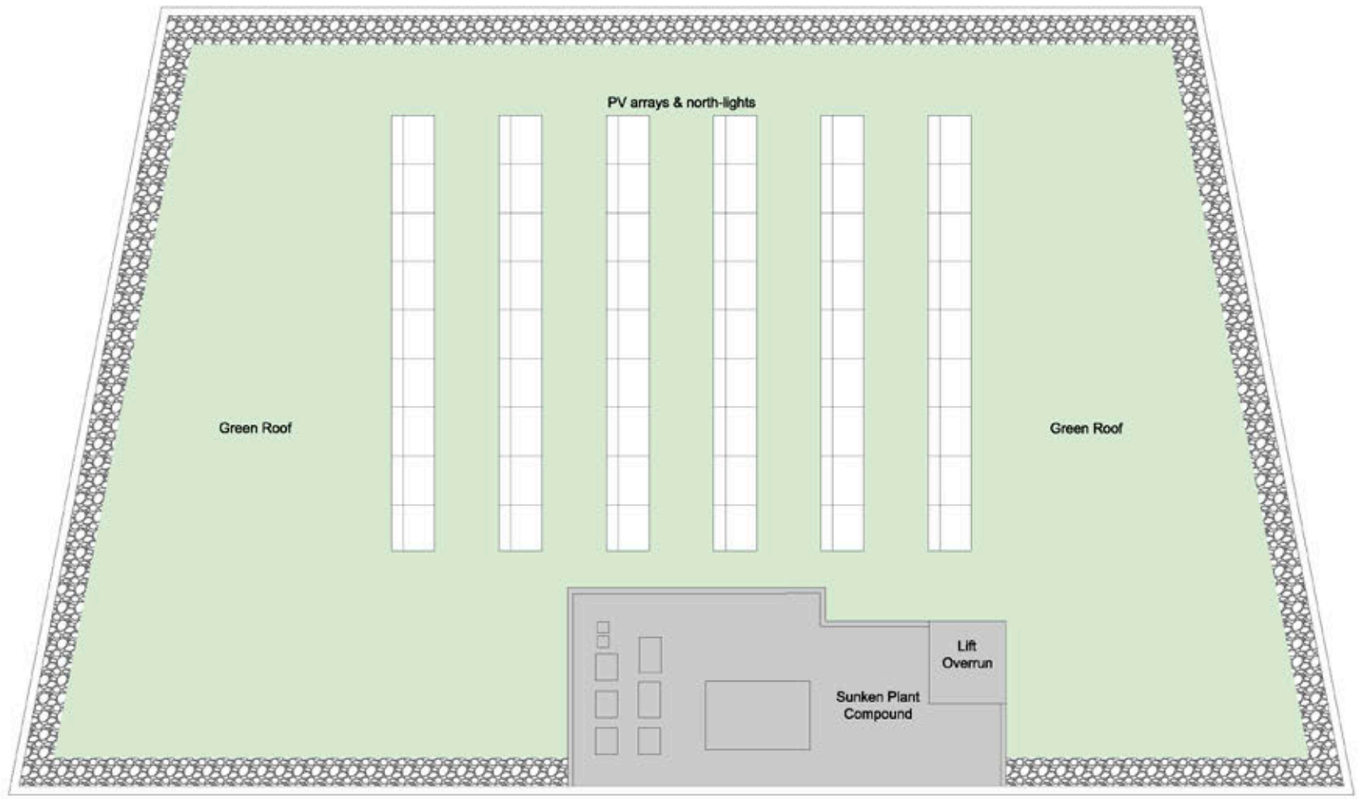
One Amelia Street London SE1 0NE UK +44 (0) 20 7928 2000 www.tpbennett.com

Project
Haymarket Tech Hub REEC
Twickenham

Drawing Title
Proposed First Floor Plan

Drawn	Date	Scale @ A1	Alt. Ref.
KT	03.06.2019	1:100	--

tp bennett Project No.	Drawing Number	Rev
A11597	D 0101	P4



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ROOF GIA (INSIDE PARAPET) = 1104m sq.
SUNKEN PLANT AREA (INC, LIFT OVERRUN = 99m sq.
PV ARRAYS AND NORTH-LIGHTS = 138m sq.
PERIMETER ACCESS ROUTE = 12m sq.
GREEN ROOF AREA IS 77.4% OF GIA

No.	Date	Comment	Drawn	Chkd
P6	12.07.19	Roof areas figures added. Plant amended	AJ	GP
P5	11.07.19	Skylight omitted	AJ	GP
P4	03.07.19	Plan updated to suit elevations. Landscape amended.	KT	GP
P3	03.07.19	Landscape Plan Updated	KT	GP
P2	19.06.19	Landscape Plan Updated	DK	GP
P1	10.06.19	Pre-app meeting issue.	KT	GP

Revisions

Issue Status
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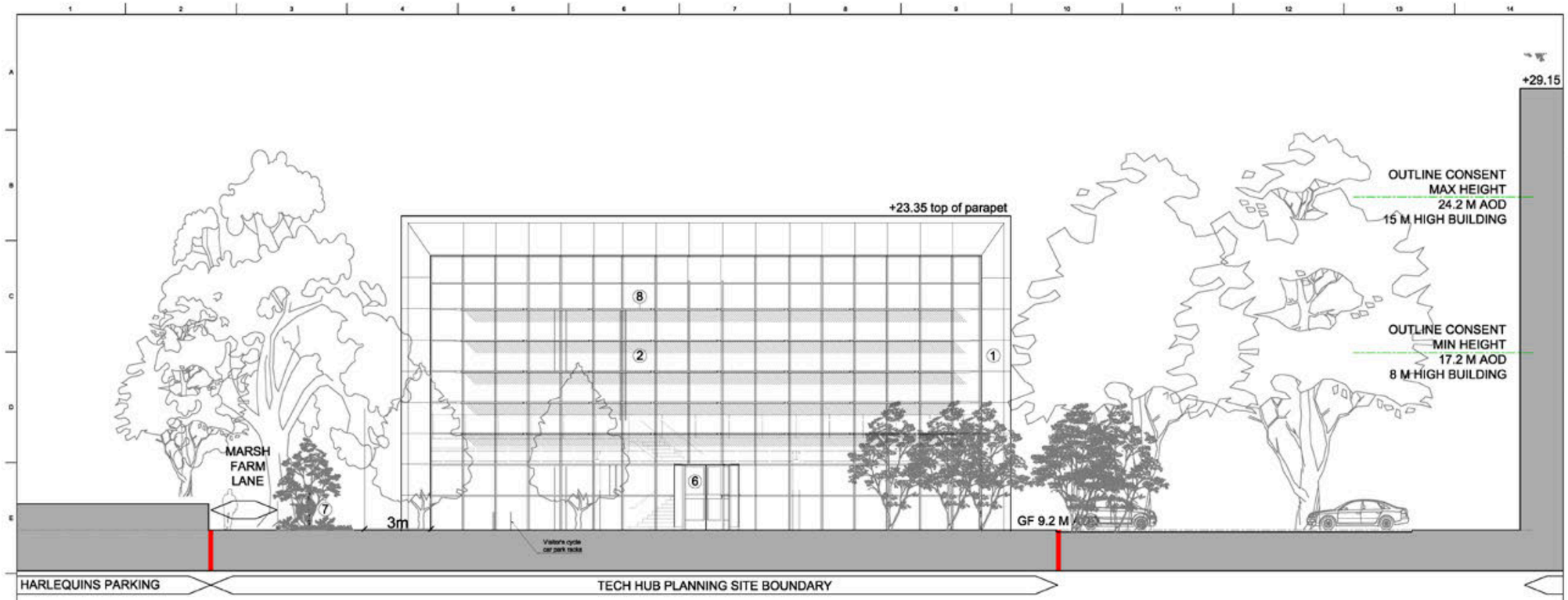
Project
Haymarket Tech Hub REEC
Twickenham

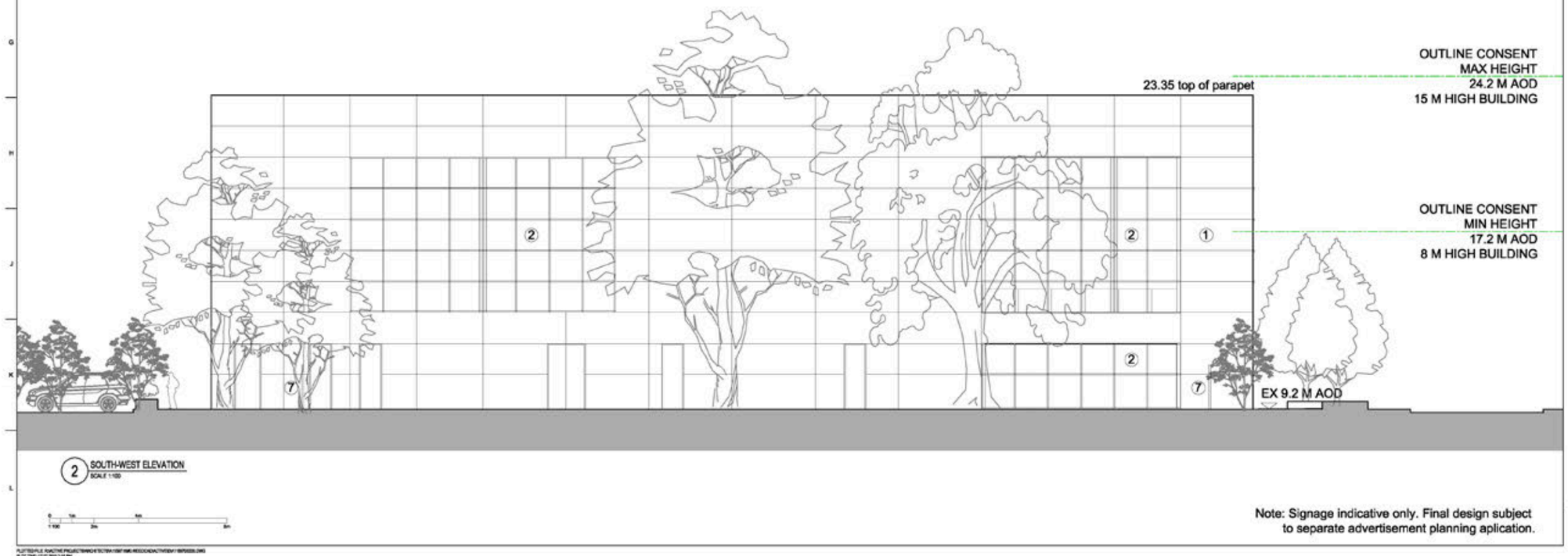
Drawing Title
Proposed Roof Plan

Drawn	Date	Scale @ A1	Alt. Ref.
KT	03.06.2019	1:100	--

tp bennett Project No.	Drawing Number	Rev
A11597	D 0105	P6



1 SOUTH-EAST ELEVATION
SCALE 1:100



2 SOUTH-WEST ELEVATION
SCALE 1:100

Note: Signage indicative only. Final design subject to separate advertisement planning aplication.

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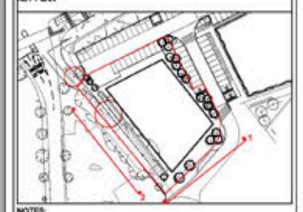
KEY PLAN



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1. Metal anodised like rainscreen panels silver colour.
2. Curtain walling with solar glass and s.g. mullions and transoms.
3. Metal horizontal sun shading louvres ppc coated.
4. Perforated vertical sun shading fins - natural metal finish.
5. Solid timber slats.
6. Fully glazed revolving doors.
7. 2m high welded mesh fence.
8. Brise soleil sun shading

No.	Date	Comment	Drawn	Chkd
P4	17.07.19	Escape door & brise soleil shown	aj	GP
P3	04.07.19	Materials' notes added	PG	GP
P2	03.07.19	General amendments to elevations	KT	GP
P1	02.07.19	First Issue	KT	GP

Revisions

Issue Status
PLANNING

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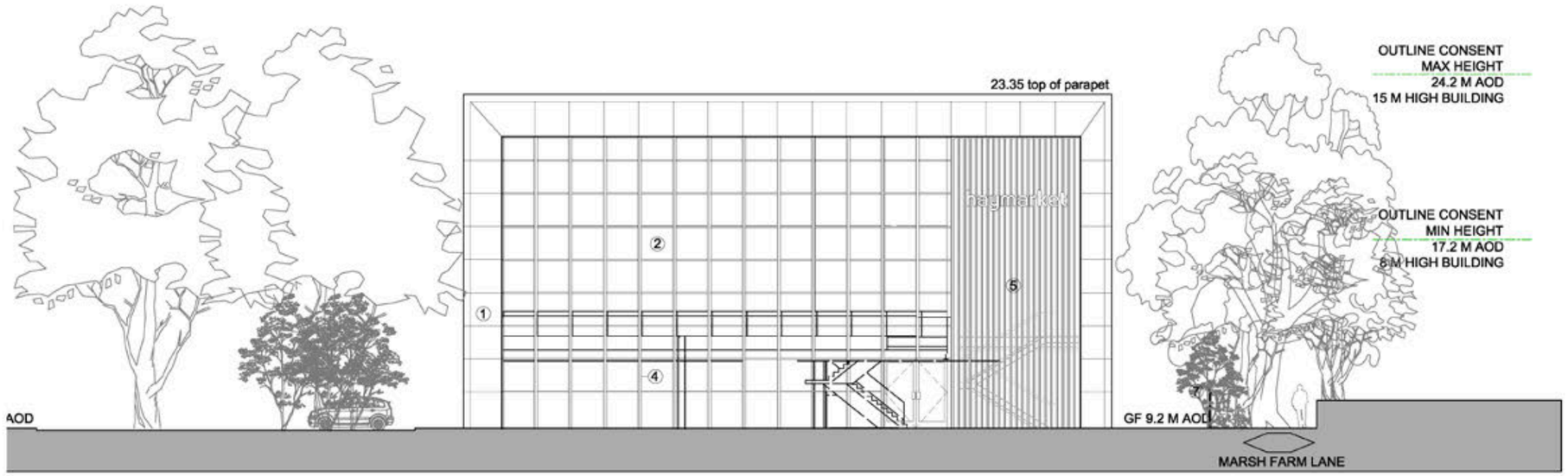
Project
Haymarket Tech Hub REEC
Twickenham

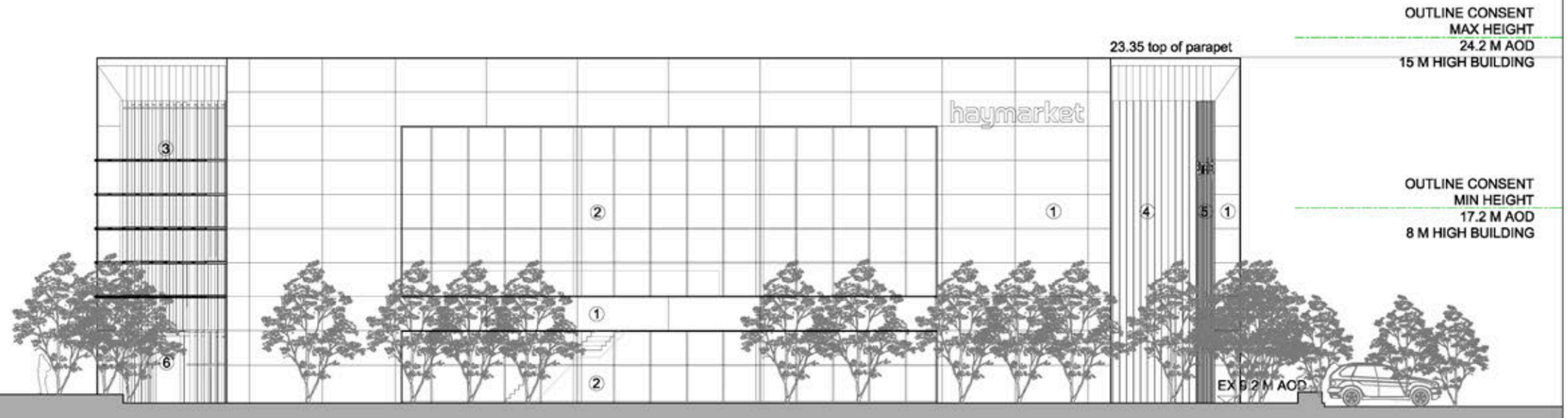
Drawing Title
Proposed Elevations
Sheet 1

Drawn	Date	Scale @ A1	Alt. Ref.
KT	03.06.2019	1:100	--

tp bennett Project No.	Drawing Number	Rev
A11597	D 0200	P4



1 NORTH-WEST ELEVATION
SCALE 1:100



2 NORTH - EAST ELEVATION
SCALE 1:100

Note: Signage indicative only. Final design subject to separate advertisement planning aplication.

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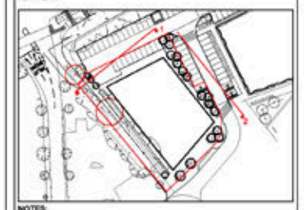
KEY PLAN



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Materials

1. Metal anodised like rainscreen panels silver colour.
2. Curtain walling with solar glass and s.g. mullions and transoms.
3. Metal horizontal sun shading louvres ppc coated.
4. Perforated vertical sun shading fins - natural metal finish.
5. Solid timber vertical slats.
6. Fully glazed revolving doors.
7. 2m high welded metal fence

No.	Date	Comment	Drawn	Chkd
P4	17.07.19	Stair revised, Doors added	aj	GP
P3	04.07.19	Materials' notes added	PG	GP
P2	03.07.19	General amendments to elevations	KT	GP
P1	02.07.19	First Issue	KT	GP

Revisions

Issue Status
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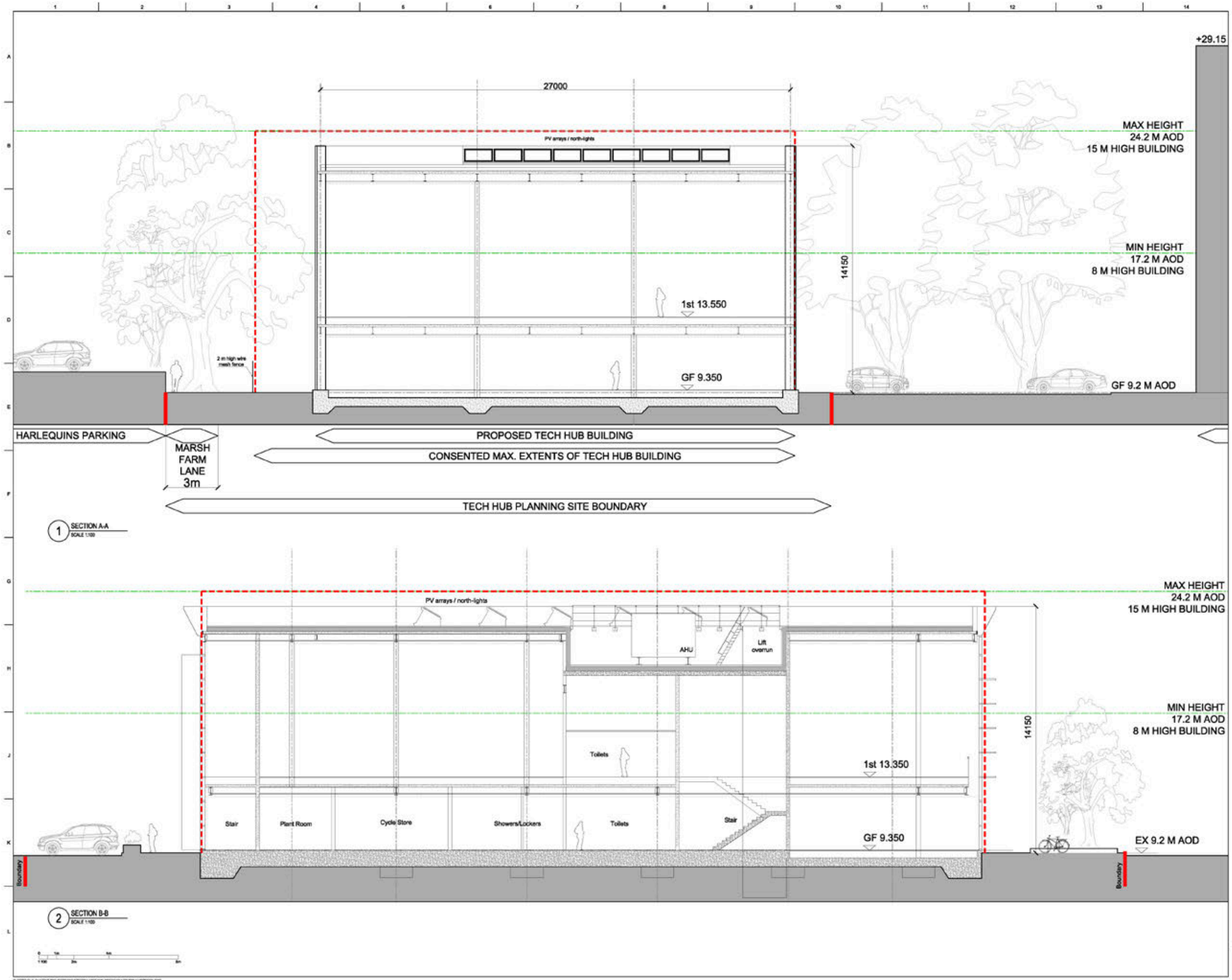
Project
Haymarket Tech Hub REEC
Twickenham

Drawing Title
Proposed Elevations
Sheet 2

Drawn	Date	Scale @ A1	Alt. Ref.
KT	03.06.2019	1:100	--

tp bennett Project No.	Drawing Number	Rev
A11597	D 0201	P4



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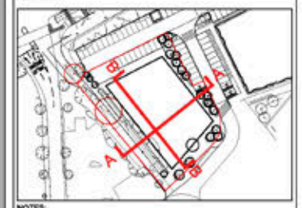

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Outline of approved consent building parameter

No	Date	Comment	Drawn	Chkd
P3	15.07.19	PV arrays / north-lights added	KJ	GP
P2	04.07.19	Planning Submission	PG	GP
P1	10.06.19	Pre-app meeting issue.	KT	GP

Revisions

Issue Status
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Project
Haymarket REEC
Twickenham

Drawing Title
Proposed Sections

Drawn	Date	Scale @ A1	Alt. Ref.
KT	03.06.2019	1:100	–

tp bennett Project No.	Drawing Number	Rev
A11597	D 0300	P3

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