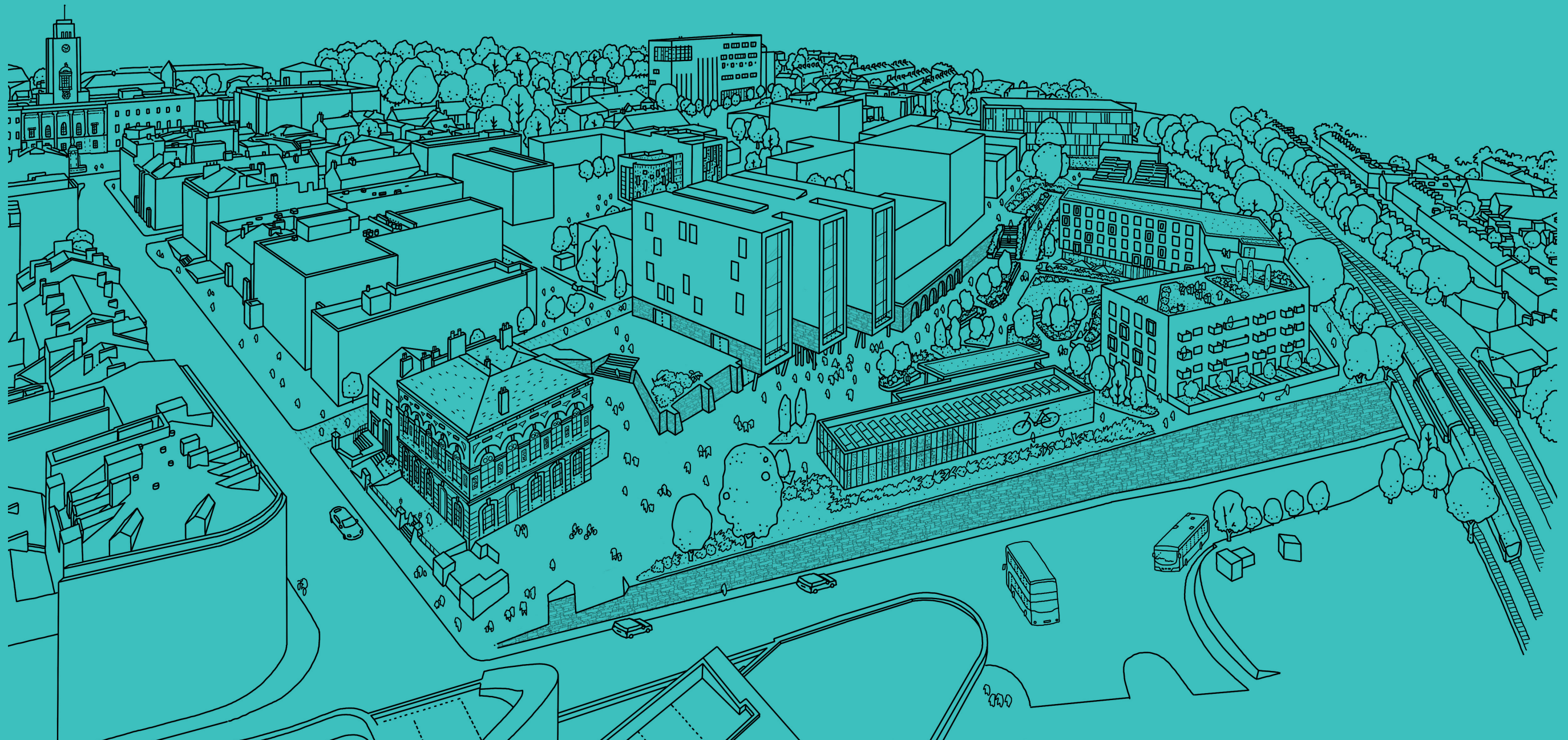


THE SEAM

Barnsley's Digital Campus *Phase 1*



Design and Access Statement



Revision	Description	Date	Author	Checked
P01	First Issue	06.07.2022	EM / ST	SMM

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APPENDIX

1.0 INTRODUCTION

1.1 PURPOSE OF THE DESIGN AND ACCESS STATEMENT

This Design and Access Statement has been prepared by BDP / Arcadis on behalf of Barnsley Metropolitan Borough Council (BMBC) in support of the Planning Application for Phase 1 of The Seam, Barnsley's Digital Campus.

The document explains the design and development of the project and identifies how access requirements have been considered.

The designs contained within this document illustrate the evolution of the scheme through a detailed design process and development with BMBC and stakeholders. Where appropriate images and diagrams accompany the text to help explain the design process and final designs.



Figure 1.1: View from entry to site from the south off Regent St

1.2 THE TEAM

The Applicant

Barnsley Metropolitan Borough Council is committed to delivering the The Seam Development Blueprint, a plan that will bring more activity to the town and celebrate its heritage and expanding Digital Campus.

The Design Team

BDP are one of the UK's largest Architectural and Engineering practices offering full multi-disciplinary design services. BDP have been appointed by BMBC to deliver:

- Architectural design
- Town planning
- Structural and Civil Engineering
- Drainage design
- Mechanical and Electrical Engineering
- Lighting design
- Sustainability consulting
- Ecology consulting
- Principal Designer
- BIM consulting

Arcadis, a global design, engineering and management consulting company, are also providing multiple services as part of the design team:

- Project Management
- Cost and Commercial consulting
- Landscape Design
- Highways Design
- Transport
- Utilities Design
- Geotechnical engineering
- Fire consulting
- Smart Technology
- Party Wall consulting
- Arboriculture consulting
- CCTV consulting
- Health and Safety consulting

Aspinall Verdi, a specialist practice of Chartered Surveyors and Town Planners, are providing Development Manager service.



Figure 1.2: View of part of the application site, taken from DMC 01 looking east towards the Dearne Valley

1.3 PROJECT BACKGROUND

In May 2020 Barnsley Metropolitan Borough Council (BMBC) appointed a consultant team to prepare a new Development Blueprint for the site known as ‘The Seam, Barnsley’s Digital Campus’. The multi-disciplinary team was led by BDP in conjunction with Fore Consulting, Hydrock, BE Group and Warrington Martin. The site is a 4.5 ha parcel of land located within Barnsley town centre, immediately adjacent to the Transport Interchange.

The Digital Campus is home to DMC01, recently refurbished DMC02 and Barnsley College’s new Scitech Digital Innovation hub. These buildings bring together digital and tech focused people, businesses, research and skills, enabling collaboration and innovation through a growing digital eco-system that operates on a regional, National and International level.

The Seam is a values driven concept, that brings together the ‘soft’ infrastructure of programmes, projects and support with the ‘hard’ infrastructure of an exciting urban village environment that provides a testbed for new ideas and technologies. All activity and development will be aligned to the Campus values:

- Building pathways – a place of possibilities
- Trailblazing
- For Barnsley, not only for business
- A dynamic digital ecosystem
- Putting people first

The Development Blueprint aims to transform the physical environment of this growing Digital Campus with opportunities to create a highly sustainable live-work neighbourhood in the heart of the town, connected by smart infrastructure, high quality public realm and a testbed for technology led innovation in retail, Internet of Things, low / zero carbon and active travel.

The Blueprint provides a flexible plot-based plan for the site ensuring wider strategic objectives of BMBC and its stakeholders are met, and development is

brought forward in line with key infrastructure and phasing requirements.

The Development Blueprint outlines the development principles including:

- The range and mix of land uses considered appropriate
- Design constraints (such as heights, massing, and preservation of key views),
- Alignment with the site-wide strategies for sustainability, smart technology, transport, utilities, and drainage
- The delivery of enhanced public realm, including a central greenspace and pedestrian and cycle connections through the campus.
- Intended phasing of the development

In October 2021 a multi-disciplinary team comprising of BDP and Arcadis with development consultants Aspinall Verdi were appointed to prepare concept designs for Phase 1, comprising of:

- Multi-Storey Car Park to RIBA Stage 2
- Active Travel Hub to RIBA Stage 2
- Public Realm to RIBA Stage 2
- Feasibility studies for development plots 1 and 2
- Road and services infrastructure to support the above

Since completing the RIBA Stages listed above in April 2022 the same team commenced RIBA Stage 3 design. Following further development and consultation, this Design and Access Statement describes design proposals to seek full planning permission for a new Public Realm, Active Travel Hub, Multistorey Car Park and outline planning permission for Plots 1 and 2.

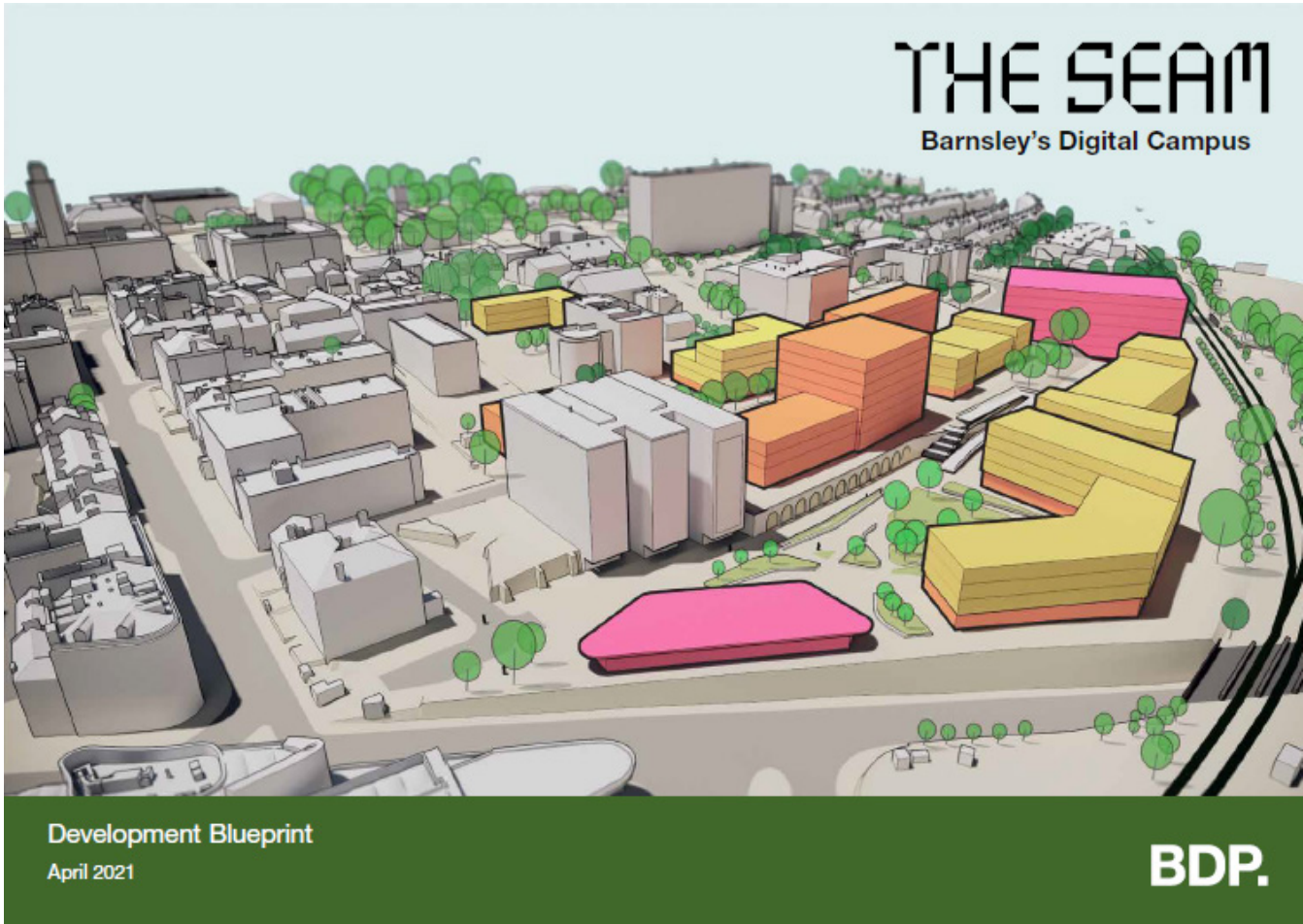


Figure 1.3: The Seam Development Blueprint, April 2021



Figure 1.4: Illustrative view looking North along the Seam public realm, and Diagram of The Seam Core Values

2.0 SITE CONTEXT

2.1 SITE DESCRIPTION

The Seam Development Site

The site is located at the heart of the town centre, immediately adjacent to the Transport Interchange and train station. The site is bounded by Regent Street to the south, Eastgate to the west, Old Mill Lane to the north and a combination of the railway line and Eldon Street North to the east. The majority of the site is covered by surface level car parking with several commercial buildings present to the south and west of the site. The phase 1 site is 2.5ha.

The site forms an important physical link between the town centre and the Barnsley College campus, offering opportunities to connect students and education facilities with the wider town.

The site was formerly referred to as the 'Courthouse Campus' and is divided into Upper and Lower Courthouse (above and below the existing central retaining wall), with Phase I occupying the lower, eastern portion. There is a significant level change across the site from east to west, opening up long views across the Dearne Valley towards the east. The Phase I site is the lower of what can be defined as two main plateaus, commonly referred to as the Upper and Lower Courthouse. These two levels are split by the central retaining wall running north-south, a remnant of the Victorian railway infrastructure.

The wider site is currently home to the two flagship Digital Media Centre developments: DMC 01 and DMC 02 (formerly The Core).

Application Site

The Phase 1 site is predominantly used as surface car parking operated by BMBC, with the primary access off Old Mill Lane and County Way. Towards the northern end there are a number of mature trees sited in between the car parking bays. Immediately adjacent to the eastern edge of the Lower Courthouse runs the Network Rail Wakefield-Sheffield railway line, beyond which lies expansive views over the Dearne Valley. A second masonry retaining wall forms the boundary to the south eastern edge of the site, fronting onto Eldon Street North.

The MSCP plot is located to the northern end of the site accessed off Old Mill Lane and County Way. In the Development Blueprint this was identified as the preferred location for the MSCP as it limits vehicle movements through the rest of the development. The plot straddles the upper and lower levels of the site. This area of land is also with the zone identified as a tall buildings opportunity in the 2009 Barnsley Building Heights Study.

The ATH is proposed to be located to the southern end of the site, accessed off a the junction between Eldon St North and Regent St, forming a new gateway to the site.



Figure 2.1: Aerial view showing the application site boundary

2.2 SITE HISTORY AND HERITAGE

Maps dating back to 1855 illustrate the extent of the railway on the Lower Courthouse, with the land on the Upper Courthouse up to Eastgate remaining undeveloped. Development along Regent Street and the western side of Eastgate was already well established at this point. By 1907 the local railway infrastructure had been significantly expanded, with a number of goods buildings and the former train station visible. The former railway line crossed the bottom of Regent Street via an elevated bridge, the foundations of which are still visible at the site's southern entrance (these now form part of the Listed curtilage of the Courthouse Pub). It is assumed that the arched retaining wall dividing Lower Courthouse and Upper Courthouse was built around this period of time, forming part of the former station building.

There is relatively little development on the site from then until middle of the 20th century, when large parts of the railway were removed, along with the siding buildings and Courthouse station. The College buildings and Telephone Exchange were developed from the end of the 1960s towards the north west of the site. During the 1970s a large extent of the site was used for surface car parking. Council offices were then constructed on the northern part of the site.

In more recent years, these office buildings were demolished to create additional surface car parking. County Way appears to have been formalised as a carriageway in the early 1990s, although it remains an unadopted highway. DMC01 and DMC 02 (formerly The Core) were developed in recent years towards the south of site, off County Way.

This study illustrates that the majority of the Courthouse site has been used for railway land and car parking. The evidence of railway use is still visible today through the retaining wall and foundations that formed part of the former railway station building and foundations of the Regent Street bridge. There is a key opportunity to protect and enhance the retaining wall in particular as a feature within the heart of the site.

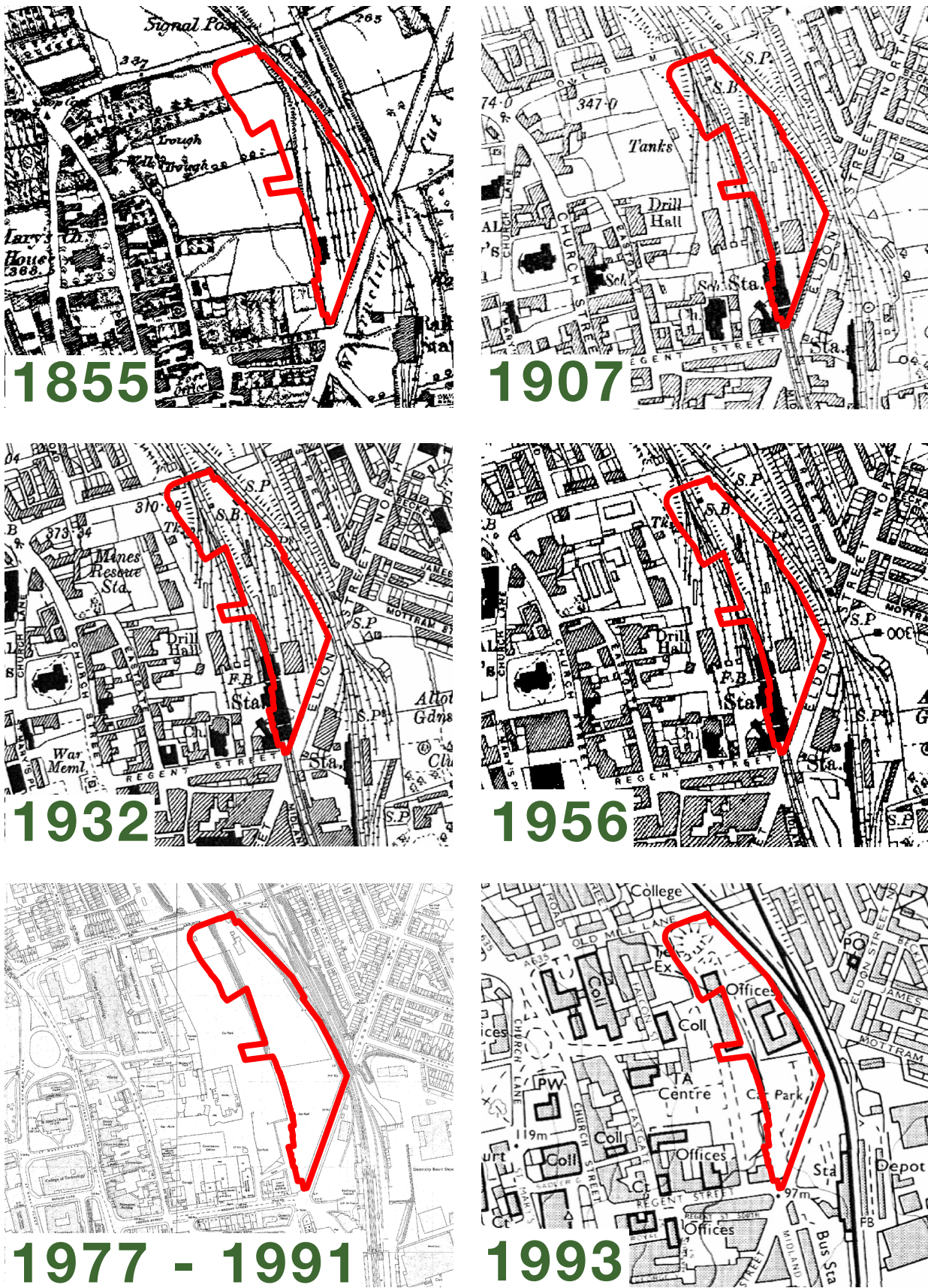


Figure 2.2: Barnsley Courthouse historic maps



A train crossing over the former bridge over the corner of Regent Street and Eldon Street overhead.



Former railway line



The former Court House Railway Station, now demolished.



Former railway bridge that crossed the corner of Eldon Street and Regent Street overhead

Figure 2.3: Barnsley Courthouse historic photographs

2.3 SITE CONDITIONS

The site is the lower of what can be defined as two main plateaus of Courthouse, commonly referred to as the Upper and Lower Courthouse - by the central retaining wall, a remnant of the Victorian railway infrastructure.

MSCP Site

The area reserved for proposals for a new MSCP straddles between the Upper and Lower Courthouse to the north of the application boundary. The level change is currently in the form of a steep bank populated with small trees and thick vegetation. To the north of the area proposed for the MSCP is an existing steep grass mound, forming part of the boundary to the application site fronting onto Old Mill Lane.

ATH Site

The area in which the ATH is proposed is located on the Lower Courthouse between DMC 01 and the retaining wall to the south east where the topography is mostly level. The area is currently utilised as surface car parking.



Figure 2.4: View of DMC 01 from existing surface car parking on the Lower Courthouse.



Figure 2.5: Surrounding building uses

2.4 SITE BOUNDARIES

The Phase I site has a range of complex boundaries, varying in nature and including:

- northern portion of the east boundary with Network Rail
- southern portion of the east boundary with Eldon Street North, including large retaining wall, with the site being up to 10 metres higher than the adjacent highway
- southern portion of the western boundary which includes a stone faced retaining wall, a remnant of the former railway station and goods yard, with the site being lower than the land to the east
- steep overgrown embankment along the northern portion of the western boundary, again with the site being lower than the land to the west

The proposals for Phase I address the challenges posed by the stepped nature of the site's topography and the requirement to ensure accessible and inclusive access into and across the site.

The development of the Development Blueprint had taken into account the sun path (through the day and at different times of the year) and overshadowing from existing structures and potential future development. These studies have been undertaken using a detailed 3D digital model of the site context.

As detailed proposals are developed and brought forward, further sun path and overshadowing studies are critical to demonstrate that proposed buildings and public spaces receive appropriate amounts of sunlight and daylight and do not overshadow neighbouring properties.

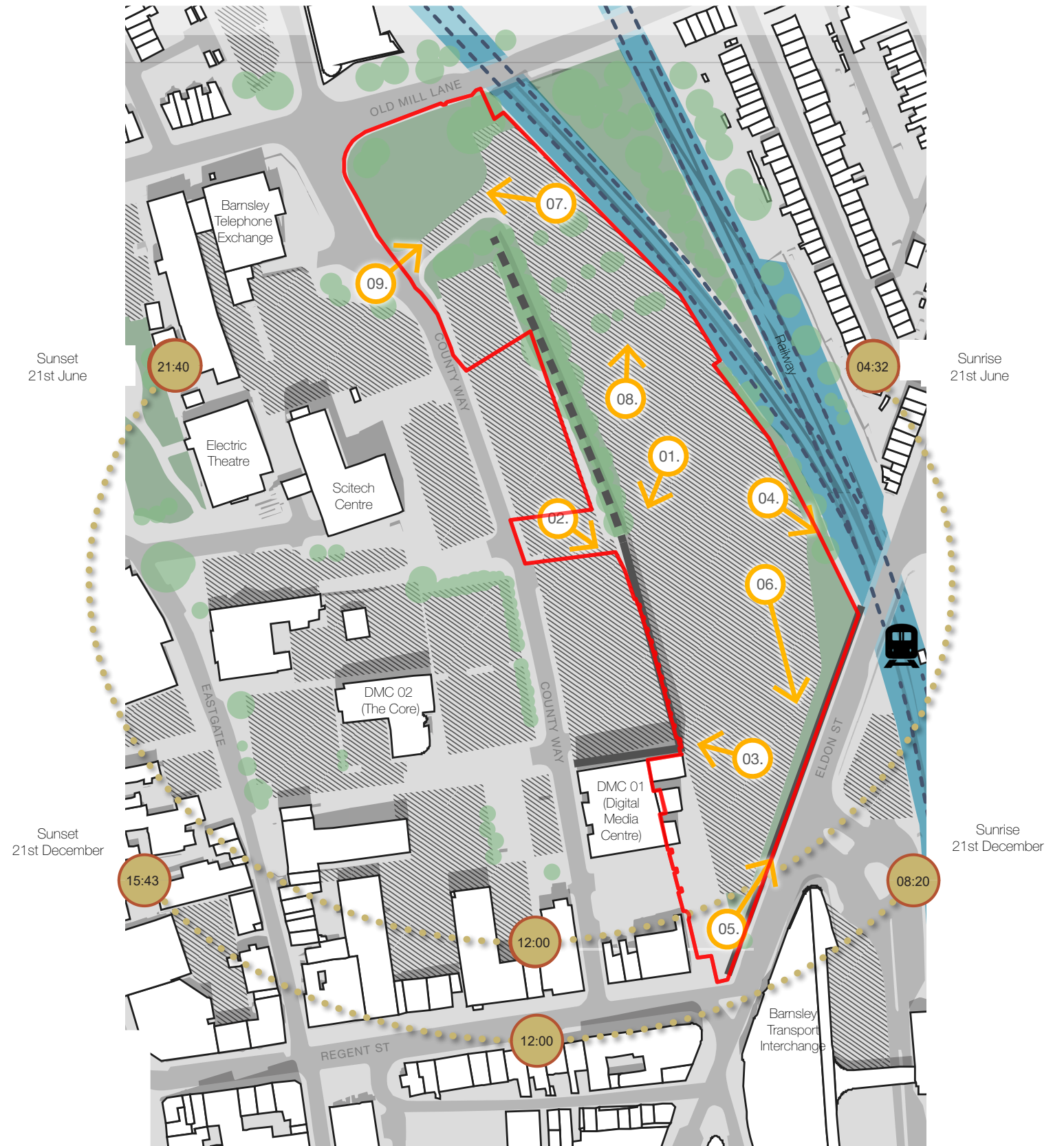


Figure 2.6: Environmental analysis and site boundaries

Refer to key plan (figure ...) for photograph locations.



Figure 2.7: Existing photographs of site boundaries

2.5 BUILDING HEIGHTS AND SITE TOPOGRAPHY

As noted in the 2010 Masterplan Framework, the terraced landform of the site is a key asset and contributor to the character of the town. This was perhaps most memorably captured by Will Alsop's comparisons to a 'Tuscan hill village' in the Remaking Barnsley Strategy.

"A subtle cascading nature of buildings, spires and towers set within the tumbling green topography, forming peaks and troughs coupled with and the unmistakable colour and style of buildings."

The Barnsley Building Heights Study (2009) identifies the principle of buildings 'cascading' down from the central high ground of the town centre and established tall building clusters. A tall buildings cluster is identified around the main Barnsley College building of Old Mill Lane (the red building to the right hand side of the panorama below) and the Town Hall clock tower. This principle of cascading buildings is reinforced by the existing terrain stepping down to the east as it moves away from the town.

The eastern boundary of the Blueprint Development site forms part of the 'Living Wall', a collection of buildings and spaces encircling the town centre, as set out in the Remaking Barnsley Strategy and adopted into the Barnsley Building Heights Study. The Living Wall principle is intended to create a strong town edge of taller buildings allied with public spaces that offer greenery and take advantage of the panoramic eastward views over the Dearne Valley.

Barnsley Building Heights Study

The following key points have been extracted from the 2009 Building Heights Study in relation the Seam / Courthouse Campus:

- The proposed Barnsley College building will create a peak in terms of development height. This presents the opportunity for new buildings to cascade down towards the railway, using the existing topography
- New development should respond to and safeguard the residential scale to the north of Old Mill Lane
- New development should safeguard and frame distant views of the Town Hall
- New development should avoid visual impact on the conservation area
- Whilst there is clearly a role for taller development in the southern half of the Courthouse site in response to the Digital Media Centre, development here must be sensitively located in order to safeguard and emphasise strategic views from the north east of the town centre towards the Town Hall.

The development of the Phase 1 site follows the key points identified in the 2009 Building Heights Study.

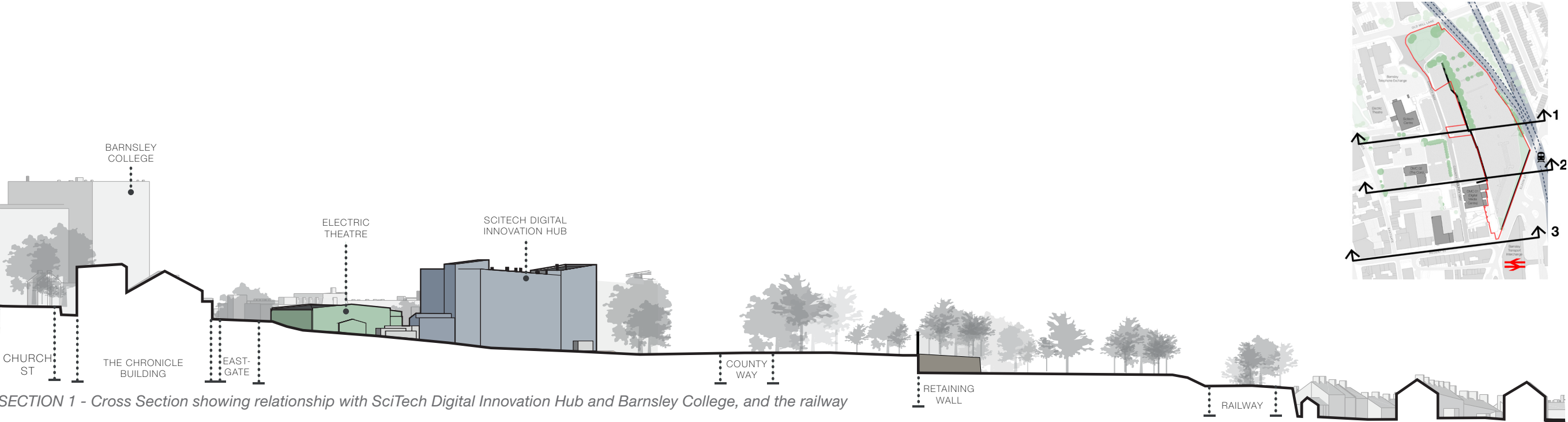
- Strategic area of opportunity for tall buildings
- Sensitive area of opportunity for tall buildings
- Areas of general Exclusion
- Tall Building Cluster Boundary
- Living Wall



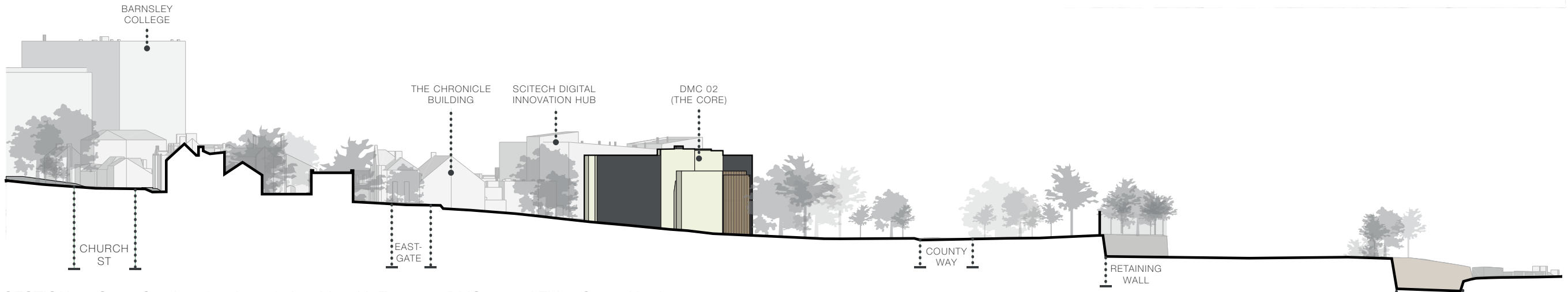
Figure 2.8: Building Heights Plan, Building Heights Study 2009



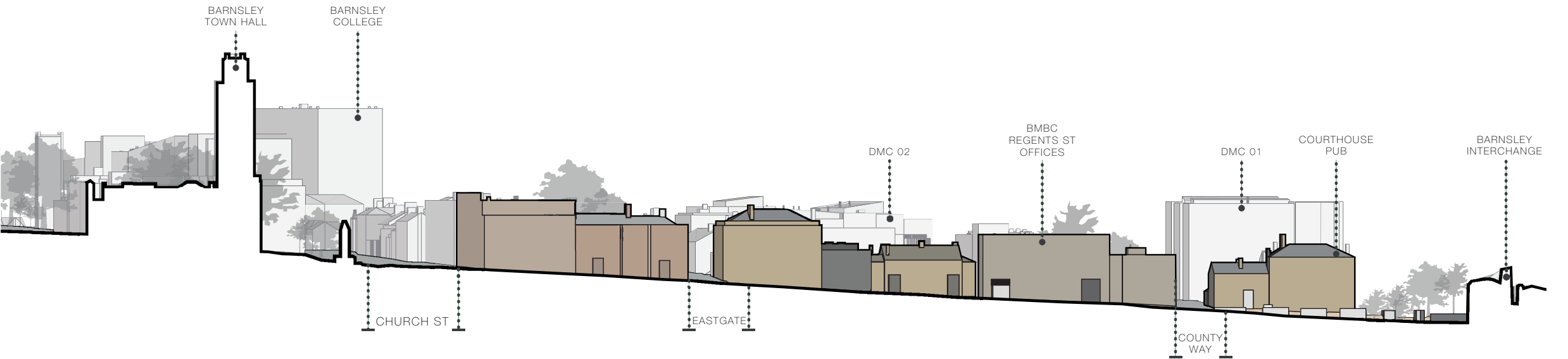
Figure 2.9: Site panorama looking west from the A61



SECTION 1 - Cross Section showing relationship with SciTech Digital Innovation Hub and Barnsley College, and the railway



SECTION 2 - Cross Section showing relationship with Eastgate, DMC02, and Eldon Street North



SECTION 3 - Cross section along Regent Street showing relationship with the Town Hall

Figure 2.10: Existing site sections

3.0 MASTERPLAN PRINCIPLES

3.1 BLUEPRINT DEVELOPMENT: THE SEAM

In May 2020 Barnsley Metropolitan Borough Council (BMBC) appointed a consultant team to prepare a new Development Blueprint for the site known as ‘The Seam, Barnsley’s Digital Campus’. The multi-disciplinary team was led by BDP in conjunction with Fore Consulting, Hydrock, BE Group and Warrington Martin. The site is a 4.5 ha parcel of land located within Barnsley town centre, immediately adjacent to the Transport Interchange.

The blueprint is based on a plot-based approach, which is intended to support the Council’s key objectives while providing an appropriate level of flexibility to suit future development needs, market conditions, and phasing requirements.



Figure 3.1: Movement routes and active frontages diagram

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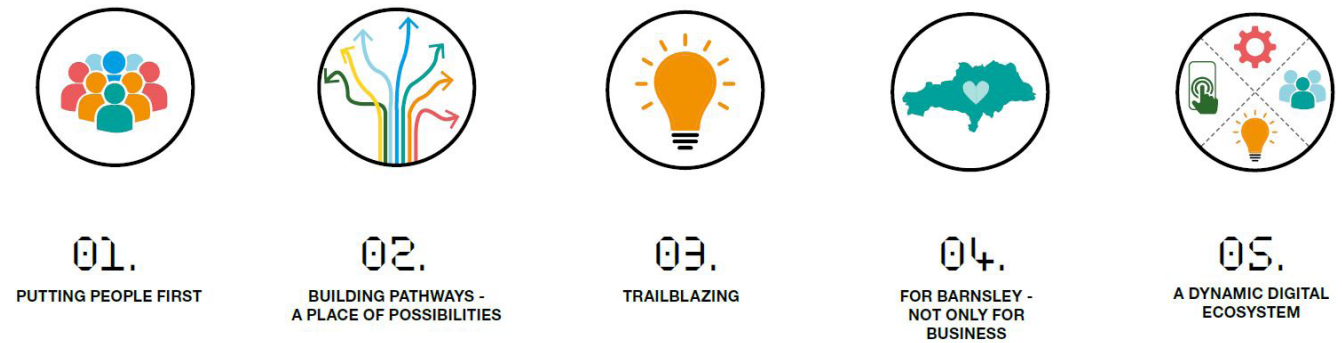
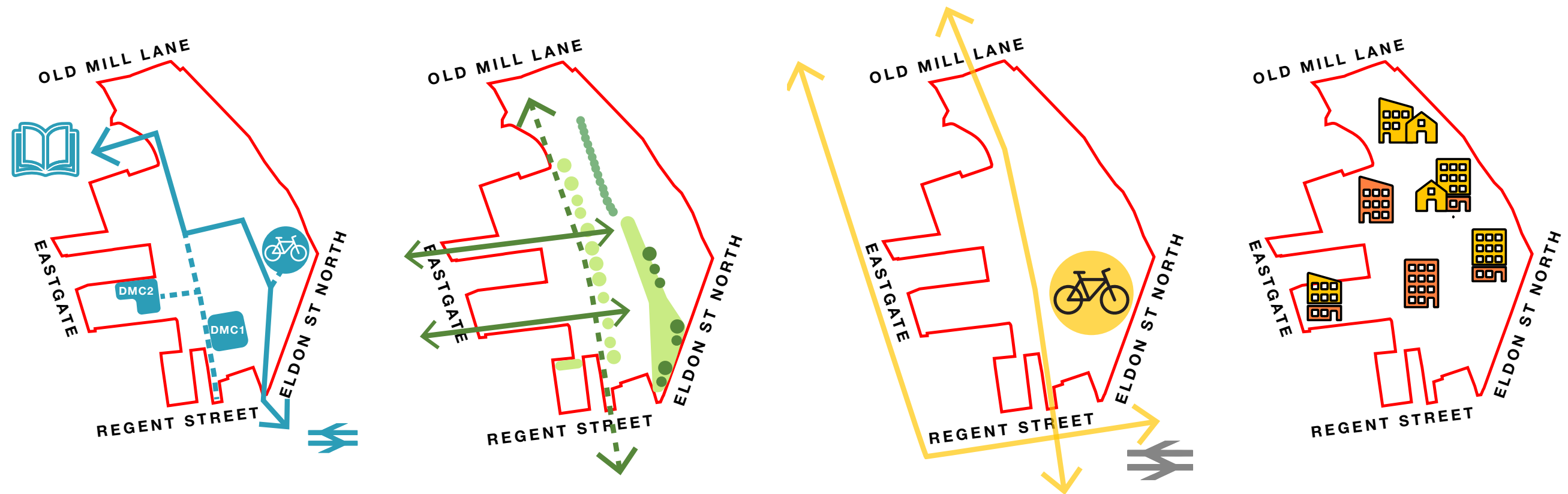


Figure 3.2: Illustrative view looking North along the Seam public realm, and Diagram of The Seam Core Values

3.2 KEY DRIVERS

Figure 3.3: Concept diagrams illustrating the key drivers for the masterplan



A connected campus

Enhanced connectivity - both physical and digital - has underpinned the development of the Digital Campus proposals. Plots are tied together by a series of public realm proposals (zones) that will be activated by open ground floor uses - acting as a 'shop front' for digital businesses and enterprises.

The proposals strengthen existing desire lines between Barnsley College and the town centre and improve accessibility across the site - particularly by way of the proposed ramped connection between the upper and lower levels.

A network of green spaces

A series of smaller linked green spaces are proposed across the campus. This approach enables the creation of different character zones that respond to the mix of proposed uses across the site. This strategy also helps to de-risk the development and support the phasing strategy.

The proposed layout retains two east-west 'vistas' identified in the previous 2010 masterplan - these link Eastgate to the lower areas of the site and provide views across the Dearne valley.

Active travel

The Low Carbon Active Travel Hub has been located for best proximity to the Transport Interchange, bringing significant footfall to the site and activate the public realm, with opportunities for uses including a cafe, bike/ scooter rental.

The blueprint includes proposals change the character of County Way by making it more cycle-friendly and introducing new pedestrian crossing points and SUDs systems (see sections 3.5 and 3.6).

A sustainable live-work neighbourhood

The site offers an opportunity to create a highly sustainable residential neighbourhood in the heart of the town.

The proposals include a range of plots where low-carbon, high-density townhouses and apartments can be developed alongside workspace and high-quality public realm and greenspace.

3.4 PHASE 1

The diagram opposite illustrates the boundary line and extent of Phase 1 as well as the key elements of the Blueprint Development that Phase 1 will deliver.

The plots included within the Phase 1 boundary and described within this Design and Access statement are:

Plot 1:

Ground floor active frontage (retail or commercial use) wrapped around a central green space, with 3-4 storeys of residential development above.
(Seeking Outline Planning approval)

Plot 2:

Low-rise / high density residential development such as back-to-back townhouses or smaller apartment blocks.
(Seeking Outline Planning approval)

MSCP (Multi-Storey Car Park)

A smart parking facility proving regular, accessible, family and EV charging spaces over an efficient VCM layout.

ATH (Active Travel Hub)

An Active Travel Hub to provide cycle storage, and other uses fronting onto the central greenspace including cafe, cycle hire / repair, retail and cycle workshop space.



Figure 3.5: Illustrative Blueprint Development with Phase 1 boundary highlighted



Figure 3.6: Aerial visualisation of The Seam Development Blueprint masterplan looking north



Figure 3.7: Aerial visualisation of The Seam Development Blueprint masterplan looking south west

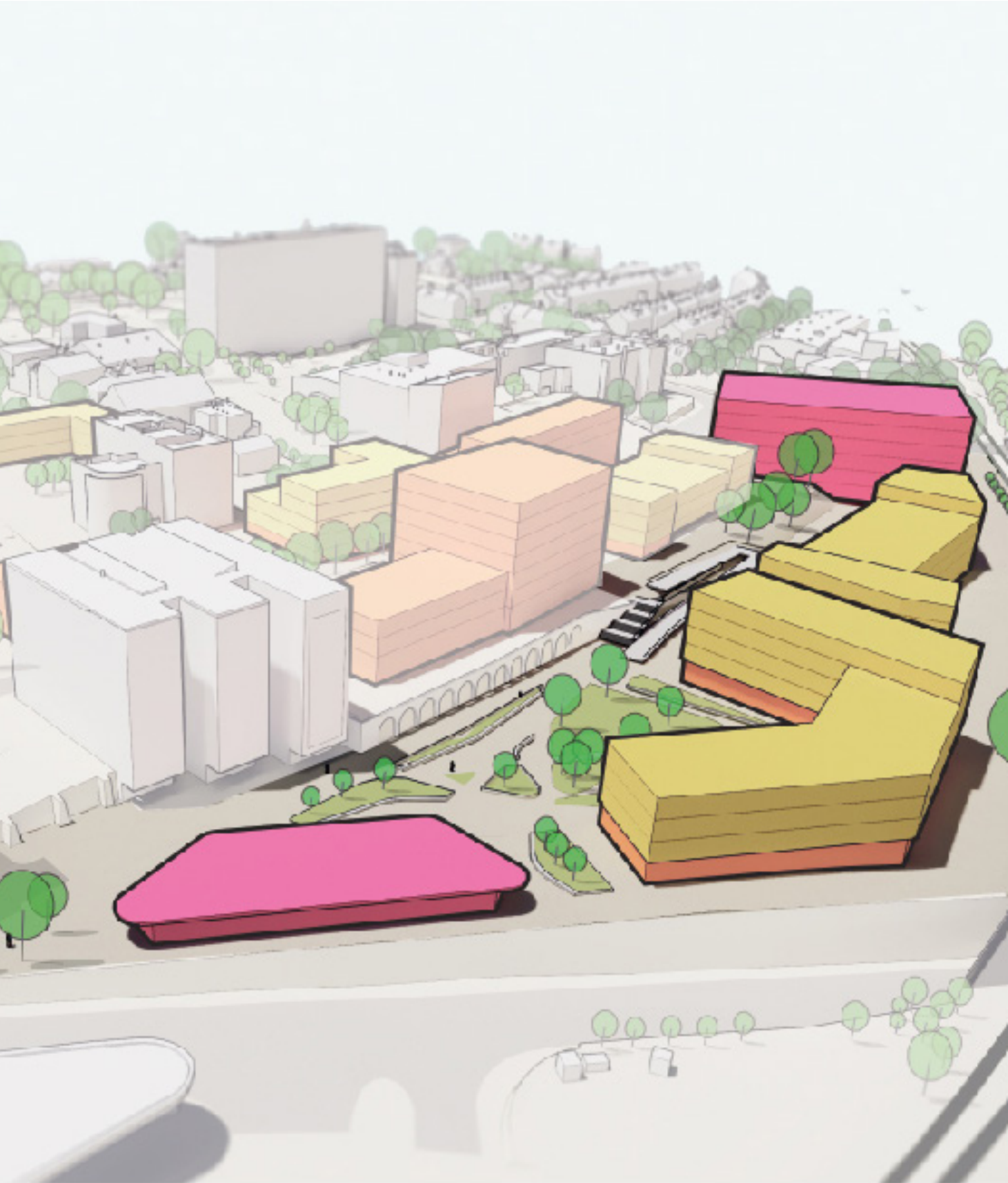


Figure 3.8: Aerial visualisation of The Seam Development Blueprint masterplan

4.0 DESIGN APPROACH

4.1 MSCP BRIEF

A series of design workshops were held prior to the submission of a RIBA Stage 2 proposal in January. Since then, the design development of the MSCP has continued through a series of consultations and frequent workshops to test and improve initial proposals.

As the MSCP plot straddles the upper and lower levels of the site, using the undercroft parking area with independent access from the lower level was considered throughout the design development process across different layout options. A series of access and egress options were explored and internal traffic flows thoroughly reviewed.

Through design development and discussions with external carpark specialists, it was agreed that a Vertical Circulation Module (VCM) layout system was the most efficient for maximising the footprint and addressing the various site constraints.

In line with the sustainability strategy, it is proposed that the MSCP will support the shift towards electric vehicles by providing dedicated spaces and charging points. The proposals also include a PV canopy over the top deck of the car park to provide a source of renewable energy for the facility.

A summary of briefed requirements is noted below.

Building:

- Connectivity to transport interchange – cycle / pedestrian route.
- Zero-low carbon building structure.
- Digital infrastructure and connectivity for ‘Smart parking’.
- Well-lit and safe, MSCP only accessed by those parking (ticket only).
- Separate vehicles and pedestrians.
- Owned and operated by BMBC, and operational 24/7.
- Park Mark Plus accreditation.
- Sprinkler provision.
- Battery storage for PV panels

Car parking:

- Target = 386 standard 2.5 x 5m car park spaces (including disabled provision and family bays).
- Disabled provision = 23 (based on 400 spaces) exceeding BPA recommendation.
- 10% of parking bays to be equipped with electric vehicle charging.
- Infrastructure to support future increase in EV provision to 20%.
- EV charging = 70% slow (8 hr charge), 20 % fast charge, 10% rapid charge.
- Secure entry and exit to the parking (roller shutter and ticket only access).
- Access control = Metric / Amano (as per Glass Works MSCP).
- Smart parking – monitoring real time use of the car park + linked to wider town centre parking management.

Within the workshops, the stakeholders referred to the recently completed Glass Works MSCP in the centre of the town, and the need to learn lessons from some issues that had been experienced. These were summarised as follows:

- Anti-suicide measures / mesh protection barrier.
- Internal stairwell – barriers to prevent dropping things down the stairwell.
- CCTV – including lifts.
- Lifts – 24 hour response.
- Avoid kerbs in the MSCP.
- Stairwells plastered and painted to improve security feel.
- Ticket machines – DDA compliant.
- Ceiling heights – check specification of GW as floor to ceiling height is good (doesn’t feel hemmed in).
- Signage – with a ramped level include levels at the exits.

4.2 MSCP DESIGN PRINCIPLES

The proposed car park has undertaken numerous design iterations to best take advantage of the site's location, topography, and surrounding road layouts, while also taking into consideration the emerging future developments and their close proximity.

The guiding principles have been to maximise the internal vehicle parking provision, around the most efficient circulation pattern suitable for the site, while keeping the building's volume to a minimum.

This exercise results in an eight storey building from the Lower Courthouse and six storeys from the Upper Courthouse level, measuring 24.55m in height on its East side facing the railway, where the ground level is at its lowest, and 18.55m in height on its West side, facing onto County Way.

The MSCP application proposals achieves the following:

Total Number of Car Spaces: 386

-  **286 Standard Spaces**
-  **41 EV Charging Spaces (10.6%)**
-  **3 Accessible EV Charging Spaces**
-  **20 Accessible Spaces (5.2%)**
-  **14 Family Spaces (3.6%)**
-  **22 Car Share Spaces**

Total Number of Motorbike Spaces: 10

-  **10 Motorbike Spaces**

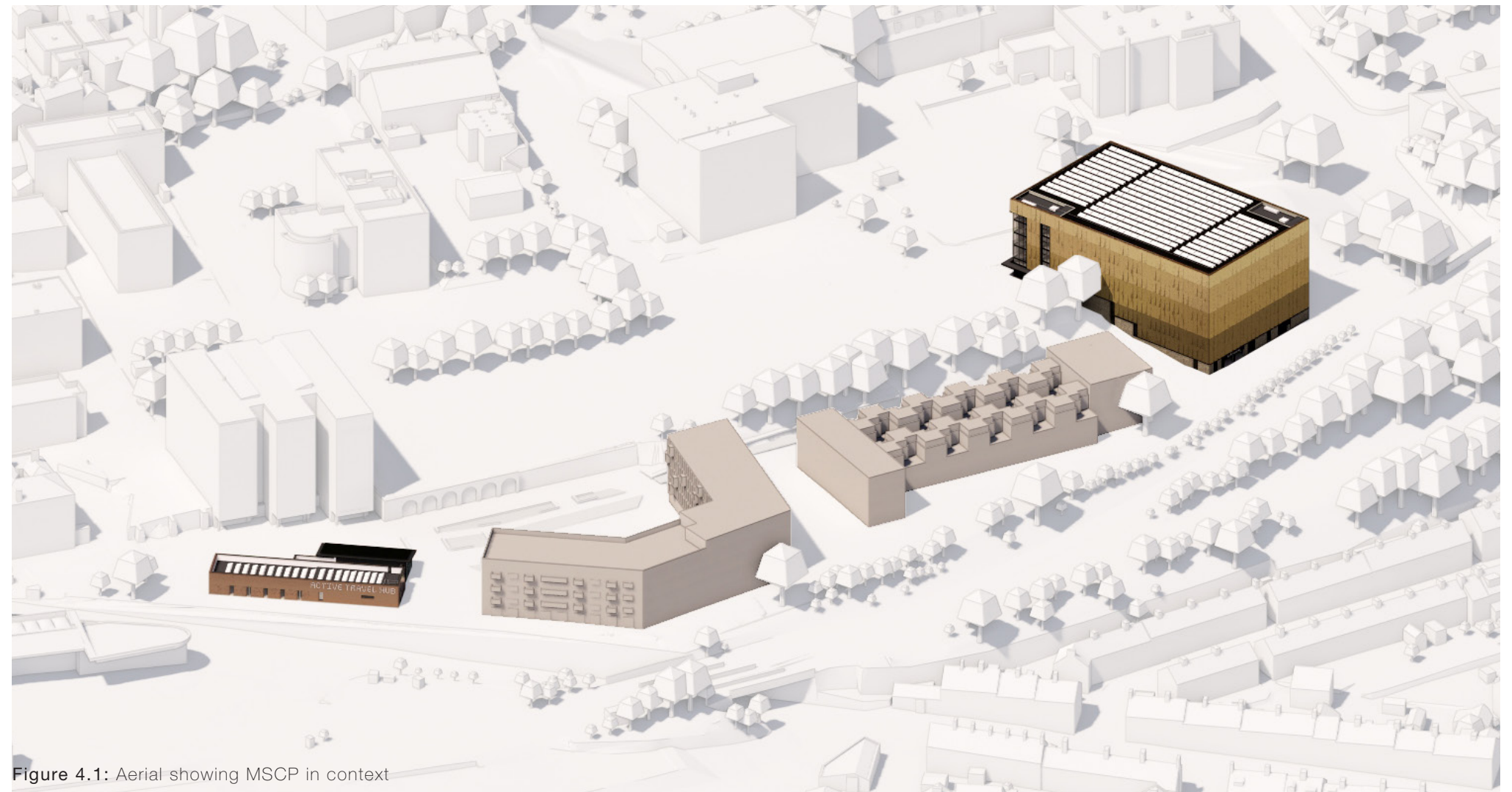


Figure 4.1: Aerial showing MSCP in context

4.3 ATH BRIEF

A summary of briefed requirements is noted below.

The building is to contain three independent units each with its own secure access:

- Bike Loan and Workshop – staffed during working hours
- Cycle Storage – unmanned, 24/7 access via ‘double fob entry’, with CCTV
- Café – private, rented space, located to the north of the building

Bike Loan & Workshop Requirements:

- staffed during working hours
- dedicated entrance with a reception desk, where people can hire bikes, buy bike spares, get information
- small retail space for bike spares, maps etc., all of which can be made secure
- the workshop and bike loan area could be combined
- staff WC with welfare facilities / kitchenette
- storage space for 30 loan bikes – most bikes should be out on loan
- storage for loan bike accessories – locks, helmets, panniers, etc.
- aspiration for 100 electric bikes by 2040 / 100 pedal bikes by 2040
- percentage of electric bike charging to be confirmed
- some space externally where customers can test ride loan bikes, adjacent to the hub but mindful of pedestrians

Cycle Storage Requirements:

- unmanned, but with secure 24/7 access, using ‘double fob’ entry with CCTV
- located to the south of the building, keeping cycle movements away from central space
- foyer / lobby area to prevent ‘tailgating’ to gain access to the cycle storage area
- space for storing 100 bikes and 50 lockers
- space for larger bikes, e.g. cargo bikes, Trykes, etc.
- separate provision for commuters via additional

security permissions on fob (season pass), with access to lockers, showers, toilets and drying facilities

- double racking for bikes not favoured – could be used in the future to increase capacity?
- percentage of electric bike charging to be confirmed

Café Space Requirements:

- private rented space, located to the north of the building
- opportunity to create outdoor seating area next to the central green space
- small kitchen, WC for customers / staff
- secure storage area for stock, etc.
- ideas include: small, independent café / juice bar, serving coffee, snacks, takeaway sandwiches, etc.
- internal seating area accommodating around 12 customers, plus outdoor seating

Building layout Requirements:

- café located to the north of the building
- entrance to cycle storage to the south of the building
- aim to keep pedestrians and cyclists separate

BMBC consulted with local cyclists / users of the existing Active Travel Hub facility at the end of January 2022. The data was reviewed and incorporated into the design development to reach the presented proposals.

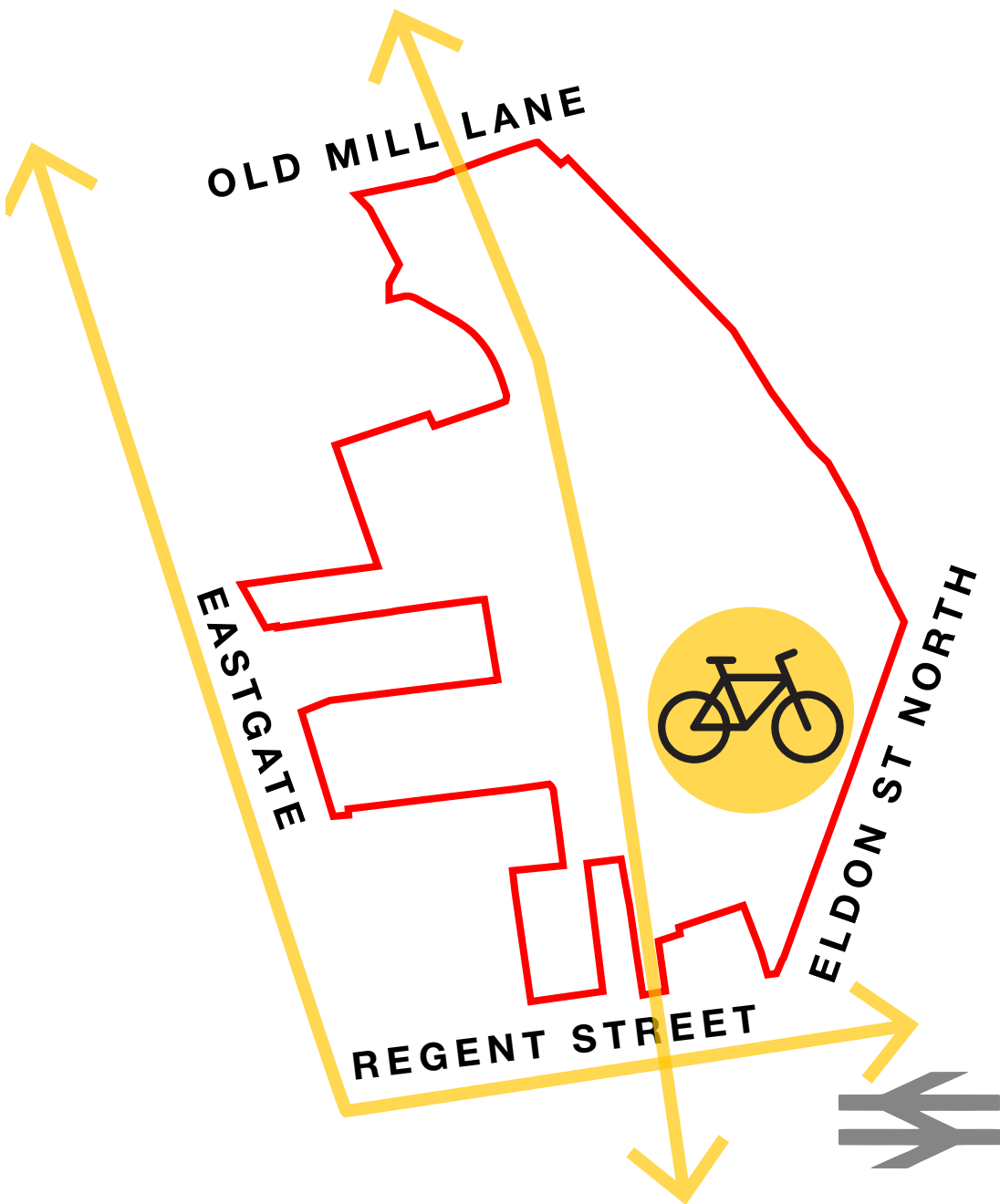


Figure 4.2: Diagram illustrating ‘Active Travel’ as a key driver for the Blueprint Development

4.4 ATH DESIGN PRINCIPLES

The primary function of the Active Travel Hub is to provide cycle storage, but the facility is to be designed to accommodate a range of uses fronting onto the central greenspace including cafe, cycle hire / repair, retail and cycle workshop space.

The ATH will be an important facility and in a very prominent location on the site. It is recognised that the building should be high quality design to set the scene for the development.

A series of workshops were held with BMBC stakeholders between November 2021 and January 2022 to establish the brief. During this time BDP explored initial adjacency studies and organisational options in an attempt to 'tease out' the required facilities, spatial and building requirements.

Since then, the design team have had regular design workshops with BMBC and stakeholders, as well as incorporating feedback given via the online public consultations to develop the brief and design.

The proposals for the Active Travel Hub provide the following:

Cycle Store Quantities
 100 no. standard bike spaces,
 6 no. non-standard and accessible bike spaces,
 4 no. vertical bike lockers,
 15 no. folding bike lockers,
 15 no. e-bike battery charging compartments.

Changing Room Quantities
 50 no. Z lockers.

Workshop Quantities
 42 no. standard bike spaces,
 1 no. non standard bike spaces.

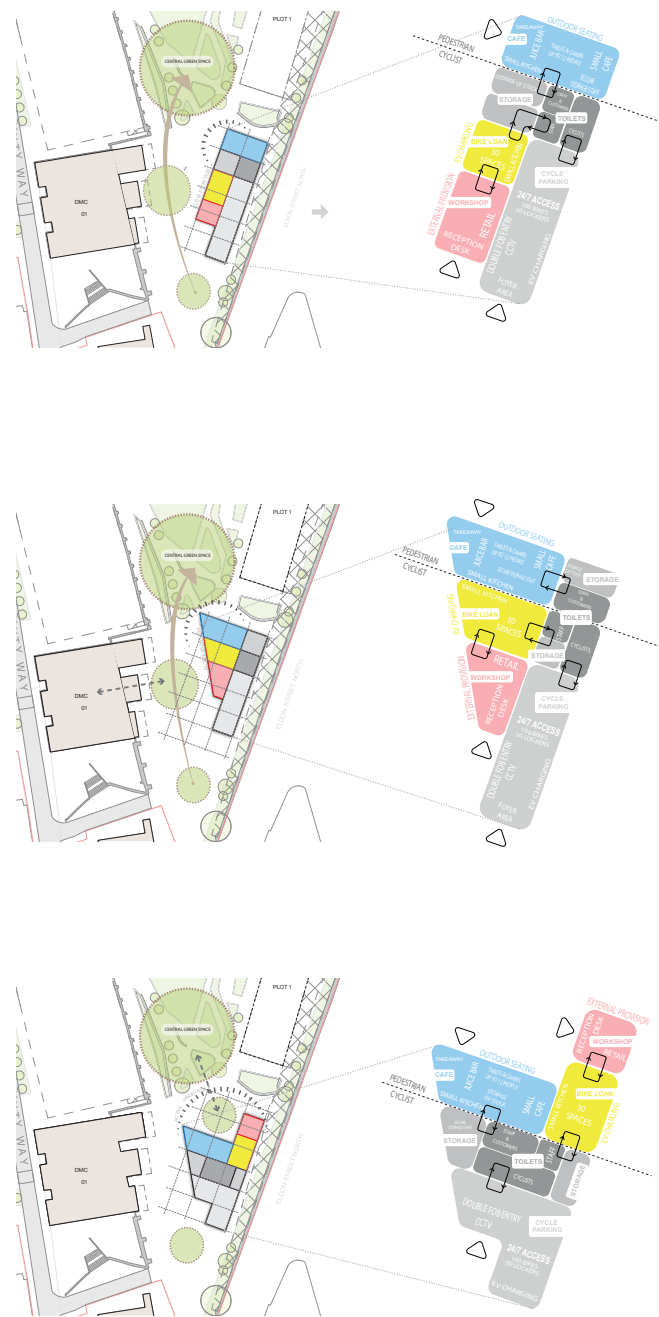


Figure 4.3: Concept diagrams exploring design principles of initial design options

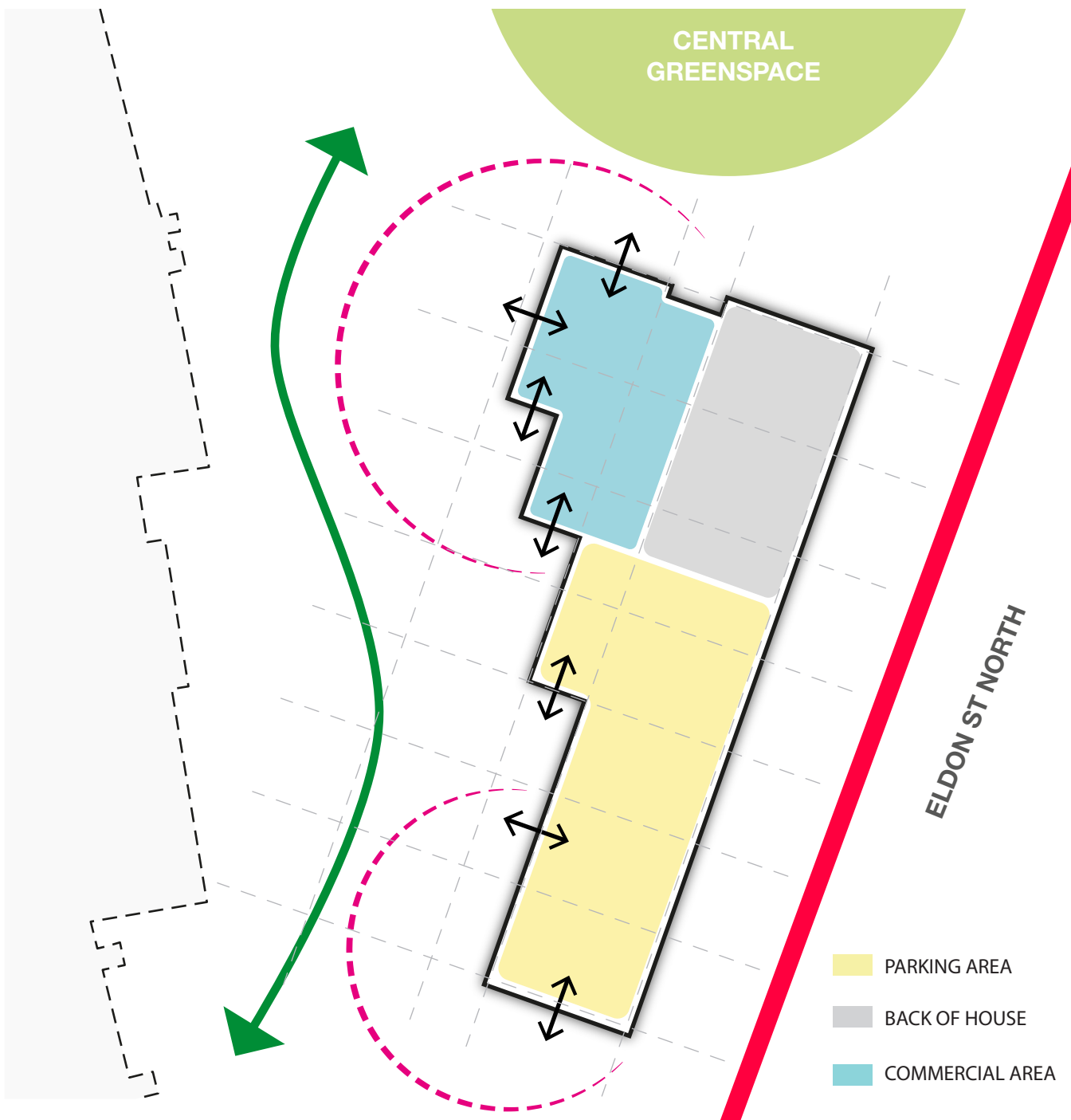


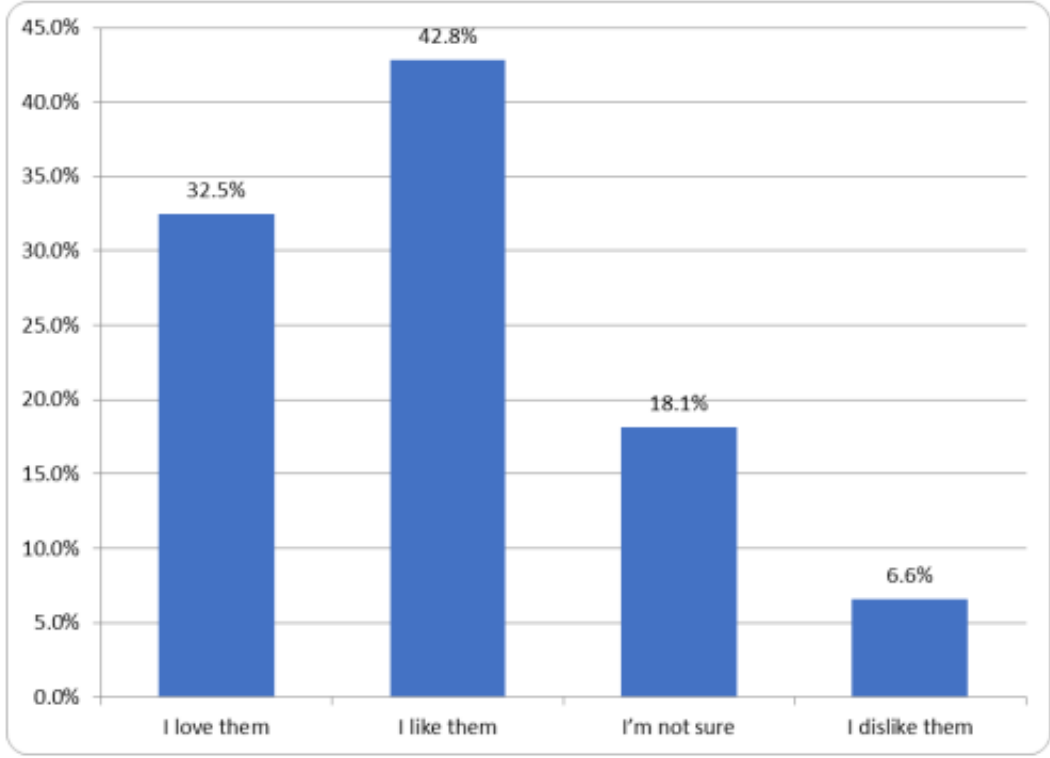
Figure 4.4: Concept diagram exploring design principles of design proposal

4.5 CONSULTATION AND ENGAGEMENT

The Development Blueprint was developed through a series of stakeholder workshops involving input from a range of officers within BMBC. Public consultation has been carried out by BMBC during the early part of 2022 in order to obtain public feedback on the wider masterplan and the initial RIBA Stage 2 designs. BMBC have also carried out consultation with cycling groups and users of the existing Active Travel Hub facility within the Transport Interchange. Key points are summarised below:

- 73% of people supported the Active Travel Hub being developed on the site in Phase One. 70% of people were also in favour of reducing car use on the campus.
- 75 % of people positively supported more public green space as part of the site
- 67% of people supported new low carbon housing on The Seam.
- 56.9% of participants supported the new MSCP proposals, but those who did not raised high concerns for the loss of parking spaces.
- 75% were supportive of the proposal for a new walkway with accessible ramp and steps up through the site.
- 76.4% felt that a focus on sustainability was important for the site.
- 30% of respondents either owned an electric vehicle or expected to own one in the next five years. The car-park has therefore been designed with EV charging spaces, including sufficient electrical servicing infrastructure to create additional spaces in the future when they are required.

5. What do you think of the plans for an attractive, new walkway through the site including feature steps and an accessible ramp to link the upper and lower decks of The Seam?



8. Below is a list of proposed elements for the new ATH. Select the 4 elements that matter most to you:

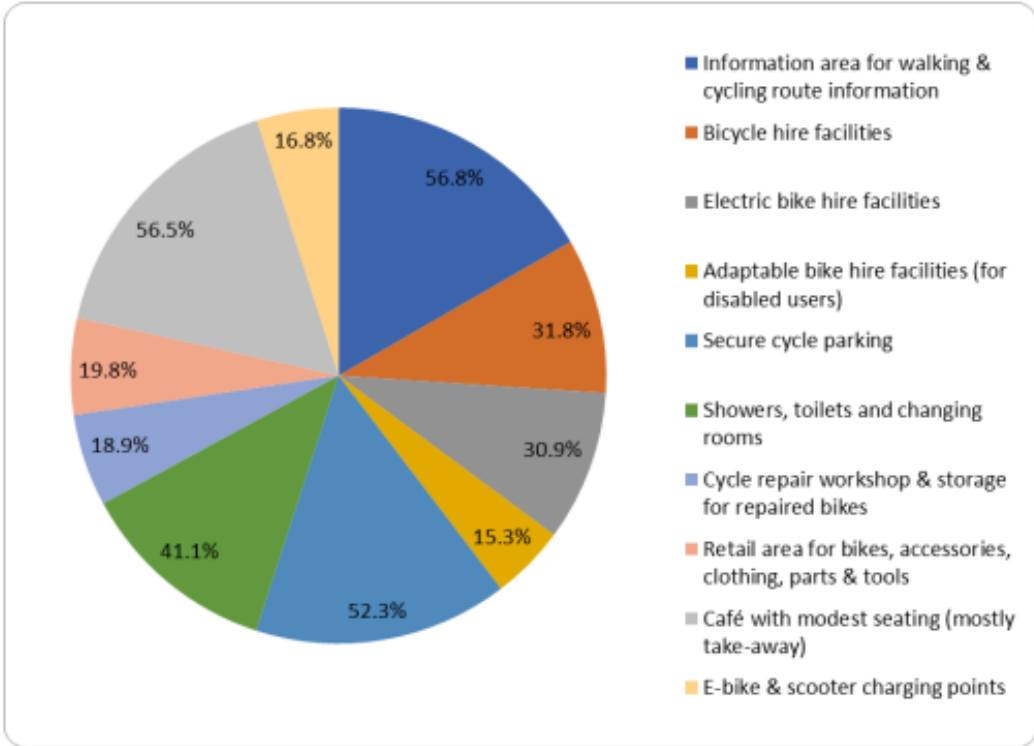
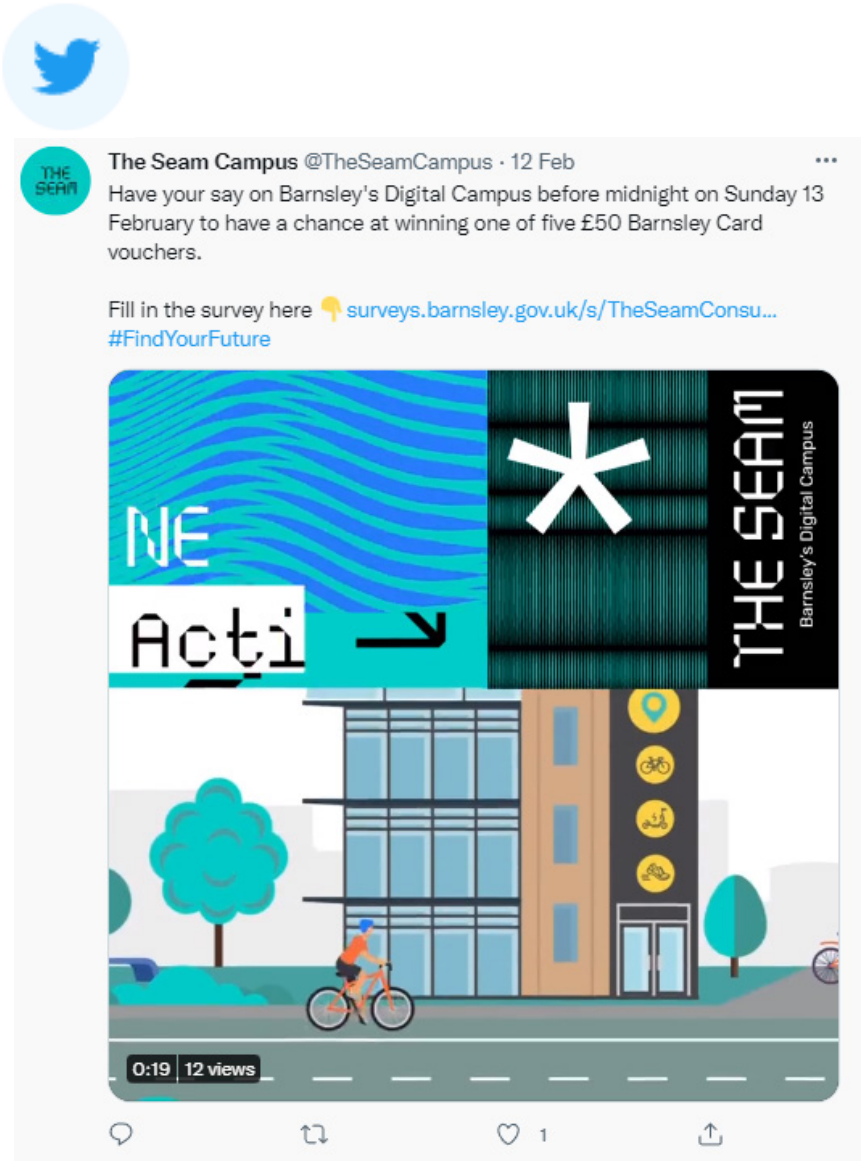


Figure 4.5: Extracts taken from online survey results



5.0 DESIGN PROPOSALS

5.1 MSCP DESIGN PROPOSALS

The proposed car park has undertaken numerous design iterations to best take advantage of the site's location, topography, and surrounding road layouts, while also taking into consideration the emerging future developments and their close proximity.

The guiding principles aim to maximise the internal vehicle parking provision, around the most efficient circulation pattern suitable for the site, while keeping the building's volume to a minimum.

This exercise has resulted in an eight storey building from the Lower Courthouse and six storeys from the Upper Courthouse level. The elevations measure 24.55m in height on the East side facing the railway, where the ground level is at its lowest, and 18.55m in height on the West side, facing onto County Way.

Layout
Internally, the building is arranged using a Vertical Circulation Module, meaning that the ramps that enable vertical vehicular circulation also accommodate parking bays, combining two functions and increasing efficiency.

Several arrangements were explored earlier in the design process and the VCM arrangement has emerged as the most efficient for the site. The system eliminates the problems of cross deck movement for pedestrians created by an alternative split deck condition.

The EV charging bays have been located on the northern face of the MSCP to address fire safety requirements whilst distributing them across levels B1, 00, 01 and 02 to provide choice for users.

The circulation core on the south west corner of the MSCP is the primary core which users will be encouraged to use, with direct access onto County Way and key routes leading to the new Public Realm. Use of the secondary circulation core on the north east corner of the MSCP will be limited to discourage heavy pedestrian movement around the northern corner of the site.

A solar canopy accommodating a series of PV panels is situated on Level 05 of the MSCP, providing a source of renewable energy for the site. This is included within the planning application to allow the panels to be added in the future, but it is unlikely these will be installed as part of the initial construction phase.

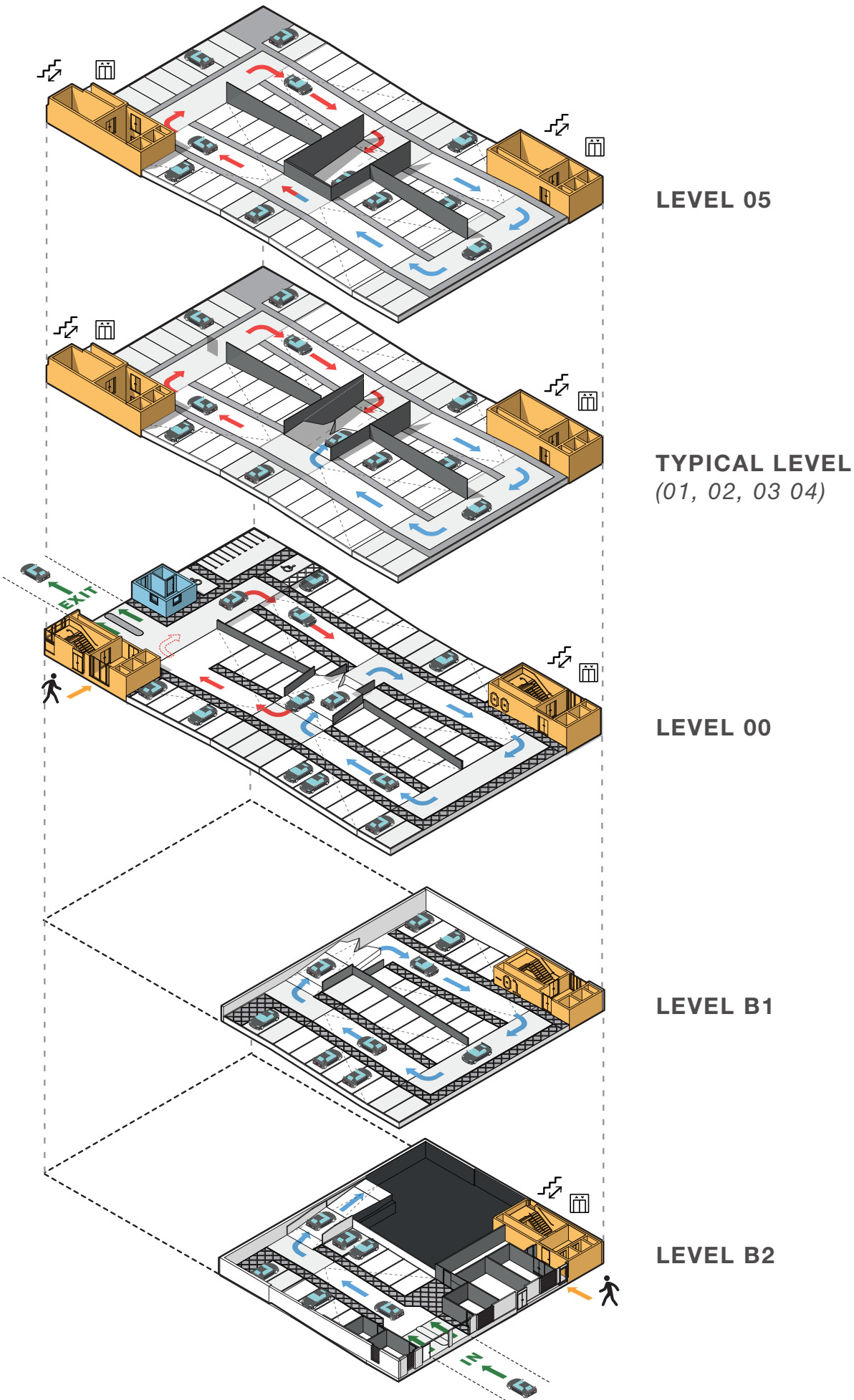


Figure 5.1: illustrative exploded axo of the MSCP

MSCP Level B2 Plan

- Level B2 11no. Standard Spaces
- Level B1 23no. Standard Spaces
5no. EV Charging Spaces
- Level 00 16no. Standard Spaces
1no. Accessible Space
1no. Accessible EV Space
12no. EV Charging Spaces
22no. Car Share Spaces
10no. Motorcycle Spaces

- Level 01 40no. Standard Spaces
6no. Accessible Spaces
1no. Accessible EV Space
12no. EV Charging Spaces
- Level 02 40no. Standard Spaces
6no. Accessible Spaces
1no. Accessible EV Space
12no. EV Charging Spaces

- Level 03 52no. Standard Spaces
7no. Accessible Spaces
- Level 04 52no. Standard Spaces
7no. Family Spaces
- Level 05 52no. Standard Spaces
7no. Family Spaces

Total Number of Car Spaces: 386

286 Standard Spaces

41 EV Charging Spaces (10.6%)

3 Accessible EV Charging Spaces

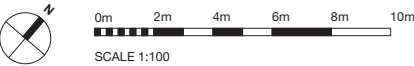
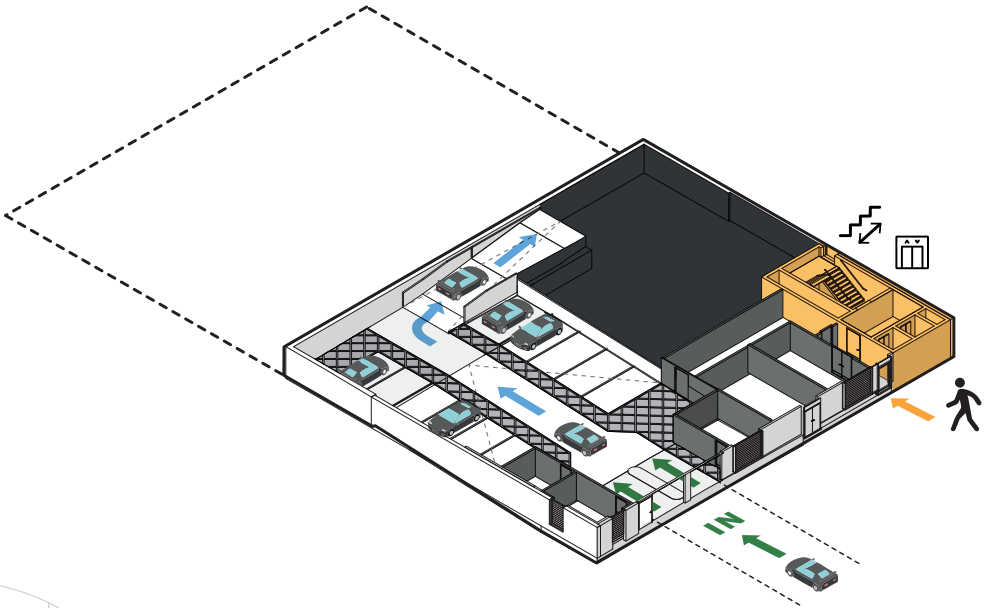
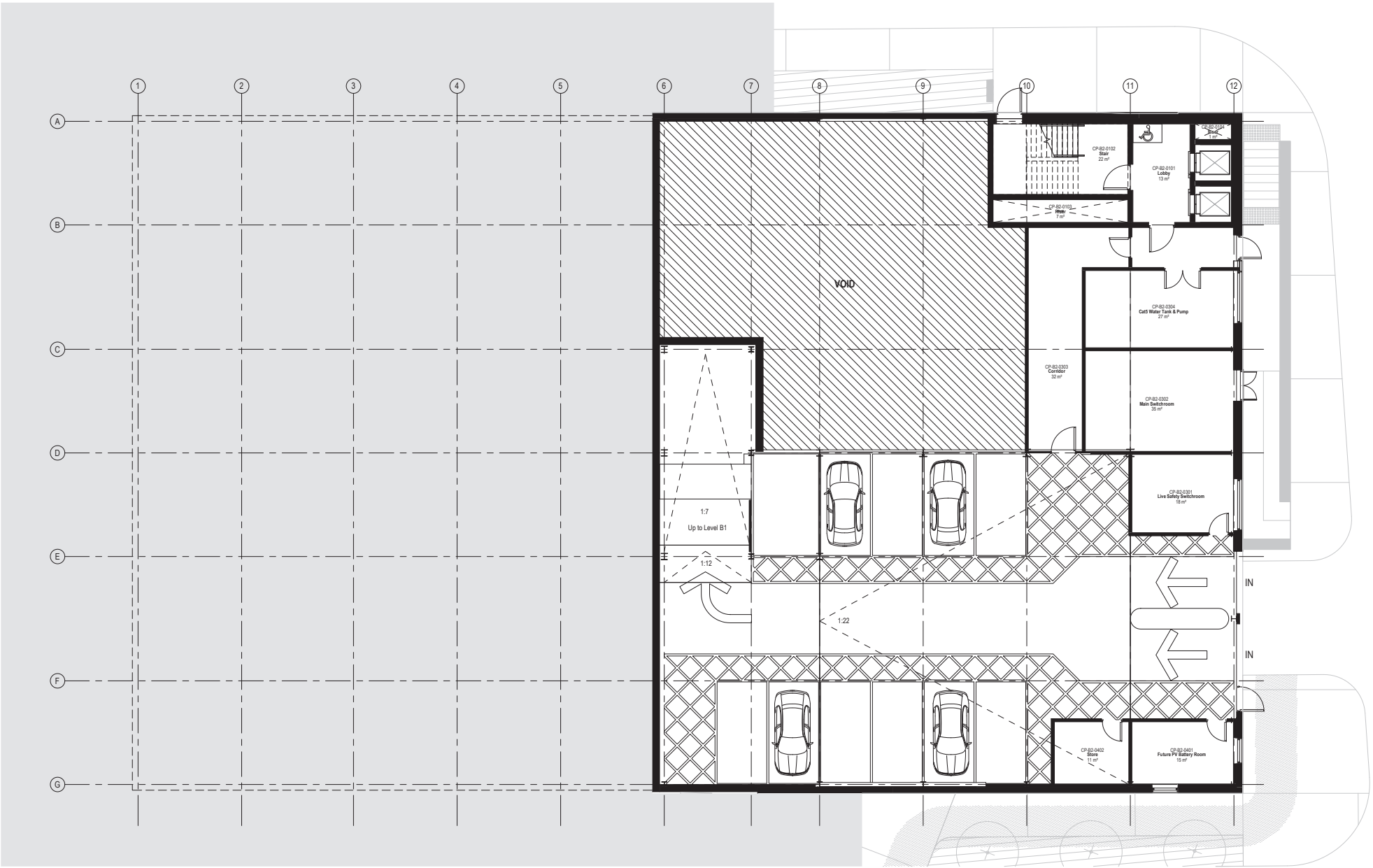
20 Accessible Spaces (5.2%)

14 Family Spaces (3.6%)

22 Car Share Spaces

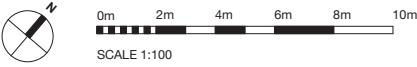
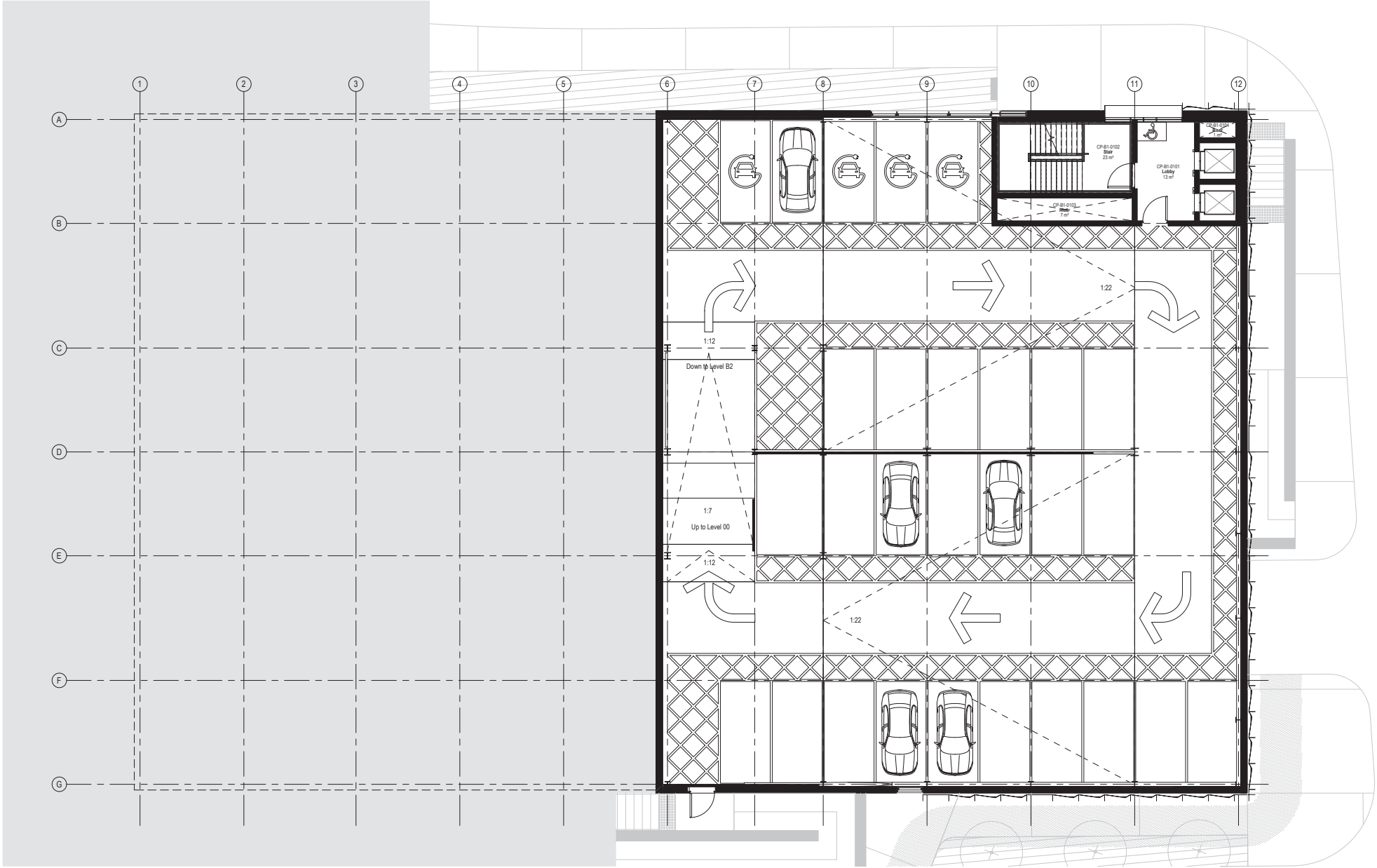
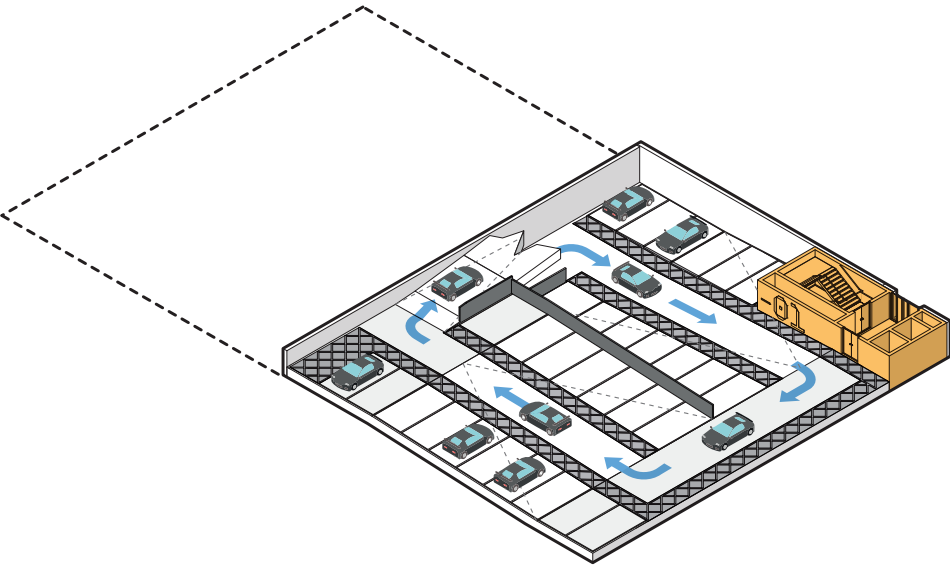
Total Number of Motorbike Spaces: 10

10 Motorbike Spaces



MSCP Level B1 Plan

Level B2	 11no. Standard Spaces	Level 01	 40no. Standard Spaces  6no. Accessible Spaces  1no. Accessible EV Space  12no. EV Charging Spaces	Level 03	 52no. Standard Spaces  7no. Accessible Spaces	Total Number of Car Spaces: 386	Total Number of Motorbike Spaces: 10
Level B1	 23no. Standard Spaces  5no. EV Charging Spaces			Level 04	 52no. Standard Spaces  7no. Family Spaces	 286 Standard Spaces	 10 Motorbike Spaces
Level 00	 16no. Standard Spaces  1no. Accessible Space  1no. Accessible EV Space  12no. EV Charging Spaces  22no. Car Share Spaces  10no. Motorcycle Spaces	Level 02	 40no. Standard Spaces  6no. Accessible Spaces  1no. Accessible EV Space  12no. EV Charging Spaces	Level 05	 52no. Standard Spaces  7no. Family Spaces	 41 EV Charging Spaces (10.6%)  3 Accessible EV Charging Spaces  20 Accessible Spaces (5.2%)  14 Family Spaces (3.6%)  22 Car Share Spaces	



MSCP Level 00 Plan

- Level B2 11no. Standard Spaces
- Level B1 23no. Standard Spaces
5no. EV Charging Spaces
- Level 00 16no. Standard Spaces
1no. Accessible Space
1no. Accessible EV Space
12no. EV Charging Spaces
22no. Car Share Spaces
10no. Motorcycle Spaces

- Level 01 40no. Standard Spaces
6no. Accessible Spaces
1no. Accessible EV Space
12no. EV Charging Spaces
- Level 02 40no. Standard Spaces
6no. Accessible Spaces
1no. Accessible EV Space
12no. EV Charging Spaces

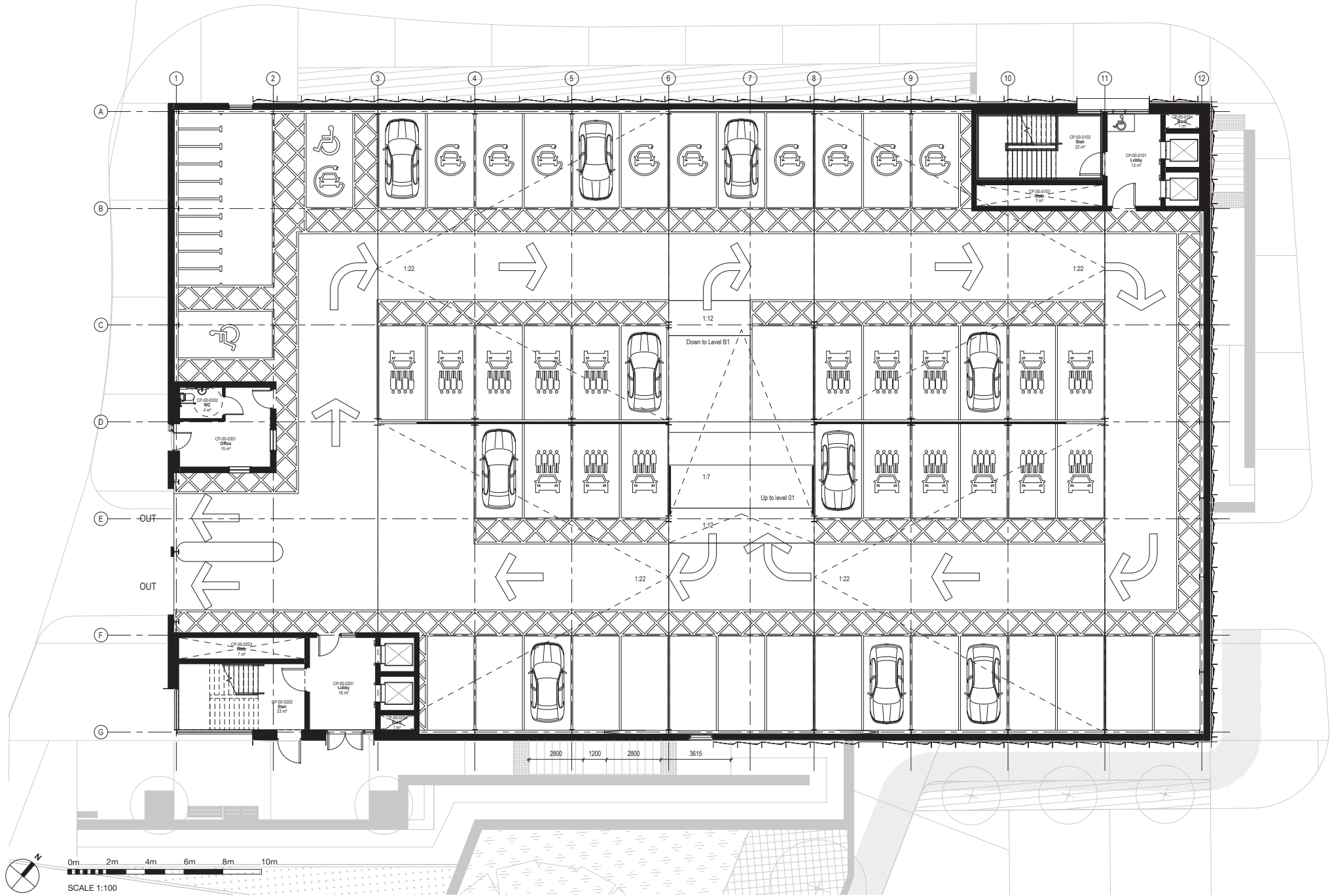
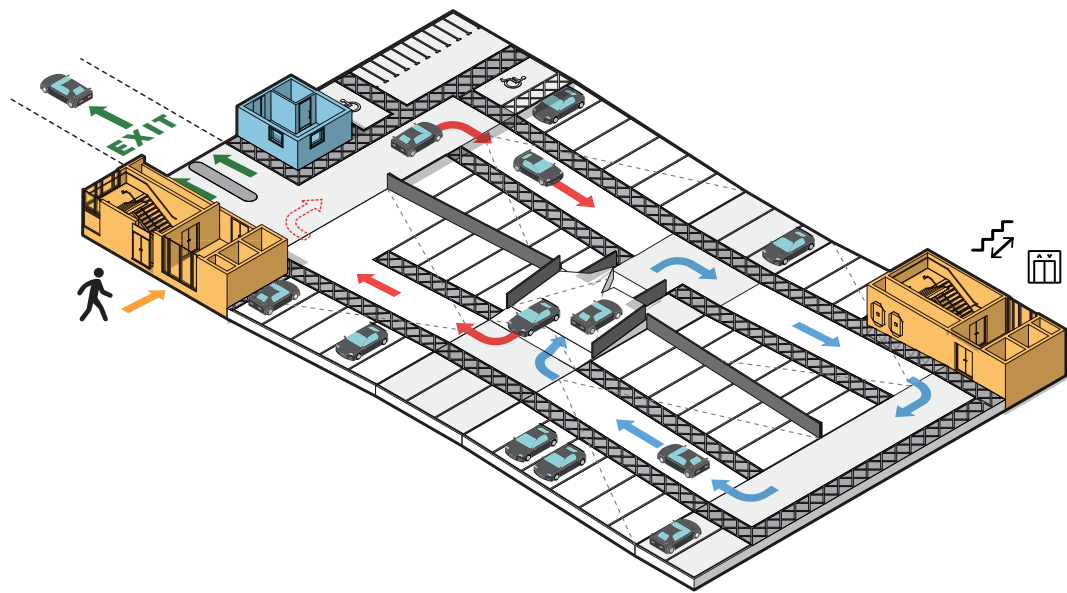
- Level 03 52no. Standard Spaces
7no. Accessible Spaces
- Level 04 52no. Standard Spaces
7no. Family Spaces
- Level 05 52no. Standard Spaces
7no. Family Spaces

Total Number of Car Spaces: 386

286 Standard Spaces
41 EV Charging Spaces (10.6%)
3 Accessible EV Charging Spaces
20 Accessible Spaces (5.2%)
14 Family Spaces (3.6%)
22 Car Share Spaces

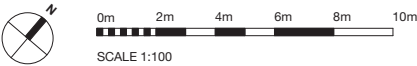
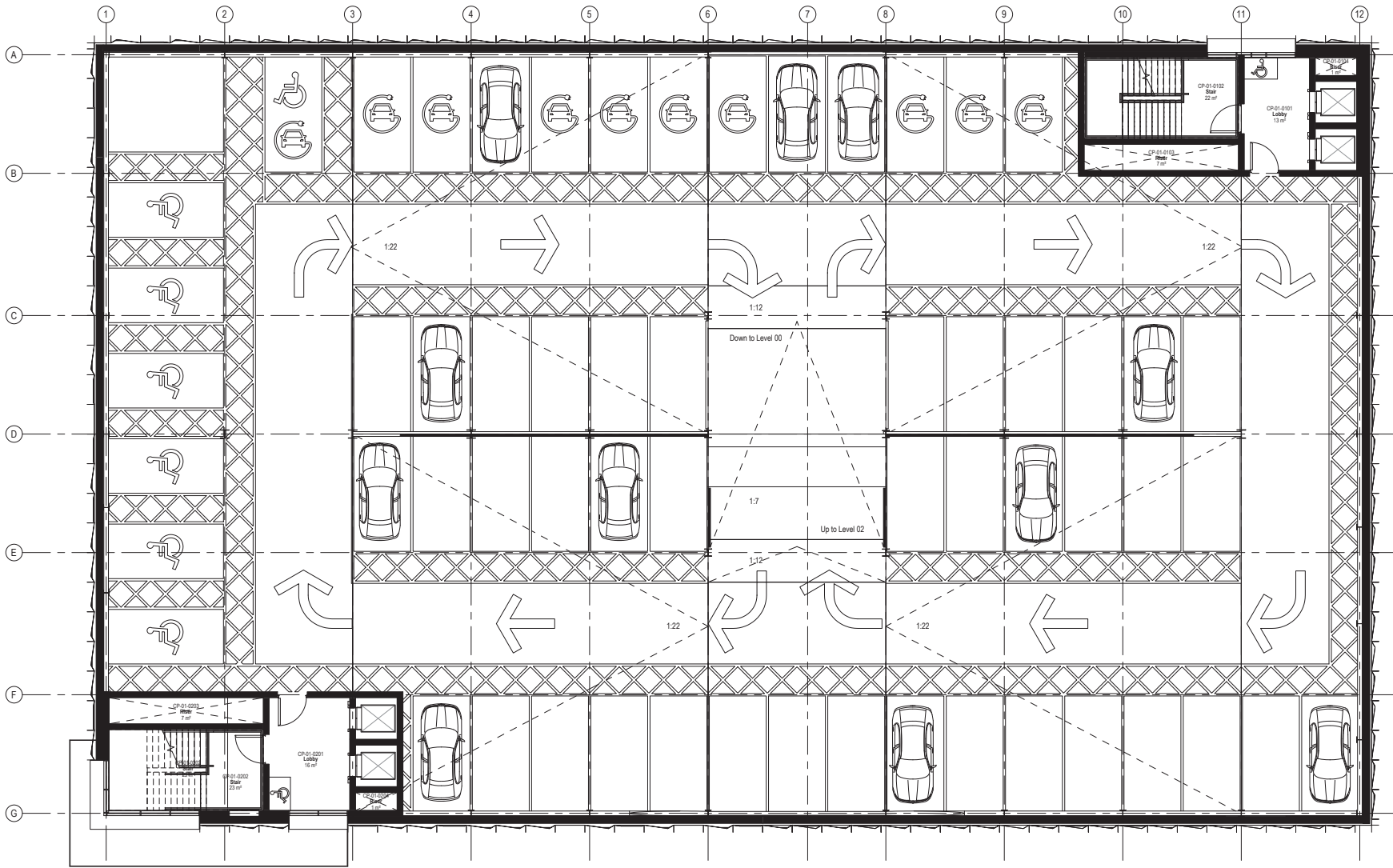
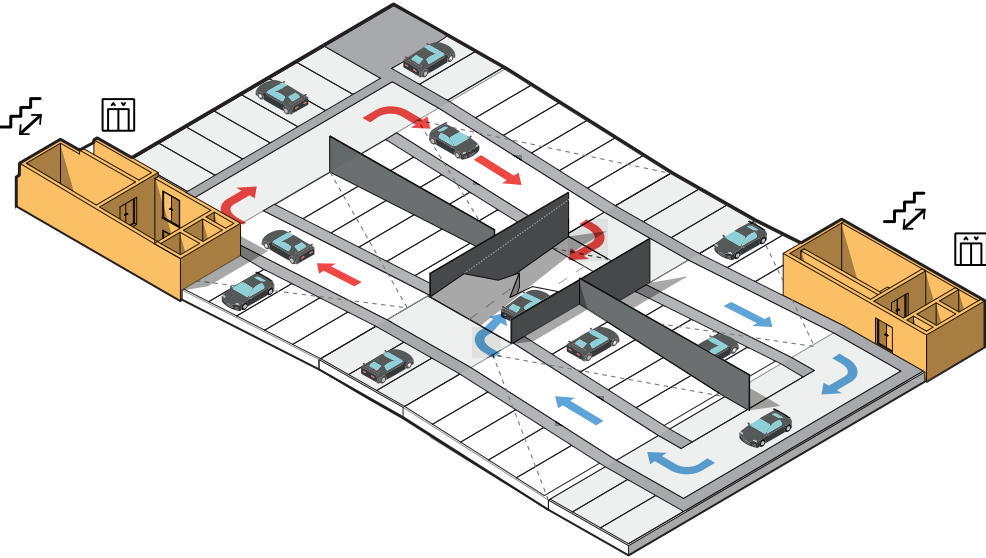
Total Number of Motorbike Spaces: 10

10 Motorbike Spaces



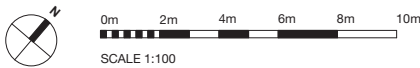
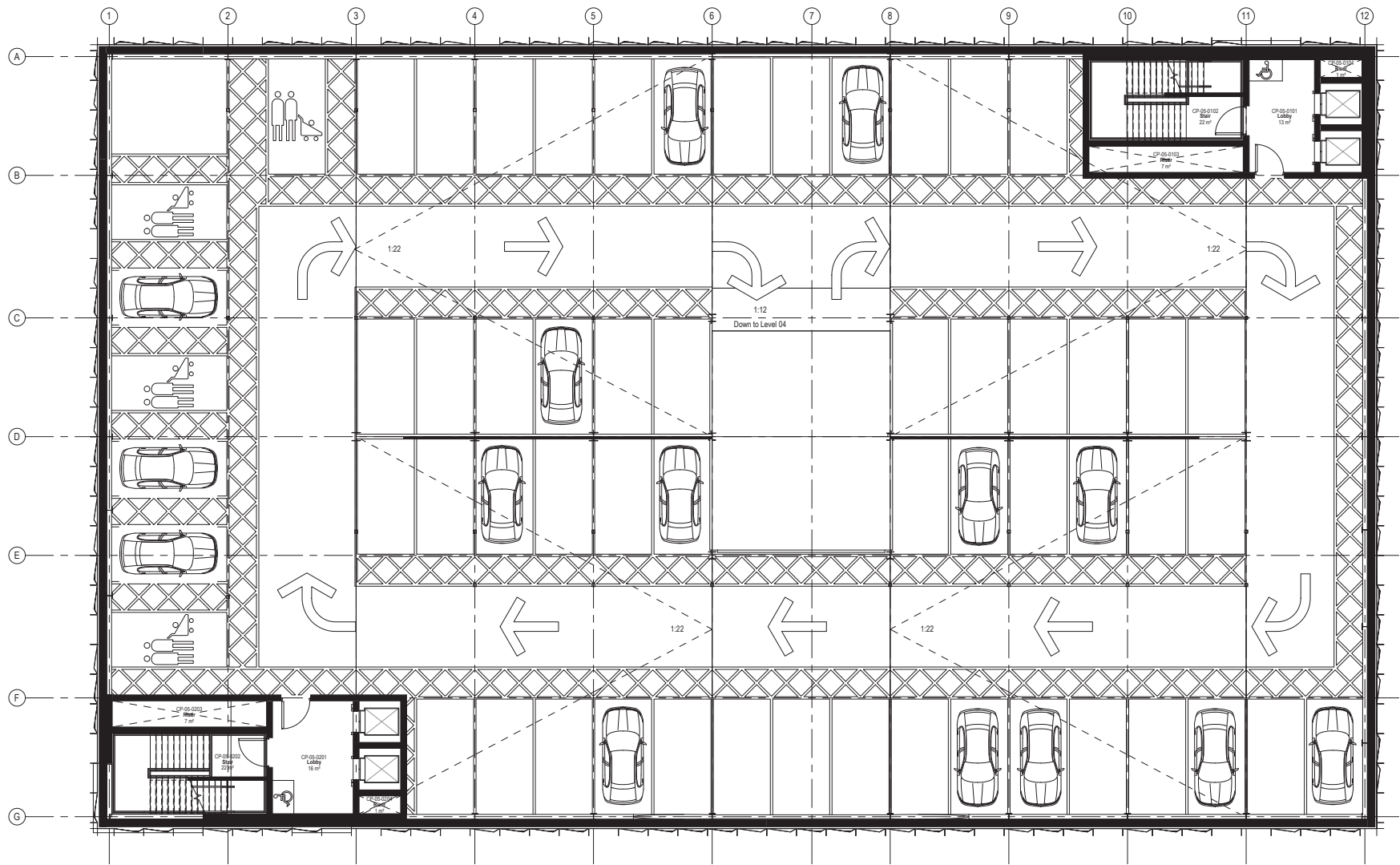
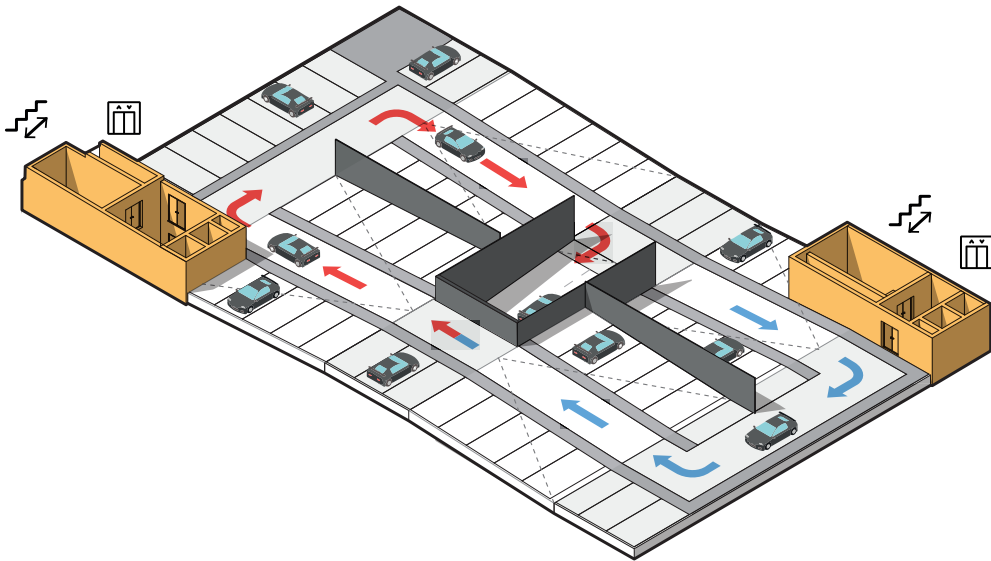
MSCP Typical Level Plan (levels 01, 02, 03, 04)

Level B2	11no. Standard Spaces	Level 01	40no. Standard Spaces 6no. Accessible Spaces 1no. Accessible EV Space 12no. EV Charging Spaces	Level 03	52no. Standard Spaces 7no. Accessible Spaces	Total Number of Car Spaces: 386	Total Number of Motorbike Spaces: 10
Level B1	23no. Standard Spaces 5no. EV Charging Spaces			Level 04	52no. Standard Spaces 7no. Family Spaces	286 Standard Spaces	10 Motorbike Spaces
Level 00	16no. Standard Spaces 1no. Accessible Space 1no. Accessible EV Space 12no. EV Charging Spaces 22no. Car Share Spaces 10no. Motorcycle Spaces	Level 02	40no. Standard Spaces 6no. Accessible Spaces 1no. Accessible EV Space 12no. EV Charging Spaces	Level 05	52no. Standard Spaces 7no. Family Spaces	41 EV Charging Spaces (10.6%)	
						3 Accessible EV Charging Spaces	
						20 Accessible Spaces (5.2%)	
						14 Family Spaces (3.6%)	
						22 Car Share Spaces	

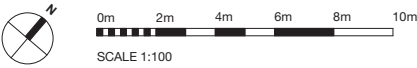
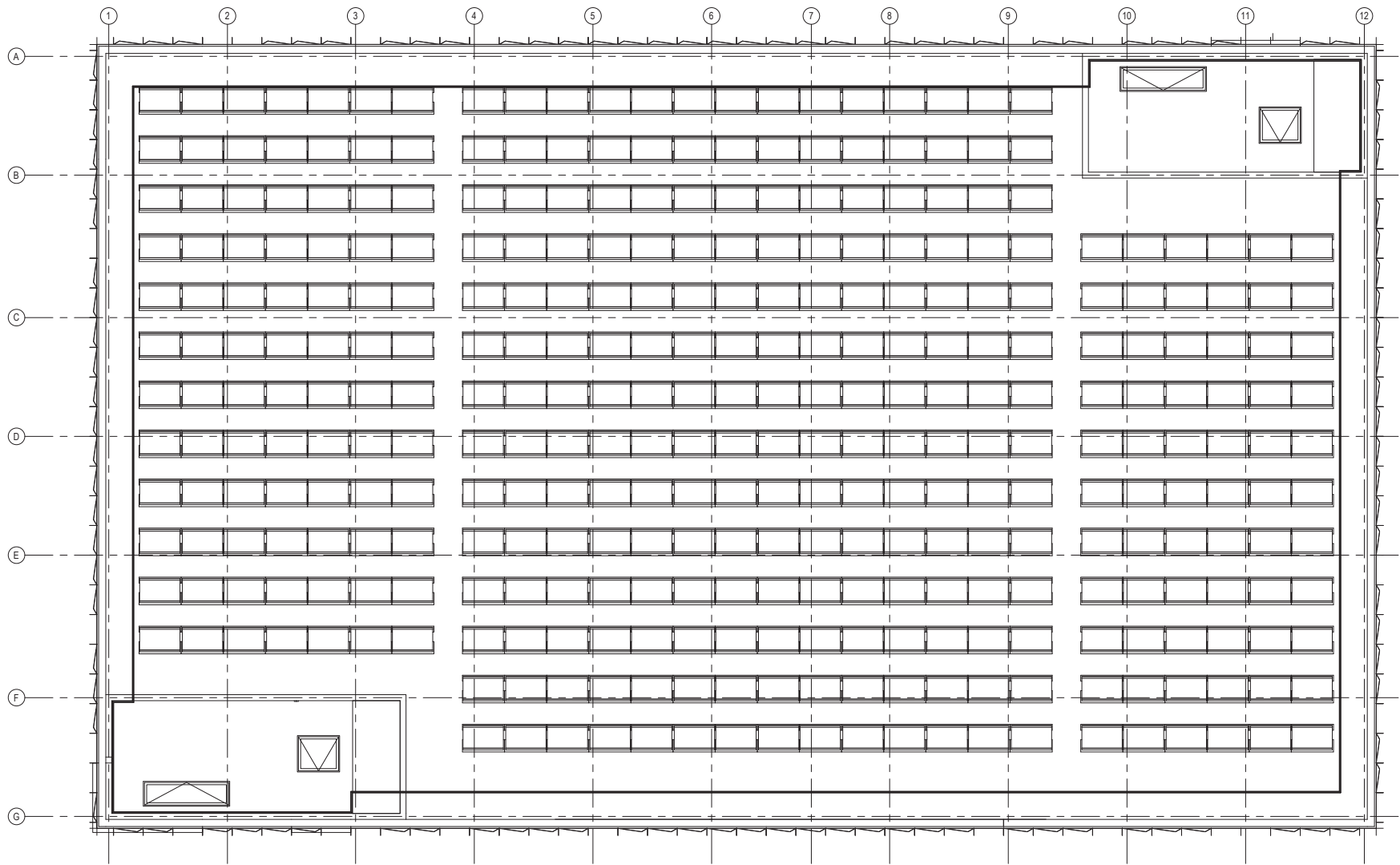


MSCP Level 05 Plan

Level B2	11no. Standard Spaces	Level 01	40no. Standard Spaces 6no. Accessible Spaces 1no. Accessible EV Space 12no. EV Charging Spaces	Level 03	52no. Standard Spaces 7no. Accessible Spaces	Total Number of Car Spaces: 386	Total Number of Motorbike Spaces: 10
Level B1	23no. Standard Spaces 5no. EV Charging Spaces			Level 04	52no. Standard Spaces 7no. Family Spaces	286 Standard Spaces	10 Motorbike Spaces
Level 00	16no. Standard Spaces 1no. Accessible Space 1no. Accessible EV Space 12no. EV Charging Spaces 22no. Car Share Spaces 10no. Motorcycle Spaces	Level 02	40no. Standard Spaces 6no. Accessible Spaces 1no. Accessible EV Space 12no. EV Charging Spaces	Level 05	52no. Standard Spaces 7no. Family Spaces	41 EV Charging Spaces (10.6%) 3 Accessible EV Charging Spaces 20 Accessible Spaces (5.2%) 14 Family Spaces (3.6%) 22 Car Share Spaces	



MSCP Roof Plan



Access and Movement

Vehicular Access and Movement:

Vehicles enter via the new access road on the east edge of the MSCP on level B2. There are two entry lanes to maximise the capacity of entry flow. The location of the entry point was driven by the desire to increase the distance between County Way, therefore reducing risk of traffic backing up onto County Way or Old Mill Lane.

The VCM strategy effectively divides the upward direction and the downward direction of vehicular traffic movement within the MSCP. Vehicles exit at Level 00, directly onto County Way. A two lane exit configuration reduces the risk of vehicles backing up within the MSCP.

Pedestrian Access and Movement:

Level access is provided to the south-west entrance to the MSCP, where the majority of users are anticipated to enter and exit the building. This connects to the key pedestrian route through the application site with accessible connections via the ramp and public realm. Disabled parking is provided across several floors in close proximity to the lift cores and main entrance / exits. Pedestrian zones for circulation within the MSCP will be clearly marked for clarity and safety.

Inclusive access:

The buildings have been designed to provide fully inclusive access to all users, irrespective of age, disability, ethnicity or special grouping. The design team have also adopted the requirements of Approved Document M (AD M) of the Building Regulations "Access to and use of Buildings" and the best practice documentation for design contained within BS 8300.

Horizontal Circulation:

Internal doors within the MSCP will achieve a clear opening width of 910mm to allow a wheelchair to pass through.

Vertical Circulation:

The MSCP is split level due to the existing topography and is 8 storeys in height to the east and 6 storeys to the west. The building has two cores located diagonally opposite each other each containing stairs, lobbies with disabled refuges and two lifts (one evacuation and one fire-fighting). The stairs have been designed for use by the ambulant disabled in accordance with AD M of the Building Regulations. Within the lift lobbies there is at least 1500x1500mm for wheelchair manoeuvring and waiting.

Toilets:

Toilet provision within the office space will be designed to BS8300 and the requirements of AD M of the Building Regulations.

Finishes and lighting:

Finishes throughout the MSCP will be selected in order to provide an adequate level of visual contrast between horizontal and vertical surfaces, between doors and the surrounding wall, the door furniture and the door, between electrical switches and other controls, and the surrounding wall and between stair nosings and their background. Lighting throughout will be designed to give good colour rendering of surfaces without creating glare or strong shadows.

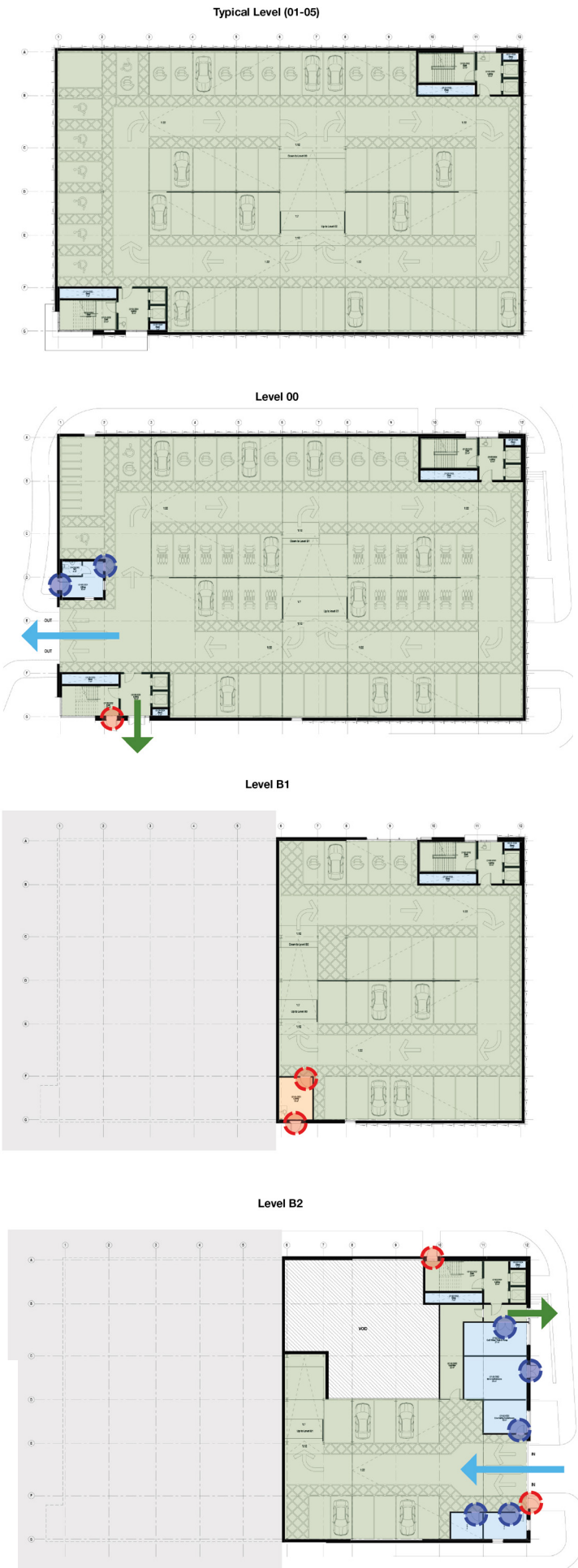
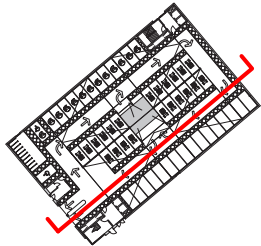
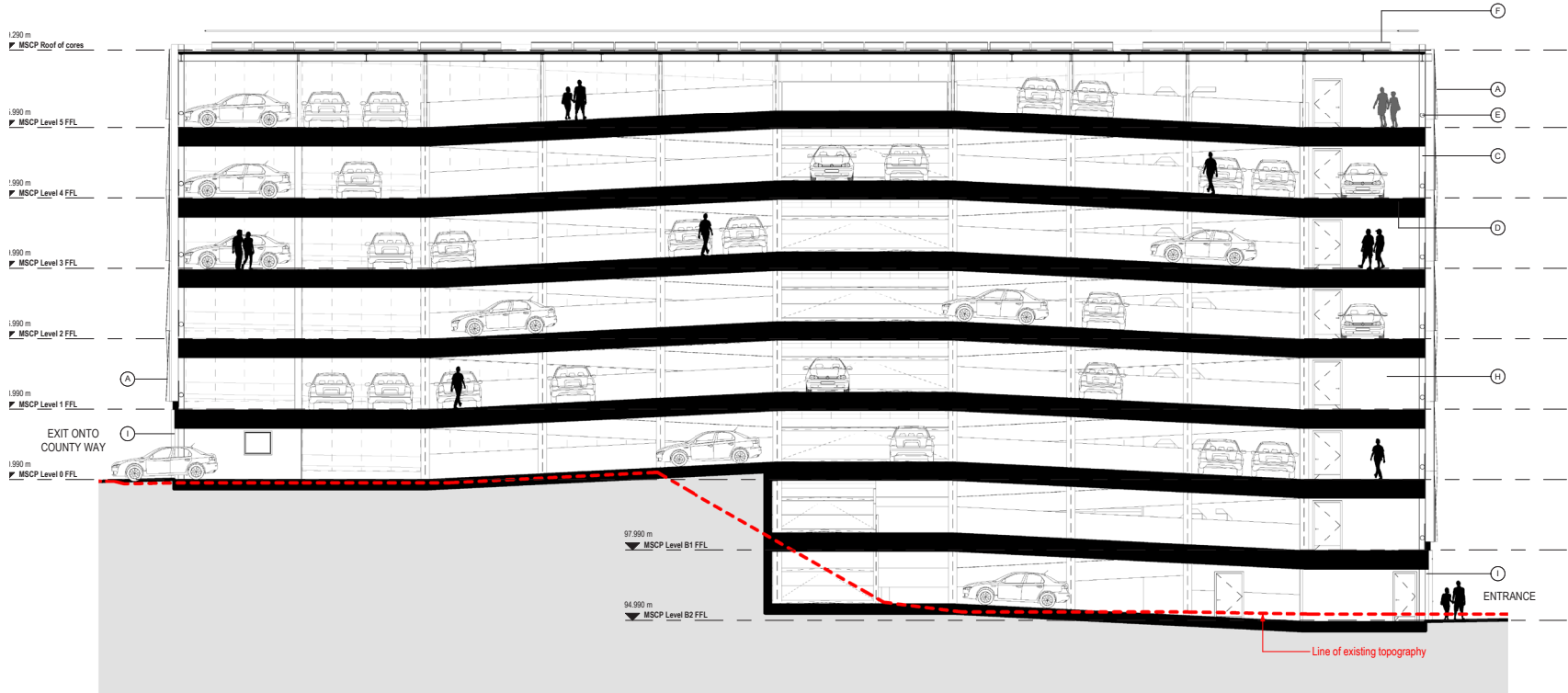


Figure 5.2: MSCP access diagrams

Sections

The site topography rises steeply towards the West side, but not uniformly across the length of the site. To accommodate the building and make the best use of the levels on the service road and on County Way, excavation will be required over part of the site.

The red dashed line shows the existing fall lines of the ground surface across the building sections.



Key

- A Perforated folded aluminium cladding
- B Limestone gabion cladding
- C Steel columns
- D Steel beams and precast concrete floor
- E Steel vehicle barrier
- F Steel frame solar canopy structure
- G Primary stair core
- H Secondary stair core
- I Ventilated vehicle shutters
- J Glazed curtain walling
- K Canopy over main entrance
- L Pedestrian entrance

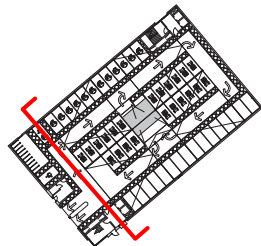
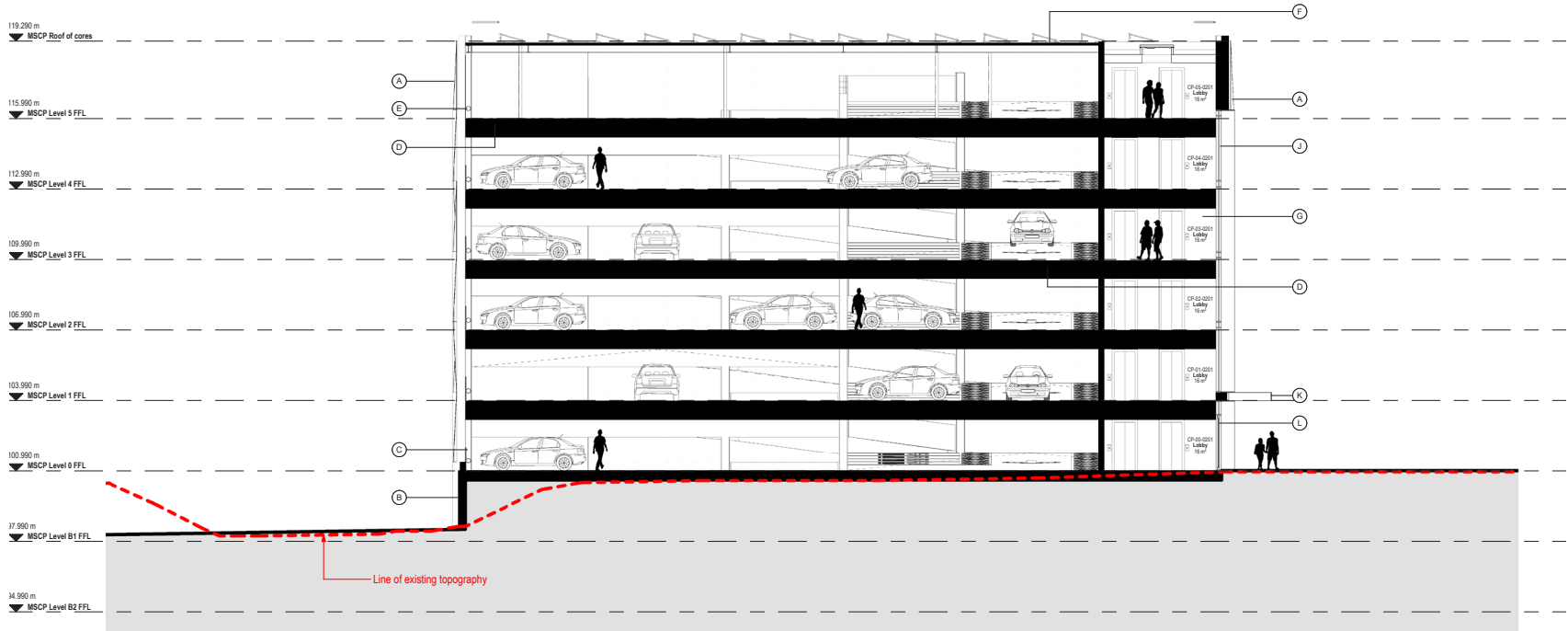


Figure 5.3: MSCP sections

Appearance

The upper levels of the car park are to be fully naturally ventilated and, therefore, the envelope will provide a sufficient level of permeability to allow cross ventilation. In the lower levels, natural ventilation will be mechanically assisted.

These functional considerations have generated two façade treatments. The proposed design splits the upper and lower levels: an articulated metal cladding, either perforated over the parking zones or solid over the cores, will envelop the upper zone; while a gabion wall construction is proposed for the lower zone. Incorporating the landscape design particularly into the south elevation at low level is important to soften the pedestrian circulation and future residential facing frontage. Planting and trees will be incorporated into the landscape design (see section 6) to assist with creating a greener appearance for the south edge. The vertical circulation is clearly defined, with the main public core featuring expansive glazed areas providing views of the surrounding area and flooding the interior with daylight.

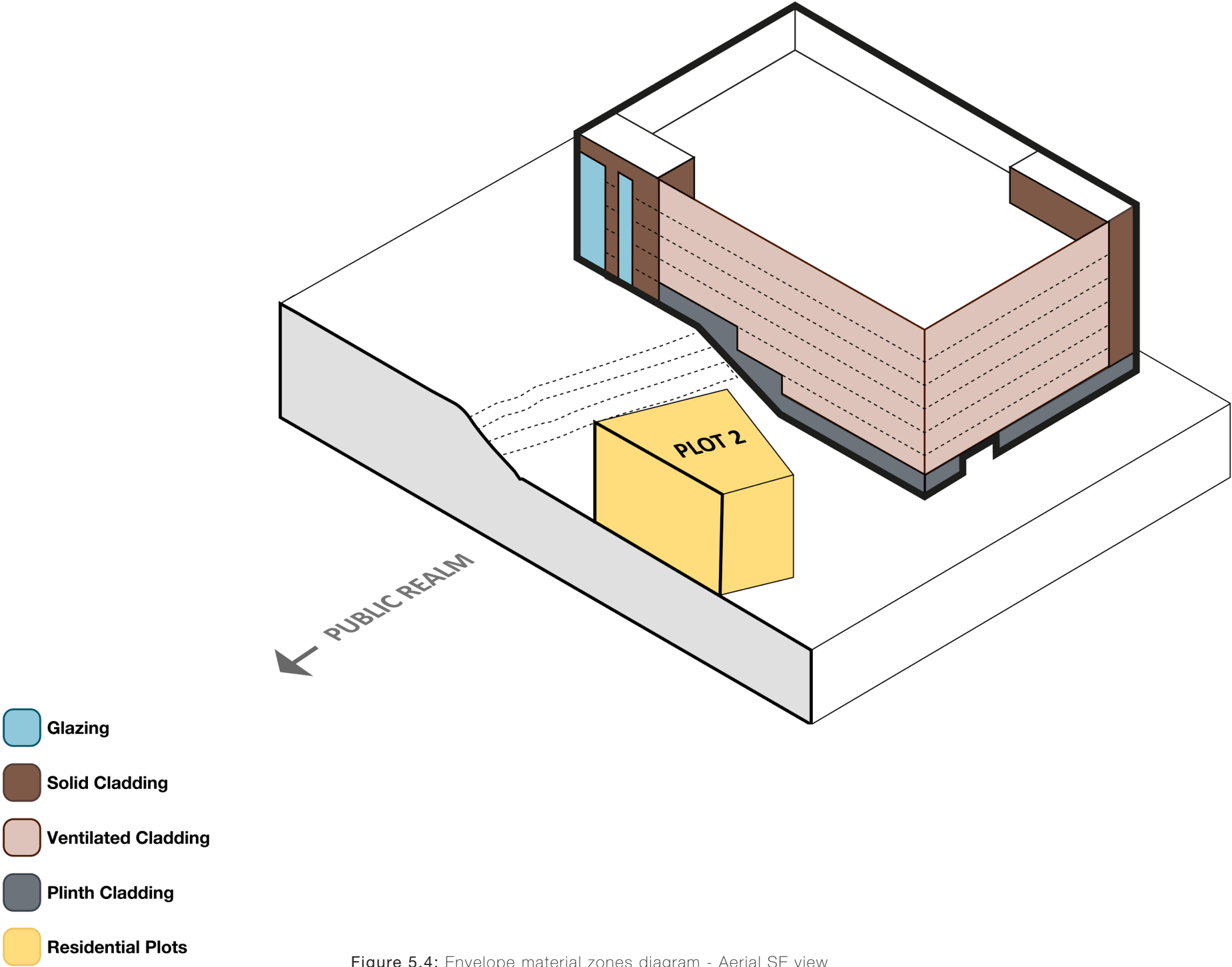
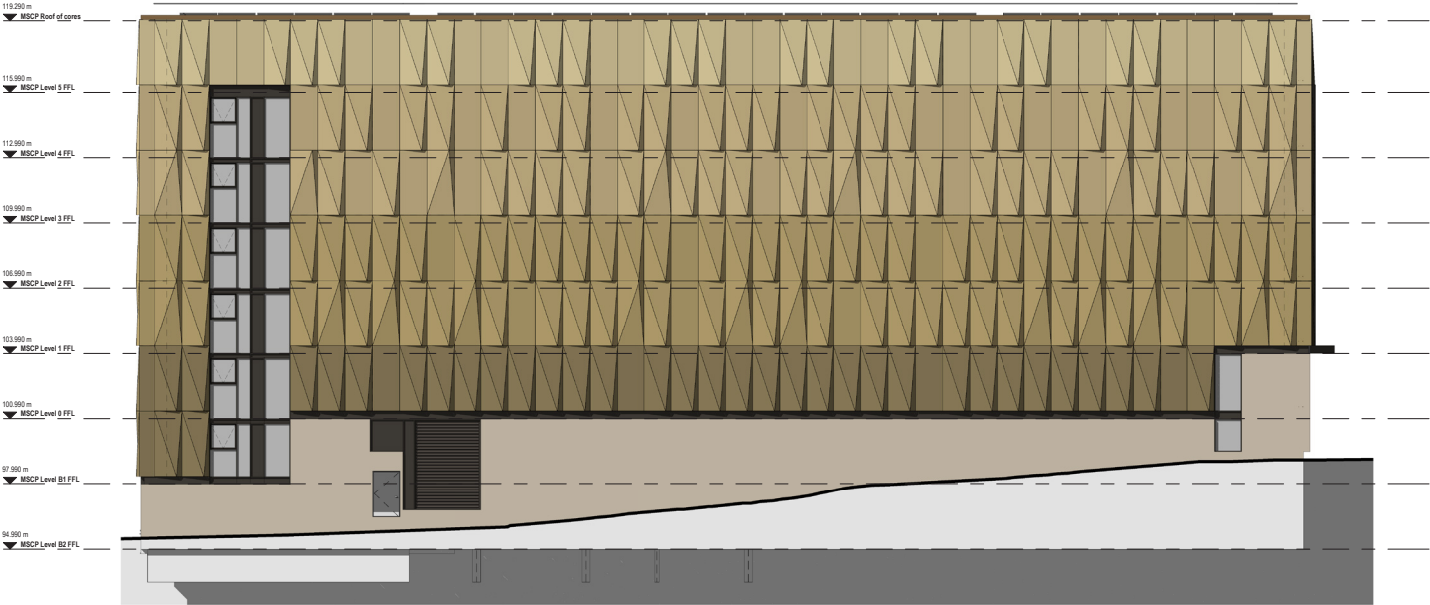
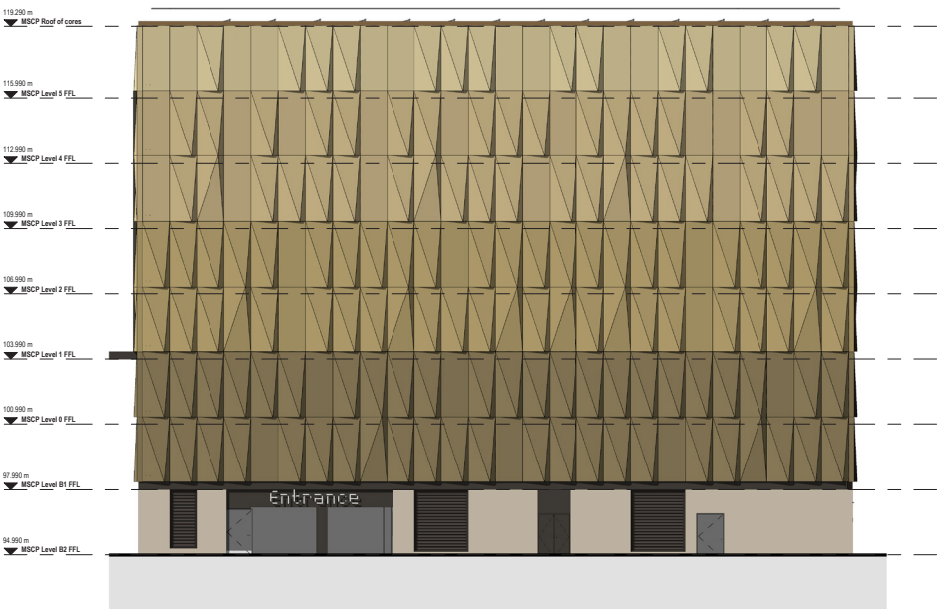


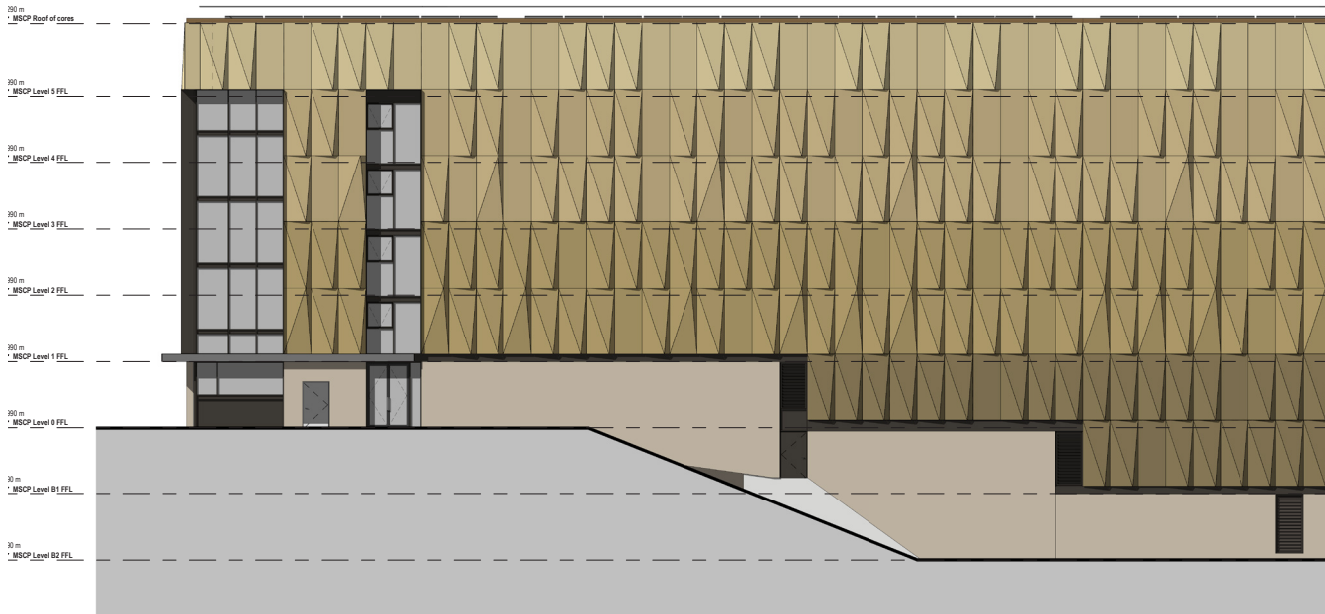
Figure 5.4: Envelope material zones diagram - Aerial SE view



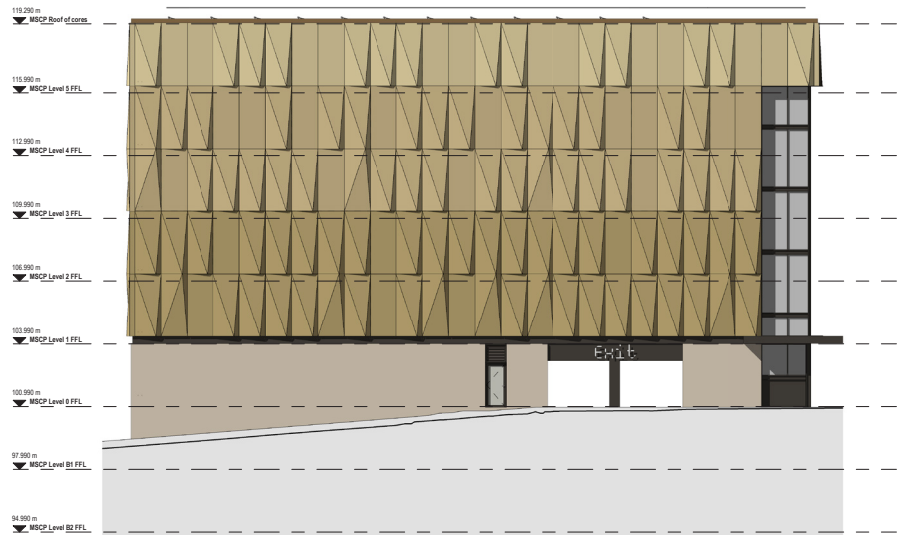
MSCP North Elevation



MSCP East Elevation



MSCP South Elevation



MSCP West Elevation

Key Elevation Principles

The Digital Campus has a unique identity, characterised throughout the bold branding and graphic features across The Seam. The design of the MSCP envelope took inspiration from the distinct geometric graphics and typefaces of The Seams branding identity.

Whilst the signage will incorporate the specific branding for The Seam internally and externally to the MSCP, it is emulated subtly through sharp folds and edges articulated in the perforated metal cladding design.

The MSCP is grounded by a heavier, earthier language using the gabion basket cladding, and gradually evokes a lighter weight impression moving further vertically up the building through varying and lightening the tone of the metal panels. This helps to reduce the visual impact of the MSCP structure from afar and presents a light weight effect.

Whilst the perforations allow for a natural ventilation strategy to operate, the design also creates an opportunity to produce interesting lighting effects from both an internal an external perspective.

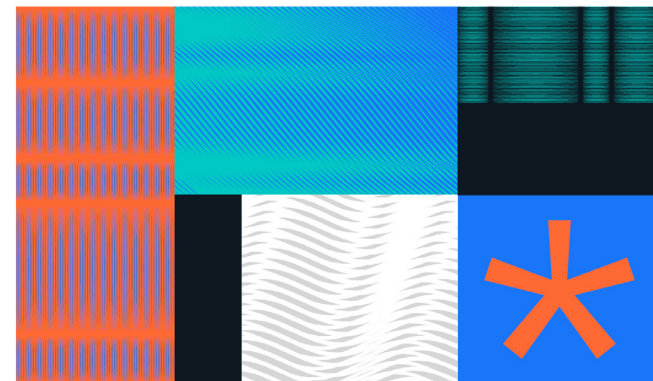
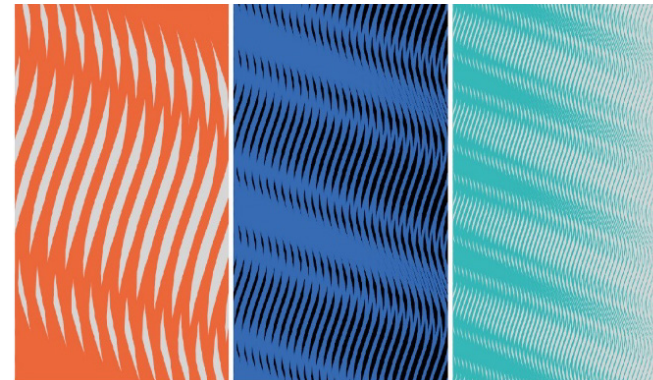


Figure 5.5: The Seam branding, The Seam Brand Book, 2020



Figure 5.6: Parkgarage und Kita von gps (https://www.baunetz.de/meldungen/Meldungen-Parkgarage_und_Kita_von_agps_in_Herzogenaurach) accessed 10/06/22

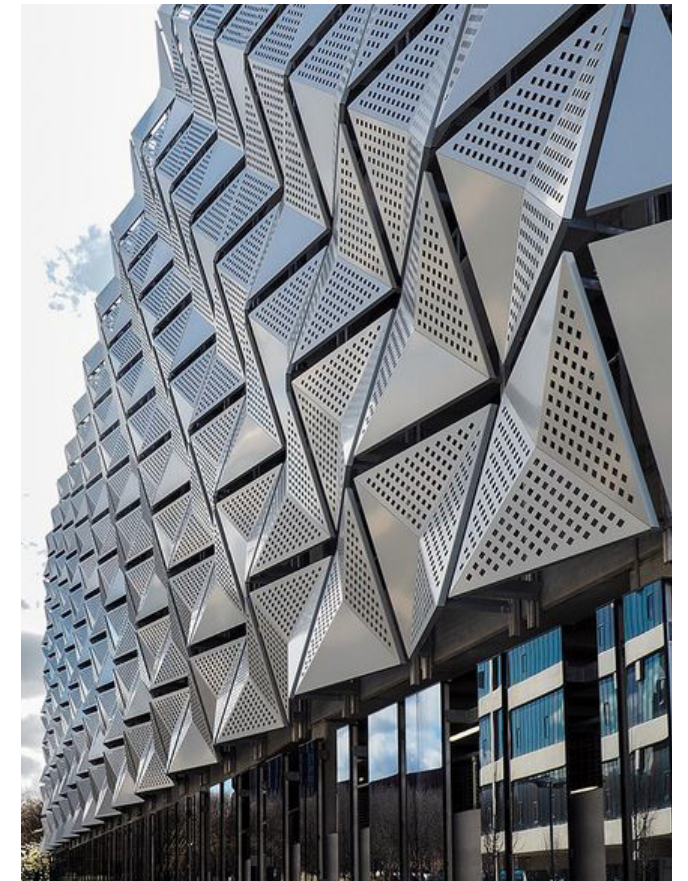


Figure 5.7: Leeds University MSCP (<https://architecturalwiremesh.com/architectural-wire-mesh-project/leeds-university-multi-storey-car-park/>) accessed 10/06/22

Design

Several differing variations of the geometric perforated panel designs were explored and tested for the MSCP. Through multiple design workshops with the BMBC design team and separate meetings with the Urban Design Consultant for BMBC, the design team reached a final iteration. The language successfully references the geometric nature of The Seam branding whilst finding a balance that creates an interesting building envelope without excessive prominence.

The perforated metal allows for natural cross ventilation from level 00 upwards, as well as for natural daylight to penetrate through to the internal spaces.

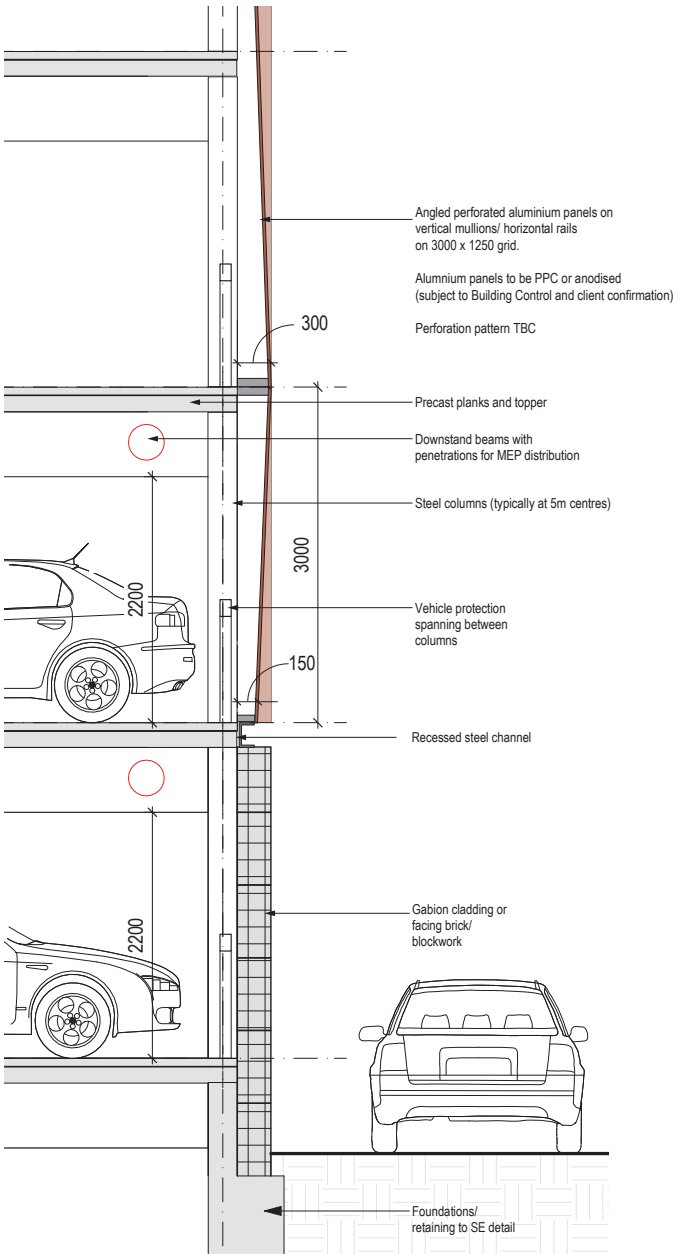


Figure 5.8: Illustrative detail section, MSCP



Figure 5.9: Illustrative bay study, MSCP

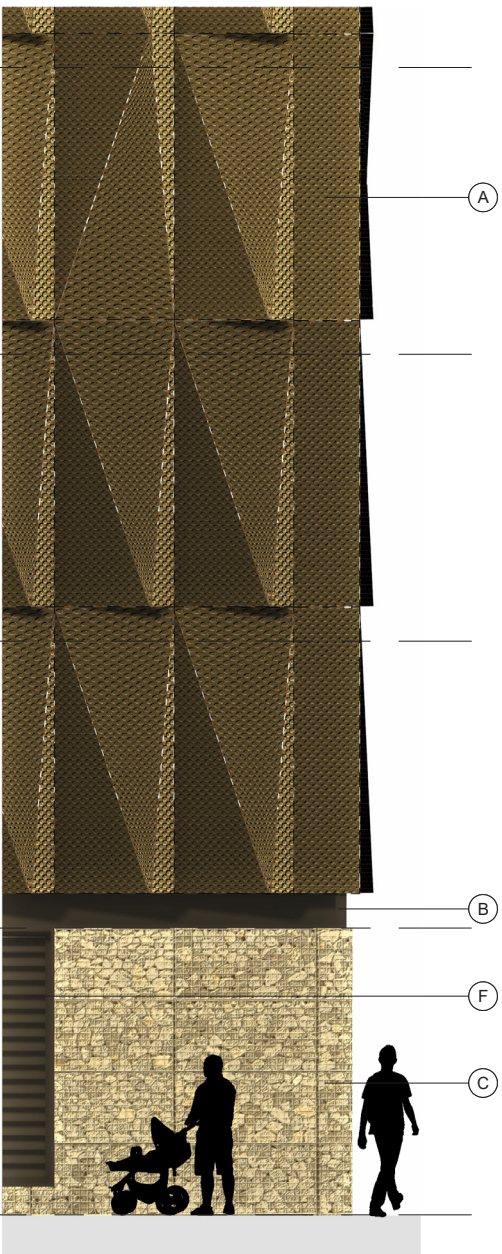


Figure 5.10: Illustrative bay study, MSCP

- Key
- A Perforated folded aluminium cladding
 - B Louvred band
 - C Limestone gabion cladding
 - D Glazed curtain walling
 - E External door
 - F External louvres
 - G Canopy over main entrance
 - H Ventilated vehicle shutters



Figure 5.6: 3D view looking north towards Old Mill Lane from MSCP pedestrian entrance



Figure 5.7: 3D view looking east towards the MSCP

5.2 ATH DESIGN PROPOSALS

Building layout

The Active Travel Hub (ATH) will be located at a prominent location within The Seam, and is intended to act as a gateway building for pedestrians and cyclists approaching the site from Barnsley town centre. The architectural response acknowledges this prominence and proposes a single storey building with a distinctive and high quality design.

The general arrangement of the 479m² ATH footprint addresses the requirements developed in consultation with key stakeholders and defined in the brief. The layout provides cycle storage and associated cyclists' facilities, cycle hire and workshop, and a café to serve The Seam development and wider area. The building footprint has been set away from the eastern boundary in order to avoid any adverse impact on the existing retaining wall that runs between the site and Eldon Street North.

Cycle Store Quantities

100 no. standard bike spaces,
6 no. non-standard and accessible bike spaces,
4 no. vertical bike lockers,
15 no. folding bike lockers,
15 no. e-bike battery charging compartments.

Changing Room Quantities

50 no. Z lockers.

Workshop Quantities

42 no. standard bike spaces,
1 no. non standard bike spaces.

Figure 5.8: ATH ground floor plan



Access and Movement

Whilst the Active Travel Hub is in a very public location and acts as a welcoming gateway to the site, controlled access is highly important for successful security management.

The internal spaces can be clearly defined into different zones for different users. The cycle facilities including the storage space and the changing space are to be used only by those with paid ATH access / memberships.

The public spaces including the cafe and the cycle hire are also located to the west of the building, fronting onto the public realm. The staff spaces have been grouped towards the north and east edges of the ATH, requiring a higher level of privacy and no active frontage.

Inclusive access:
The building has been designed to provide fully inclusive access to all users. The design team have also adopted the requirements of Approved Document M (AD M) of the Building Regulations “Access to and use of Buildings” and the best practice documentation for design contained within BS 8300.

Approach:
The ATH has 3 no. entrances which are all level access providing access to all.

Horizontal Circulation:
Internal doors within the ATH will achieve a clear opening width of 910mm to allow a wheelchair to pass through.

Toilets and showers:
Toilets and shower facilities will be designed to BS8300 and the requirements of AD M of the Building Regulations.

Finishes and lighting:
Finishes throughout the ATH will be selected in order to provide an adequate level of visual contrast between horizontal and vertical surfaces, between

doors and the surrounding wall, the door furniture and the door, between electrical switches and other controls, and the surrounding wall and between stair nosings and their background. Lighting throughout will be designed to give good colour rendering of surfaces without creating glare or strong shadows.

KEY



Fob access required



Fob holder route



Staff only access



Staff route



General public route



Figure 5.9: ATH access and movement diagram

Building geometry

The ATH design responds to the brief and accommodates the required facilities within three single-storey linear building volumes, orientated along a north-south axis parallel to Eldon Street North.

The three volumes are expressed as separate elements through their varying heights, façade treatments and roof features. The plan form allows a vista from the gateway of the site through towards the north and provides a transition space prior to opening up to the central greenspace adjacent to Plot 1. It also responds to and provides a connection with the DMC01 building opposite, allowing the lower level entrance - the originally intended pedestrian entrance to the building - to be reopened.

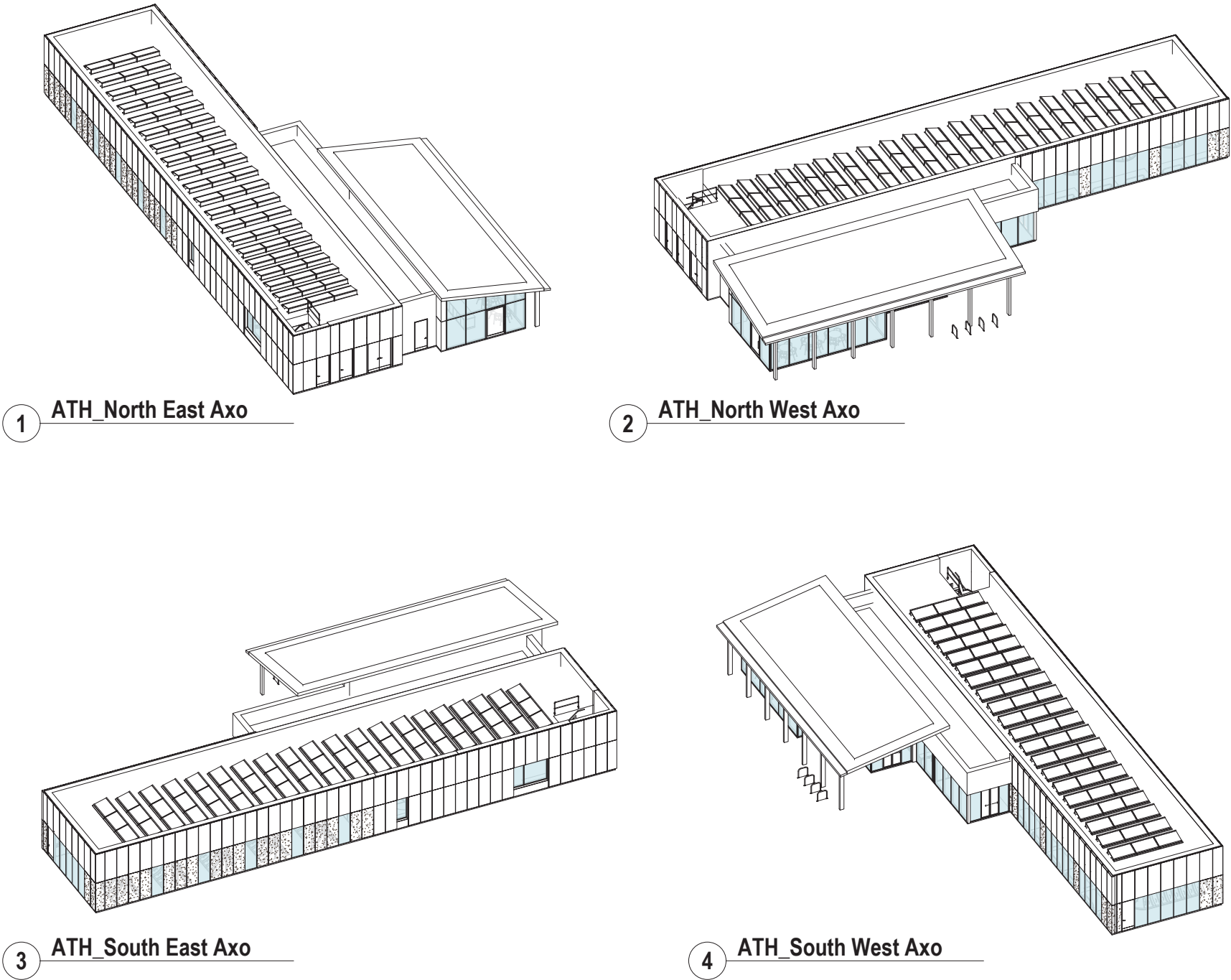


Figure 5.10: Axo views of ATH proposals

Cycle Storage Facility

The proposal addresses the brief requirements by providing an arrangement for a secure sheltered (unheated) cycle storage space located at the southern end of the ATH building footprint. The intention is that this facility will be unmanned, with secure 24/7 access, using fob entry and CCTV. A lobby arrangement is proposed in order to prevent ‘tailgating’ and unauthorised access to the cycle storage area, thereby providing enhanced security.

The proposal includes the provision of 100 no. standard spaces, envisaged as vertical ‘Spacepods’ to address the expressed preference for convenient and speedy-access bike parking.

To address the requirement for non-standard and accessible bikes (cargo bikes, Trikes, etc.), 6 no. extra-large spaces with low-level ‘Sheffield’ type rails have been located adjacent to the main entrance for ease of access (circa 6% of the standard spaces provided). The proposal also includes provision for secure bike lockers for users who might want additional security. This provision includes 15 no. secure lockers for foldable bikes, as well as 4 no. vertical lockers for standard sized bikes.

Following the recommendation received from a cycle-hub designer, 4 no. lockers, each including 15 no. E-bike battery charging compartments have also been located within the facility to offer secure charging (for batteries that can be detached for charging - total capacity of 60 no.), in addition to adjacent sockets to facilitate in-situ cable charging.

The brief requires separate provision for commuters, via additional security fob access, to include lockers, showers, toilets and drying facilities. These facilities have been accommodated adjacent to the bike storage area, accessed via a secure lobby. This facility includes the provision of 3 no. standard shower, toilet and changing cubicles and one Changing Place cubicle, all accessed off a changing lobby including 50 no. ‘Z’ shaped lockers.



Figure 5.11:ATH sections

Cycle workshop

The brief for this facility required the provision of a small amount of retail space for essential cycling accessories (locks, helmets, panniers, etc.), a workshop space for repairs, and a hire facility including storage for up to 30 no. bikes.

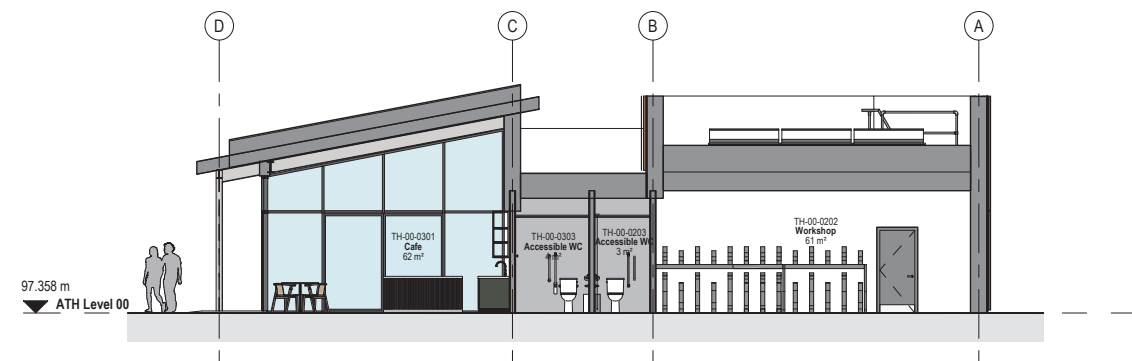
The proposal includes 40m² of floor space for a shop-counter to facilitate the sale of cycling associated goods, as well as taking enquiries and cycle hire bookings. This space has a dedicated entrance facing south and west onto the main route through the Seam site, thereby allowing for its secure and independent management. The space is connected to the workshop to the rear of the ATH, with facilities to carry out repairs, as well as including storage for 42 no. standard bikes (on two-tier gas assisted and aluminium top frame racks), and 1 no. non-standard bikes for hire. This open-plan workshop and storage area also has service access to the north of the ATH to aid the delivery or removal of larger items. Furthermore, the facility also includes a 6m² of storage space and an accessible staff toilet.



ATH Section 2

Café

The café will be an independent rented space and is located at the north end of the ATH plan. This arrangement allows for an area of external seating facing the central greenspace within The Seam. The 62m² café shell includes space for seating, servery etc. Off this main space, a 7m² staff room provides an area for storage of stock, etc. An accessible toilet for both customer and staff use has also been provided. The access door to the north from the staff room would serve to receive stock and remove refuse, with the latter removed to the bin store located to the northeast. The bin store is intended to be shared with the cycle facility.



ATH Section 3

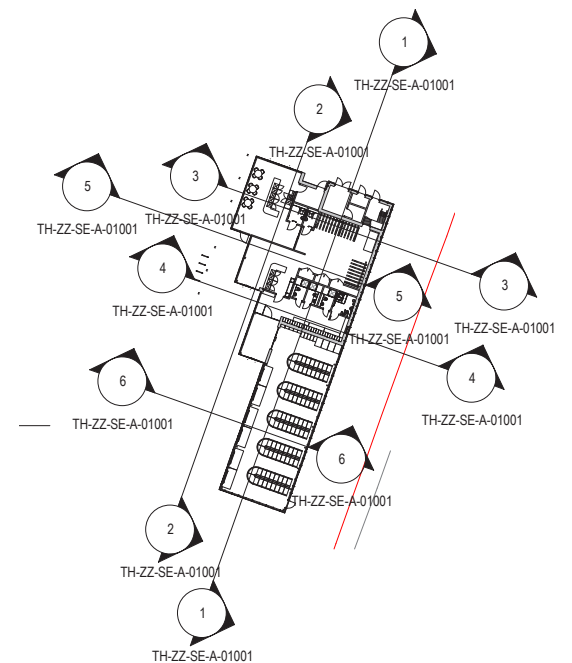


Figure 5.12: ATH sections

Building Envelope

The three linear volumes of the ATH are envisaged as having distinct façade treatments as a strategy to breakdown the building into smaller volumes.

The largest linear volume accommodating the cycle storage facility will be clad in a perforated metal panel rainscreen. The panels allow for daylight penetration into the facility, with the panelling acting as access doors where needed. The perforated pattern, colour and finish to the panels will provide a distinctive, yet robust façade.

The volume housing the café is envisaged to be fully glazed. The transparency of this volume will encourage greater visual connection and engagement with pedestrians and cyclists passing through the site (from both north and south approaches).

The central connecting linear volume will be clad with vertical timber panels where opaque, continuing into the interior of the building, and glazed elsewhere.

Facades

The three linear volumes of the ATH are envisaged as having distinct façade treatments as a strategy to breakdown its building mass into smaller volumes.

The largest linear volume accommodating the cycle storage facility is proposed to be clad in a pattern-perforated metal panel rainscreen. The panels allow for daylight penetration into the facility, with the panelling acting as access doors where needed. The perforated pattern, colour and finish to the panels will provide an interesting looking yet robust façade. The volume housing the café is envisaged to be fully glazed from floor-to-roof. The transparency of this volume will encourage greater visual connection and engagement from pedestrian flows passing through the site (from both north and south approaches).

The central connecting linear volume is envisaged to be clad with vertical timber panels where opaque, continuing into the interior of the building, and glazed elsewhere.

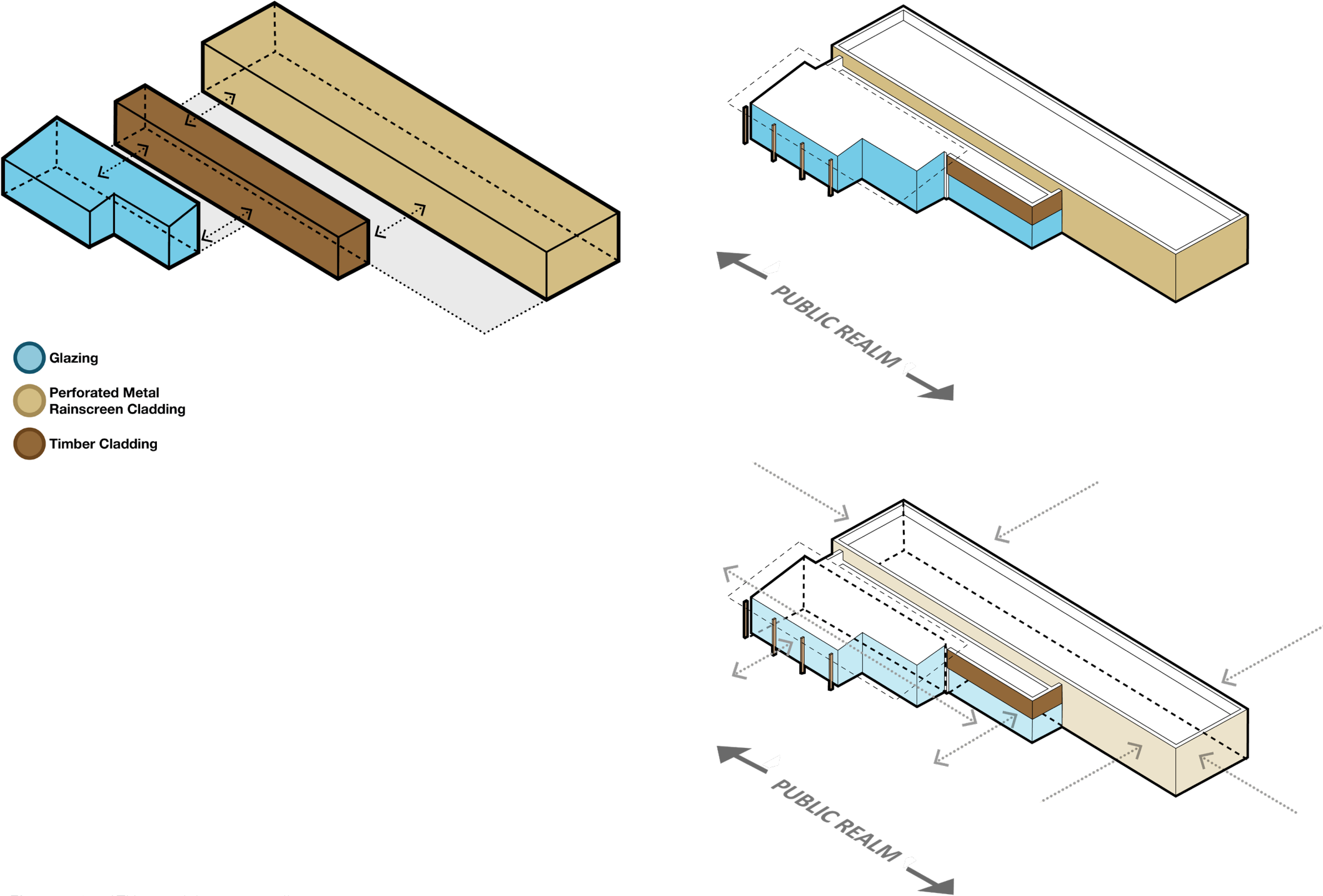


Figure 5.13: ATH materials concept diagrams

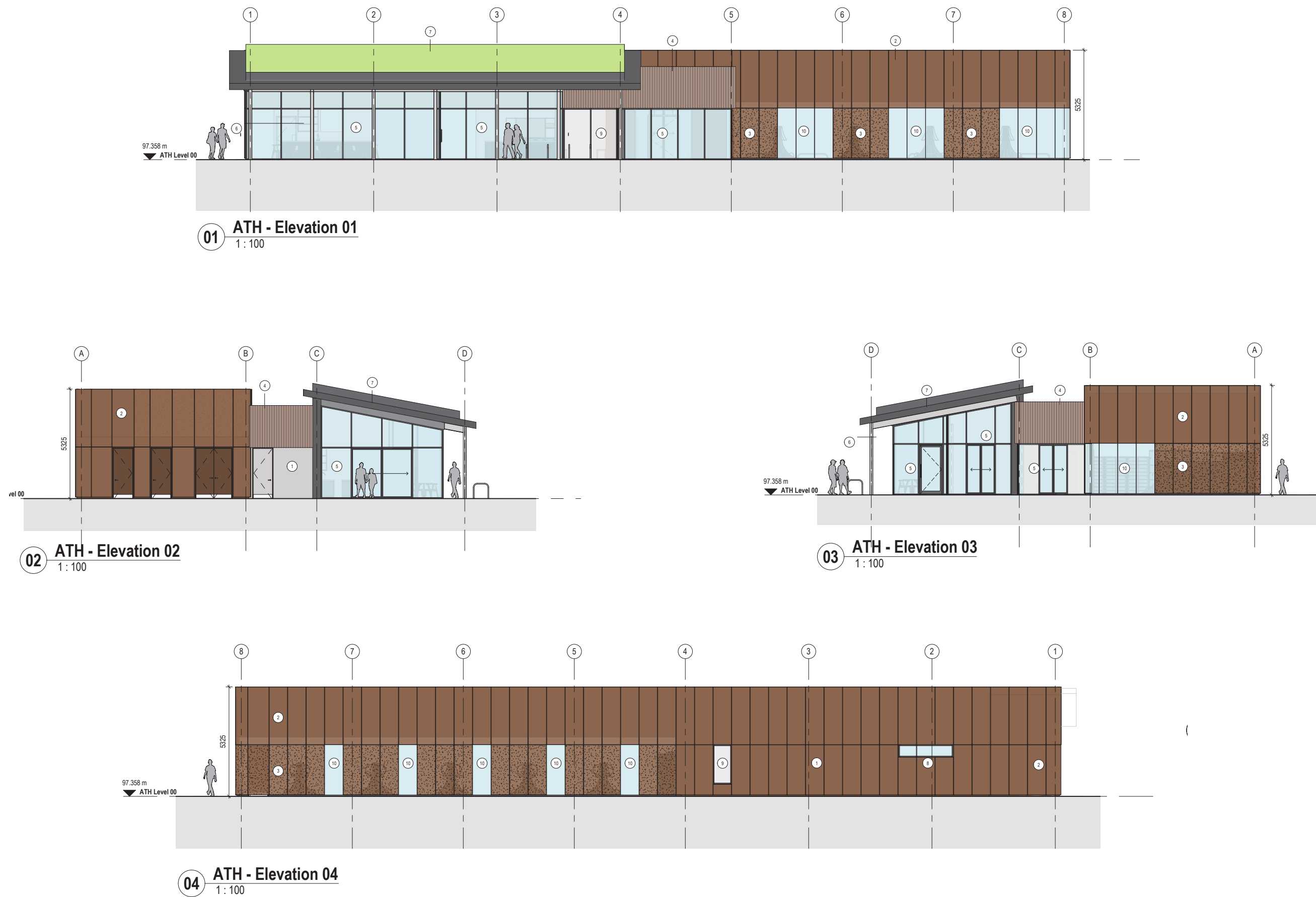


Figure 5.14: ATH elevations

Roof

A key consideration in the design of the ATH relates to the desire to enhance the aesthetic appeal of the roof elevation, given that the ATH is a single storey structure and will be overlooked by surrounding buildings (DMC and Plot 1). The proposal therefore includes an ‘extensive’ green roof above the café area (131m²). Wildflower extensive green roofs typically have a shallow growing medium (100-200 mm depth) and are designed to be relatively self-sustaining (i.e. low maintenance). The green roof contributes to biodiversity enhancement, softening the roof elevation aesthetic.

The large roof area of the cycle storage and workshop (288m²) is suitable for the other low carbon strategy proposed: in-situ energy generation from photovoltaics. This roof area will mostly be covered by an array of PV panels (60 no. proposed at present – subject to further assessment), as part of a hybrid blue-solar roof. This approach would entail a roof construction with surface water retention (to act as a thermal reservoir), with the photovoltaic arrays installed on top.

The hybrid deployment of photovoltaics in conjunction with a blue roof design also improves the performance of the photovoltaic array by helping to keep the adjacent microclimate cooler. This hybrid approach therefore contributes to the enhanced performance of the roof system. The cycle storage and workshop area of the ATH notably has the highest elevation of the entire building arrangement (approx. 5m above ground level). This increased height ensures that the roof area with PV panels remain inaccessible to unauthorised individuals, accessed only via a secure stair, thereby minimising the risk of vandalism or theft.

KEY

- Wildflower green roof
- Blue roof with PV panels



Figure 5.15: ATH Roof Plan



Figure 5.16: 3D view of the ATH looking north



Figure 5.17: 3D view of the ATH looking south west

5.3 MSCP MATERIALS

Due to the function and operative nature of the MSCP, it is required to be made up of robust and strong components. Whilst the requirements for a multi-storey car park limit the options of external material treatment to an extent, the proposals for the envelope materials have been tested and developed, exploring multiple options before concluding on the presented proposals to reach an appropriate decision for the site.

Limestone Gabion Baskets

The conceptual link between The Seam and the idea of a coal seam has been referenced within the design proposals for the MSCP. The limestone gabion cladding evokes the impression of a continuation of existing materials on site and the deeper geology of the wider context.

The existing site features various areas of stone construction including the Victorian arched wall and the envelope of the DMC01, influencing the idea to echo this with a similar approach for parts of the MSCP.

Perforated Aluminium

The idea deriving from the geology of a coal seam is also reflected in the arrangement proposals for the perforated metal cladding. The panels are arranged in 'bands' of tones, creating a gradient of dark to light from bottom to top making referencing the layered nature of a coal seam. The amount of folded metal panels also reduces further up the building, further creating a graded effect.

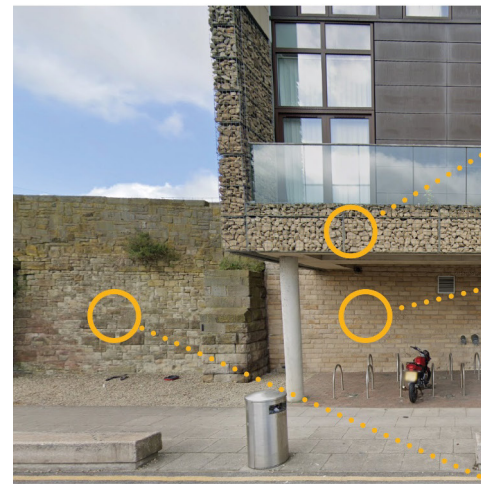


Figure 5.18: Diagram showing locations of stone on site



Figure 5.19: Image of a coal seam (https://energyeducation.ca/encyclopedia/Coal_seam) accessed 14/06/22

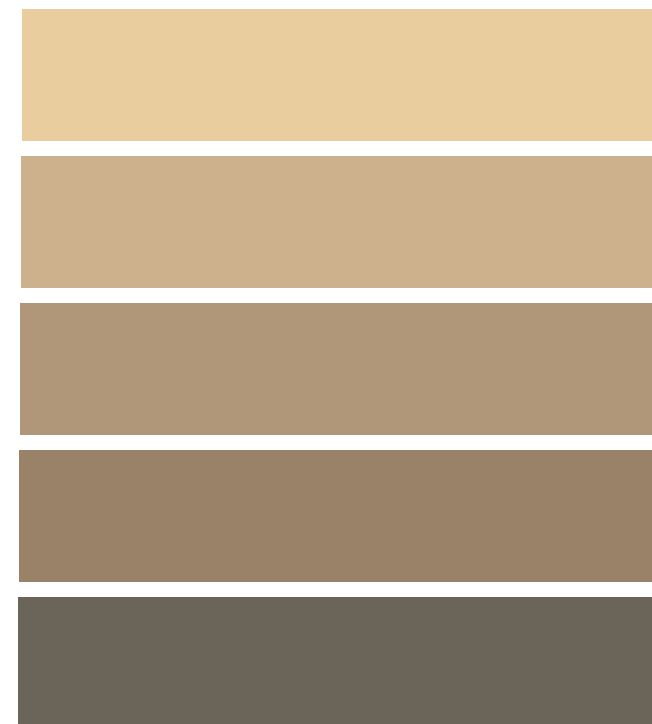
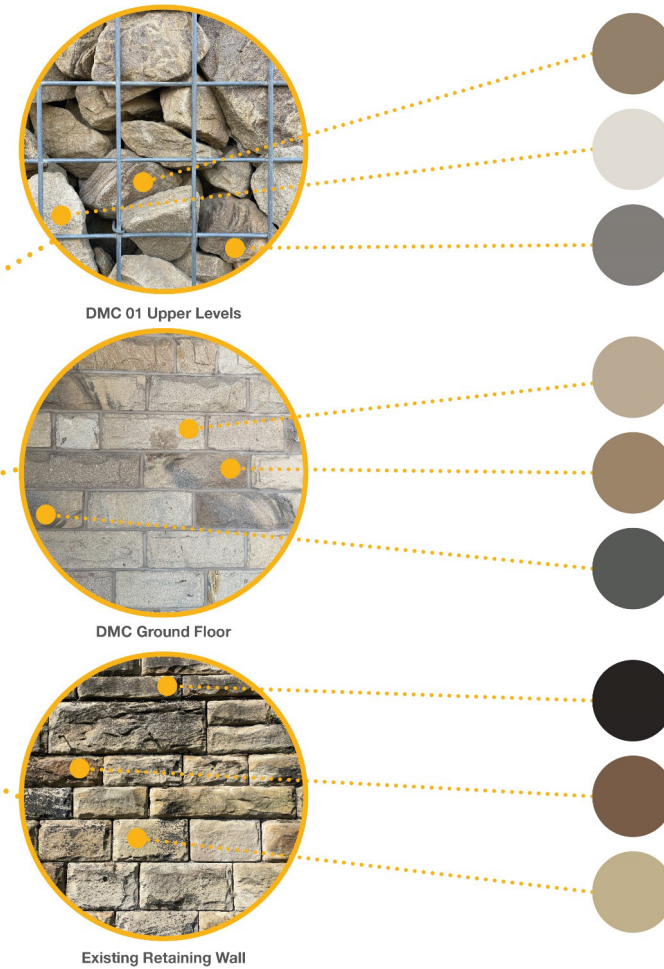


Figure 5.20: Diagram illustrating the concept of gradients in a coal seam

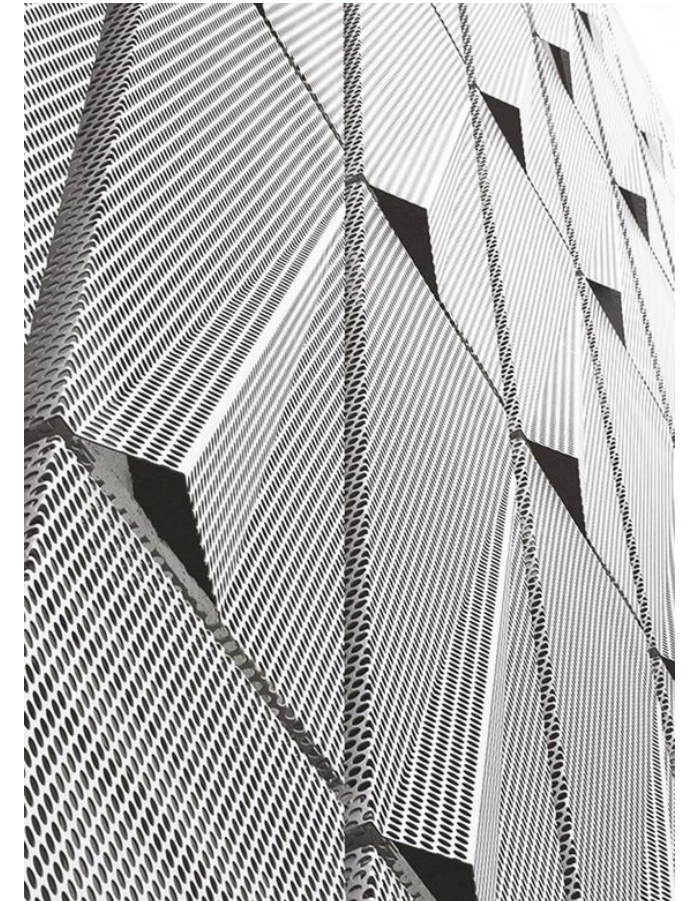


Figure 5.21: Parkgarage und Kita von gps (https://www.baunetz.de/meldungen/Meldungen-Parkgarage_und_Kita_von_agps_in_Herzogenaurach) accessed 10/06/22



Figure 5.22: gabion cladding (<https://www.marchington-stone.co.uk/gabion-stone/limestone-gabion-2/>) accessed 14/06/22
SEAM-BDP-XX-XX-RP-Z-01001

5.4 ATH MATERIALS

The word ‘Seam’, in addition to the coal industry, has links to textiles for which Barnsley was famed. In the 18th Century Barnsley became well know for producing high quality linen, such as damask. Jacquard Looms were commonly used in Barnsley to produce damask table linens. The fundamental technological evolution of the Jacquard Loom, and key to its success, was the use of Jacquard Cards. These Jacquards controlled the placement of the warp and weft to create complex patterns following a series of punched holes in what was essentially a binary code.

The Jacquard Loom is often credited as the first modern computer, with the cards acting as binary codes, storing the weaving pattern required to create the fabric.

It is said that Ada Lovelace (the world’s first computer programmer), was inspired by the Jacquard Loom and its punch-cards; “the Analytical Engine weaves algebraic patterns just as the Jacquard loom weaves flowers and leaves...” Ada Lovelace

Linking to both the linen history of Barnsley and the digital theme of the masterplan, the elevation of the Active Travel Hub’s bike store is wrapped in a perforated metal façade, with punched holes inspired by Jacquard cards. It is intended that the pattern on the façade will be the weaving pattern of a fabric local to Barnsley.



Figure 5.23: ATH bay studies

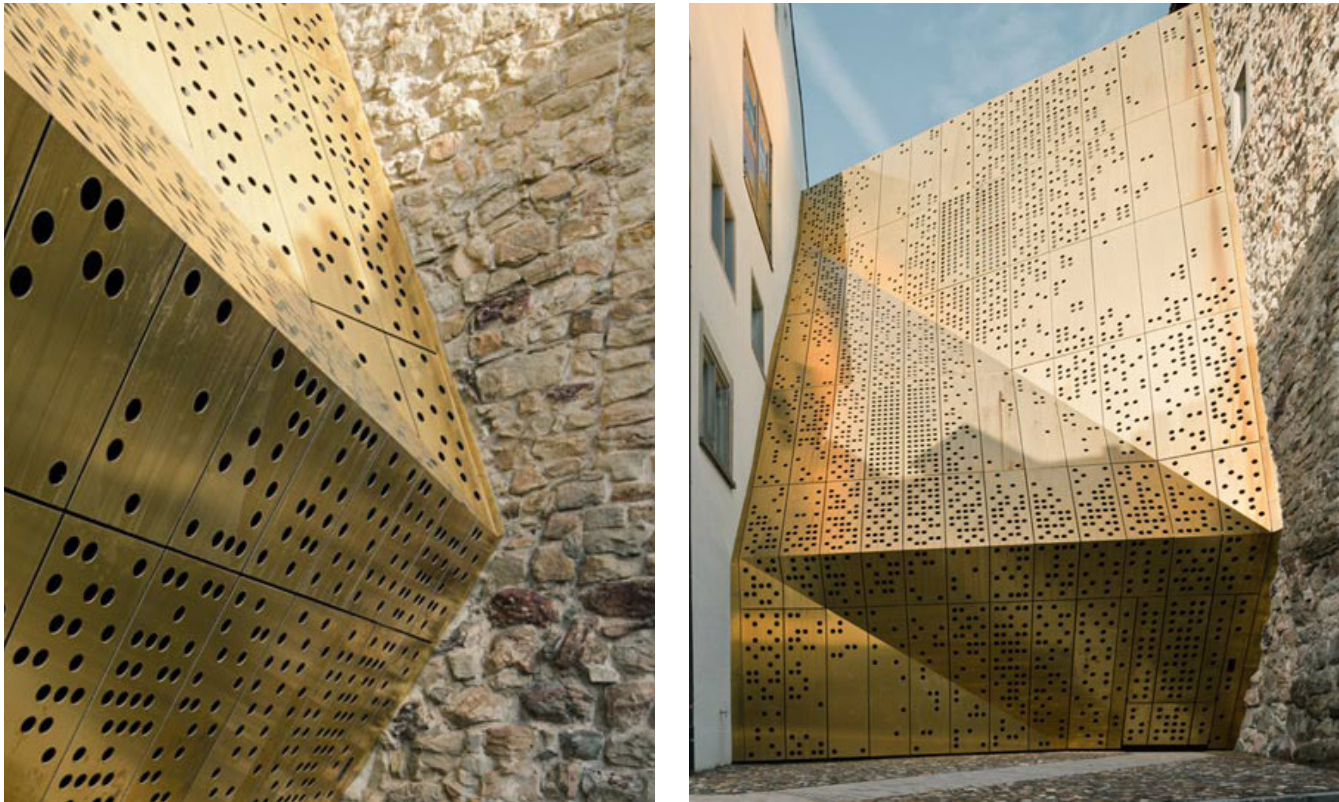


Figure 5.24: Stadtmuseum Rapperswil-Jona extension and renovation by MLZD (<https://www.dezeen.com/2012/02/07/stadtmuseum-rapperswil-jona-extension-and-renovation-by-mlzd/>) accessed 18/06/22



Figure 5.25: Joseph Marie Jacquard, inventor of the jacquard loom. (<https://www.wired.com/2009/07/dayintech-0707/>) accessed 14/06/22



Figure 5.26: Jacquard Loom

5.5 PLOTS 1 & 2

Summary of Proposals

Plot 1: The existing surface carpark situated across the Lower Courthouse is a particularly inefficient use of space which is underutilised in a prime location with convenient connections to public transport as well as scenic views across the Dearne Valley.

The outline proposals for Plot 1 to be utilised predominantly for residential use offers opportune proximity and access to the town centre and interchange whilst creating a new domestic community in the heart of Barnsley. The plot rises up to a maximum of five storeys of apartment accommodation, maximising views out to the east whilst wrapping around a central green space to the west.

Plot 1 will make a significant contribution to the new improved public realm on Lower Courthouse, also offering opportunities for active uses at ground floor and a 'shop window' for commercial uses alongside potential food and drink outlets.

Plot 2: The outline proposals for Plot 2 comprise of a low rise, high density residential development. With proposals for the maximum building height to be up to 4 storeys, the plot could be developed as back-to-back townhouses or smaller apartment blocks. Plot 2 is located towards the quieter end of the site, and is considered a suitable location for more mixed forms of housing for families and older people.

The proximity to the MSCP offers future possibilities for a car-free environment, with dedicated resident parking housed within the MSCP. The plot offers frontage onto a semi private area of green space to the west creating an opportunity for a residential community to grow.

Plot 1 - Gross Plot Area	
1,887 m ²	
Indicative Dwellings	
Unit Type	No. of Units
Apartments	80

Plot 2 - Gross Plot Area	
2,454 m ²	
Indicative Dwellings	
Unit Type	No. of Units
Apartments (indicative split)	36
Townhouses (indicative split)	20
Total = 56	



Figure 5.27: Outline planning parameter plan

Uses

The Local plan policy and stakeholder engagement has identified town centre residential development as an key component of the Digital Campus. The proposals for Plot 1 include predominantly residential use across a build-up of up to five storeys, including the option to incorporate commercial / retail use at ground floor (E Class Use). The new public realm and central greenspace present an opportunity for active frontage at ground floor level.

Leisure uses (food / drink / cafe / restaurant / bar) are not defined within current Local Plan policy for the site. Whilst some feedback from stakeholders suggested that significant leisure uses would not be appropriate due to the potential competition with other parts of the town centre, it could be argued that the town centre developments are separate and a specific destination for users.

A small quantity of cafe or other food/ drink outlets ancillary to the Active Travel Hub or serving the Digital Campus could benefit the growth of The Seam, offering local workplaces venues to visit in their working neighbourhood. The development of café (or similar) amenities local to Plots 1 and 2 also support the idea for age friendly or family living offering convenience and accessibility, whilst the town centre development offers variety and choice. The outline proposals for the Plot 2 use is for a residential development. Located in a quieter, more private location this plot offers the opportunity for a central residential development whilst maximising views over the Dearne Valley.



Figure 5.28: Outline planning Uses parameter plan

Heights and Massing

Plot 1 is proposed to be developed to a height of up to five storeys. Plot 2 is proposed to be developed to a height of up to four storeys.

As stipulated in the Blueprint Development, the Building Heights study sets out the principle of buildings 'cascading' down from the central high ground of the town centre and established tall building clusters. Massing on the Lower Courthouse is intended to form part of the 'Living Wall' edge to the town centre whilst being visibility lower and distinct from massing on the Upper Courthouse. See section 5.6 for illustrations of long distance views towards site.

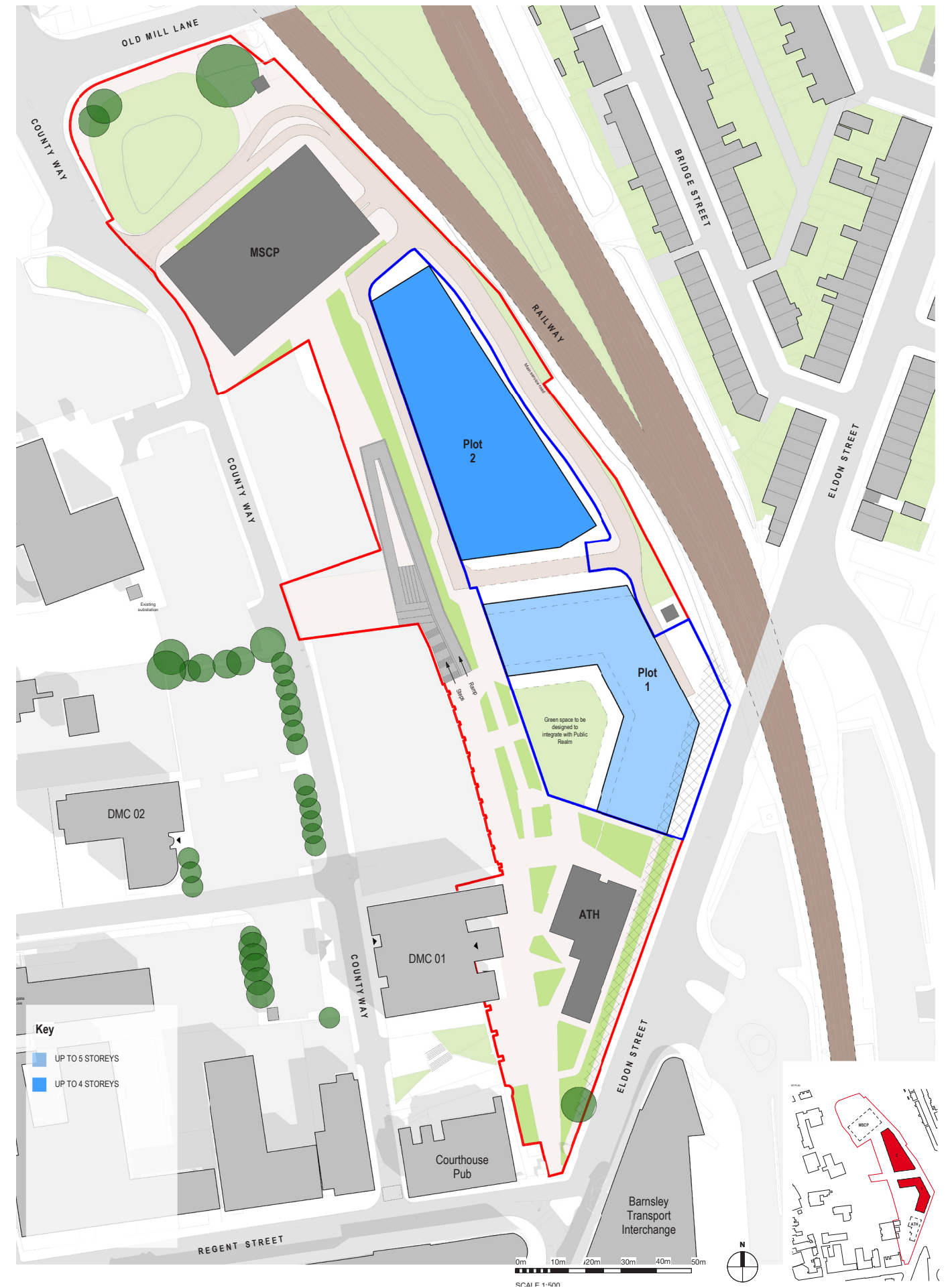


Figure 5.29: Outline planning Building Heights parameter plan

Pedestrian Movement and Spaces

The new public realm through the application site presents an opportunity for high pedestrian movement, connecting accessible routes to key destinations including Barnsley College to Barnsley Interchange and the Town Centre. The central green space suggested within the outline planning proposals creates an opportunity for the primary pedestrian route to branch out around this space, sparking the option for commercial space at ground floor of Plot 1.

The new public ramp and steps leading up to the Upper Courthouse drives the continuation of the primary pedestrian route to follow via this accessible path for access to the MSCP, Barnsley Collage and other destinations to the north and west of site. The nature of the direct route towards the MSCP on the Lower Courthouse will transform to suggest a semi private environment with sensitivity towards the future residential development of Plot 2 and Plot 3 outlined in the Development Blueprint. This results in a lighter pedestrian flow in this area, supported by the ramp and steps aimed to redirect on foot traffic. The east edge of Plots 1 and 2 are intended to be quieter areas away from the main public spaces, offering a sensitive level of privacy to residents, supported by views framing the Dearne Valley.

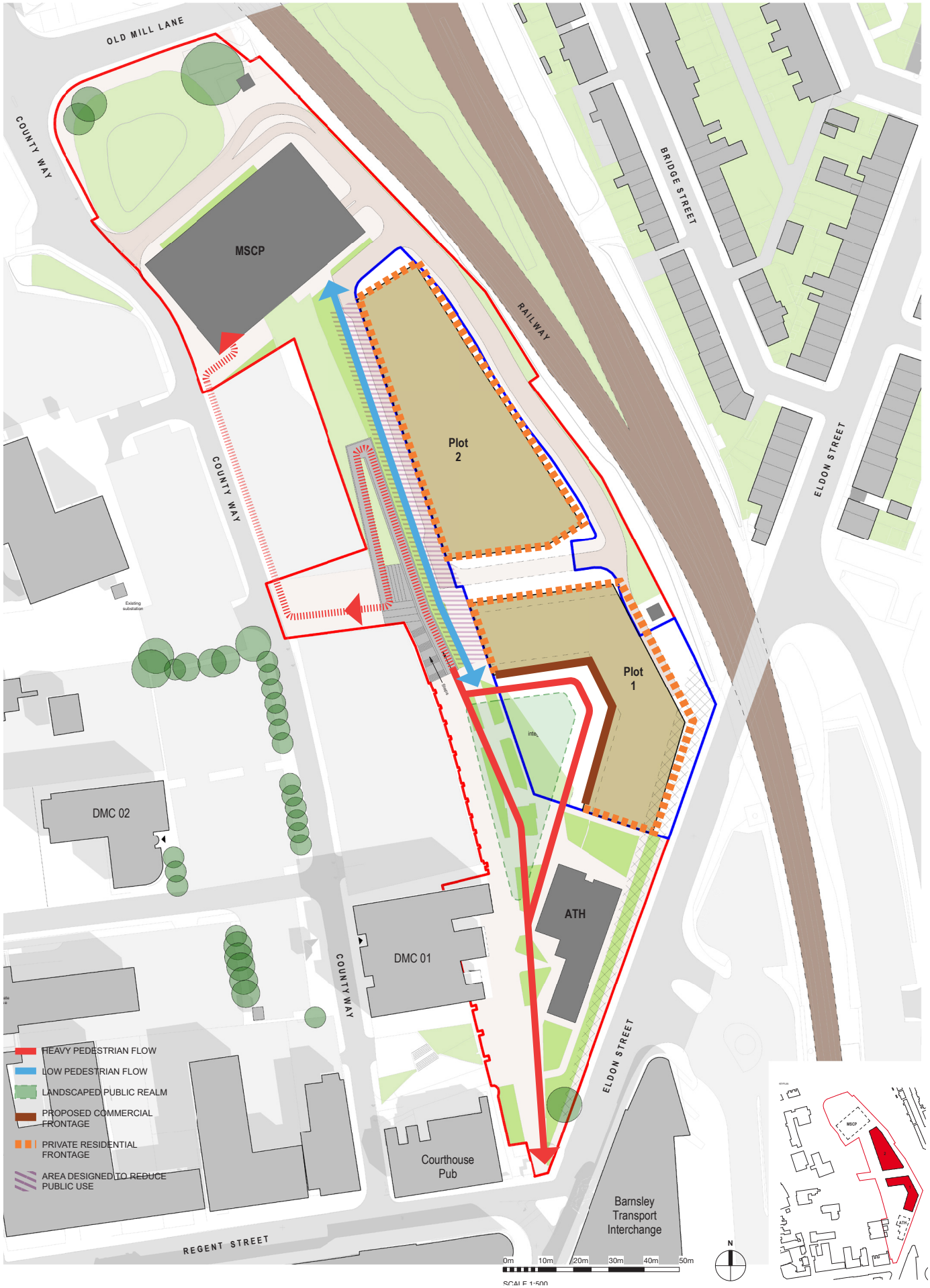


Figure 5.30: Outline planning pedestrian movement and spaces diagram

Vehicular Movement

Public and general vehicular access across the Lower Courthouse is limited only to the access road leading to the MSCP entrance at level B2. The access road continuing off this route indicated on the opposite diagram is proposed only for the use of emergency and servicing vehicles.

Through the next stages of the design development for Plots 1 and 2, a strategy for potential drop off points for taxis and other services will be established. Potential locations suggestions for drop off points have been indicated on the diagram opposite.

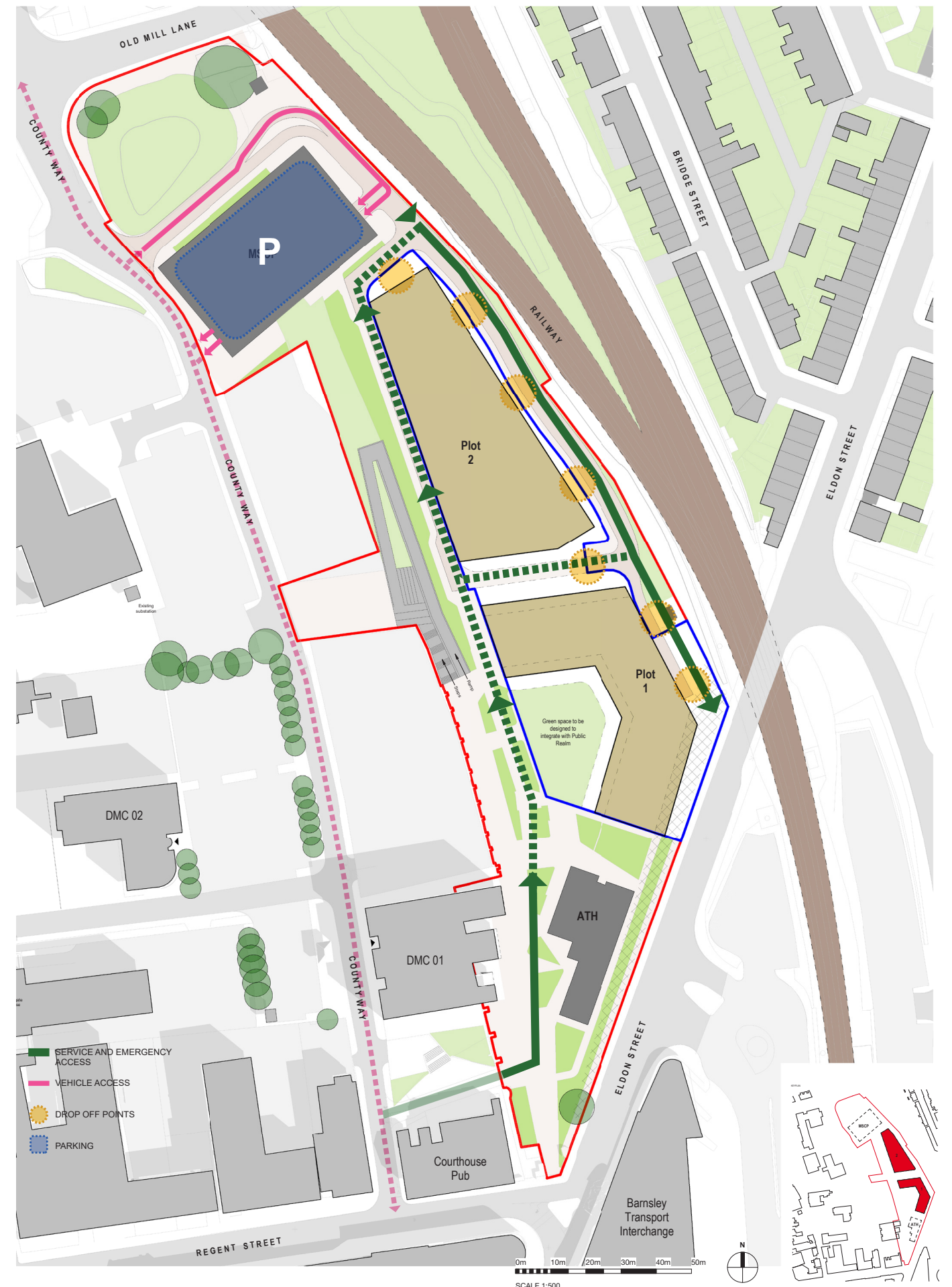


Figure 5.31: Outline planning vehicular movement diagram

Vision

General principles for residential design are set out in the adopted SPD ‘Design of Housing Development’. The form and design of residential within The Seam development will also be strongly influenced by the ambitious standards set out in the energy and sustainability strategy in section 3.8 of the Development Blueprint.

The following aspirations for new residential development on the site have been raised through the stakeholder consultation process and soft market testing exercise:

- An aspiration to set a new benchmark in terms of housing design quality, with a new type of residential offer in the town that creates a vibrant and sustainable community.
- Contemporary housing which takes design queues and material palette from historic/ landmark buildings as well as more contemporary buildings within The Seam.
- Building design/orientation that takes advantage of views across the valley and could incorporate a range of private outdoor spaces including conventional ground floor level gardens, balconies and rooftop spaces. Amenity space at roof level also offers opportunities to exploit the long views from the site towards the east.
- A mix of housing including 1, 2, 3 and 4 bed properties with a mix of tenures. Soft market testing identified young professional couples, young families and commuters as particular markets.
- Age-friendly housing designed to meet the needs of older people and downsizers was identified as having potential on the site due to its accessible location.
- A mix of higher density housing types was deemed to be appropriate including townhouses and apartments with private amenity space.
- Given the accessible town centre location of the site, it is expected that this will be designed as a ‘low car’ development, subject to agreement on the car parking requirements set out in the SPD. The potential for car-free residential streets

has also been raised, with precedent examples opposite demonstrating the benefits of limiting car parking to the outer edges of the site.



1, 2, 3 - Langworthy, Salford, BDP.
Back to back terraced housing with private roof terraces.

4, 5 6, 7 - Canalside by BDP, Woking.
Nearly 1,100 energy-efficient homes set around new public parkland with car-free streets and landscaped, pedestrian and cycle-friendly links connecting individual neighbourhoods, community facilities and green spaces.



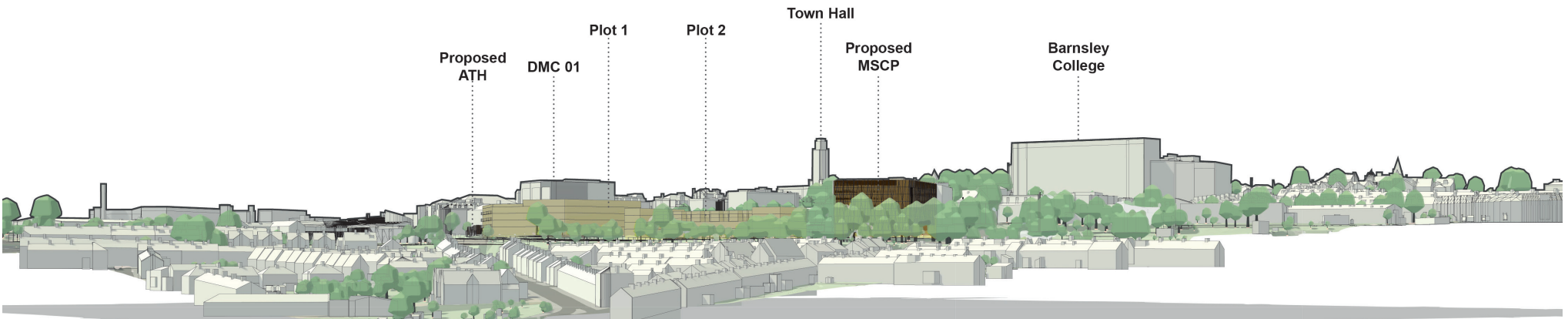
5.6 LONG DISTANCE VIEWS

The Building Heights Study within the Development Blueprint for the Seam sets out the principle of buildings ‘cascading’ down from the central high ground of the town centre and established tall building clusters. The panoramic/ distant views from the east below demonstrate how the proposed illustrative massing responds to these principles.

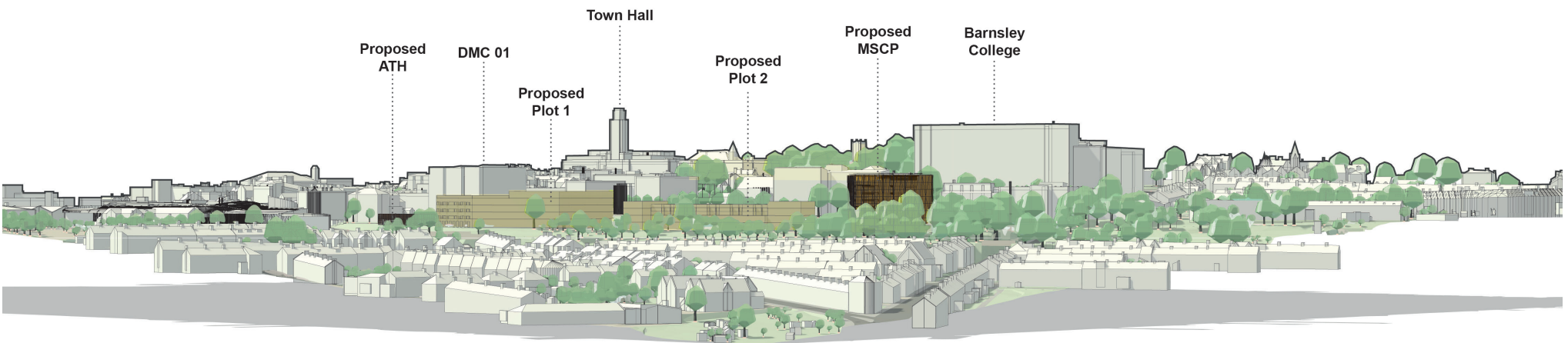
Active travel hub plot - the low-rise (single storey) space in this location acts as a ‘pavilion’ within the landscaping as well as allowing eastward views from DMC01 to be maintained. Distant views of the site demonstrate how a building of this scale will not impede distant views of the landmark DMC01 building.

MSCP - The proposed MSCP is close to Old Mill Lane to limit vehicle movement within the site. The MSCP is within the zone identified as a tall buildings opportunity zone in the Barnsley Tall Buildings strategy.

Plots 1 and 2 - Massing on the Lower Courthouse is intended to form part of the ‘Living Wall’ edge to the town centre whilst being visibly lower and distinct from massing on the Upper Courthouse.



View from Barnsley Building Heights Study (2009) Strategic View 2 - looking south-west towards the Town Hall from the A61.



View from Barnsley Building Heights Study (2009) Strategic View 3 - looking south-west towards the Town Hall from the A633 / Monk Bretton.

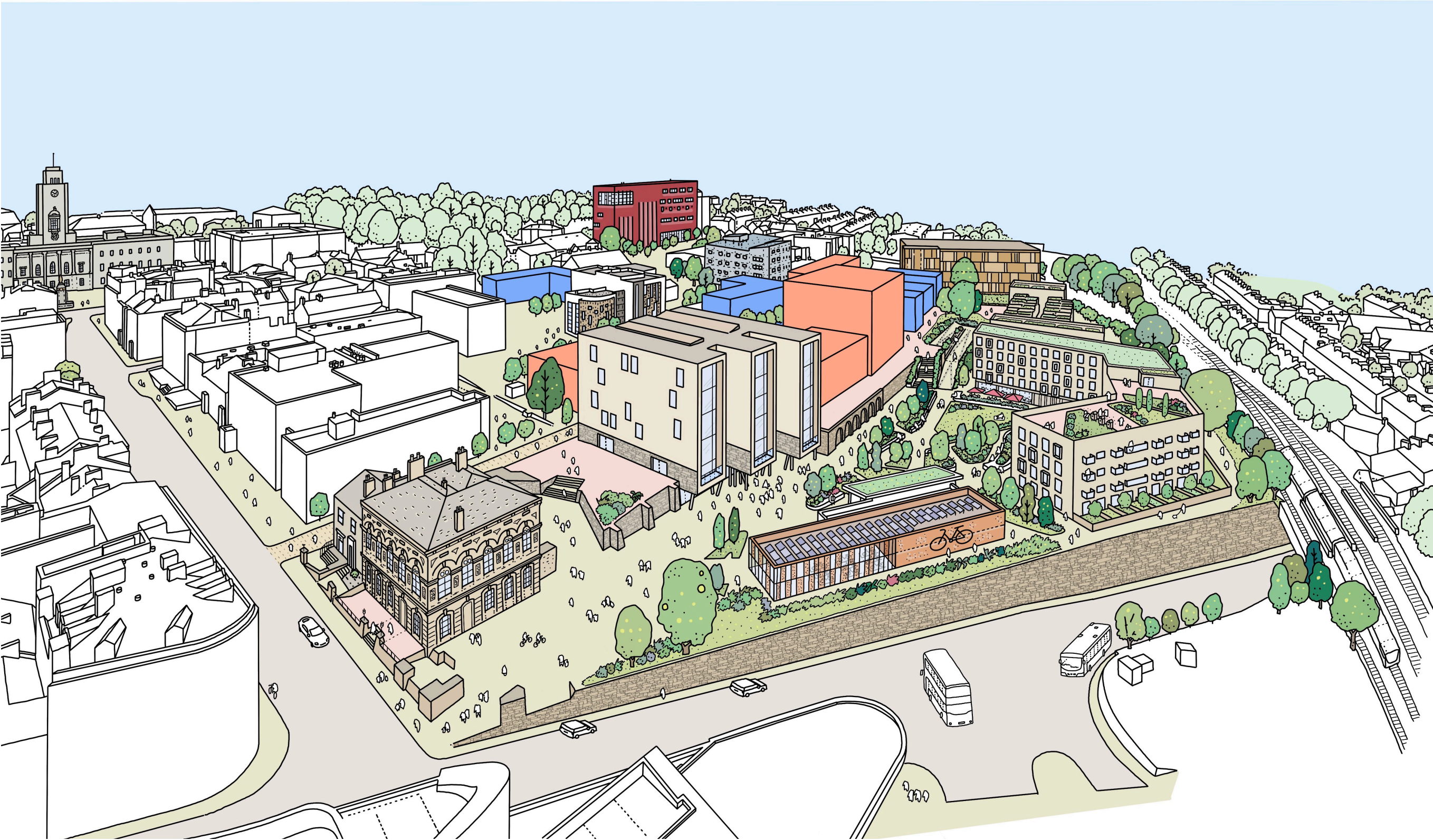


Figure 5.32: Illustration of the Blueprint Development proposals

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6.0 LANDSCAPE PROPOSALS

6.1 INTRODUCTION

Aim

This section of the DAS documents the Public Realm design and conclusion of the RIBA stage 3 design period, built upon the key design approaches and strategies for the Public Realm, previously documented and approved as part of the RIBA stage 2 information.

Scope

The scope of this report is the development of the landscape and public realm for Phase 1 of the Seam masterplan to a RIBA Stage 3 detail design stage. This is limited to the new public spaces, both hard surfaced and planted planning inside the phase 1 application boundary containing the proposed development Plot 1 and ATH (Access Travel Hub) and links the proposed MSCP and Plot 2 development blocks to the wider Digital Campus and town centre destinations.

During this stage, the initial concept layouts have been tested against known constraints and coordinated with other aspects of the development in line with the requirements of the Project Brief for public realm. This has involved coordination with the following;

- Sustainability principles, outlined in the project sustainability strategy
- Accessibility and inclusivity principles
- Ecology and Arboriculture principles
- Architectural and development plot locations
- Access and circulation involving coordination with highways arrangements and emergency access requirements
- Heritage features
- Changes in level, existing and proposed
- Street Lighting

As the public realm arrangements have developed, a number of stakeholder meetings have fed knowledge,

experience and ideas into the shaping of the detail design arrangements, notably around the themes of inclusive design, Sustainability and Designing out crime.

Purpose

The public realm section has been prepared as a component of the Design and Access Statement which is to be submitted in support of a hybrid Planning Application, as follows;

- A Full planning application for public realm, Multi Storey Car Park (MSCP) and active travel hub (ATH)
- Outline planning application for plots 1 and 2
- The section sets out the visionary aims for the public realm, explains how the design has developed since the previous approved stage and outlines the proposed arrangements.

Section structure

The public realm section has been structured to address the following topic areas;

1. Introductory summaries – This section outlines the context of the Public realm and describes the vision for the look and feel as well as the function of the Public realm looking forward.
2. Design Evolution – This section contains a description of how the current public realm proposals have developed through a design process testing the concepts from the previous stage and feeding in knowledge from key technical and policy stakeholders
3. The Public realm proposals – Here the general arrangements of the public realm are illustrated through the Landscape Illustrative Masterplan and Character Area descriptions
4. Materials - In this section the broad approach to surfacing is explained including hard material schedules and Planting approach and species

lists. The integration of specific elements such as Street Furniture, External Lighting and Boundary Treatments is also captured.

5. Approaches – Whilst not contained with the design scope of the public realm, this section aims to reference particular areas that are nevertheless connected to or part of the overall public realm. These include, Maintenance Considerations, as well as approaches to Play-on-the-way, Wayfinding and Smart Technology
6. Appendices - The appendices contain principle drawings such as the Illustrative General Arrangement plan, landscape layout plans and the tree removal plan

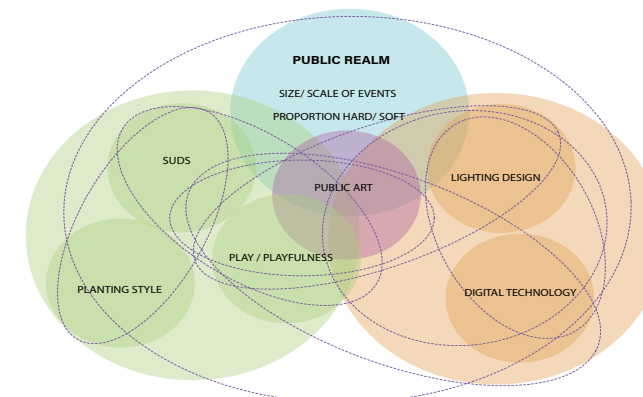
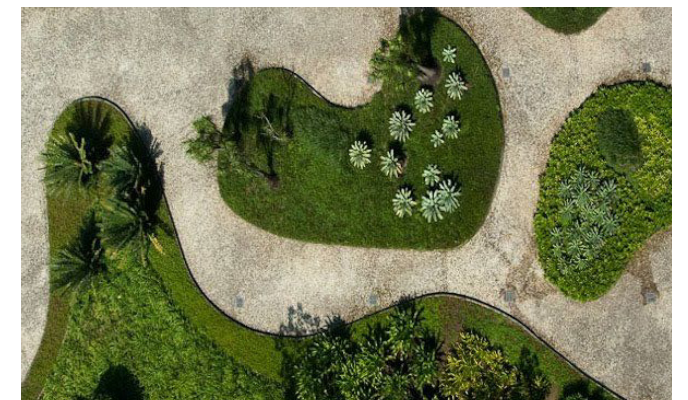


Figure 6.1 Holistic creative narrative (BDP)



6.2 DESIGN EVOLUTION

The Seam, Barnsley's Digital Campus is home to DMC01, recently refurbished DMC02 and Barnsley College's new Scitech Digital Innovation hub. In April 2021, a 'Blueprint' for the Digital Campus was completed, proposing to bring together digital and tech focused people, businesses, research and skills, enabling collaboration and innovation through a growing digital eco-system that would operate on a regional, National and International level. The Blueprint aims to transform the physical environment of this growing Digital Campus with opportunities to create a highly sustainable live-work neighbourhood in the heart of the town, connected by smart infrastructure, high-quality public realm and a testbed for technology led innovation in retail, Internet of Things, low/ zero carbon and active travel.

The development of the landscape and public realm for Phase 1 of the Seam 'Blueprint' to RIBA Stage 2 concept design was completed in January 2022. A new public green space and wider public realm which sits centrally to the DMC01, proposed development Plot 1 and ATH (Access Travel Hub) and links the proposed MSCP and Plot 2 development blocks to the wider Digital Campus and town centre destinations was developed with a broad range of themes including access and movement, landscape and planting typologies, spatial composition, materiality, SUDs, lighting etc. The development Plots, MSCP and ATH buildings were developed alongside the public realm through to RIBA Stage 2.

The Design development of the landscape proposals in RIBA Stage 3 was informed by feedback received from the Public Consultation, Design Review Panel, BMBC officers and other stakeholders. Technical constraints such as the condition of the existing Eldon Street North retaining wall, ground conditions, access requirements into the site, ecology and arboricultural recommendations, inclusivity reviews, etc. informed the evolving design. Design Principles outlined on the following pages set the baseline assumptions underpinning the public realm design.



Figure 6.2 Blueprint masterplan and Public realm proposals plan

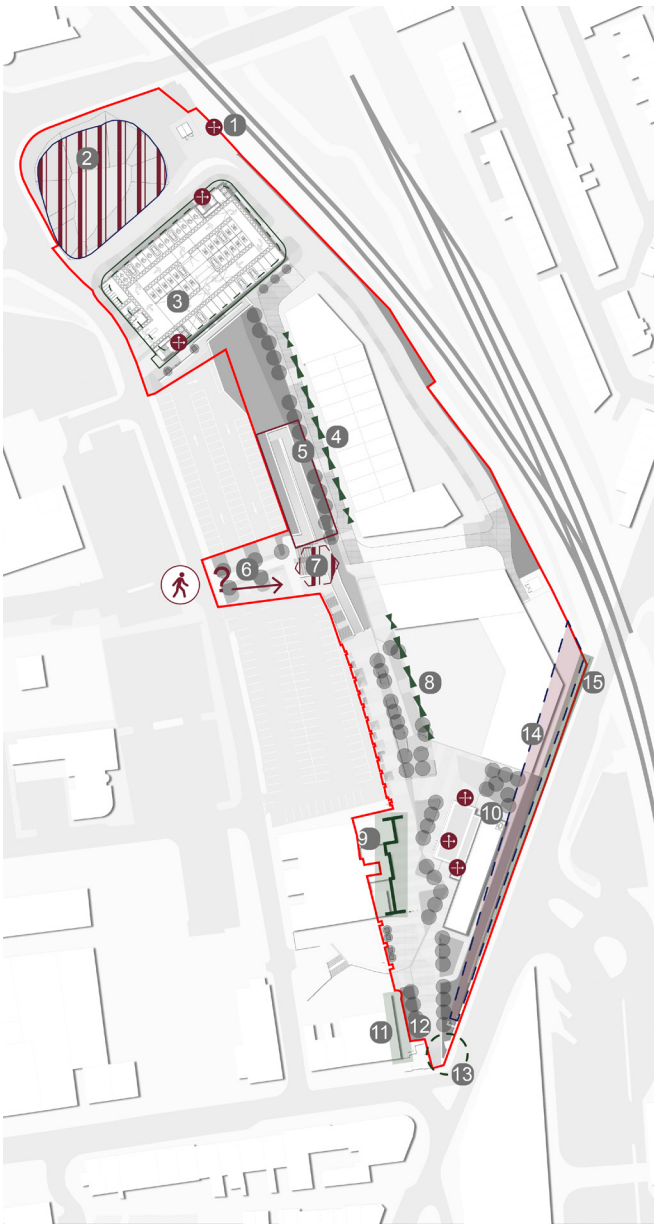


Figure 6.3 Technical constraints diagram

- Technical constraints:
1. Potential NR access point (tbc)
 2. Existing mound to be retained and enhanced for attractive gateway space
 3. Multi-storey car park - entrances, fire exits, facade interface and maintenance
 4. Interface with plot 2
 5. Existing trees to be removed to accommodate ramp - loss of biodiversity needs to be compensated elsewhere
 6. New safe pedestrian thoroughfare across existing car park to link the site to County Way and beyond
 7. Significant level difference at key site entry point - Ramp/stairs required
 8. Interface with plot 1
 9. Interface with Digital Media Centre - access and facade
 10. Active travel hub - entrances, fire exits and facade interface
 11. Pub's curtilage (tarmac embankment)
 12. Disable parking to be retained
 13. Existing wall structure to be retained and non-inclusive
 14. pedestrian access
 15. Existing retaining wall to be retained - potential issue with planting on top; railing may be required for safety

6.3 LANDSCAPE MASTERPLAN

Overarching design principles:

- Create high quality public realm incl.pedestrian only space, setting for the new and existing buildings/features, high quality materials etc
- Achieve sustainable design of this new greenspace incl SUDS, softscape
- Integrate SMART Technology culture
- Coordinate and accommodate technical constraints
- Create high quality public realm incl.pedestrian only space, setting for the new and existing buildings/features, high quality materials etc.
- Achieve sustainable design of this new greenspace incl SUDS, softscape
- Integrate SMART Technology culture
- Coordinate and accommodate technical constraints

	Paving: Yorkstone
	Paving: Yorkstone (suitable for vehicular Use)
	Paving: Kellen
	Paving: Kellen (suitable for vehicular Use)
	Feature Paving: Kellen (for connectivity between spaces, wayfinding)
	Seated Wall
	Planting: Mown Grass
	Planting: Wildflower
	Planting: Ornamental
	Planting: Screen
	Planting: SuDS/Raingardens
	Planting: Tree



Figure 6.4 Landscape Masterplan



Figure 6.5 Precedent images

6.4 DESIGN PRINCIPLES

Movement & Access

A Movement Strategy for the Phase 1 land uses and other properties (DMC-01, The Courthouse pub) was developed and assessed as part of a Transportation Assessment document. The strategy for servicing the new and existing land uses meets their needs within the existing constraints and minimising interactions with existing and future pedestrian flows. All of the vehicles required to travel along a particular route have been subject to swept-path analysis using the appropriate design vehicles and to the current highway design standards.

Vehicular Access:

- An access road is taken from County Way via a priority junction to the north of the MSCP. This route turns south between Plot 2 and the site boundary and is two-way providing access to off-street parking for Plot 2.
- A one-way clockwise residential access road provides access to the houses on the west side of Plot 2.
- Access to the MSCP is from County Way via the northern section of the residential access road, with the entrance on the east side into the lower ground floor and spiral up through the floors to find a space. Vehicles then spiral back down to exit onto County Way.
- Service vehicles, such as delivery of stock / parts and refuse collection for the ATH, DMC-01 and The Courthouse pub, is to take place from an area to the west of the public realm at the eastern end of the car park access route to the rear of the Courthouse Pub. A dedicated 'hammerhead' space is to be provided to allow for refuse trucks and up to 12m HGV rigids to turn using a 3-point turn manoeuvre.
- Occasional access for a mobile crane to undertake maintenance and lift equipment on and off the DMC-01 roof. Space has been provided within the public realm design to allow a mobile crane to operate.

- Access for maintenance of the soft / hard landscaping, set up and hold events such as markets, maintenance of the ATH and DMC-01, access the rail corridor for maintenance and inspection would be undertaken a managed way in accordance with the appropriate HSE plan.
- Emergency vehicles can access the MSCP, Plot 1 and Plot 2 via the residential access road from County Way at the northern end of Phase 1. Access for Plot 1 south and the ATH is through the access road at the back of The Courthouse Pub. In the event of a blockage of this access road, emergency vehicles have a clear route through the public realm.

Pedestrian and Cycle Access:

- The public realm around the ATH will be closed to vehicles for the majority of the time.
- Connectivity within the site and the surrounding area is provided with inclusive routes promoting accessibility for all.
- Key pedestrian entry/exit points of the pedestrian first public realm space are from Regent St / Eldon St North, a proposed new ramp/steps connecting to the upper-level car park and County Way and past the rear of The Courthouse pub.
- Footways are provided alongside the access road(s) and County Way, linking the MSCP with the public realm in the South.

There is potential for a Cycle Route along County Way to be promoted in the future with a link extending along the access road to the back of The Courthouse pub where cyclists can enter the site.

The residential street around plot 2 will be suitable for cycling due to its low volume of traffic.

Servicing Access Strategy

- DMC-001: relocation of the bin store and deliveries to the car parking area accessed from County Way.
- ATH and Courthouse Pub: Delivery (Dray Wagon) and refuse vehicles stop (briefly) in hammerhead turn to make their collection/delivery with the potential integration of time limited access to the hammerhead turn area.

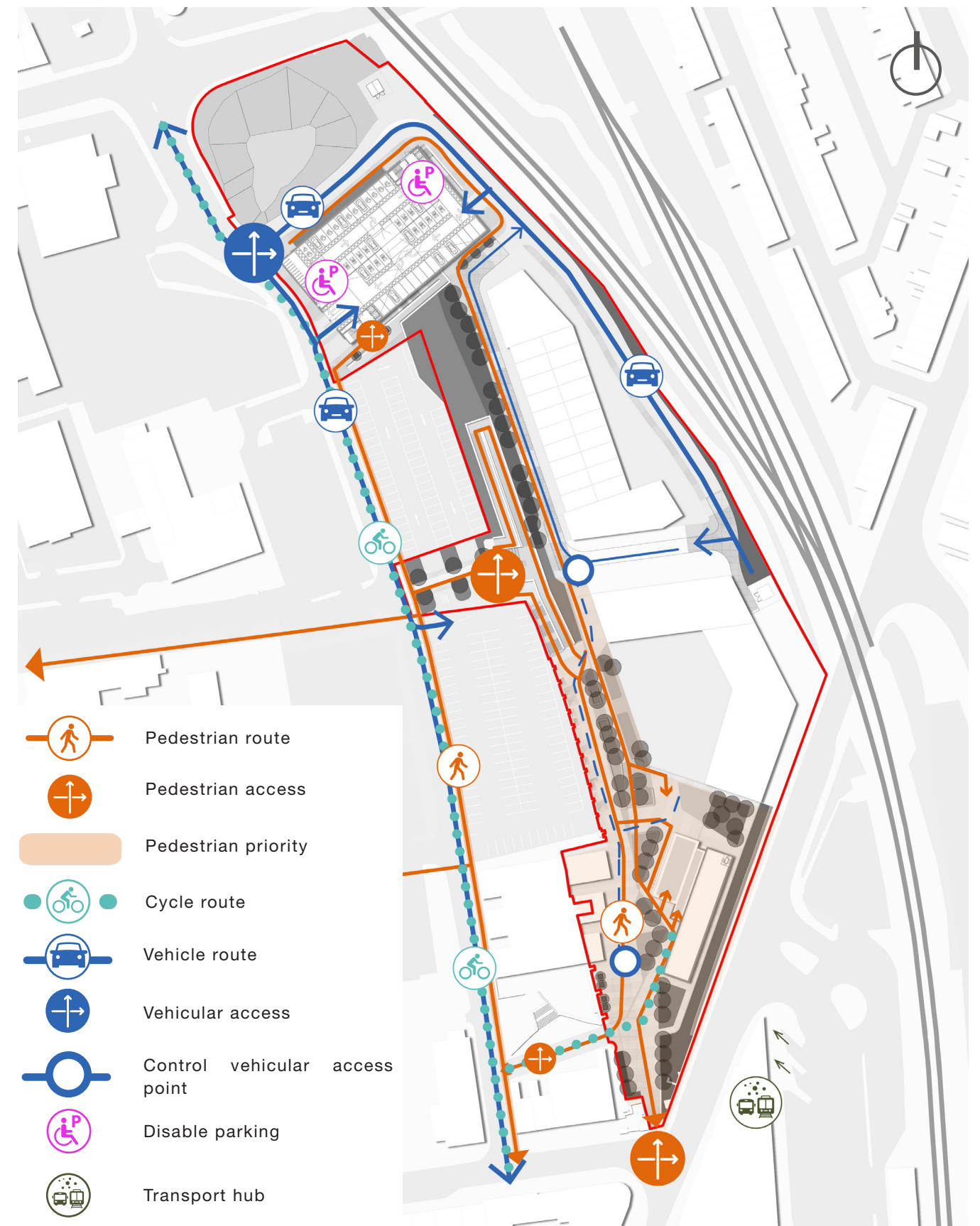


Figure 6.6 Movement diagram

6.4 DESIGN PRINCIPLES

Inclusivity

Introduction

To achieve an accessible and inclusive design for The Seam public realm, Arcadis’ access consultants have taken a systematic approach to identifying and addressing potential barriers to an inclusive environment, drawing on an understanding of project aims, context (including limitations) and design intent for all areas of The Seam.

By attending design review meetings and reviewing design drawings and plans, our access consultants have integrated into the project to explore required mitigations for barriers or threats to accessibility and inclusion.

Our access consultants have used their professional judgement to advise the design team regarding decisions for where a design solution may suit some but not others, including considering of the proportionality and degree of impact and the resultant degree of inconvenience that may be experienced. Our consultants consider factors including cost, resources, and practicality to underpin their advice and guidance.

Project Commitments

a) Meeting the Public Sector Equality Duty

In accordance with the Equality Act 2010, Barnsley Council have a public sector equality duty to consider the needs of people with protected characteristics when using The Seam.

The Equality Act states that it is against the law to treat any person unfairly or less favourably than someone else because of their personal characteristic. The Act defines nine characteristics protected against discrimination, and design development for The Seam should ensure systematic assessment is made of the impact of the design upon these characteristics.

- Ethnicity
- Sex
- Age
- Marriage / Partnership
- Religion / Beliefs
- Sexual Orientation
- Gender Reassignment
- Paternity / Maternity
- Disability

The duty requires due regard to:

- Eliminate unlawful discrimination
- Advance equality of opportunity between people who share a protected characteristic and those who don’t
- Foster or encourage good relations between people who share a protected characteristic and those who don’t

b) Making Reasonable Adjustments

The Equality Act requires that reasonable adjustments be considered for protected characteristics in relation to accessibility. Reasonable adjustments may be achieved through multi-disciplinary decisions regarding design trade-offs or compromises required when considering factors such as proportionality, cost, operational concept for The Seam, and other project objectives.

c) Meeting Best Practice Guidance

It is important that The Seam public realm design meets applicable standards and guidance for an accessible and inclusive outcome, including those as described within BS8300: 1: 2018 - Design of an accessible and inclusive built environment. External environment. Code of practice. The design should be informed by recognised benchmark publications and guidance for inclusive and accessible environments, for example the Sign Design Guide.

To ensure that The Seam meets and hopefully

exceeds legislative commitments and standards, design development should consider the recognised principles of inclusive design to help shape and drive decisions.

As an example, the Design Council defines five principles of an inclusive design as one that:

1. Places people at the heart of the design process
2. Acknowledges diversity and difference
3. Offers choice where a single design solution cannot accommodate all users.
4. Provides for flexibility in use
5. Provides buildings and environments that are convenient and enjoyable to use for everyone

Where met, these principles should provide solutions that are:

- Inclusive - Everyone can use safely, easily and with dignity
- Responsive - Take account of what people say they need and want
- Flexible - Can be used by different people in different ways
- Convenient - Everyone can use without too much effort or separation
- Accommodating - Accommodates all people, regardless of their age, gender, mobility, ethnicity, or circumstances
- Welcoming - Welcomes all people with no disabling barriers that might exclude some people
- Realistic - Offers alternatives to help balance everyone’s needs and recognizing that one solution may not work for all

“Inclusive Design is about making places everyone can use”

“Inclusive Design is everyone’s responsibility” (Commission for Architecture and the Built Environment)

Design Development

The Seam public realm design has been subject to an accessibility review to identify threats and potential barriers to an inclusive environment. Topics discussed with the project team and identified as requiring specific attention through design development include:

a) Smart and dynamic digital ecosystem

Digital technology such as information points need to be usable by a wide range of people (e.g., visually impaired), with alternative systems available for those unable to use digital systems. This may include the use of tactile or audible systems at information points. Reliance on digital technology solutions can both enable and disable people.

b) Embedding digital artwork

Artwork should be:

- Culturally sensitive
- Where practical, available in different formats including visual and tactile
- Placed in safe locations and if required provided with hazard notification
- Appropriate for people who are neuroatypical (e.g., avoid lighting strobe effects)

c) Flexible wayfinding and orientation

Signage within the public realm must be suitable for a wide range of people, including those who are partially sighted, neuroatypical, or who are not able to read English. Signs should be both designed well (e.g., use of internationally recognised symbols), and positioned (e.g., height and viewing distances) appropriately. Where signage is supplemented with other forms of wayfinding, such as guided floor markings or paving surfaces, these surface flooring designs must avoid being confusing for people who use a cane to navigate, or who may perceive an illusion of a hazard such as a step.

6.4 DESIGN PRINCIPLES

The use of tactile forms of wayfinding and orientation, for example embossed site maps, is desirable for many people. Digital wayfinding technology can also enable many people, for example augmented reality applications such as Navi Lens are beneficial for many people who have a visual impairment.

d) Safe and efficient circulation

There should be specific measures in place to manage the safety of all people using The Seam public realm, in particular to reduce the risk of collision between pedestrians by managing the risk of congestion, and the risk of collision with people using vehicles, cycles, scooters, or other mobility aids. The public realm should offer adequate and safe circulation widths, for example between bollards, street furniture and on shared spaces.

Circulation, in particular routes to the Active Travel Hub from key access locations such as the multi-storey car park, should where possible be via a direct and efficient route to minimise required travel distances. These routes should have suitable lighting (e.g., adequate illuminance, avoidance of upward lighting), there should be safe and accessible gradients, and step free access to transport links should be a core principle to be achieved.

e) Accessible street furniture

The design of street furniture including seating and cycle racks should consider the needs of people with a range of physical abilities. This includes space for people in wheelchairs to sit with their companions, offering a range of seating styles, having seating available at regular locations along The Seam, and use of cycle racks by people with oversized or adapted cycles. Ideally these locations would provide some weather protection to benefit users. Street furniture should be designed to be easy to locate by people including those who may be using a cane to navigate the area, or those who have a

visual impairment which makes it more difficult to distinguish shapes and objects. This includes any 'green' furniture, such as ornamental trees that may be introduced.

f) Use of Active Travel Hub

The Seam should specifically promote the safe use of the Active Travel Hub by a diverse range of people. The design should consider:

- Accommodating a wide range of transport options, including those used by people with reduced mobility, for example mobility vehicles, wheelchairs etc.
- Providing safe, accommodating, flexible and accessible storage for cycles, e-scooters etc.
- Segregation of cyclists (and other vehicles and mobility aids) and pedestrians to reduce the risk of collisions.
- Safe management of transport users in general, including in shared spaces.
- Reducing the risks presented by 'abandoned' cycles, scooters etc.
- Access to accessible public WC facilities, including an accessible WC.

g) Accessible Play Areas

The design of play areas should provide a range of sensory play options in addition to purely physical activities. There should be accessible observation points for responsible adults.

Recommendations

The Seam public realm has proposed features for which their design will influence the level of access provided, and each should be considered against design standards and guidance to benefit a diverse range of people.

The accessibility issues that have been identified

should be formally reviewed during further design development to ensure threats or barriers have been adequately considered and addressed.

It is recommended that this process involves formal consultation with relevant stakeholders. This may be achieved as part of an Equality Impact Assessment for The Seam. The consultation should be with a diverse range of stakeholders to fully understand the perspective of people that will use the new spaces, their diverse characteristics and their requirements and goals in the space.

The consultation process itself must also be accessible and inclusive to ensure people's views are properly understood.

6.4 DESIGN PRINCIPLES

Ecology

A Preliminary Ecological Assessment was undertaken to establish the ecological baseline of the site and describe/map existing habitats on site and assess any potential impacts on those and species. The proposed public realm design follows the recommendations resulting from the impact assessment and implements measures to compensate, enhance and create habitats in the new public realm.

Bats

5.1.1 The 2022 bat surveys have confirmed the stone wall supports a common pipistrelle day roost (non-breeding) within a crack between the stone wall blocks (ref. Appendix C) (grid reference: SE34620666).

5.1.1 The proposed masterplan works could result in the loss of the common pipistrelle day roost. Prior to the commencement of any works to the stone wall which is likely to cause harm / disturbance etc the local planning authority must be provided with:

- a) a license issued by Natural England pursuant to Regulation 55, of the Conservation of Habitats and Species Regulations 2017 authorising the specified activity/development go ahead: or
- b) a statement in writing from Natural England or LPA to the effect that it does not consider that the specified development will require a license

5.1.2 The bat mitigation strategy provided in Appendix E outlines how the work will be progressed.

Birds

5.1.3 All bird species are protected at their nest under the Wildlife and Countryside Act. Although limited on site, suitable nesting habitat (broad-leaved trees and

stone wall) is present. It is recommended that site works that will impact any of these suitable habitats takes place outside the peak bird breeding season (March to September).

5.1.4 If site works to these habitats are to be undertaken within the nesting season, then an appropriately qualified ecologist will be required to undertake a site walkover to visually assess suitable habitat for active nests. If active nests are discovered, then site works around the active nest must cease until the nest is deemed inactive.

5.1.5 Any works to the stone wall must retain and/or provide at least 20 no. nesting features for sand martins to allow their continued use of this feature.

Biodiversity Enhancement

5.1.6 In line with the National and Local Planning Policy the planning system should contribute to and enhance the natural and local environment by incorporating the good practice principles for biodiversity net gain, to deliver environmental net gain wherever possible. In order to comply with National Planning Policy Framework the following ecological measures should be incorporated into the development:

Using appropriate native tree species and other vegetation planting around the site will provide recognisable fruit and nectar sources for local birds, small mammals and invertebrates; trees will enhance the long-term biodiversity of the development.

Areas of biodiverse planting should be provided within any designated soft landscaping to provide a source of food for local fauna while softening the hard landscaping within the site.

The increased structural integrity of modern developments reduces the potential for birds and bats to utilise modern buildings for nesting and roosting therefore any new developments integrate a



Figure 6.7 Ecology diagram

6.4 DESIGN PRINCIPLES

variety of bird and/or bat boxes.
Phase 1, The SEAM June 2022 20

External Lighting

5.1.7 The impact of light to biodiversity within the site, and in particular bats and flying invertebrates is present within the site prior to the areas redevelopment. The nocturnal value of the site could be enhanced through the implementation of a sensitive lighting strategy.

5.1.8 The stone wall and broad-leaved trees within the site are considered to be vulnerable to the effects of light pollution as these trees could provide suitable foraging and commuting habitat for the local bat populations. No lighting should be specified near these features. Lighting in the vicinity of these features should use downward directed lighting with a tightly controlled distribution to limit unwanted backwards spill to minimise the impact of light spill in accordance with best practice guidelines.

5.1.9 As numerous flying insects are attracted to ultraviolet light the external lighting should use LED lighting sources which are UV filtered to limit the amount of UV light produced, this will minimise the attraction to insect from adjacent habitats and feeding areas and minimise unnatural behaviour stimulated by the lighting.

Green Infrastructure

The planting at The Seam needs to work hard to provide vital green infrastructure services. Abundant tree planting will play a key role, providing attractive green leafy routes along all new and existing spaces to encourage walking and cycling and social interaction. The benefits of this are multiple, improving safety, physical and mental health, helping to build new communities, and creating wildlife habitat.

Benefits of street trees include:

- reducing obesity, and associated diseases, through encouraging an active lifestyle
- reducing asthma and other respiratory diseases, by reducing vehicular journeys and so reducing airborne particulates from vehicles
- reducing airborne particulates from reaching people's lungs, by trapping them on the street tree's leaves
- improving mental health, through the positive effects of living in a leafy green environment
- reducing exposure to skin cancer, by providing shade in the summer months
- supporting the development of communities, through providing streets, squares and parks which can function as social meeting spaces
- supporting mental health, through providing streets that encourage people to walk and interact with their neighbours

- supporting children in developing social skills, through providing a safe environment for them to access play and learn how to interact with others
- reducing crime or the fear of crime, through increasing the number of people walking or cycling in the public realm
- increasing biodiversity and creating wildlife habitat
- absorbing carbon dioxide, and providing oxygen
- shading and cooling streets and buildings in the summer, while also supporting solar gain in the winter
- slowing down and absorbing rainwater

6.4 DESIGN PRINCIPLES

Drainage/SUDS

Permeable Paving

Pervious Pavements type proposed: Permeable – surface material is impermeable – infiltration occurs through the joints or voids.

Type of Pavement System: No Infiltration - Runoff is wholly contained within sub- base and conveyed by perforated pipes to the outfall

Existing Ground Conditions are not considered suitable for infiltration due to amount of made ground, therefore 'No infiltration' system needs to be applied.

Advantages:

- Provides a level of water treatment including
- Filtration of silt and the attached pollutants – majority is trapped within the top 30mm of the jointing material
- Biodegradation of organic pollutants, such as petrol and diesel within the pavement construction
- Adsorption of pollutants
- Settlement and retention of solids
- Increases lag time from moment rain falls on impermeable surface to the main drainage infrastructure - Subsequently reduces size of primary storage infrastructure i.e. attenuation tank
- Shallow SuDS feature – minimises depth of excavation required across the site.
- Can be designed to carry any volume of traffic loads
- More likely to obtain planning permission – less risk of objection due to lack of SuDS.
- Pervious pavements require less frequent gritting in winter to prevent ice formation
- Less risk of ice formation after snow melt
- Maintenance is similar to normal pavement build up
- Bound and unbound construction can still be applied to permeable paving

Bio-retention/ Rain gardens

- SuDS feature utilising the green areas within the Public Realm
- Assume to be under Highways adoptions for adoption
- Maintenance regime similar to 'traditional' drainage with silt traps, and vegetation will need to be maintained

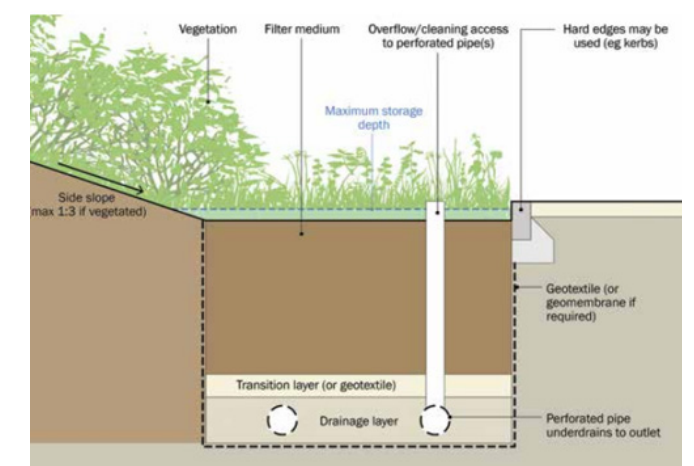
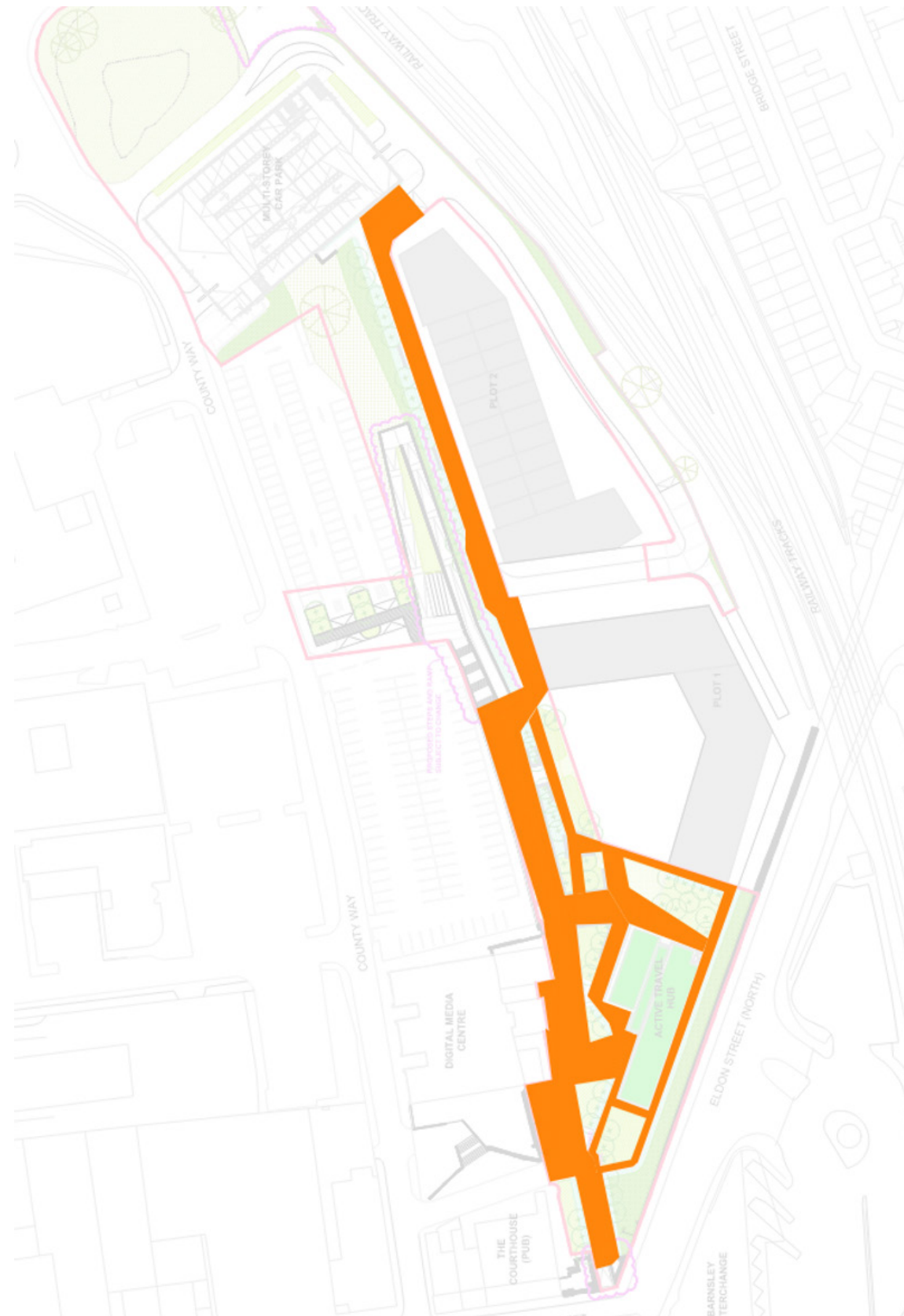


Figure 6.8 Proposed permeable surface extent

6.4 DESIGN PRINCIPLES

Levels

The proposed public realm follows largely the existing contours of the existing site. Large level differences along the Western boundary require stepped and sloped access for Inclusive Design. These have been integration into the existing embankment and existing retaining walls.

All falls have been designed to achieve Inclusive Design requirements and drain the water away from buildings.

The use of permeable paving enabled a public realm design that required little amendments of existing site levels to keep cut and fill to a minimum. For more levels information please refer to section 6.5 for Typical site sections.

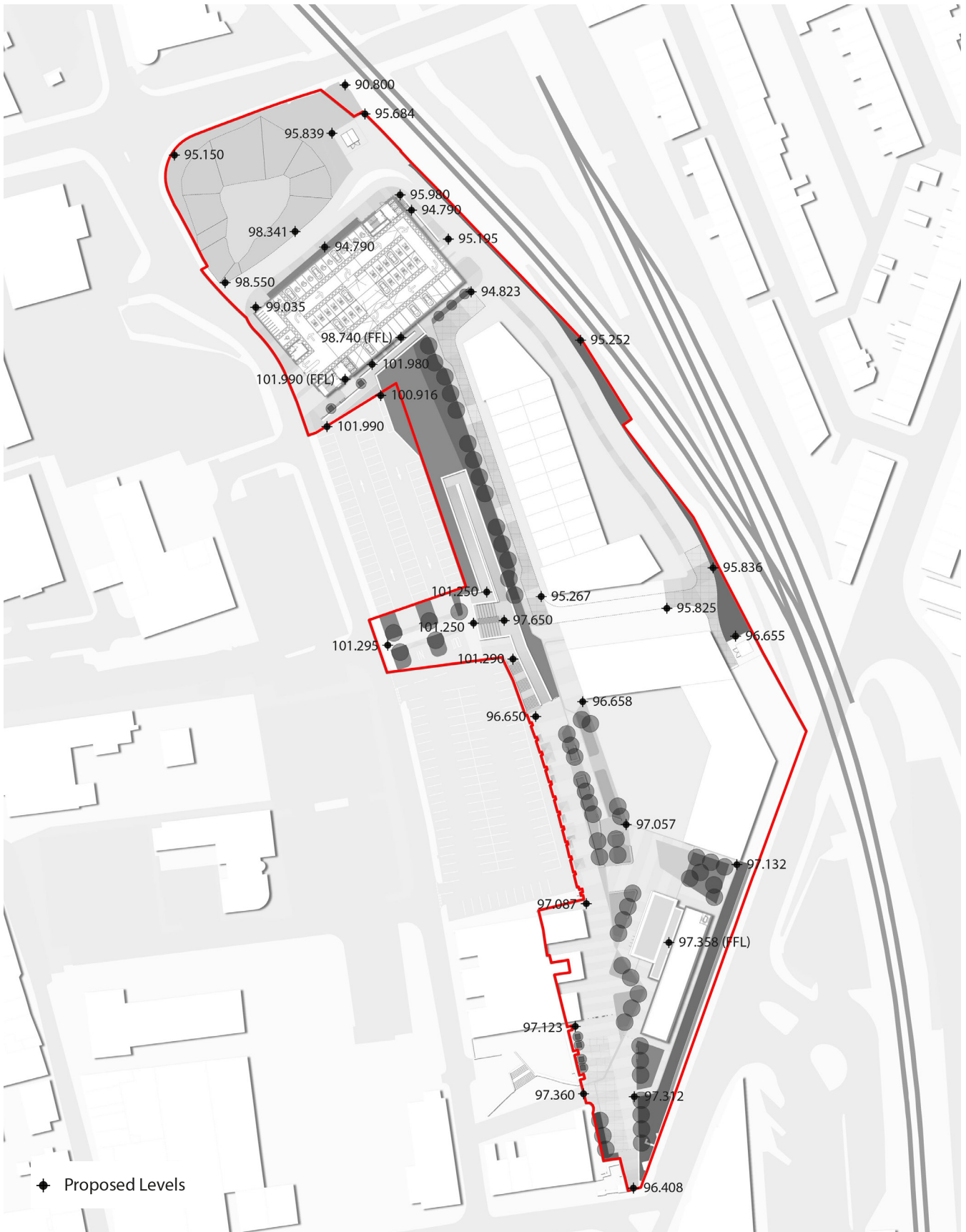


Figure 6.9 Levels diagram

6.4 DESIGN PRINCIPLES

Public art consideration

Digital placemaking can help to enhance the public realm and attract visitors to deepen their connection with the public realm and interact socially with each other.

Temporary public art is particularly suited for the new public realm in the Digital Campus which provides diverse spaces and opportunities for artwork installations. The temporary nature works well with the ever-changing digital world mankind has created and we are increasingly enveloped in.

Below are examples of where the physical and digital realm can overlap successfully:

- Digital artists augmenting building facades with either projection or through the interface of screens. Also using walls (eg. existing arches) and facades as canvases for artists to interact digitally with the public.
- Screens displaying data - for example Andrea Polli's Particle Falls (2008–2018), an installation showing the quality of the air with streams of blue pixels when it is pure and red spots when it is saturated with PM2.5 particles.
- Light Installations using LED technology software, lenses, to create of dazzling virtual spaces, projections
- Immersive technology such as Augmented Realities to invite visitors to interact with public space.
- Sculptures – for example artists like Ken Kelleher reimagine the digital sculpture with the use of computers to render what place sculpture could occupy in urban spaces.
- Sound and music

The adjacent diagram shows the potential spatial accommodation of public art within the public realm. This is supported by power and water infrastructure that enables as much flexibility for artists as possible.

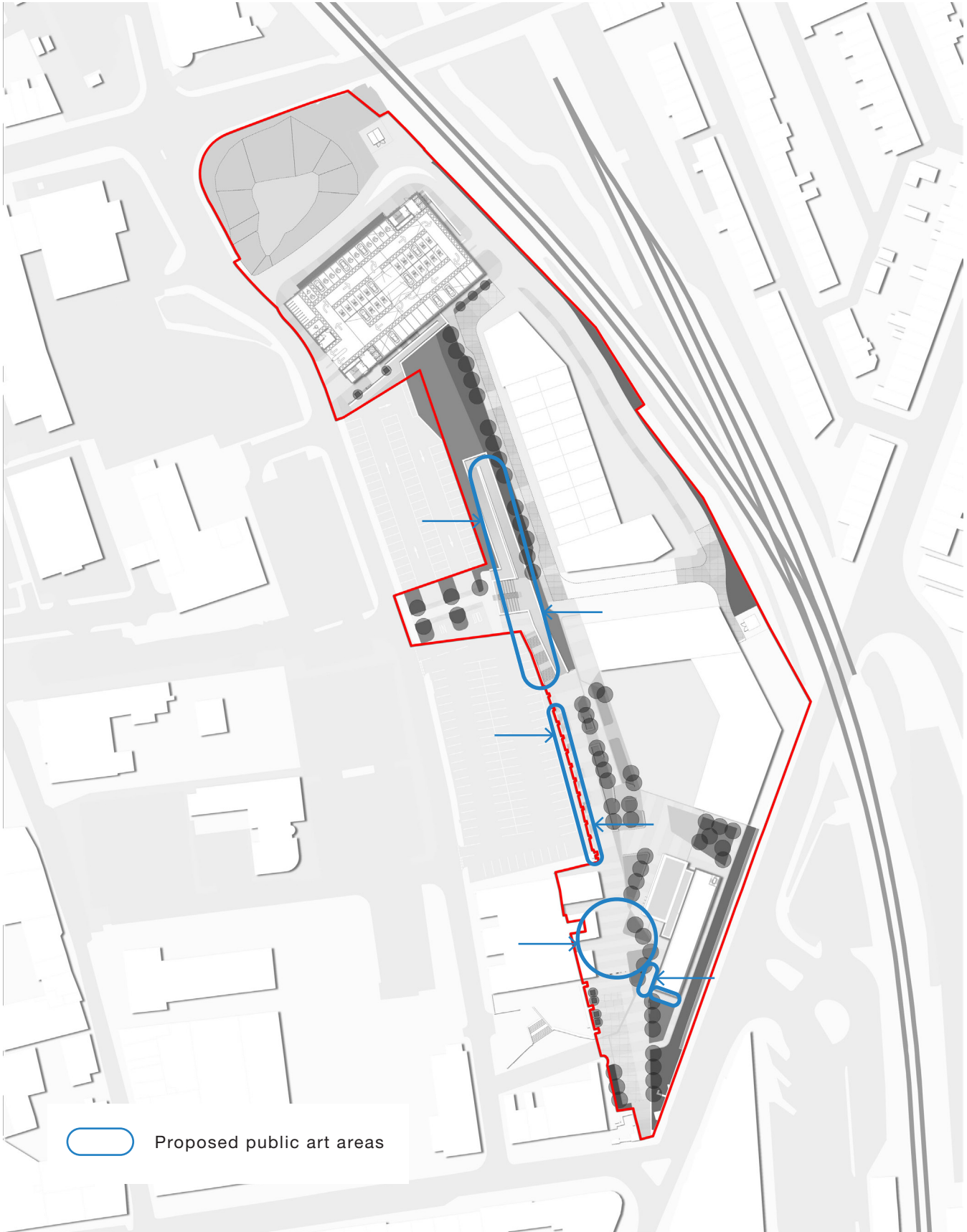


Figure 6.10 Public art areas diagram



6.5 CHARACTER AREAS

Defined as part of the approved stage 2 arrangements, the landscape and public realm for Phase 1 of the development area divided into six character areas. Each character areas is tied to surrounding uses and relates to quality of space.

The character areas reach across and connect the Multi Story Car Park, Plot 2 proposed residential development interface and the external spaces around the Central Greenspace, Plot 1 and Active Travel Hub.

The diagram opposite illustrates the extent of each of the six key character areas. Public realm arrangements within Each of these are addressed in more detail, in the following pages;

1. Parade/ Promenade
2. Central Green Space
3. The Gardens (Green Seam)
4. Activity Spine (Building Threshold)
5. Public Realm around Plot 2
6. Southern Gateway Arrival

- | | |
|---|--|
| | 1. Southern Gateway Arrival |
| | 2. The Gardens (Green SEAM) |
| | 3. Activity Spine (Building Threshold) |
| | 4. Parade / Promenade |
| | 5. Residential Public Realm |
| | 6. Northern Gateway Arrival |



Figure 6.11 Character areas diagram

6.5 CHARACTER AREAS

Southern Gateway Arrival & Activity Spine

- 1 - Southern Gateway entrance for pedestrian/cycle access, flanked by historical pillars/retaining walls
- 2 - Controlled Vehicular Access Point
- 3 - Increased size of softscape areas where possible, suitable for SUDS
- 4 - The Seam paving band aiding intuitive wayfinding and art/cultural identity
- 5 - Pedestrian only environment with the occasional vehicular movement in area with directing paving patterns
- 6 - Maintenance access with low shrubs planting



Figure 6.12 Southern Gateway Arrival & Activity Spine Plan

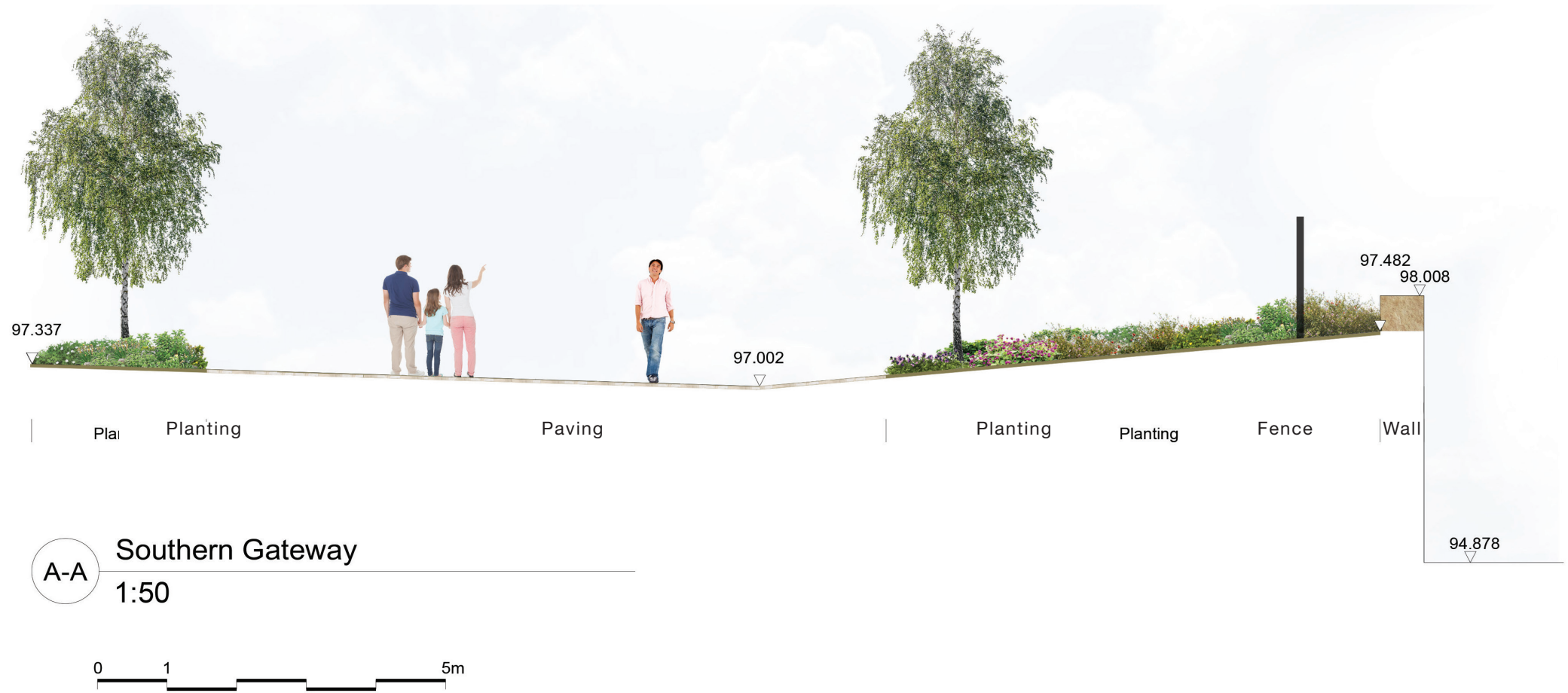
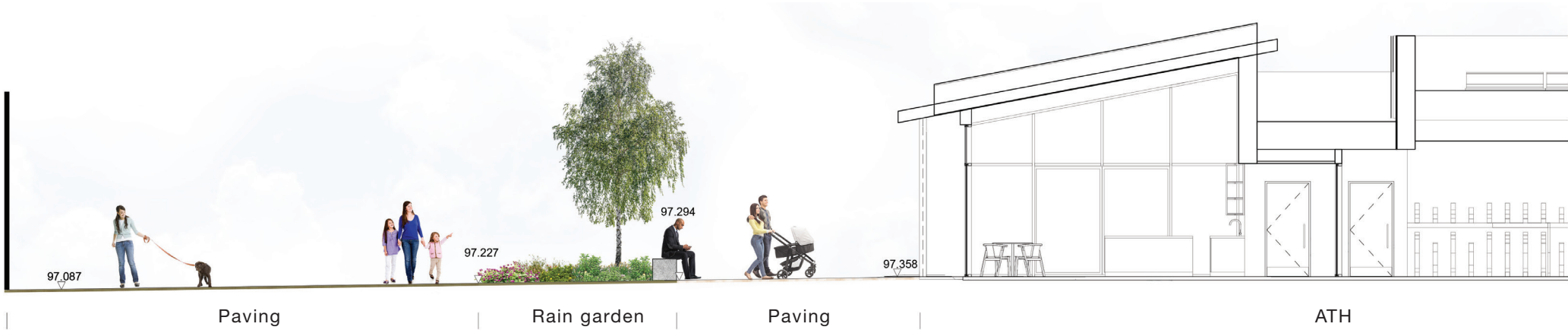
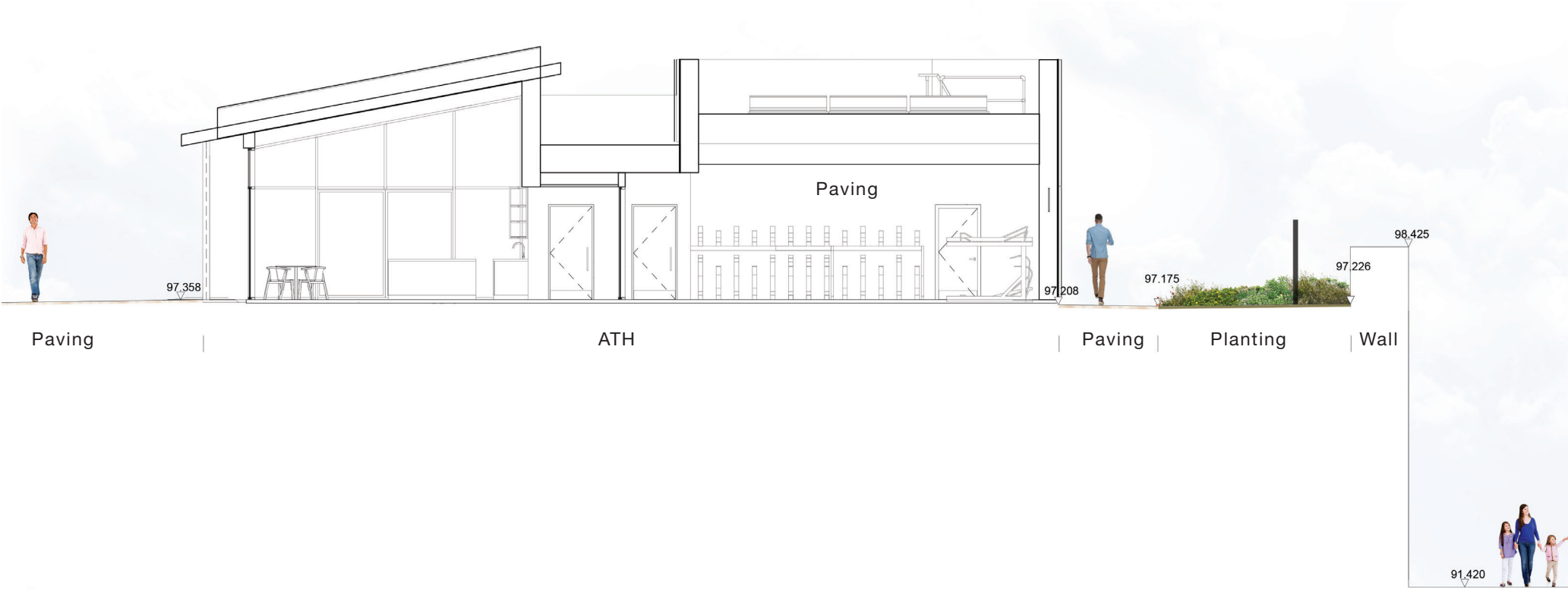


Figure 6.13 Typical Site Sections for Southern Gateway Arrival



B-B Activity Spine
1:50



B-B Activity Spine
1:50

Figure 6.14 Typical Site Section for Active Spine

6.5 CHARACTER AREAS

Parade/Promenade and The Gardens

- 1 - Existing feature retaining wall
- 2 - Controlled Vehicular Access Point
- 3 - Increased size of softscape areas where possible, suitable for SUDS
- 4 - The Seam paving band aiding intuitive wayfinding and art/cultural identity
- 5 - Pedestrian only environment with the occasional vehicular movement in area for maintenance and emergency services
- 6 - Play-on-the-way trail
- 7 - Feature steps and ramp to upper level car park including seating steps



Figure 6.15 Parade/Promenade and The Gardens Plan



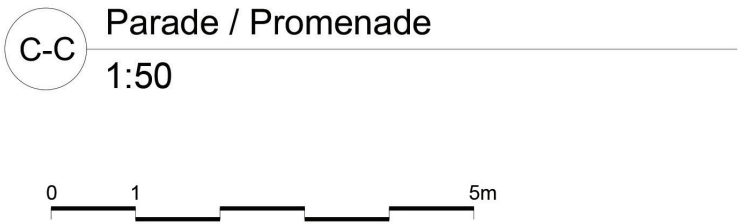


Figure 6.15 Typical Site Section for Parade/Promenade and The Gardens

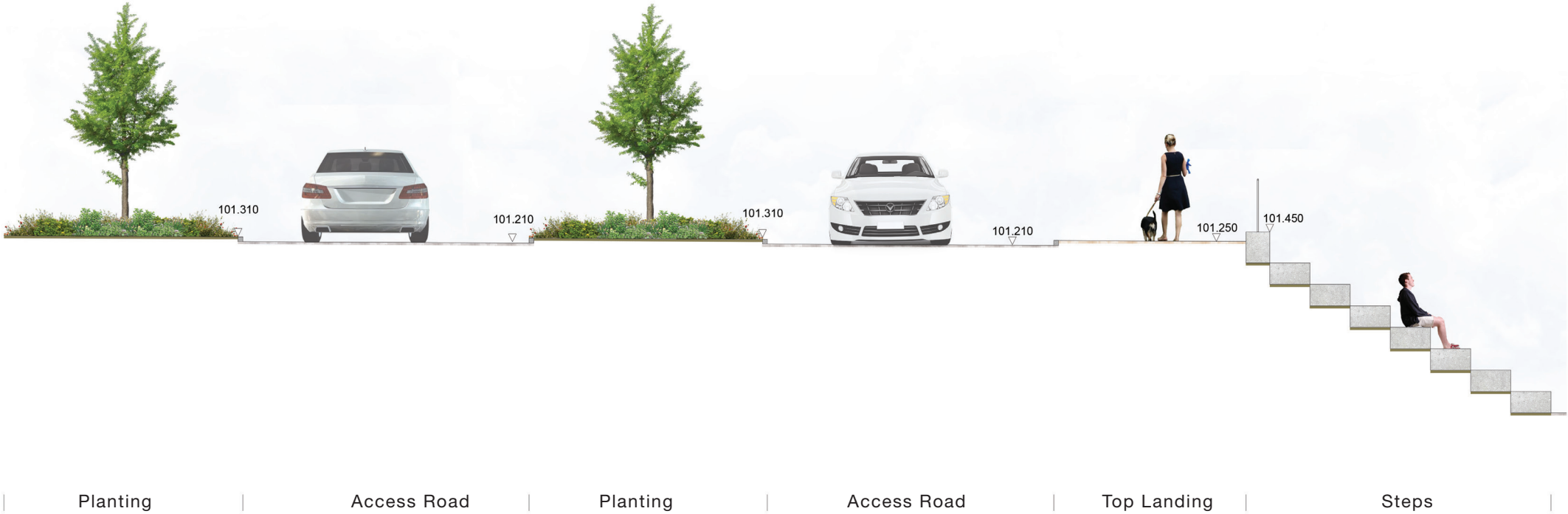
6.5 CHARACTER AREAS

Residential Public Realm

- 1 - Existing woodland bank retained
- 2 - Vehicular access road with footway
- 3 - Shared residential access road
- 4 - New tree planting in soft, suitable for SUDS
- 5 - The Seam paving band aiding intuitive wayfinding and art/cultural identity
- 6 - Raised table
- 7 - Feature steps and ramp to upper level car park
- 8 - MSCP fire exit
- 9 - MSCP green wall
- 10 - Acoustic fencing along NR boundary



Figure 6.16 Residential Public Realm



D-D Western Gateway
1:50



D-D Western Gateway
1:50





Figure 6.18 Typical Site Sections for Residential Public Realm

6.5 CHARACTER AREAS

Northern Gateway Arrival

- 1 - Existing grass mound retained and enhanced with wildflowers
- 2 - Vehicular access road with footway and planting
- 3 - Main MSCP pedestrian access/exit with planting
- 4 - MSCP vehicular access/exit
- 5 - Sub-station/Attenuation tank/ NR access compound area
- 6 - New 1.8m high fencing along NR boundary
- 7 - Existing palissade fencing retained
- 8 - Gateway feature

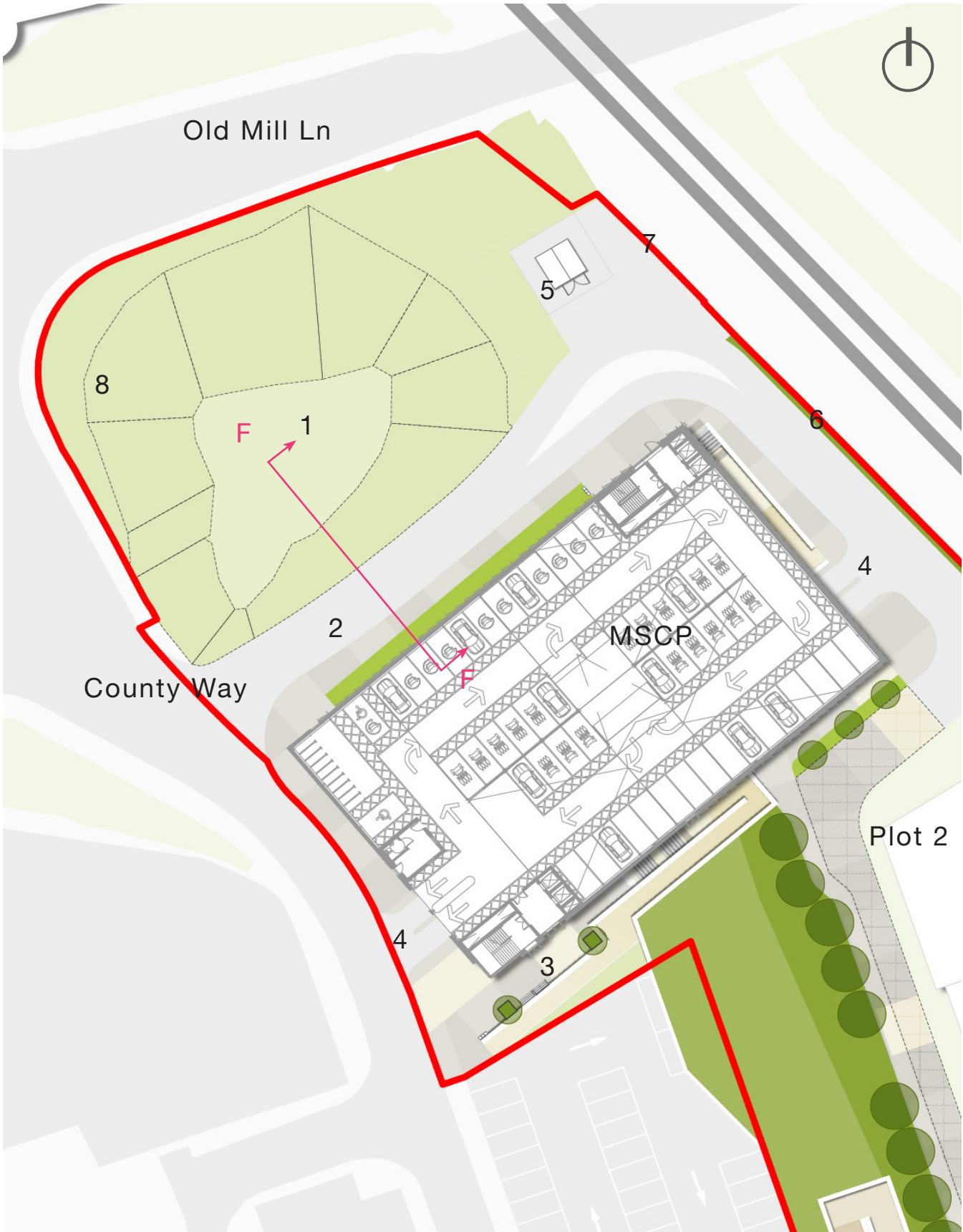


Figure 6.19 Northern Gateway Arrival Plan

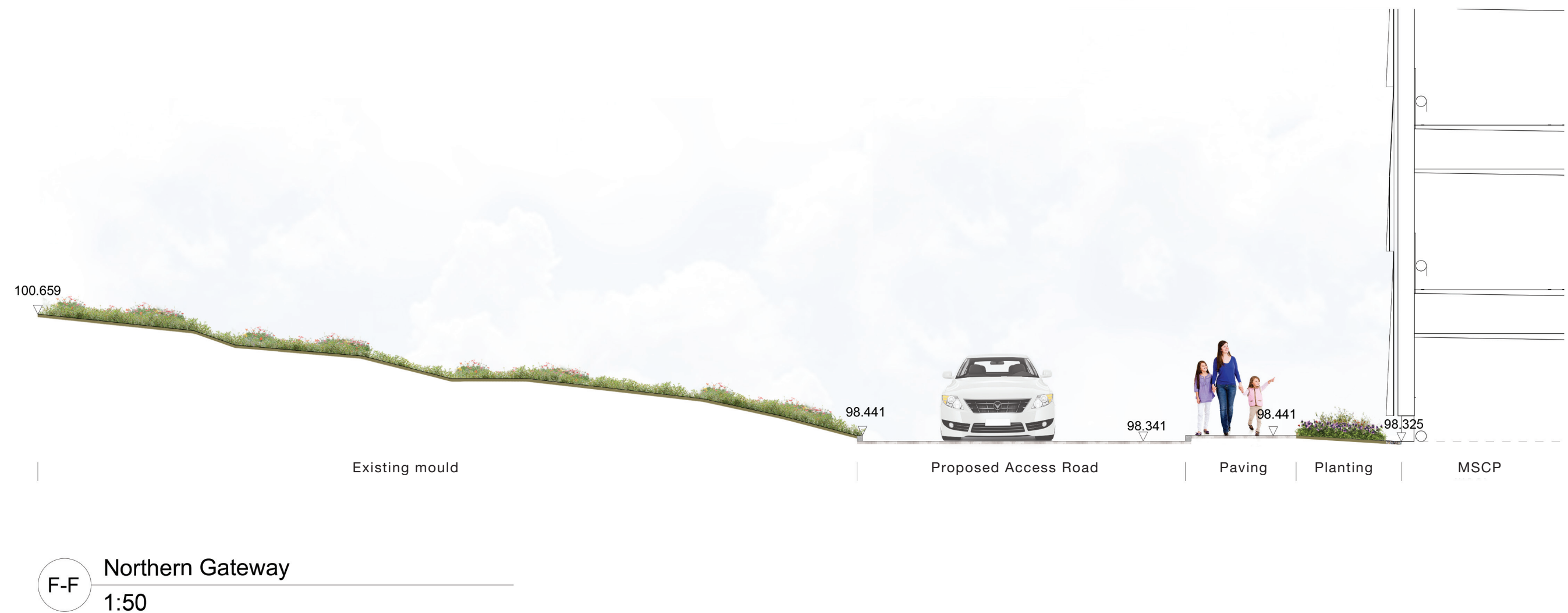


Figure 6.20 Typical Site Sections for Northern Gateway Arrival

6.6 SURFACING APPROACH

A simple surfacing palette has been chosen to unify the overall development and supplement the various character areas within the site at the same time. Colours, material and sizes have been selected based on the history of the site and its surrounding area and are inspired by the Seam theme weaving through the detailed design.

The key element of Yorkstone surfaces extend across the Southern half of the site around the Active Travel Hub and continues in the form of complementing high-quality concrete paving in the North around Plot 2, the Multi-Storey Car Park and Northern Gateway. The paving layout responds to the clean lines of the built architecture and grounds the buildings.

- Yorkstone Paving Type 1
- Yorkstone Paving Type 2
- Yorkstone Paving Type 3
- 100% Natural Aggregate Concrete Paving
- Asphalt Paving
- Feature Yorkstone Cobbles
- Feature 100% Natural Aggregate Concrete Paving Band

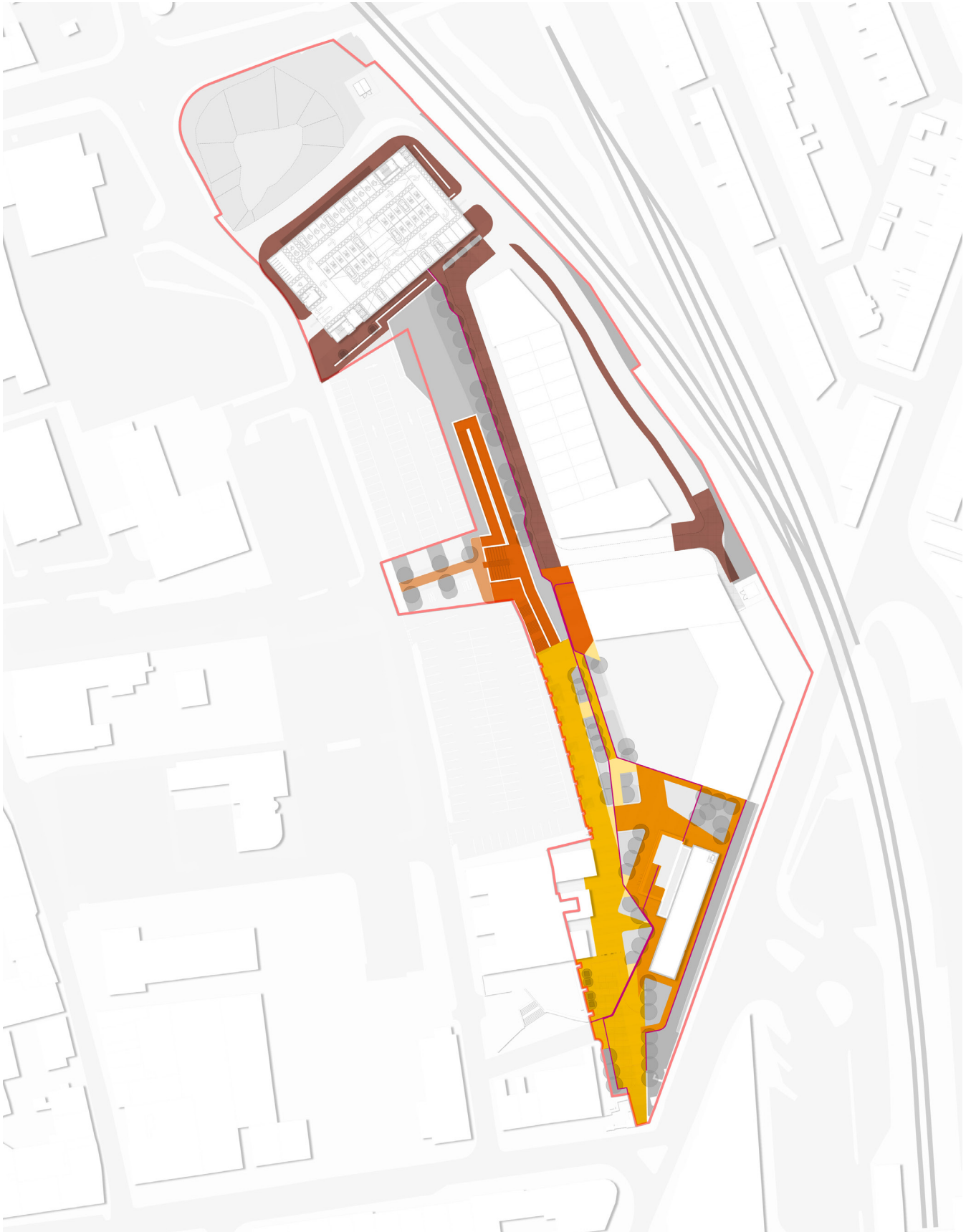


Figure 6.21 Surface Approach Diagram



6.6 SURFACING APPROACH

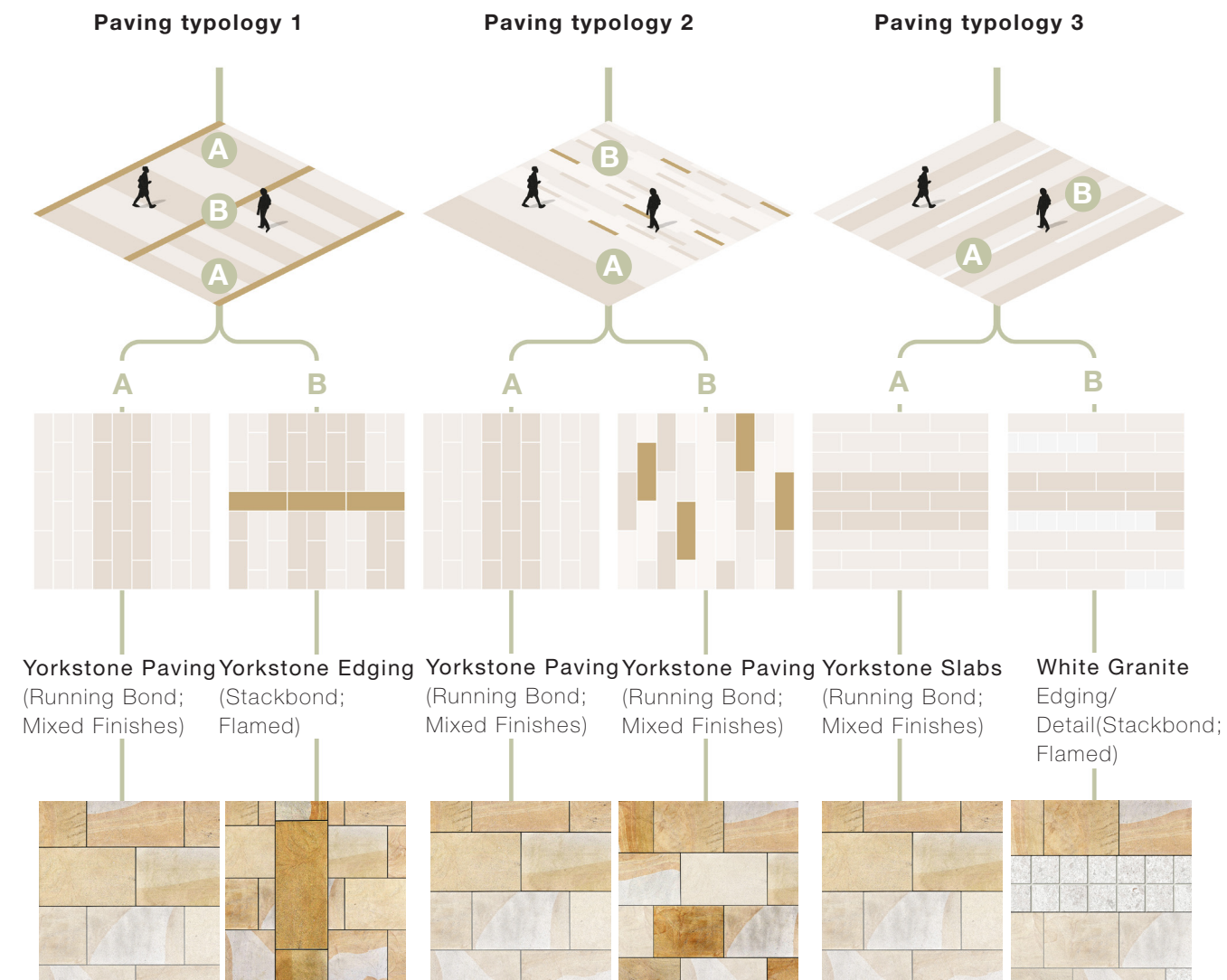


Figure 6.22 Surface Approach Typology Examples

6.7 STREET FURNITURE APPROACH

The various character areas within the proposal will be supported by the selection of street furniture and their materiality. Design and materials have been selected based on the Town Centre design guidance and inspiration by the Seam and Digital Campus themes of the landscape proposals.

A street furniture palette has been chosen based on comfort, interest, usability, inclusivity and character. The key elements of timber and dark coloured metal surfaces extend across the whole site in varying shapes and forms.

- KEY
- Seating
 - Seating wall
 - Raised planters
 - Bike rack
 - Litter/recycling bins
 - Bollards



Figure 6.23 Street Furniture Approach diagram

6.7 STREET FURNITURE APPROACH

Street furniture is an important part of the development. The standalone elements play a key role in contributing to the character of places and are an important in creating quality public spaces that maximise use and value of the public realm.

The aim is to provide a coordinated range of street furniture comprising seating, bicycle stands, litter bins, bollards, tree surrounds and lighting. The needs for this should be assessed against the existing provision and sustainability principles to re-use what is possible.

The street furniture shall be attractive, ergonomic, simple and inclusive design and be seen as a co-ordinated 'family'. This approach will provide overall continuity, while allowing some local variations if require to respond to the different functions across the spaces. Example of street furniture are shown adjacent.

Street furniture should be well designed and appropriate for the locality and positioned thoughtfully. Reference should be made to the Barnsley design guidance including Designing Supplementary Planning Document. Well designed, comfortable seating in the right place enhances how people can enjoy the public realm space, contributing to successful inclusive design.



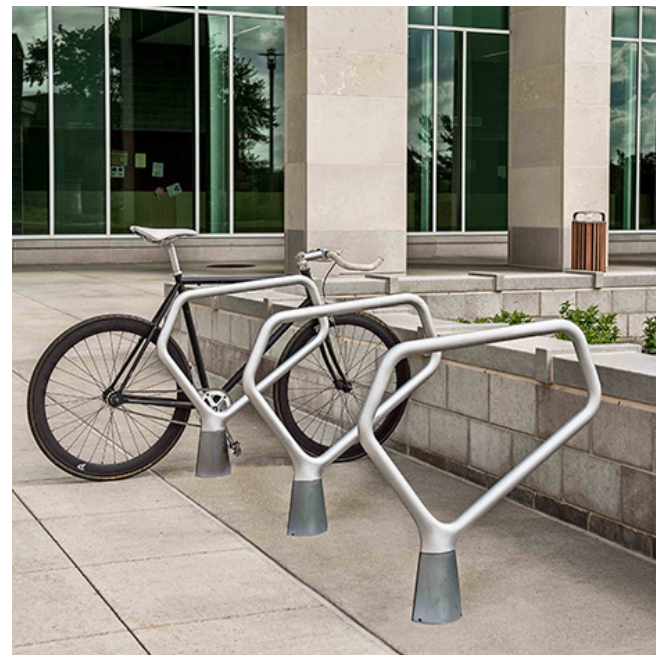
Seating



Seating wall



Bollards



Bike rack



Litter/recycle bins



Raised planters

Figure 6.24 Street furniture palette

6.8 PLAY-ON-THE-WAY APPROACH

Playable Spaces

The Seam provides a playful environment for all ages. It is designed to encourage communal interaction and strikes a balance between the connecting function and space that invites to stop and stay. Play provisions are weaved into the structures and fabric of the landscape proposals in the form of a Play-on-the-Way approach. This continues to activate the public realm from the ATH café spillout area towards North.

- Public and playable spaces to appeal to children of different age groups.
- Small play equipment integrated in the softscape as well as spaces that are inspiring, interesting and safe.
- Adult supervision enabled.

Typical Play-On-The-Way Palette:

- Play furniture are combination for the young and older ages.
- The selection of play furniture is designed to encourage and stimulate children's play activities.
- The equipments offers a combined use of learning and fun

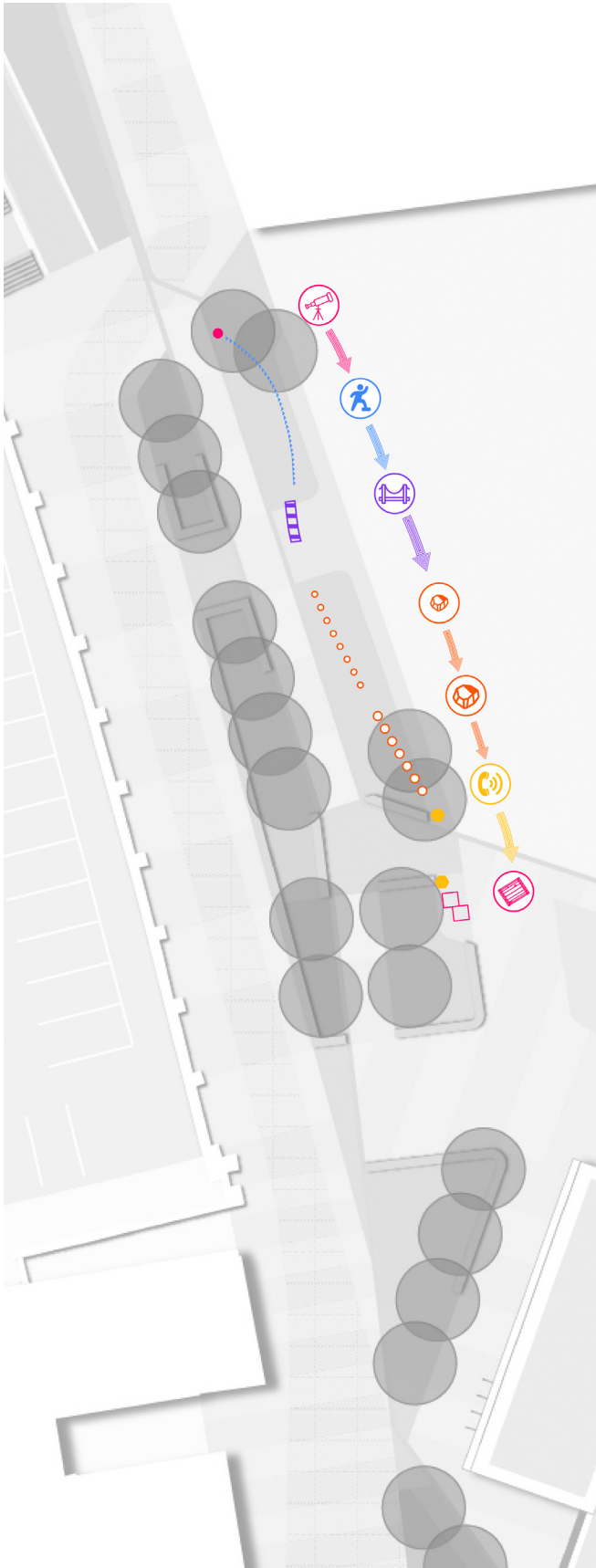
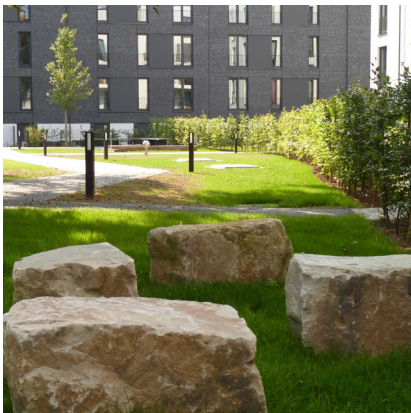


Figure 6.25 Play-on-the-way diagram



Natural stone



Stepping bridge



Speakers



Mounds



Kaleidoscope



Wobble disc

Figure 6.26 Play-on-the-way palette

6.9 LIGHTING STRATEGY

The following pages presents a lighting strategy proposal for The SEAM public Realm.

Illumination of the built environment shapes the perception of the night time experience during the hours of darkness. A quality and considered architectural lighting scheme enhances the cultural value and attractiveness of the surroundings and increases night time activity and use of amenity spaces.

Design Objectives

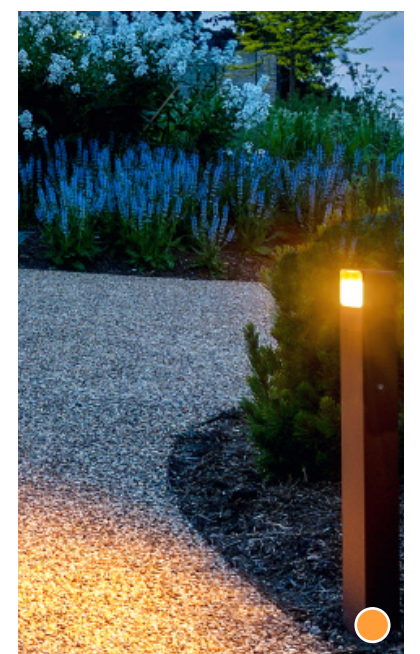
- Aesthetic appeal. The design will augment the aesthetic and functional aspirations of the landscape design, celebrate the heritage architecture, invoke civic pride.
- Perception of safety. The use of high colour-rendering light sources and considered vertical illuminance will evoke a higher perception of safety.
- Low light pollution. The lighting must not cause nuisance to neighbouring buildings. Spill light into the sky is to be minimised.
- Contextual sensitivity. The design should be sympathetic to the historic architecture. The placement of luminaires and associated wiring is to minimise impact to the building structure.
- Sustainability. The design will use the latest luminaire technology and controls to minimise energy use and create an easily maintainable installation

General lighting key:

- Multi-head projector columns - 12m
- Multi-head projector columns - 8m
- Lighting columns - 4m
- Illuminated bollards



Figure 6.27 Light source type - key plan



6.9 LIGHTING STRATEGY

Lighting treatments

1. Illumination to celebrate the historic railway arches. Linear in-ground luminaires. In-direct illumination will also provide vertical illuminance which aids facial recognition and enhances perception of safety.
 2. Integral handrail lighting to illuminate steps and ramps. Localised illumination minimises the requirement for wide area flood lighting.
 3. Integral step lighting to animate seating area.
 4. Totems with the ability to display digital content located at site gateways. These provide both a neighbourhood identity and the ability to visibly communicate/display SMART technology aspirations.
- Planter structures to have integral lighting to provide accent illumination to planting and delineate interfaces with pathing in key locations.
 - Select trees to have in-ground up-lighting. Feasibility subject to bat survey.

The following mandatory, legislative and regulatory requirements, British Standards, Codes of Practice and Best Practice professional guidance publications will form the parameters of the lighting installation:

- ILP Guidance Notes for the Reduction of Obtrusive Light GN01/20
- LG6 The Exterior Environment, CIBSE 2016
- BS EN 12464-2:2014 Light and lighting - Lighting of work places. Outdoor work places
- SLL Lighting Handbook, 2018
- BS 8300-2 2018 Part 2 Buildings - Code of practice: Design of an accessible and inclusive environment.

Key:
— Linear in-ground luminaires



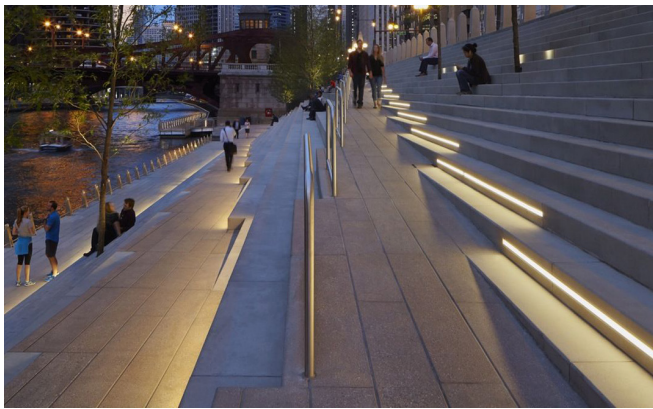
Figure 6.28 Lighting treatments key plan



1. Close offset graze of light to stone arches



2. Handrail lighting.



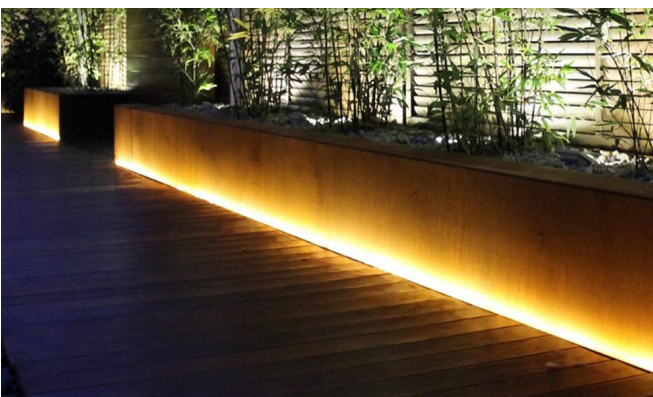
3. Step lighting.



4. Digital totems located at gateways (indicative product).

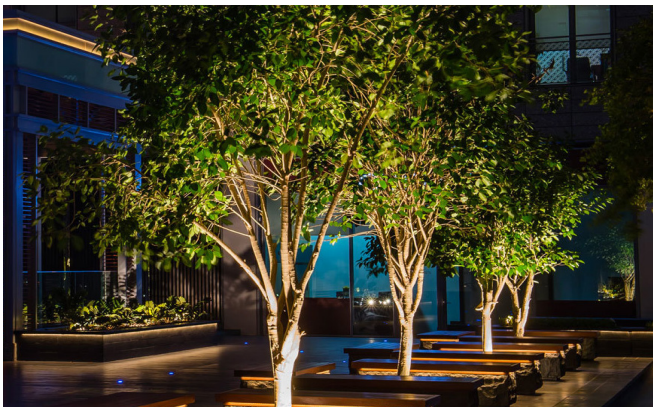


Illumination to inner planter areas



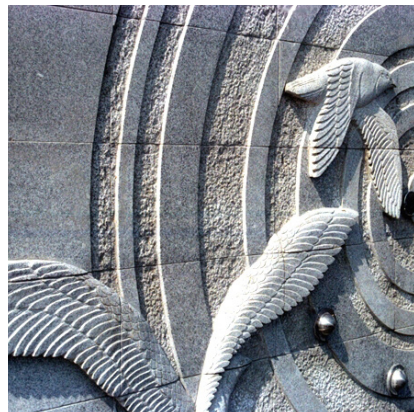
Linear in-ground illumination to planters.

Public Relam	Average Illuminance (lux)	Minimum Illuminance (lux)
Pedestrian thoroughfare - Promenade	15	3
Pedestrian only - Meandering routes	5	1
Pedestrian only - Perimeter walk	3	0.6
Steps / Ramps	30	15

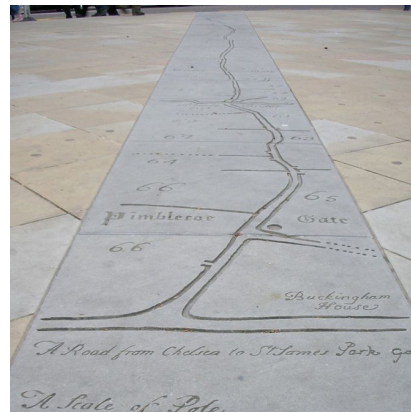


Up-lighting to select trees

6.10 WAYFINDING APPROACH



Branded gateway signage integrated in structure



Guiding paving band with engravings



Finger post



Totem with map



Guiding paving band with engravings: Paving graphic engrave

- Branded gateway signage integrated in structure
- Finger post
- Totem with map
- Building mounted directional signage
- Guiding paving band with engravings

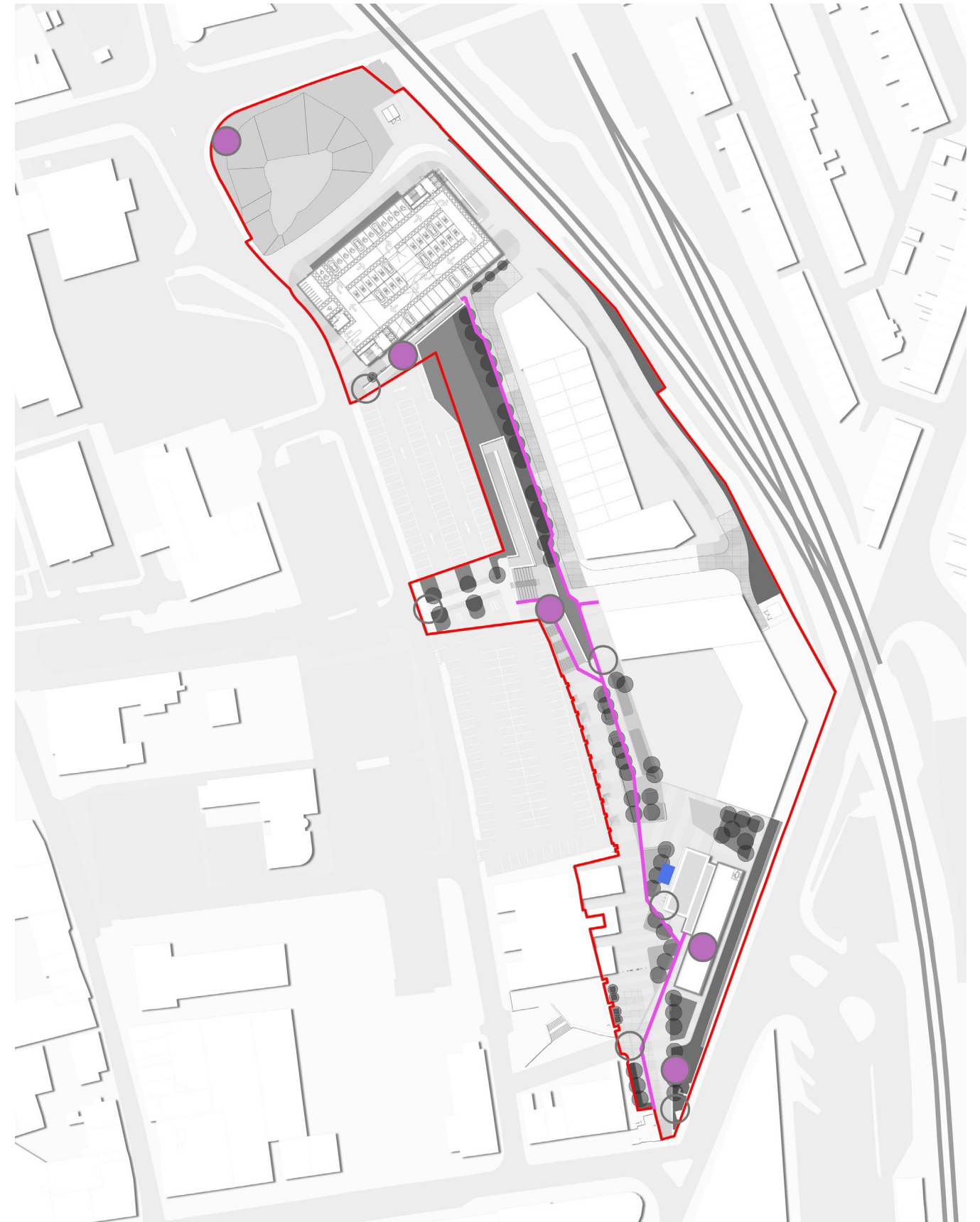


Figure 6.29 Wayfinding diagram

6.11 BOUNDARY TREATMENT & SECURE LINE APPROACH

A simple approach to boundary treatments has been adopted. The elegant design and dark grey colour of the metal railing repeats across the site in varying functions and heights.

Where possible, vehicular access to the pedestrian only areas of the scheme is restricted through a combination of tree planting/softscape and street furniture. In order to control access to the pedestrian only area around the Active Travel Hub, PAS rated removable bollards are proposed.



Acoustic reflective timber fence panels 1.8m high



Timber panel fence 1.8m



Flat bar steel fencing 1.8m



Controlled access for vehicles: Removable bollards



PAS68 rated removable bollards

- Acoustic reflective timber fence panels 1.8m high
- Timber panel fence 1.8m
- Existing steel palisade fencing retained
- Flat bar steel fencing 1.8m
- Existing retaining walls retained

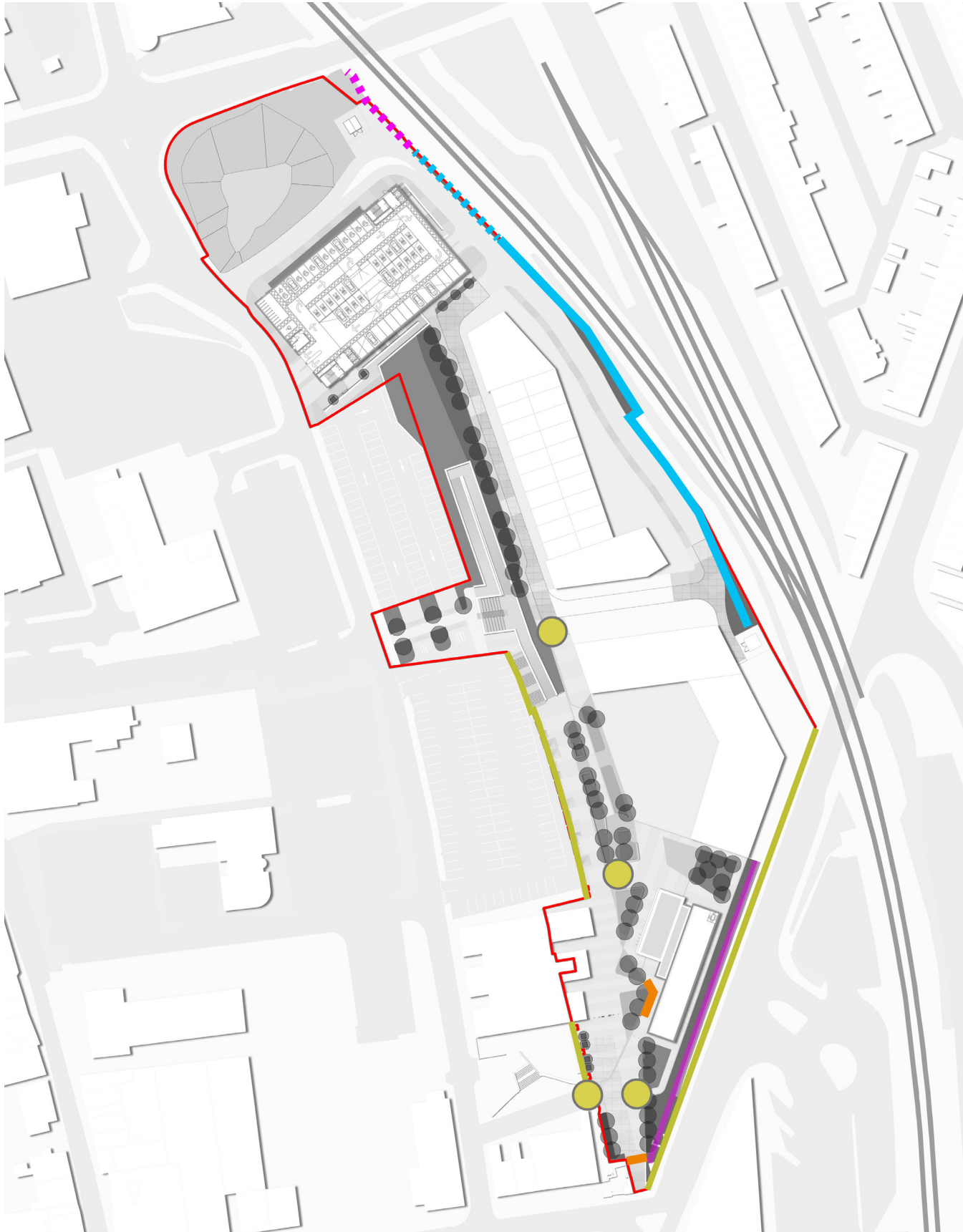


Figure 6.30 Boundary treatment and proposed HVM

6.12 PLANTING APPROACH & SCHEDULES

The vision for the soft landscape will complement the character of the existing and proposed urban form and preserve and enhance the existing landscape character of the wider external realm. The planting will help form part of a green network, the Green Seam. Selected species will help define gateways into the site, secluded areas, linear spaces and public square settings and provide a new rich ecosystem for flora fauna.

The site was largely occupied by tarmac surface car parking and void of vegetation with the exception of a tree belt along its Western boundary, some street tree planting associated with the car park and peripheral shrub and amenity grass strips. It is proposed to remove the street trees and parts of the tree belt to enable the proposed development. In its place we propose to introduce an attractive, resilient and biodiversity rich planting palette across the site, which contributes to the character of the public realm. Species will also be selected based on all-year-round interest, microclimate conditions, tree pit design, drainage, soil and spatial context. Responding to cardinal direction the planting selection is a mostly sun and semi-shade loving plants to ensure plants thrive in their purposely selected locations.

Landscape and environmental enhancements will also include the introduction of native and ornamental species shrub and herbaceous planting. This will provide aesthetic improvements, enhancing the visual character of the various spaces and create an attractive environment. It will also improve the ecological balance and benefit the overall local biodiversity of the scheme by creating a rich ecosystem for birds and insects on a site which is currently low in ecological value. We favour native species tree planting with a mixture of evergreen and ornamental plants providing the structure to the landscape planting design combined with herbaceous perennial planting to provide colour, scent, and seasonal variations and interest. Complementing the Wildflower Green Roof of the Active Travel Hub, it is proposed to enhance the existing grass mound of the Northern Gateway with wildflowers to create a colourful, loose textured,

naturalistic look. In creating this wildflower meadow, Wildflower seed will be selected to suit individual site conditions.

For mass herbaceous and shrub planting beds, a mixture of native and non-native plants are used, in large drifts or combined in matrices, to provide a long season of interest. Components include bulbs, ornamental grasses, ferns, biennials, annuals and perennials, including species with attractive seedheads. Closeness of planting minimises spaces for weeds, and successional layering means that there is colour and shape interest around the year.

KEY	
●	Malus sylvestris
●	Prunus avium
●	Liriodendron tulipifera
●	Quercus rubra
●	Betula utilis subsp. jaquemontii
●	Alnus cordata
●	Acer x freemanii
●	Ilex Aquifolium
●	Salix caprea
●	Prunus serrula
●	Liquidambar styraciflua
●	Gleditsia triacanthos
●	Amelanchier lamarckii 'Robin Hill'
●	Acacia dealbata

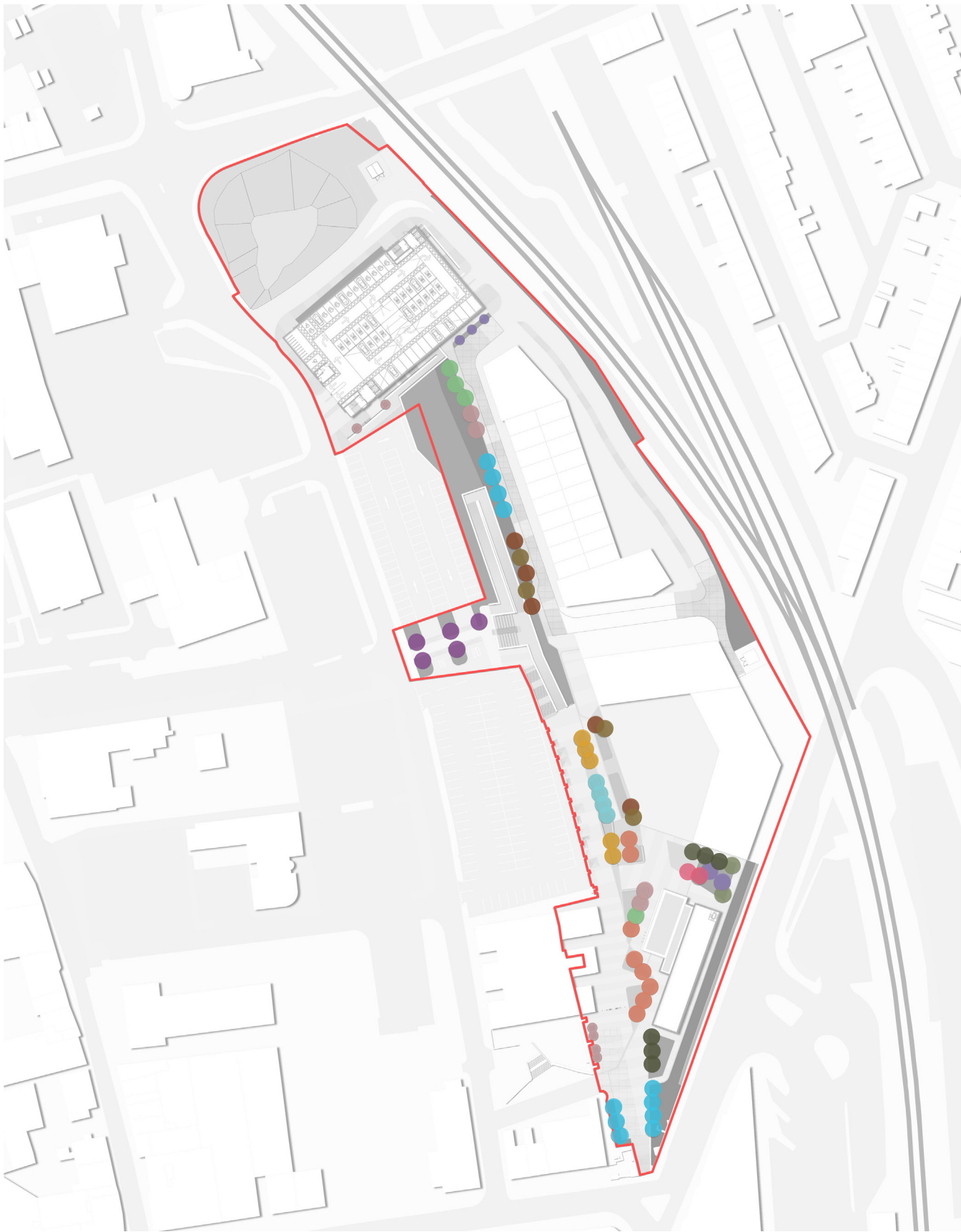


Figure 6.31 Tree Planting diagram

6.12 PLANTING APPROACH & SCHEDULES

Typical Tree Planting Strategy Plan

The tree planting palette will be incorporated in the public realm area. The palette seeks to reinforce existing trees scape on site. The trees can be used to strengthen the existing tree arrangements and create a frame a into the public spaces and strengthening the movement pattern lines.

Furthermore, the planting envisage to fulfil and provide character and a sense of place by frame views, provide focal points and unify the different spaces.

Indicative plants are shown here, however the full palette, specification and exact locations will be subject to further detailed design development.

Typical Rain Garden Tree Planting Strategy Plan

The tree planting selection will be incorporated around the rain garden and the playground area.

Trees have been selected for their sensory qualities, such as the colourful red peeling bark of Prunus serrula. Other trees such as Betula trees provides the benefiting dappled shading during the spring and summer months.

Compact yet small conifer trees envisage to provide all-year around shelter, particular in the winter. Pinus sylvestris 'Watereri' (Scots Pine) of a parasol-shaped crown qualities provides shelter from rain showers for the playground users.

The tree planting proposals envisage to create provide shelter from wind and rain, buffer noise and pollution and create shade. Frame views, provide focal points and unify the different spaces. Moreover to attract and provide shelter for wildlife.

Indicative plants are shown here, however the full palette, specification and exact locations will be subject to further detailed design development.



Malus sylvestris



Prunus avium



Liriodendron tulipifera



Quercus rubra



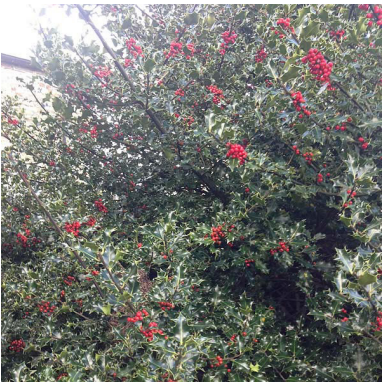
Betula utilis subsp. jaquemontii



Alnus cordata



Acer x freemanii



Ilex Aquifolium



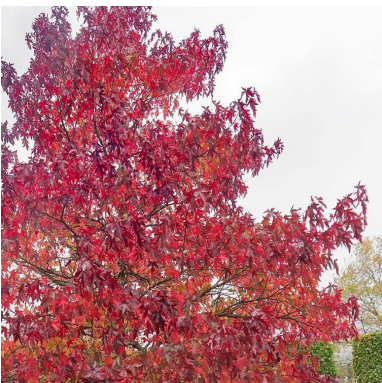
Acacia dealbata



Salix caprea



Prunus serrula



Liquidambar styraciflua



Gleditsia triacanthos



Amelanchier lamarckii 'Robin Hill'

6.12 PLANTING APPROACH & SCHEDULES

Planting Strategy Plan

The planting palette will be incorporated seamlessly throughout the scheme.

The palette are a contrasts of colourful and seasonal variety to site, whilst seeks to provide being low-maintenance, requiring to be cut down once a year in late winter / early spring.

The palette are a mixture of ornamental grasses and perennials that tolerate the soil type. Flowering plants will be selected that prolong the season from early spring into the autumn. Ornamental grasses will provide winter interest, complimented with Helenium and Rudbeckia for example.

Indicative plants are shown here, however the full palette, specification and exact locations will be subject to further detailed design development.

Sensory planting to accompany the Play-on-the-way.

The sensory planting palette will be incorporated in the Play-one-the-way area. The planting are selected to provide interest and a gentle backdrop as well as harmonising the play equipment into the landscape.

The plants are colourful and provide seasonal interest throughout the year. The robust planting selection varies in colour, shapes and size will seek to stimulate and engage the children's senses through planting types. Moreover the planting envisaged to frame views and links together different areas of the Play-on-the-way and public realm.

Indicative plants are shown here, however the full palette, specification and exact locations will be subject to further detailed design development.

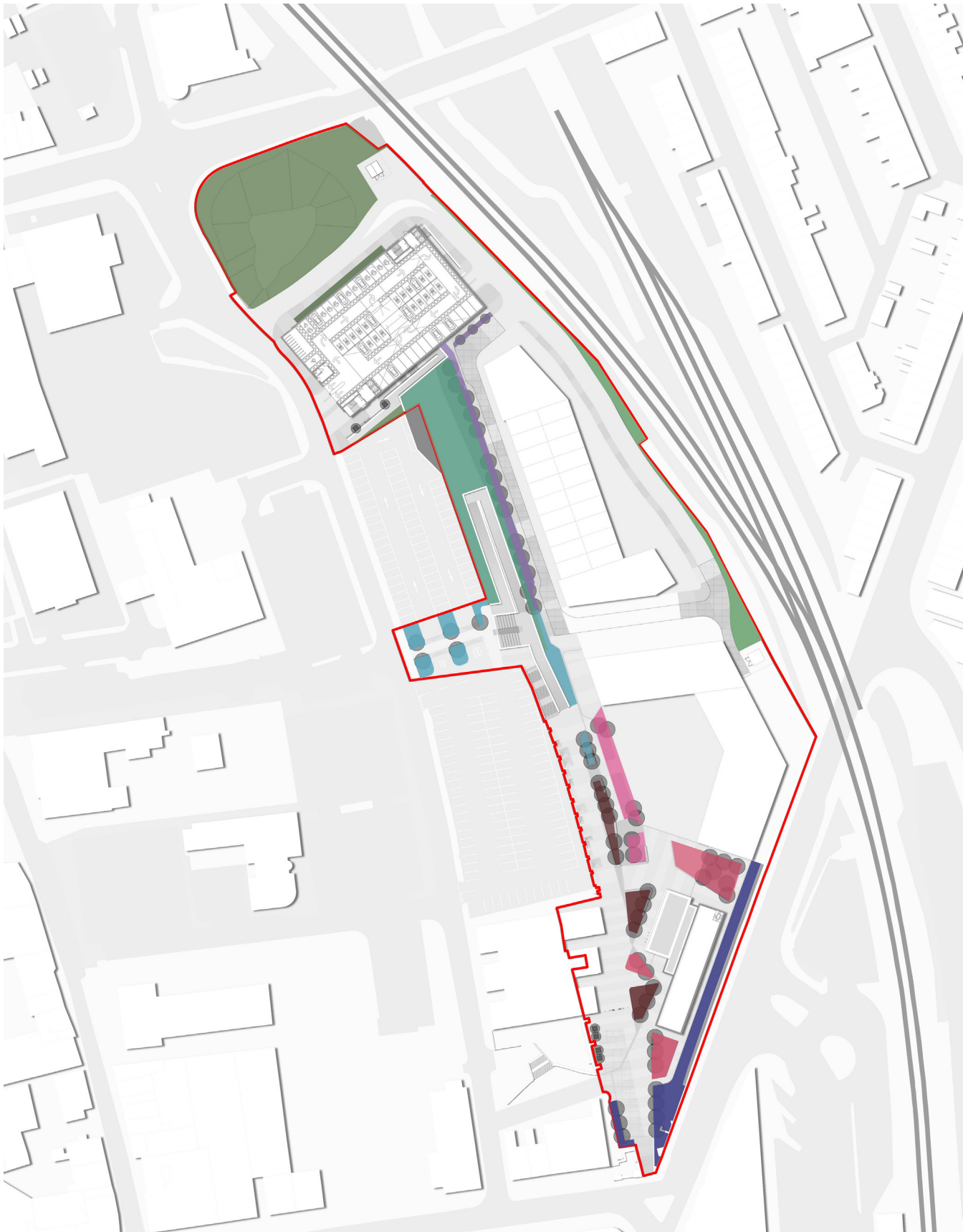


Figure 6.32 Planting diagram



Kniphofia uvaria



Calamagrostis Karl Forester



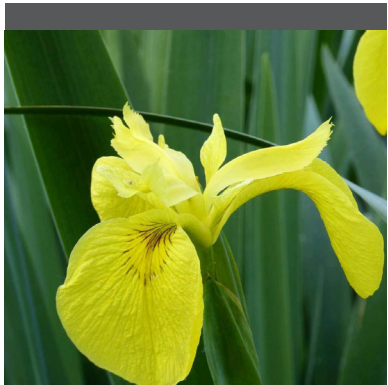
Helenium 'Moerheim Beauty'



Persicaria amplexicaulis 'Firetail'



Lythrum salicaria 'Blush'



Iris pseudacorus



Miscanthus sinensis 'Kleine Silberspinne'



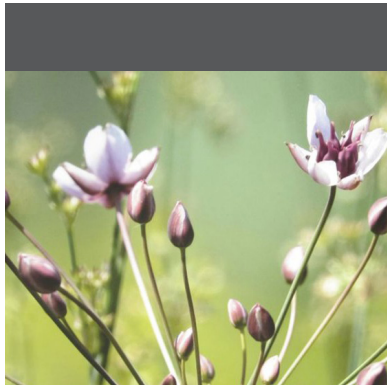
Rudbeckia fulgida var. Sullivantii Goldsturm



Monarda 'Scorpion'



Deschampsia caespitosa



Butomus umbellatus



Cornus alba Sibirica



Crocosmia x crocosmiiflora 'Columbus'



Sanguisorba officinalis 'Red Thunder'



Eupatorium maculatum

Figure 6.33 Selection of Typical Planting Palette

Typical Planting Palette

Shrubs

Species	Specifications
Helenium 'Moerheim Beauty'	30-45cm 2Lt Bushy
Persicaria amplexicaulis 'Firetail'	20-35cm 9cm Bushy
Lythrum salicaria 'Blush'	20-35cm 9cm Bushy
Monarda 'Scorpion'	20-35cm 9cm Bushy
Rudbeckia fulgida var. Sullivantii Goldsturm	30-45cm 2Lt Bushy
Cornus alba Sibirica	30-45cm 2Lt Branched
Crocosmia x crocosmiiflora 'Columbus'	20-35cm 5 corms Bushy
Sanguisorba officinalis 'Red Thunder'	20-35cm 9cm Bushy
Pachysandra terminalis	20-35cm 9cm Bushy
Eupatorium maculatum	20-35cm 9cm Bushy

Grasses

Calamagrostis Karl Forester	30-45cm 2Lt Bushy
Deschampsia caespitosa	30-45cm 2Lt Bushy
Miscanthus sinensis 'Kleine Silberspinne'	30-45cm 2Lt Bushy

Typical Marginal Planting Palette

Shrubs

Species	Specifications
Butomus umbellatus	30-40cm 9cm Bushy
Persicaria bistorta	30-45cm 2Lt Bushy
Juncus effusus	20-35cm 9cm Bushy
Astilbe 'Bressingham Beauty'	20-35cm 9cm Bushy
Lychnis Flos Cuculi	30-40cm 9cm Bushy
Astilbe chinensis	30-40cm 9cm Bushy
Filipendula ulmaria	30-40cm 9cm Bushy
Iris pseudacorus	20-35cm 18cm Bushy

Typical Rain Garden Planting Palette

Shrubs

Species	Specifications
Kniphofia uvaria	30-45cm 5Lt Bushy
Iris pseudacorus	20-35cm 18cm Bushy
Alisma lanceolatum	30-45cm 2Lt Branched
Phlomis russeliana	30-45cm 2Lt Bushy
Verbena officinalis	30-40cm 9cm Bushy

Grasses

Molinia caerulea	30-45cm 2Lt Bushy
Miscanthus sinensis	30-45cm 2Lt Bushy
Festuca glauca	30-45cm 2Lt Bushy

Typical Sensory Planting Palette

Shrubs

Species	Specifications
Centaurea montana	30-40cm 9cm Bushy
Hypericum hidcote	30-45cm 2Lt Bushy
Imperata cylindrica 'Rubra'	30-45cm 2Lt Bushy
Thymus serpyllum Albus	30-35cm 9cm Bushy
Alchemilla mollis	30-35cm 2Lt Bushy

Grasses

Stipa tenuissima	30-45cm 2Lt Bushy
Carex testacea	30-45cm 5Lt Full Pot
Molinia caerulea subsp. arundinacea 'Transparent'	30-45cm 2Lt Bushy

Typical Rain Garden Tree Planting Palette

Species

Species	Specifications
Salix caprea	25-30cm girth Semi Mature, Root Ball or Pot Grown
Amelanchier lamarckii 'Robin Hill'	150-180cm ht and spread, Root Ball or Pot Grown
Acacia delbata	25-30cm girth Semi Mature, Root Ball or Pot Grown
Gleditsia triacanthos	25-30cm girth Semi Mature, Root Ball or Pot Grown
Liquidambar styraciflua	150-180cm ht and spread, Root Ball or Pot Grown
Alnus cordata	25-30cm girth Semi Mature, Root Ball or Pot Grown

Typical Tree Planting Palette

Species

Species	Specifications
Malus sylvestris	25-30cm girth Semi Mature, Root Ball or Pot Grown
Betula utilis subsp. Jaquemontii	120 spread 150ht Multi stem Root Ball or Pot Grown
Betula utilis subsp. Jaquemontii	25-30cm girth Semi Mature, Root Ball or Pot Grown
Prunus avium	30-35cm girth Semi Mature, Root Ball or Pot Grown
Alnus cordata	25-30cm girth Semi Mature, Root Ball or Pot Grown
Prunus serrula	30-35cm girth Semi Mature, Root Ball or Pot Grown
Liriodendron tulipifera	25-30cm girth Semi Mature, Root Ball or Pot Grown
Acer x freemanii	25-30cm girth Semi Mature, Root Ball or Pot Grown
Quercus rubra	25-30cm girth Semi Mature, Root Ball or Pot Grown
Ilex Aquifolium	25-30cm girth Semi Mature, Root Ball or Pot Grown

6.13 MAINTENANCE & MANAGEMENT CONSIDERATIONS

Appropriate landscape management and maintenance is vital to the success of the landscape design. The following key factors will need to be addressed in order to sustain a high quality public realm:

- Safety & Security
- Cleanliness
- Repair and Replacement
- Horticulture Health; and
- Hard Surfaces.

Safety & Security

A safe environment is one that is accessible to all. As well as adopting ‘Secured by Design’ principles in the design of the landscaped areas, long term management and maintenance of the landscape proposals will be required.

Well maintained places are less likely to suffer from crime as they are more likely to be used, thus increased presence will deter antisocial behaviour. Passive surveillance will be encouraged with landscaping enabling clear visibility along main pedestrian routes with trees being clear stemmed to a minimum of 2m.

Shrub planting adjacent to private dwellings/terraces should be maintained to a height of 1100mm - therefore not blocking views yet still acting as a physical barrier.

Cleanliness

Cleanliness is the principal indication of the quality of management of the landscape design. It will be important to maintain the cleanliness of the landscape with regular collection and removal of leaves, debris, and litter. Bins (incl recycling) will be provided within the public realm.

Repairs and Replacement

The need for repair and replacement of finishes will be mitigated using appropriate and durable materials. Nevertheless, in the long term a degree of maintenance and replacement is unavoidable.

Horticulture Health

The health and general condition of planted areas including trees, shrubs, perennial plants and lawns is clearly indicative of the level of care and attention a place receives. Planting, including any replacements to dead or dying material, will be maintained in accordance with a Landscape Maintenance Specification.

Trees and shrubs will undergo inspections which will provide informative pruning to ensure appropriate habit and form, monitor health of trees and removal of dead, dying or diseased branches as required. Once established the removal of stakes/guying systems will be required where necessary. Shrub beds will receive ongoing maintenance to

ensure weed free conditions through combined techniques of herbicides, cultivation and mulching. Until fully established, new trees and shrubs will require adequate watering. Raised planters will require adequate watering, especially in dry periods and the summer months.

Hard Surfaces

Seasonal maintenance of fallen leaves, snow and de-icing is required, and combined use of herbicides and hands to remove weeds that grow within paving or other hard surface joints.

Playable spaces

Regular inspection and site maintenance will be required to ensure a safe playing environment. Equipment has been selected for appropriate and durable materials.

Grass mounding: Grass can be longer on the mount with a mowed edge promoting a purposefully maintenance strategy.

Equipment: inspections and timely repairs to ensure safety and success of play spaces.

7.0 DESIGNING OUT CRIME

7.1 CONTEXT AND SECURITY ISSUES

As a large open surface car park within the town centre and being close to the Transport Interchange, the site is well known for having anti-social behaviour issues and common criminal activities. The site is frequently used as a place for youths to congregate which often leads to anti-social behaviour. The Courthouse pub is adjacent to the southern entrance to the site, and it is recognised that there are anti-social behaviour issues associated with some patrons of the pub, sometimes leading to minor criminal offences.

A specific Designing Out Crime meeting has been held with the Barnsley Design Out Crime Officer (DOCO) and other Police colleagues to review the design proposals and ascertain any concerns that could lead to crime and anti-social behaviour. BDP have also attended a site visit of the recently completed Glass Works MSCP in Barnsley town centre to look at the installed suicide preventative measures.



Figure 7.1: Panoramic view of the Lower Courthouse, looking east

7.2 DESIGNING OUT CRIME MEASURES

The MSCP entry and exit will be secured with roller shutters to the vehicular access and egress points and ticket only pedestrian access. This should mitigate unwelcome access. CCTV coverage is to be provided to all areas, including the lifts. At roof level, to deter suicide attempts, the height of the external cladding to the perimeter has been increased to a minimum of 2.8m which is in-line with advice received in the Designing Out Crime meeting. Anti-climb mesh is also proposed to the inside face as an additional preventative measure.

The Cycle Store within the ATH will be open to the public 24/7. Access to the facility is via a double entry lobby with a secure fob access. The design team are considering an enhanced glazing specification (Hammerglass) to the ATH, as suggested by the DOCO.

Within the public realm, access is permitted for emergency vehicles and removable bollards are proposed as a means to control occasional vehicle access into the site. An assessment is to be carried

out to establish if hostile vehicle mitigation measures are required to the site to prevent unauthorised vehicular access. The specification of litter bins within the public realm is to be assessed to determine if these need to be blast resistant. External lighting is being provided throughout the public realm and is detailed within the lighting report. CCTV is proposed and is intended to be linked to a central surveillance / monitoring station.

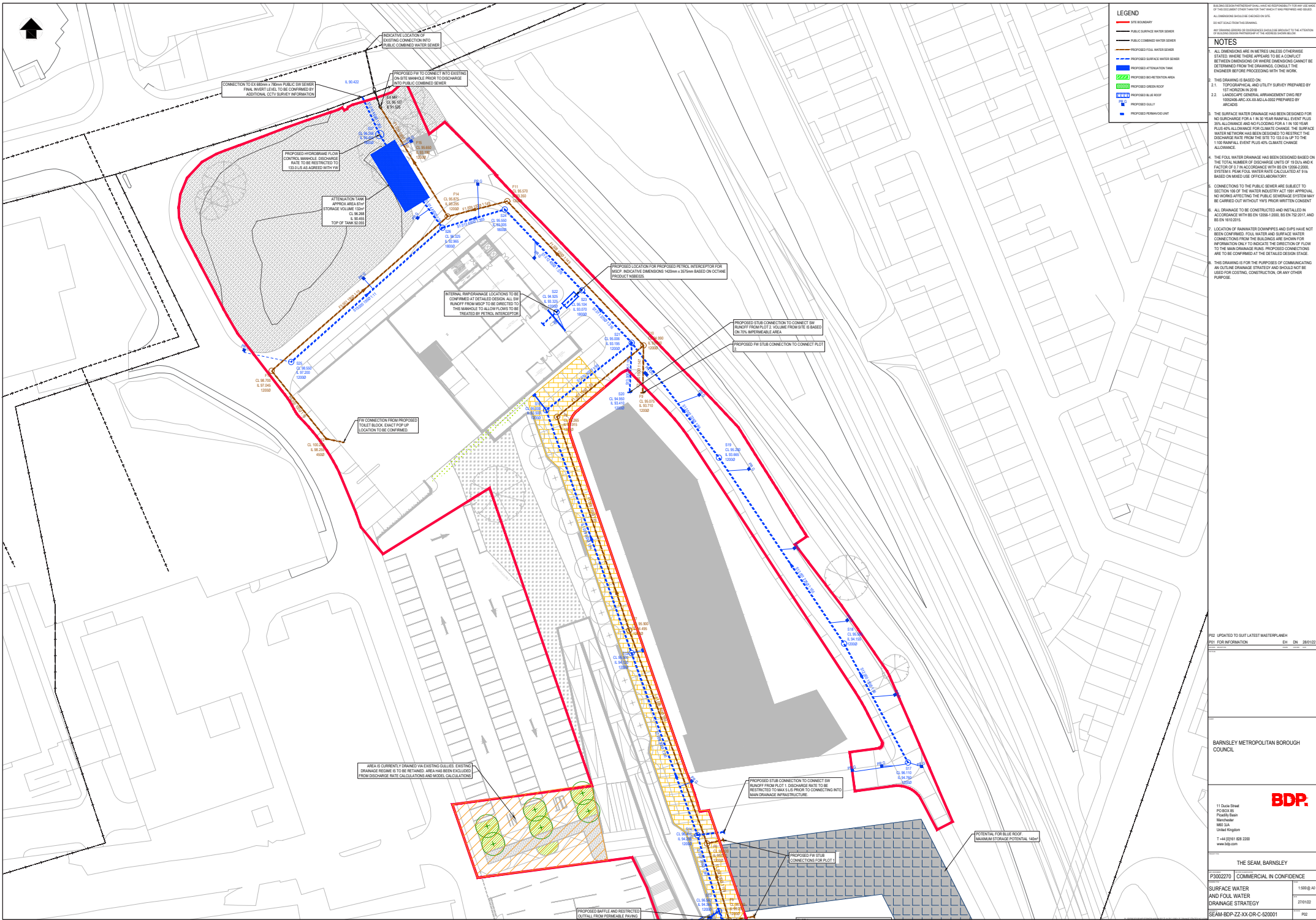


Figure 7.2: Panoramic view of part of the Lower Courthouse, looking south west

APPENDIX

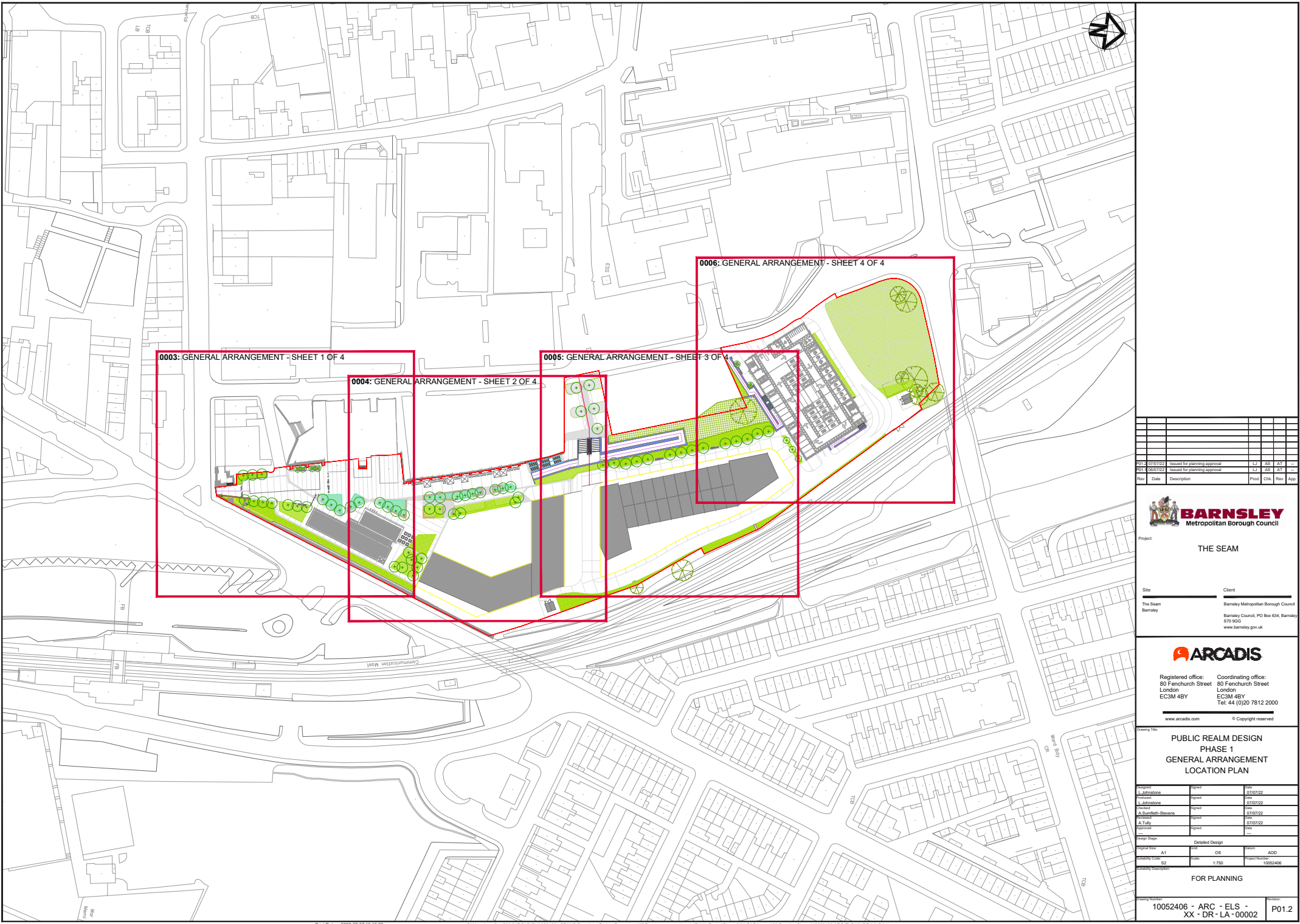
APPENDIX A

Drainage Strategy

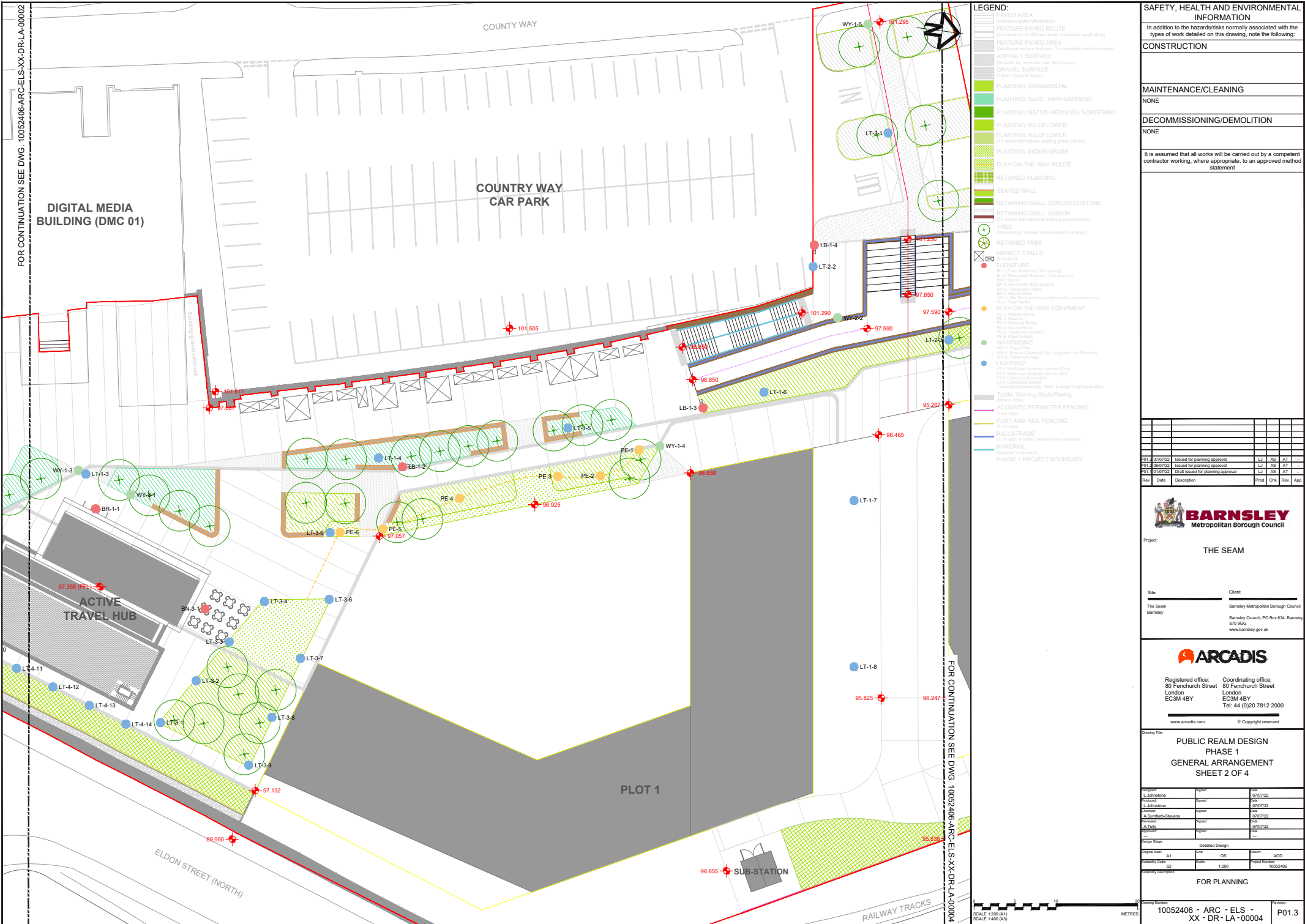


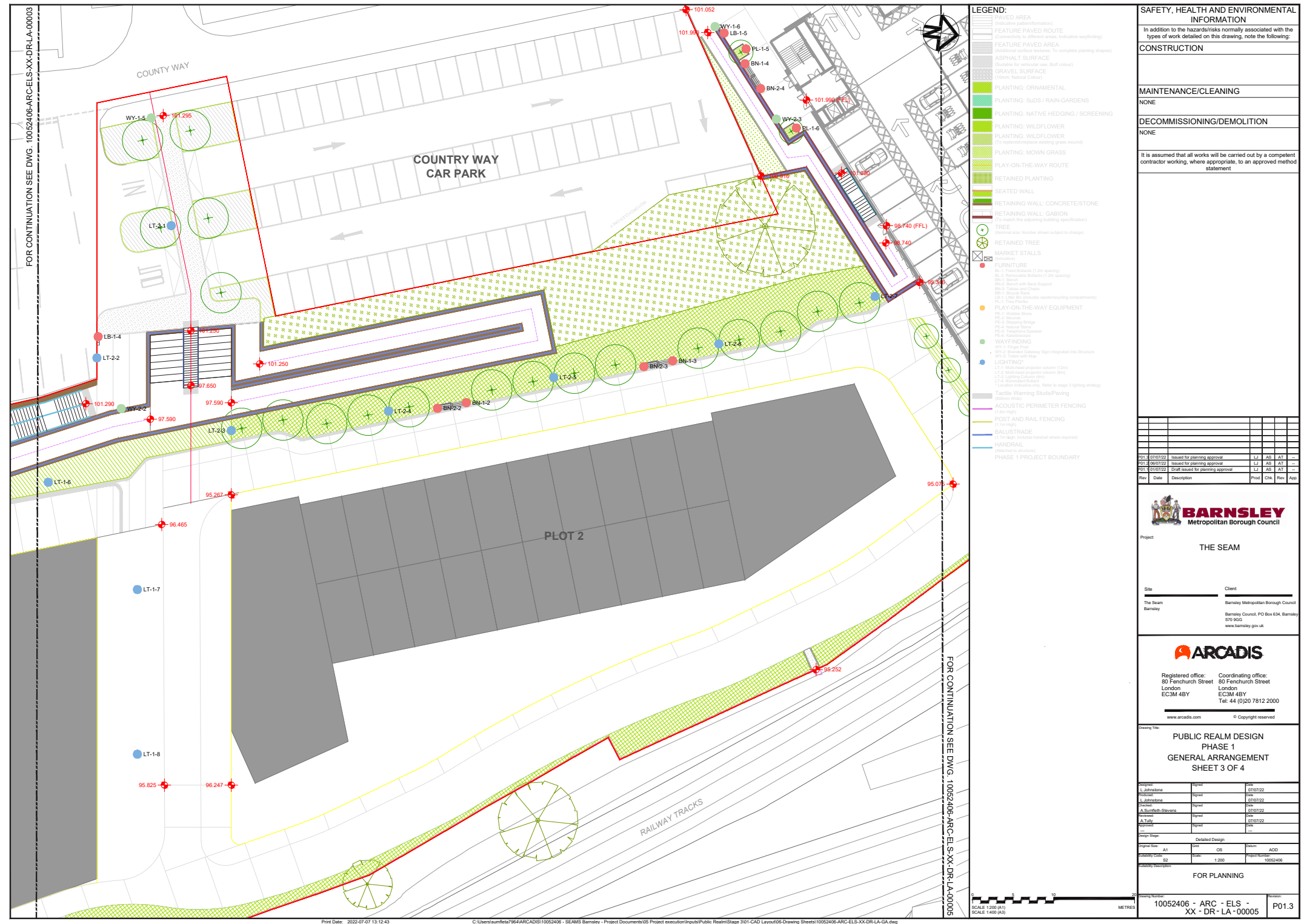
APPENDIX B

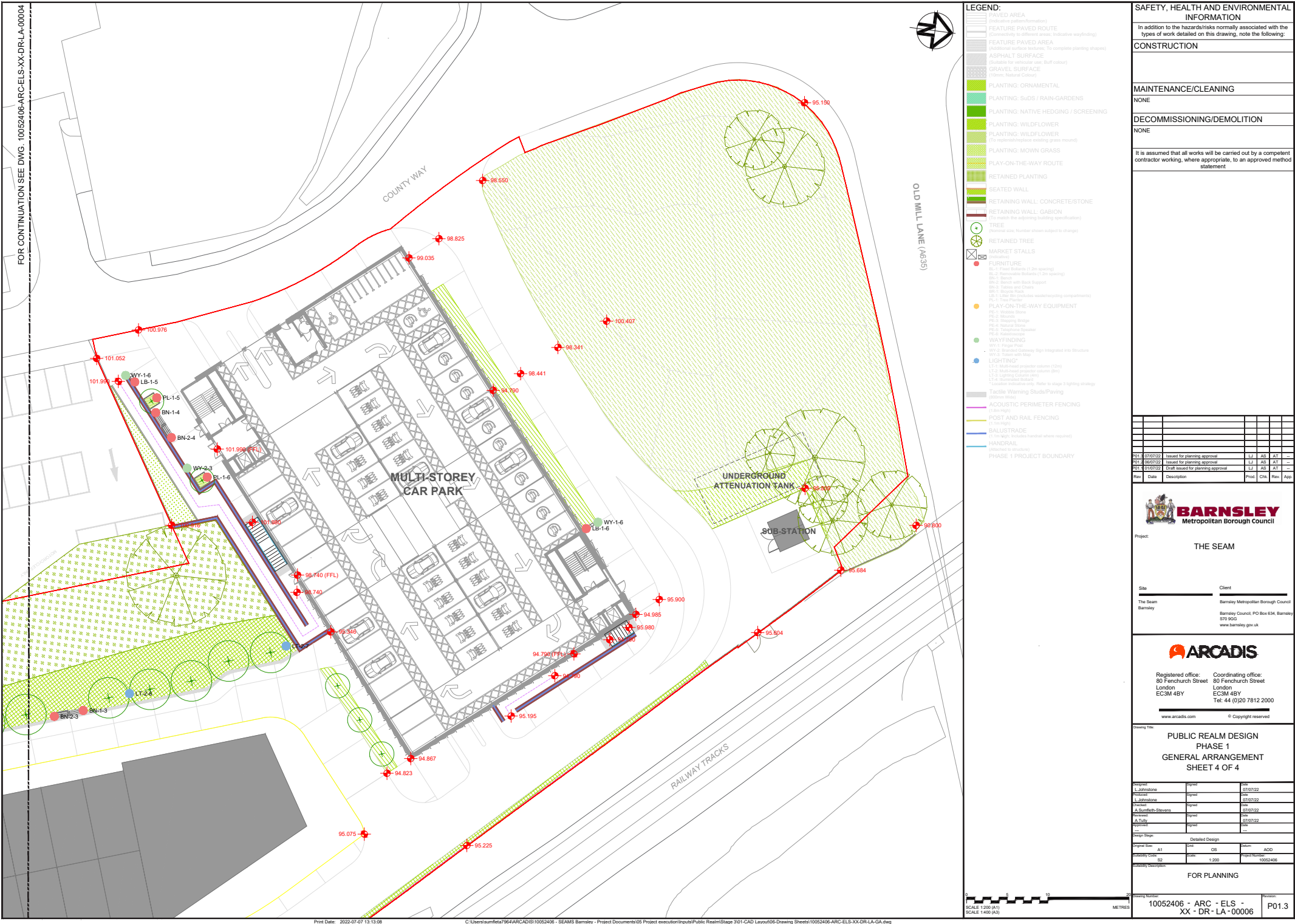












BDP.

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