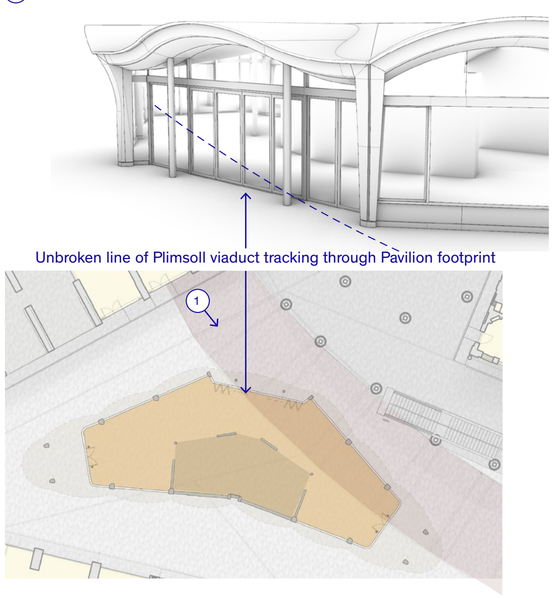
West elevation - respecting the plimsoll viaduct shadow

By locating the back-of-house on the east side, the western elevation can function as the main entrance to the unit, redirecting foot traffic towards the previously under-utilised southwest entrance of the site. This strategic location creates a new focal point to draw pedestrians to, revitalising a low-footfall area. With servicing to the wider yard taking place on the eastern side, this makes the western entrance ideal for visitors in the early morning hours.

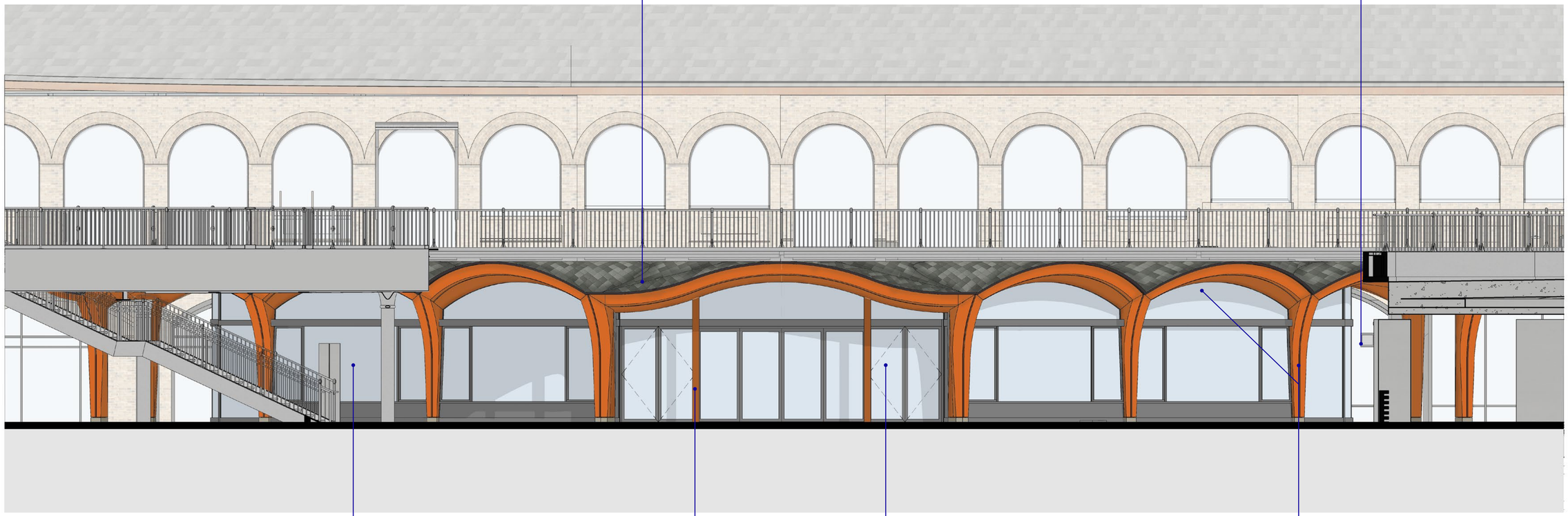
Relocating solid facade bays away from the West elevation also ensures a continuation of the Plimsoll line through the Pavilion. With increased glazing on the western side, the visibility of this feature is significantly improved, allowing for the continued appreciation of the historic Plimsoll Viaduct line. The proposals would, with the use of distinct floor finishes and paving showcase the Plimsoll line, retaining this reference to the Yard's past.

Figure 40: Location of the Plimsoll viaduct

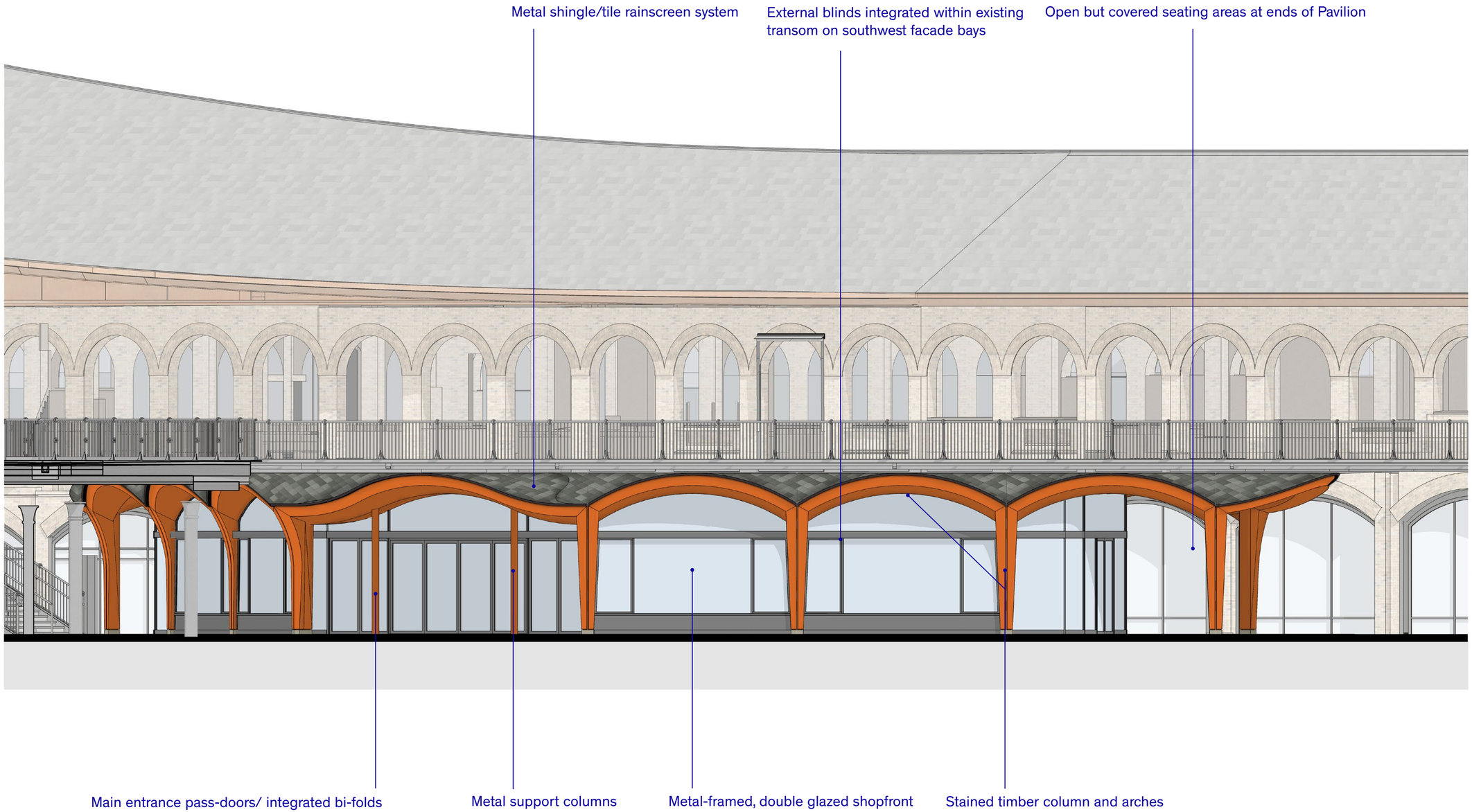


East elevation in context

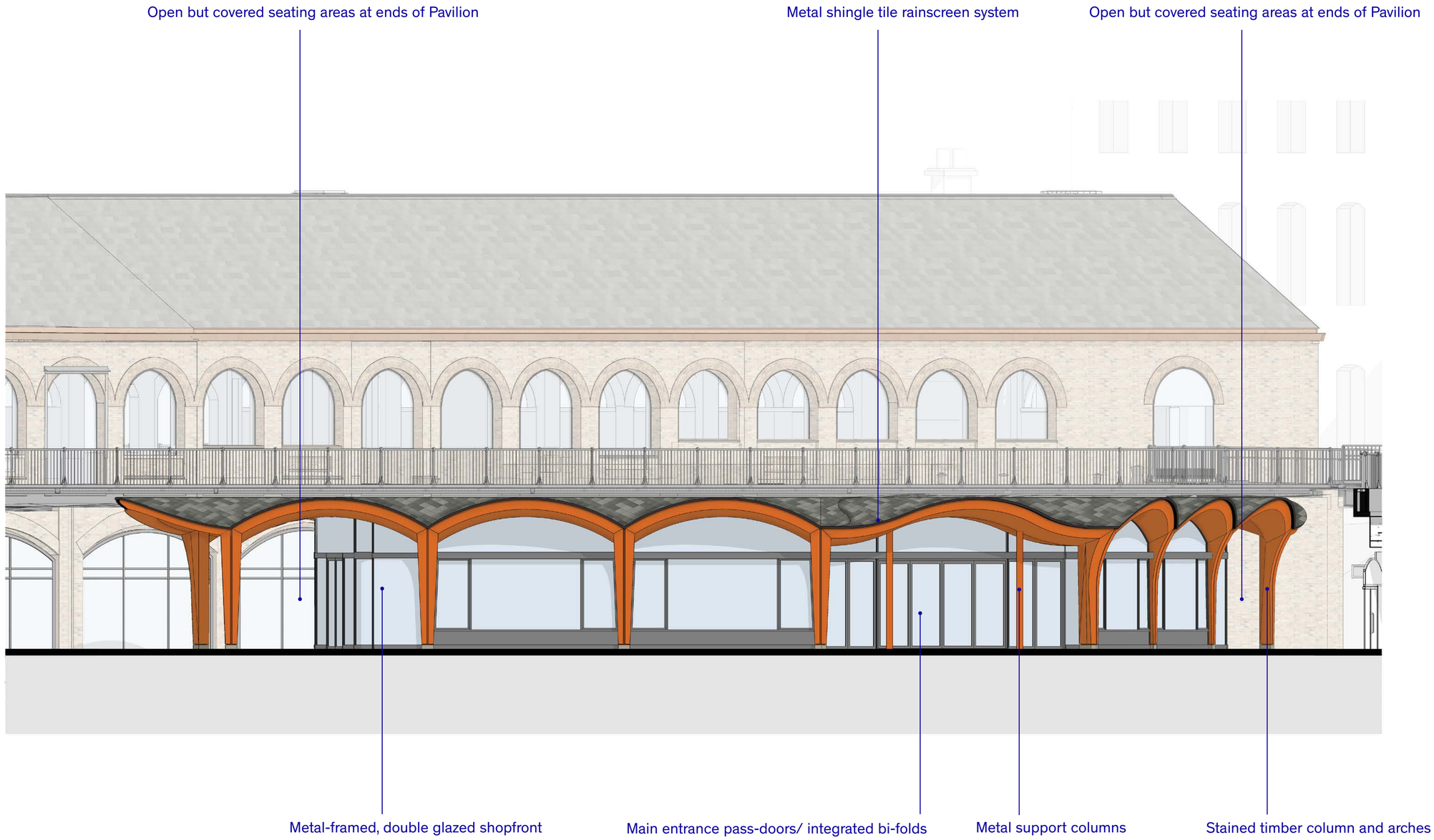
West elevation in context



South-west elevation in context



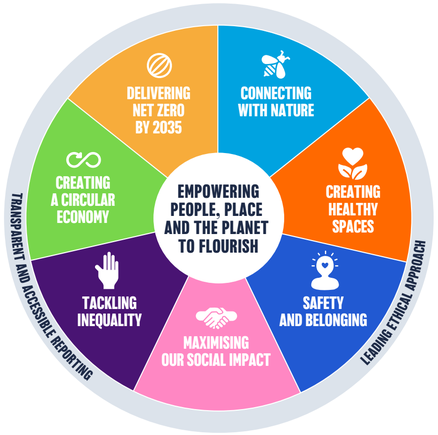
North-west elevation in context



Sustainability and ESG

The client places great importance on delivering a sustainable King's Cross estate that empowers people, place and the planet to flourish, which in design development terms requires a range of themes and priorities to be addressed.

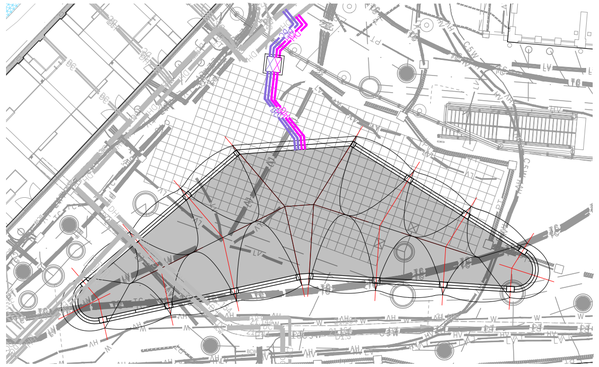
Sustainability and ESG is at the heart of the design proposals, which have been driven by the Kings Cross ESG Priority Areas (depicted below). On this page, the key principles are outlined, with reference to the RIBA Sustainable Outcomes framework in the first instance.



Full details of how the Kings Cross ESG Priority Areas have driven the design are provided in more detail in Chapter 07 'Environmental, Social and Governance' as well as the accompanying Sustainability Statement, produced by Arup.

Low Operational Carbon

- Connecting to the District Heating and Cooling networks of the Estate, to help provide a supply of low carbon heating and cooling
- Utilising opening windows for natural/mixed mode ventilation
- Explore opportunities to utilise thermal mass (building frame, exposed sofits, etc)
- Double-glazed shopfronts to enhance fabric efficiency and performance of retail unit



Good Health and Wellbeing

- Access to both demised and communal outdoor spaces that are covered by canopy roof
- Facade achieving good amount of natural daylight
- Mechanical heating, cooling and ventilation, with openable windows wherever possible to provide cross-ventilation, improving occupant comfort
- Projecting roof overhang of 1.1m around perimeter of the facade (and deeper at the ends and entrances), helps reduce overheating and excess solar gains

Low Embodied Carbon

- Adopting a timber-first approach to structure, with steel minimised wherever possible
- Identifying materials and finishes that are responsibly and ethically sourced
- Circular Economy aspiration to reclaim all timber elements such as joists, as well as any standard steel sections

Sustainable Communities

- Review of secure long-stay cycle parking provision around site for staff - negligible additional journeys anticipated for Pavilion proposal
- Benefit of single ownership estate with wider facilities to utilise. Analysis of existing dockless cycle provision, TFL cycle hire and Sheffield stand provision all provide more than adequate sustainable connectivity to and from Pavilion
- Creating spaces and shopping amenity that is accessible to all, with level thresholds and generous threshold widths

Sustainable Life Cycle Cost

- Future stage review to be undertaken to determine how the specification of materials and systems can be reviewed to reduce emissions and overall carbon impact of building
- Design for disassembly and re-use at the forefront of detailing and specifying elements, with material passporting utilised to facilitate this

Sustainable Water Cycle

- Roof design and repeating undulating geometry form, means an efficient roof-to-downpipe ratio. Introduction of additional slot drainage to intercept surface water run-off around the Pavilion's perimeter, ensuring safe and slip-resistant public realm surfaces and routes
- Scheme to connect to existing public realm slot drains wherever possible, and link into yard's existing attenuation tank
- Ensuring future climate change flood levels inform SUDS strategy and setting of FFLs and threshold levels

Massing principles - design moves

A new unified mass within the widest, most expansive south portion of the yard helps create:

- A more intimate feeling, which is a welcoming space, by better defining routes into and around the south of the yard
- Opportunity for comfortable and sheltered places for gathering
- A distinct character and focal point to the south, allowing the north part of yard to be the grander, 'Events' space

1 Massing offset from existing geometries to create perimeter streets

- Form seeks to address the interrelationship of complex spatial relationships of the Southern end of CDY

2 Rationalised pavilion shape creates hierarchy of routes

- Form of Pavilion sculpted into symmetrical form, with a hierarchy of street widths
- Massing then softened at edges to retain sense of openness

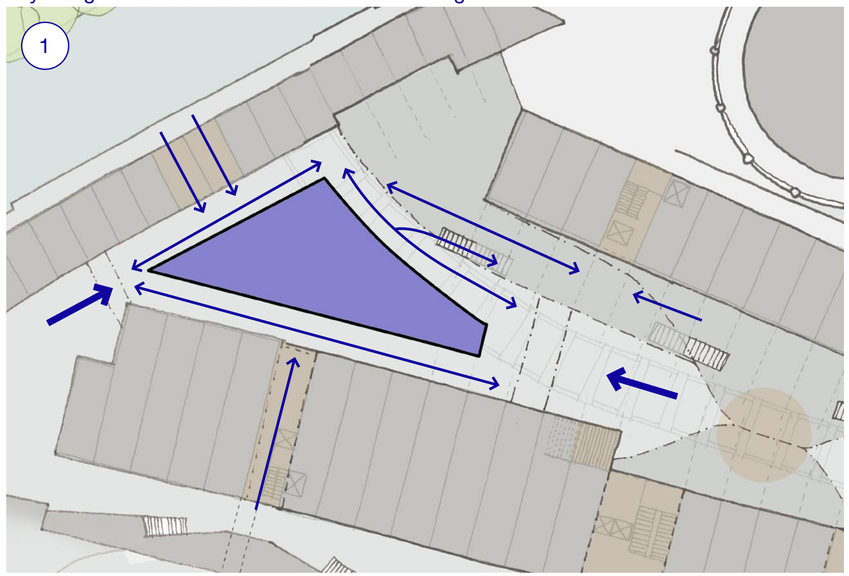
3 Articulation to east and west facade

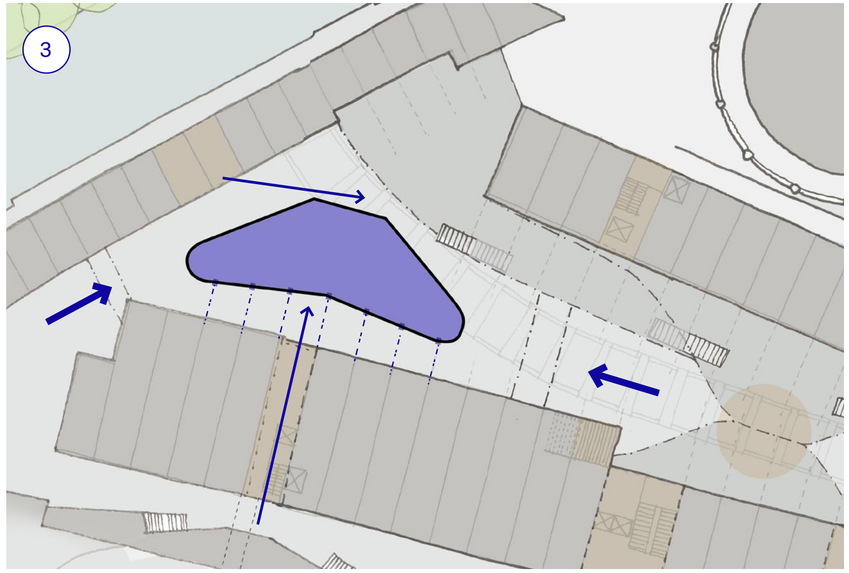
- Building form adjusted to avoid key underground utility clashes & retain key views
- Kink introduced to eastern street to create pocket of dwell space, akin to Lower Stable Street form
- Western end pulled in to create more open area for main entrance

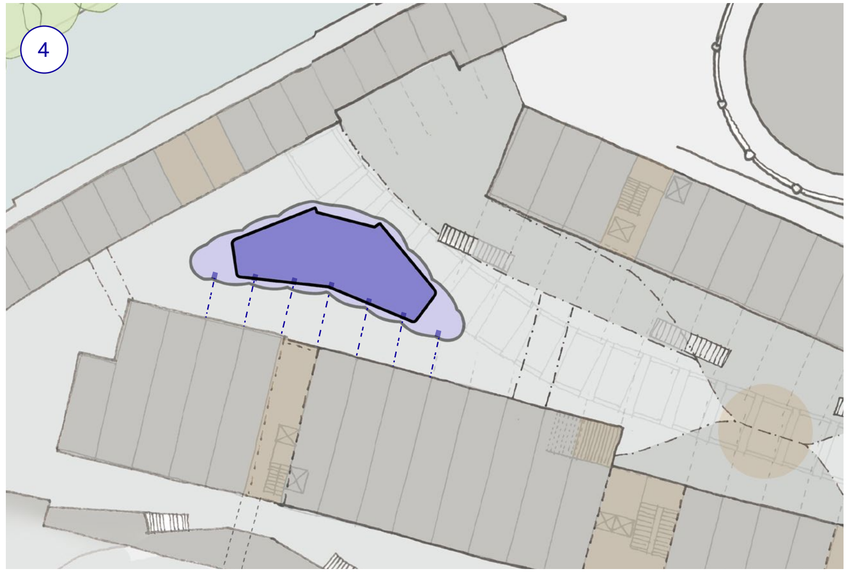
4 Footprint reduction to further maximise views

- Unit footprint beneath roof canopy pulled back at both ends, creating covered external spaces that allow more east-west, cross-view permeability

Key design moves that have informed the massing:







Site-wide scale

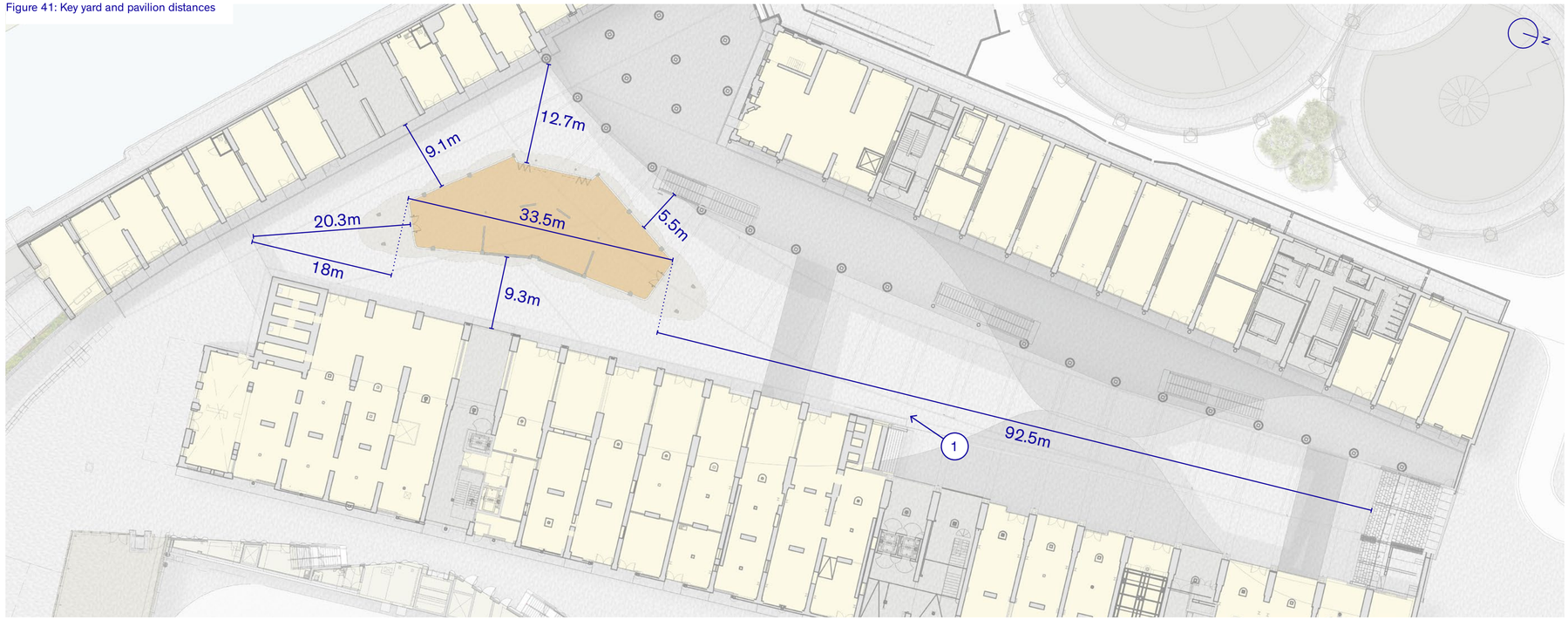
The new Pavilion unit sits in the widest portion of the yard to the south, and takes up less than a quarter of the yard level's overall length of 144m.

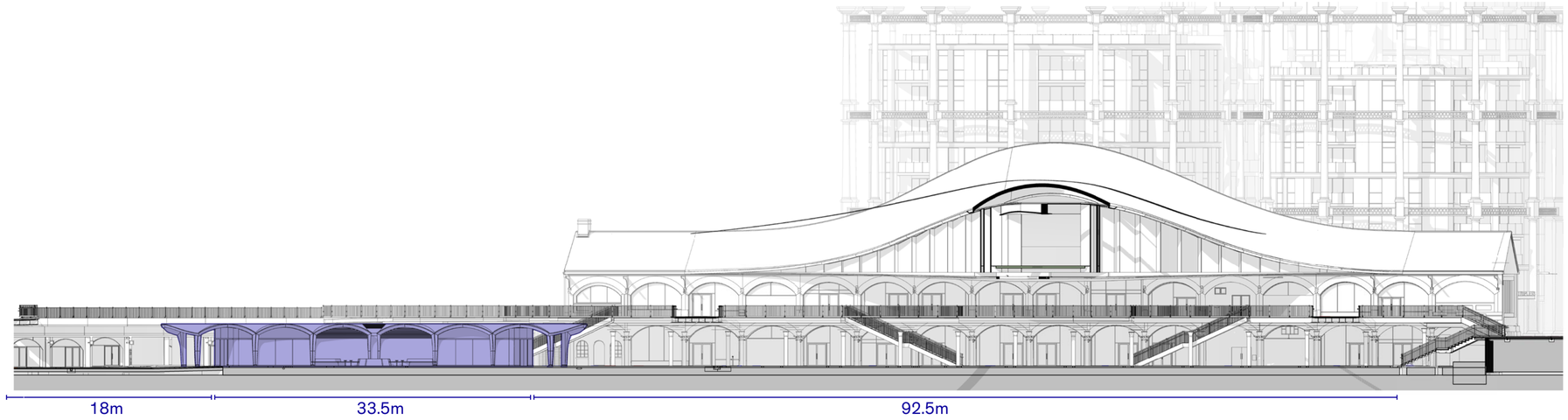
This allows the large majority of the open yard to be maintained for seating and events such as markets, performances and other showings - which currently already occur to the north of the Pavilion's location.

The new Pavilion footprint takes up approximately 10.8% of the yard's open area, which stands at approximately 2550m^2 (taking into account the proposed Pavilion). This is a healthy increase in overall yard 'openness' from its historic position. This is due to the fact the former Plimsoll Viaduct reduced both openness and width to the yard considerably, resulting in there only being approximately 1545m^2 of open area across the yard in its historic position.

Retaining a sense of openness within the yard has always been an important heritage consideration when developing the scale and massing of the Pavilion. A summary of design development, and analysis of the evolution of openness to the yard, can be found on the following page.

Figure 41: Key yard and pavilion distances





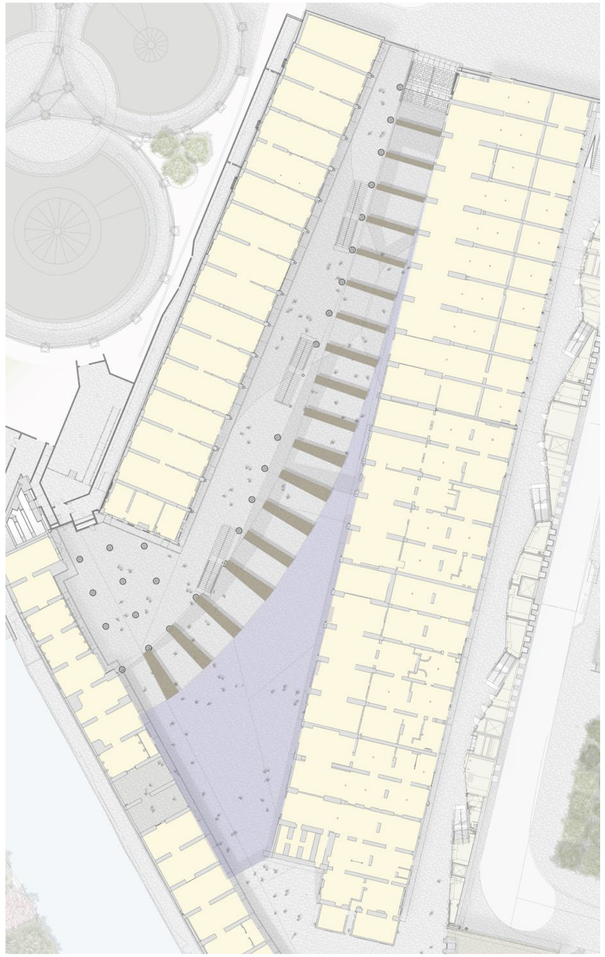
1 Illustrative view looking south from central yard

Openness of the yard - analysis summary

Historic context (with Plimsoll viaduct retained):

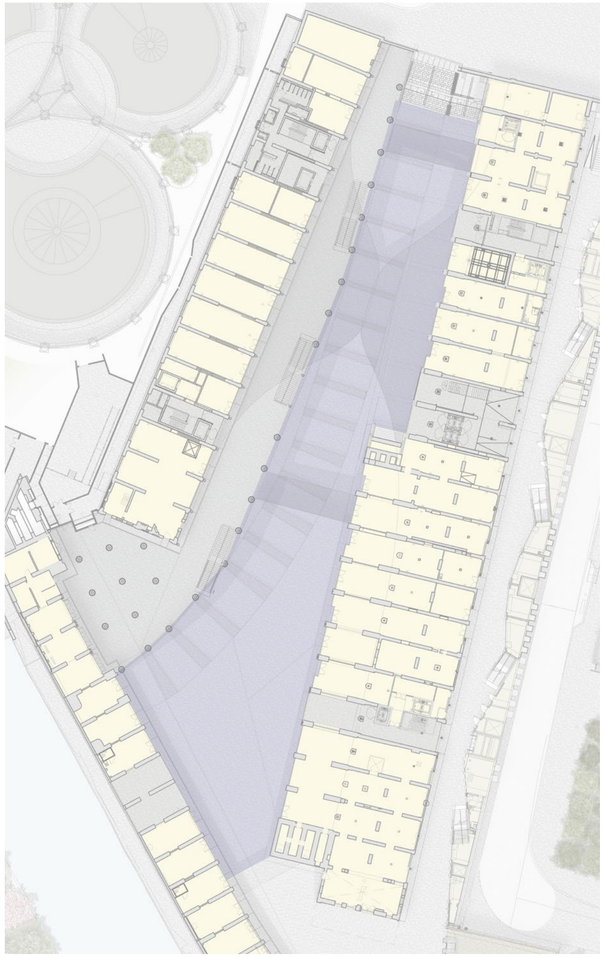
Extent of open yard

Approximate open area of yard	1200m^2



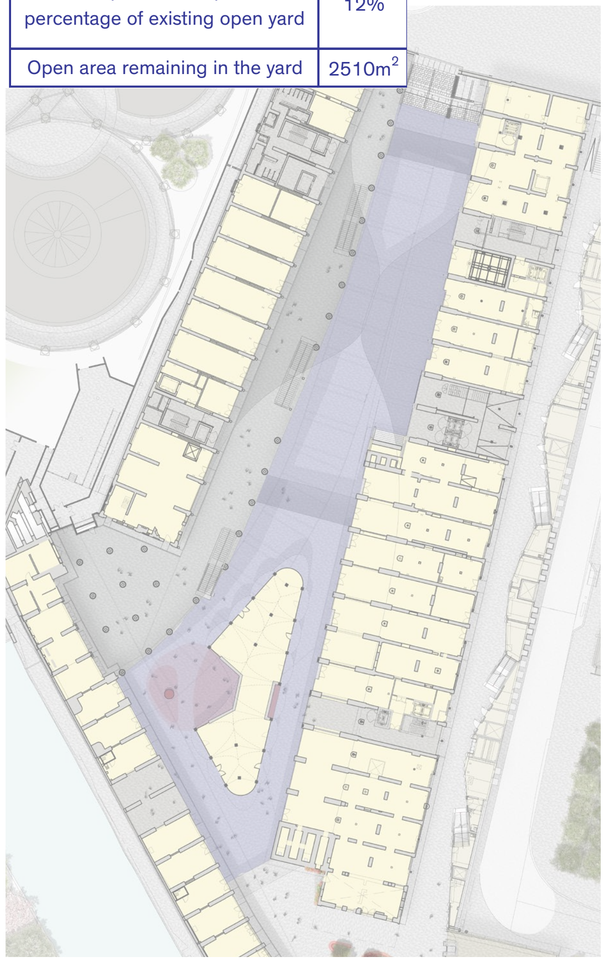
Existing:

Approximate open area of yard	2850m^2



Initial proposal (for Pre-App 01):

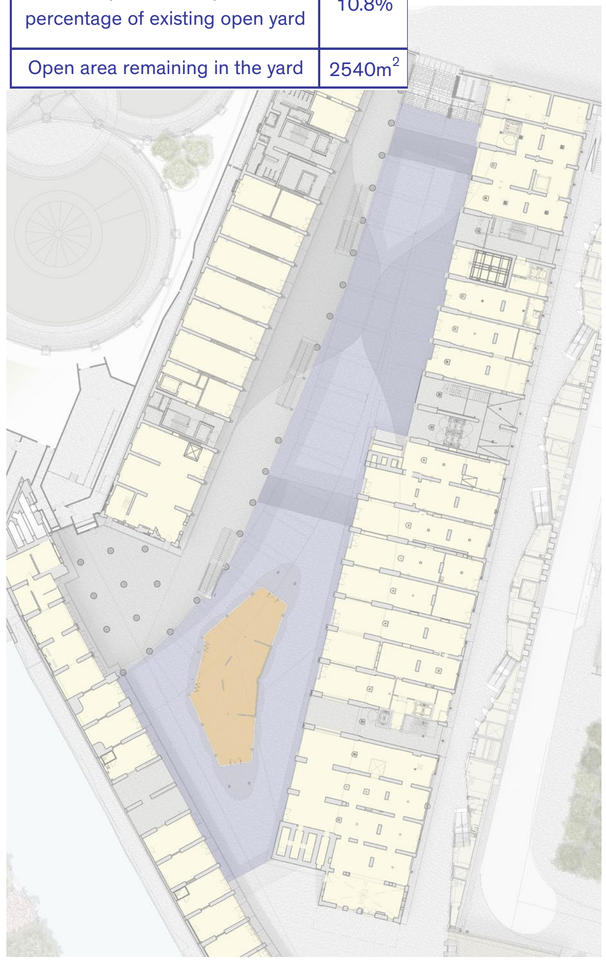
Pavilion area (internal footprint)	340m^2
External pavilion footprint as a percentage of existing open yard	12%
Open area remaining in the yard	2510m^2



Proposal:

- Increase in overall open yard space when compared to the historic openness of yard
- 30m^2 increase in open area from Pre-App 01
- 42m^2 increase in open area from Pre-App 02

Pavilion area (internal footprint)	307m^2
Externa pavilion footprint as a percentage of existing open yard	10.8%
Open area remaining in the yard	2540m^2



Heritage analysis of massing

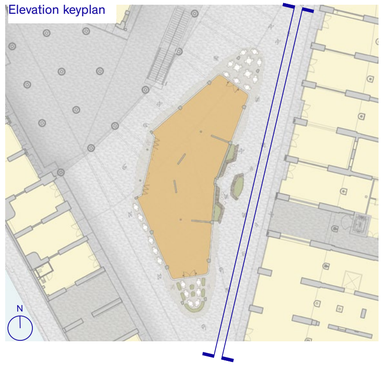
Responding to history

Arches are a strong and prevalent architectural form used throughout Coal Drops Yard (see Figure 42). This repeating element helps breaks down the scale of long, relentless elevations by creating a more human-scale rhythm. The Pavilion uses the same segmental arch form, height and grid of the Eastern Coal Drops, to contextualise itself and break down its scale and massing. This can be seen in the unfolded elevation in Figure 43.

Weightiness vs. pavilion typology

A pavilion typology has been proposed as this expression mediates between the lightweight installations that activate the yard on a temporary basis, and the weightiness and strong sculptural volumes of the surrounding permanent built-form. This expression is important as it helps to define it within in its context, namely, secondary to the heritage architecture, but primary to - and more permanent than - the temporary installations and events of the yard.

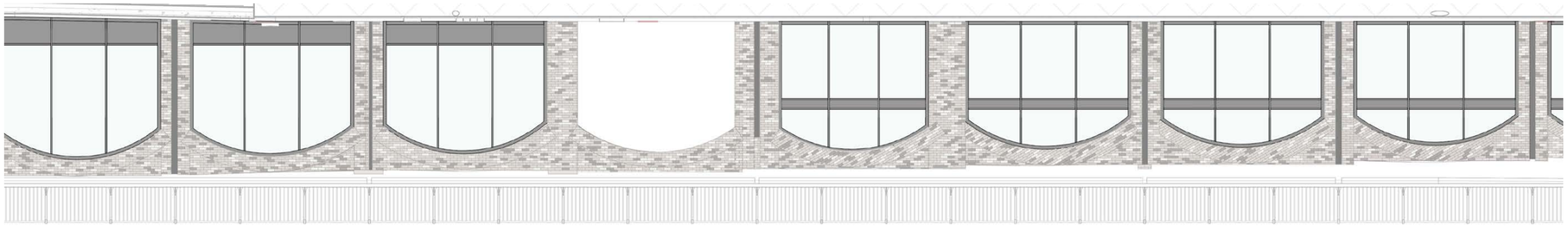
Figure 42: arch conditions around yard



Source: www.kingscross.co.uk/paul-smith

Figure 43:

Unfolded elevation down new street along East Coal Drops yard



Facade and column principles

Timber arches and columns

The column and arch design has been developed with a clear setting-out and buildable geometry in mind. Tapering to the columns means the arches still ground, but in a more elegant and slightly lighter manner, in-keeping with a pavilion aesthetic. Timber columns are expressed as grounding in pairs, with a 50mm shadow gap in-between. This is a reference to the ECD brick arches opposite, (Figure 47) which are also paired but with a much chunkier shadow gap in-between - that often contains a rainwater downpipe.

Metal framed shopfronts

The shopfront design has been kept minimal to reflect the pavilion typology. The facade facilitates the use of natural ventilation in the summer through opennable windows and doors. Typical glazed bays contain side-hung windows at either end. The 'ends' of the Pavilion incorporate double doors to provide more cross-ventilation, whilst the main entrance comprises fixed double doors and a bi-fold door system, allowing a larger portion of the facade to fully open up in summer months.

The size and shape of the glazed/curtain wall panels makes these elements difficult to reclaim. As such, there is a sustainable focus on panel deconstruction and low carbon material specification. We are specifying a high percentage recycled aluminium for the framing, with the sections as streamlined and thin as necessary, to what is required structurally.

Glazing

Single glazing is normally used for retail for optimal visibility. However, to improve the fabric performance and for fitness-of-use as a potential F+B unit (regarding potential condensation issues with single glazing), double glazing is proposed – with no coating or fritting.

Figure 44:

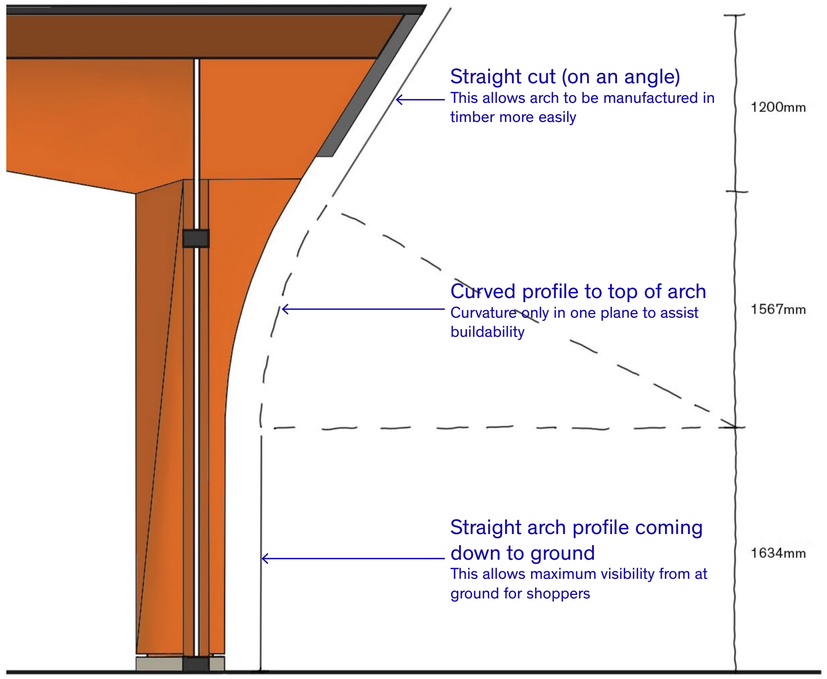
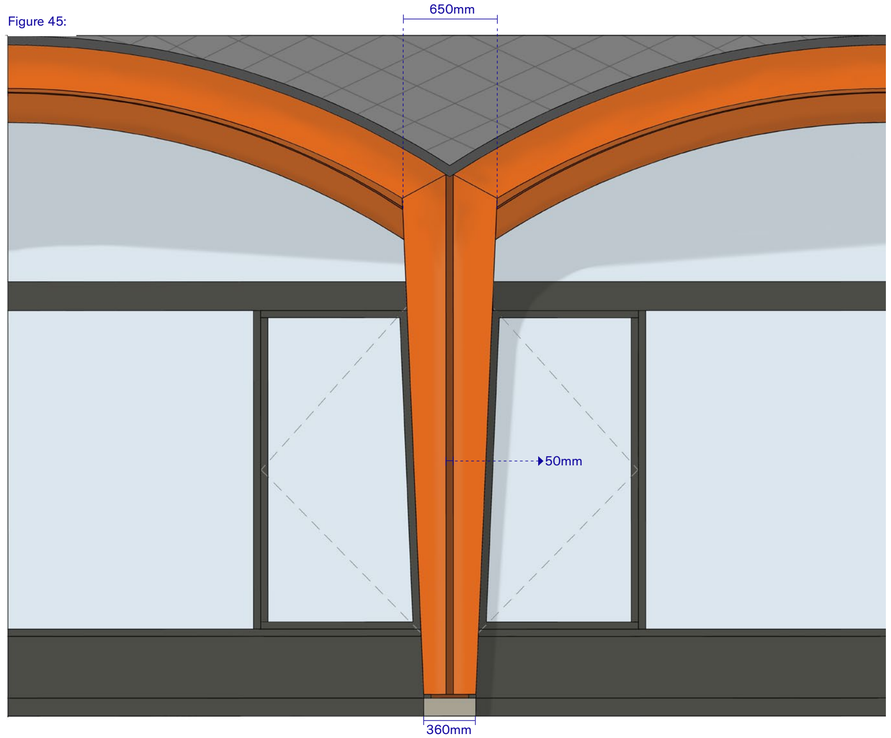


Figure 45:



Tapered column
Refining the column to a more lightweight interface between the arch and ground. Stone baseplate to provide robust weathering detail for timber construction.

Figure 46:

Following DRP and LBC comments on ensuring detailing and build-quality, workshops with a main contractor have been undertaken to gain early-stage input on buildability. This has been valuable to assist in the development of options for next stage technical detailing, with elements discussion ranging from:

- How the column and facades will be expressed
- How the timber grain is orientated and cut to improve natural weathering
- How arch and column elements can be modularised so as to be constructed efficiently off-site

For further information on this, please refer to the technical section.

Figure 47: Existing ECD heritage detail of paired column expression

Response to heritage context - materiality and colour

As a material, timber has been used historically around the yard, often giving a more temporary feel. As well as having good sustainability credentials, it also gives a lightness of feel. The use of timber helps the Pavilion mediate between the lightweight installations that activate the yard on a temporary basis, and the weightiness of the permanent industrial architecture.

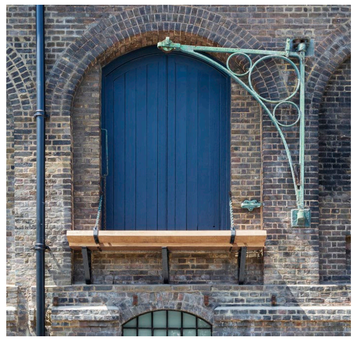
Staining the timber in a brighter and warmer colouring creates a more attractive, welcoming and vibrant atmosphere contrasting the muted tones of the main yard building elevations. We have looked at colours from the historic yard palette as a reference. An orange/red was always our instinct and also has a heritage rationale, refering to the historic accent colours of the WCD Viaduct shown in Figure 50 opposite.

By contrast proposals for the roof are much calmer in tone and colour, to reference the slate-grey roof of the surrounding buildings. Metal shingle tiles are proposed as the roof covering, in either zinc or aluminium, subject to design development.

Having a smaller ‘dragon scale’ tile pattern across the roof also provides a similar pattern and scale to the repeating slate tiles of adjacent roofs, helping it to sit sensitively within its context, whilst still feeling contemporary.

Please see the next page for a visual representation and overview of how these materials are intended to be expressed and applied to the Pavilion design.

Figure 48: Examples of the use of timber around the yard



Brighter, warmer colours within yard help to add vibrancy

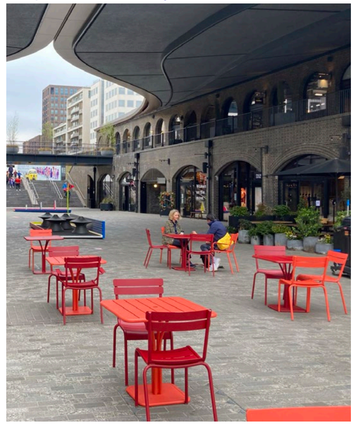


Figure 49: Colour selection for key material elements to respect historic colour palette

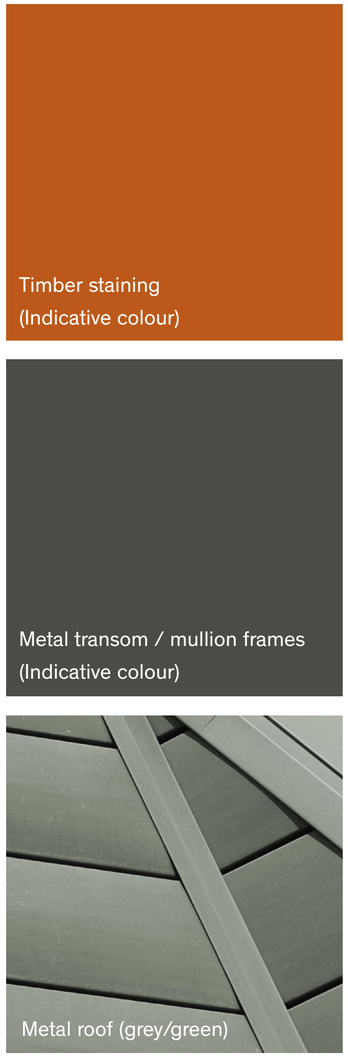
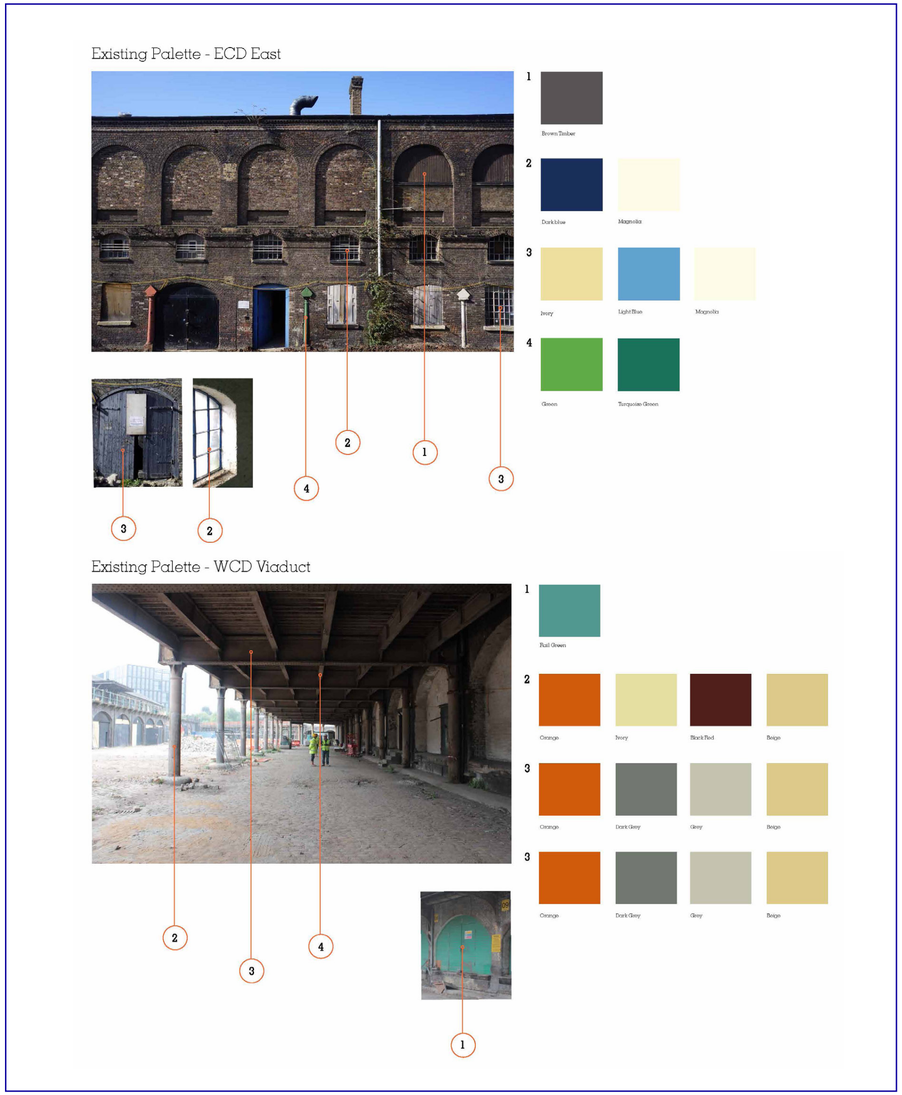


Figure 50: Heatherwick Studio - Historic colour palette study



Material selection

The palette of solid primary materials that have been selected are as follows:

- Stained timber - a combination of glulam, LVL (laminated veneer lumber) and slats for columns, reveals, soffits and arches. Using timber gives a lightweight, pavilion-esque feel to the structure, and brings a warmer, more welcoming colour and tonal palette into the yard
- Metal shingle rainscreen - selected to relate to scale of slate tiles on the kissing roofs, and to also create an elegant and attractive roof elevation that can be appreciated from the viaduct level

1 Metal shingle panels (anodised aluminium or zinc)

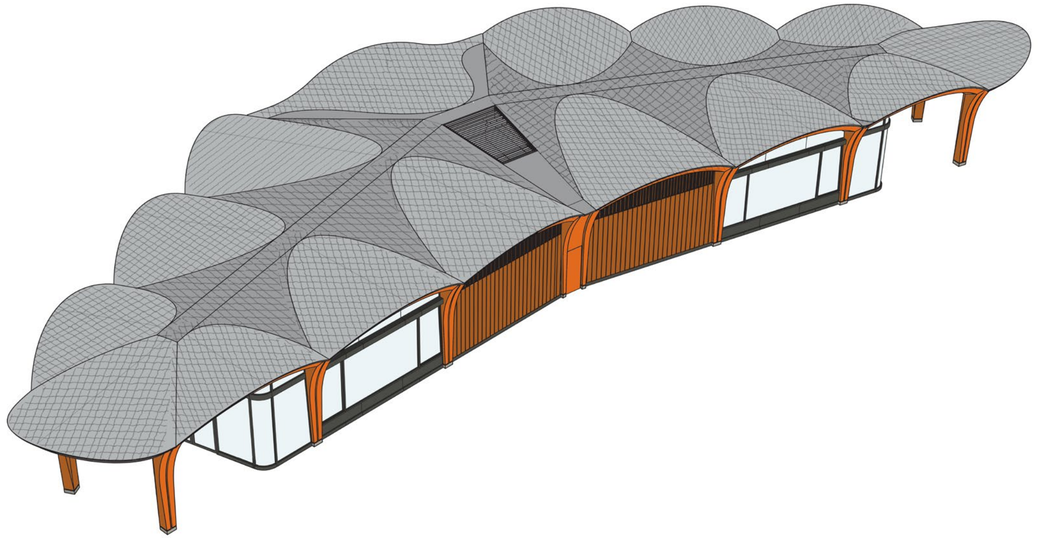
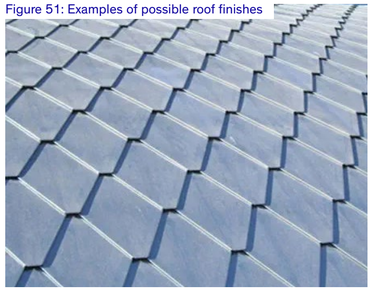
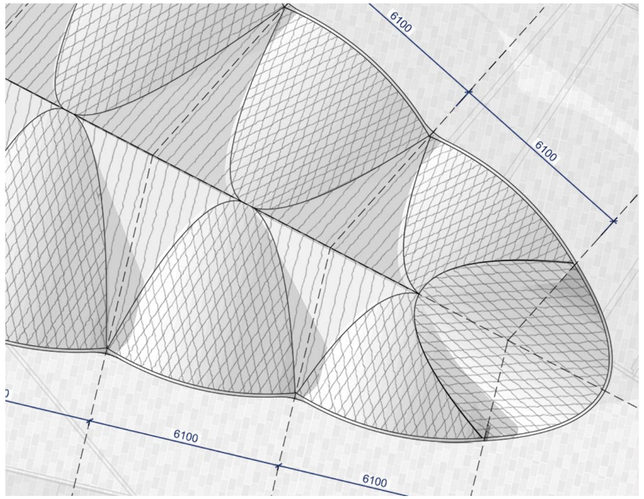


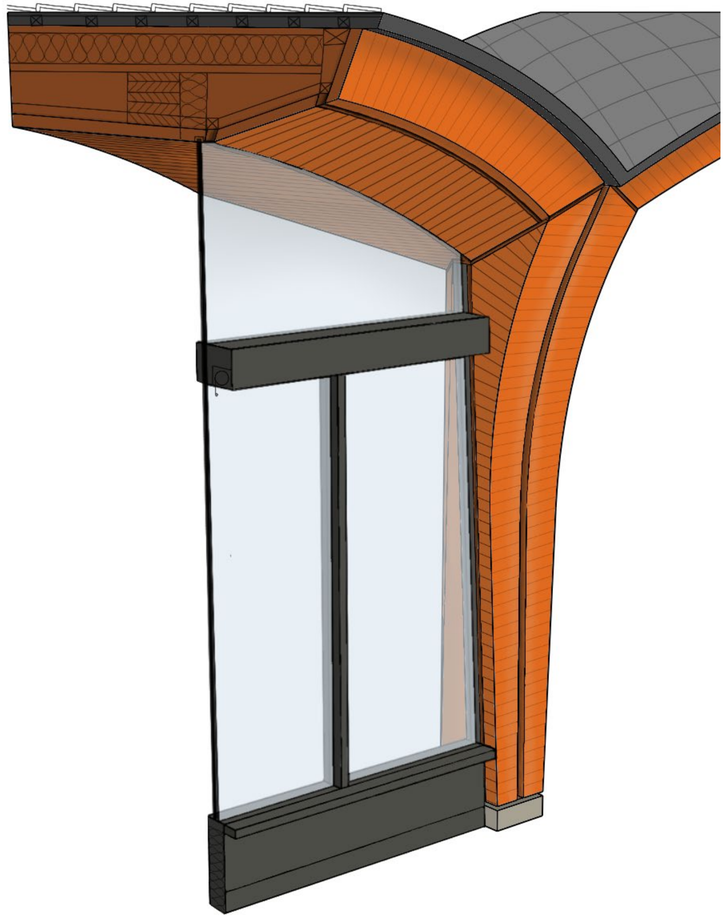
Figure 51: Examples of possible roof finishes



Options for pigmented shingles, that come in square, rhomboid or diamond tiles formats



2 Stained timber soffits and column cladding



Shopfront design principles

Within the main structure of arches and columns a shopfront of two subtly different characters is proposed: fixed high-level glazing situated above a transom, and a changeable shopfront ‘insert’ below, these are illustrated within the steps 1 to 3.

The shopfront stallriser insert in step 3 is located in areas where the roof canopy is lesser in projection. This helps to optimise environmental strategy and mitigate overheating. Low level stallrisers also maintain key cross-yard view permeability and help to define more legible entrance points where the glazing is full height.

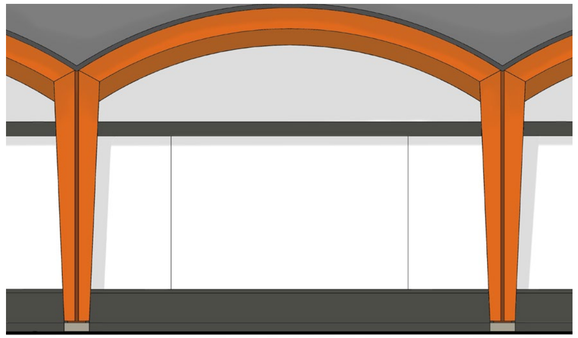
1 Framing with the arch

- Referencing the weight and grounded nature of existing masonry arches with new material pallete.
- Creating rhythm along new defined streets mirroring the structural grid of the Eastern Coal Drops
- Providing support for a lightweight roof canopy that shelters the perimeter of the Pavilion.

2 Defining the shopfront

- Defining the shopfront extents to preserve visibility of fanning internal soffit (visible through the high-level glazing).
- Creating a zone for different inserts of shopfront to go in below the transom line, helping to activate the shopfront at user-level.
- Defining a zone for opennable windows, in areas below the transom

3 Solidity for user-focused flexibility



- An overall environmental efficiency, and solar gain strategy
- Maintaining internal / external layout flexibility
- Adding solidity to the shopfront without effecting key cross-yard view permeability