PLUS ARCHITECTURE

MAST QUAY - PHASE II

DESIGN & ACCESS STATEMENT ADDENDUM
DECEMBER 2022

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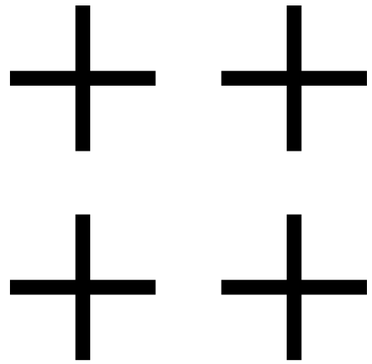

TITLE

MAST QUAY - PHASE II

FACADE TREATMENTS
DECEMBER 2022

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ORIGINAL APPLICATION

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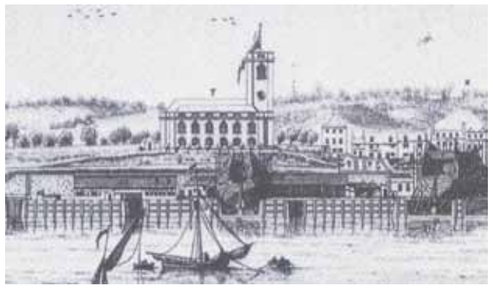
DESIGN STRATEGY - ORIGINAL APPLICATION

Drawing from the significance on the site's maritime history and its proximity to the river, the concept of the tower façades being based on a 'sail' was explored.

The use of glass & curtain walling would give the illusion of a light weight modern sail with the shape of the façade being based on a more traditional shaped sail such as those on a Thames Barge – as shown in the previous images. The expression of the sail battens as projections on the façade create scale.

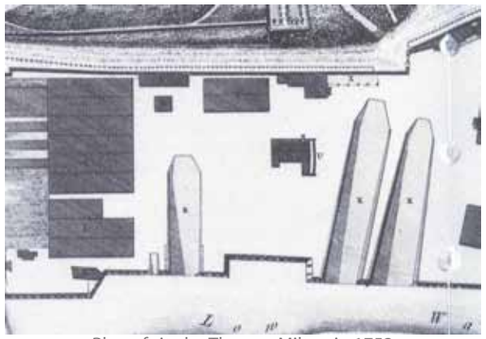
The relationship between the Phase 1 development and the proposed Phase 2 development was a major consideration in the design process. Since the client acquired the Phase 2 land, the overall Mast Quay site has been considered as a single development that will be completed in two Phases.

It was agreed from the outset of the design process that the quality of both the design and materials of Phase 2 should be read alongside Phase 1 - the two phases need to read together and not as two separate developments. In this regard, Block D has been designed to act as an architectural link between Phase 1 and the landmark building of Block E in Phase 2, taking on the form and materials from the Phase 1 development whilst also applying materials and principles from Block E such as the curtain walling and projecting ribs. The rhythm and massing of the Phase 1 development has also been brought through into Phase 2 development as described in the previous section. This again helps the development to be read as one.



View of site by Thomas Milton in 1753

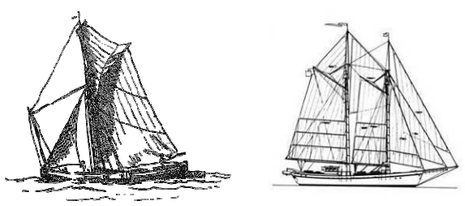
Mid 19th Century View of site showing the 'Mast Pond'



Plan of site by Thomas Milton in 1753

Photograph of Thames Barge off Woolwich

Windsurfers



Various sketches of sailing vessels

REASONS FOR REVISIONS

MAST QUAY - PHASE II

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REASONS FOR THE RE-DESIGN

Below we set out some of the reasons as to why the scheme has not been constructed exactly as per the original granted planning permission drawings. The regulatory environment has changed significantly in the intervening years and in a desire to construct to the highest standards of thermal efficiency and safety, the developers have sought to achieve these contemporary standards.

Building Regulations Compliance
Fire Safety:
The original planning permission for Phase II of the Mast Quay development was granted in a pre-Grenfell Building Regulatory environment, and one which differs greatly from the current situation.

Nearly eighteen months after the Grenfell Tower fire, the government laid down regulations in parliament to help prevent another such event from happening.

The building regulations now ban the use of combustible materials in the external walls of new buildings over 18 metres high. The Grenfell Tower fire claimed 72 lives on 14 June 2017, with flammable cladding blamed for the rapid spreading of the blaze.

The ban means combustible materials will not be permitted on the external walls of new buildings over 18 metres. The new building regulations now apply to all new residential housing, hospitals, residential care premises, boarding school dormitories and student accommodation – as long as they are over 18 metres high.

The consequence of this for the detailed design of the Mast Quay Phase II development was that we had to re-assess how best to deliver the overall cladding package for Blocks D and E.

Thermal Performance:
The regulations around thermal performance in buildings have changed dramatically in the intervening years since this planning application was granted, to such an extent that providing a glazed facade to a residential building would present difficulties both from a heat-loss perspective in colder months, and an overheating perspective in warmer months. The current Part L documents were published in 2014 and have been updated several times since, setting increasingly high standards for thermal performance in dwellings which would be difficult to achieve through the use of a glazed facade.

Overheating is a more onerous problem given the impact of climate change as well as the location and aspect of the project. A building with mostly glazed east and west elevations in this location will present extreme challenges in terms of avoiding overheating of the residences inside.

Acoustic Performance:
Since 2015, the UK Building Regulations have introduced very high standards to prevent the transfer of noise, both impact and airborne, between dwellings. Dealing with sound transfer with a glazed facade would have presented a particular challenge to avoid sound travelling from one apartment to the next along the line of the facade.

REVISED PROPOSAL

MAST QUAY - PHASE II

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DESIGN STRATEGY - REVISED SCHEME

The original concept of the sail has been reinterpreted on the east and west elevations of Block E. The same core concepts have been integrated in the proposal to ensure that the design ambition is maintained, albeit in a different form for the reasons set out under Section 2 above.

The **original concept of the sail** offered many options that could be employed to bring the height of block E to a more human scale. Taking reference from the make up of a sail such as that of a modern windsurfer, the use of a rib element was adopted. This element has been incorporated into the cladding of the east and west façades.

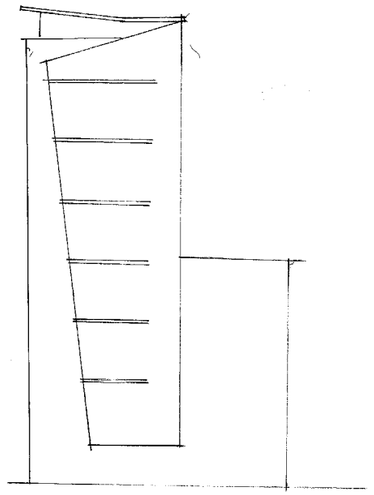
The design concept is meant to convey the idea of a sail element in terms of the rib of a windsurf sail - the **overall structure of the sail is echoed** by the use of metal extrusions at periodic spacing throughout the sail element of the facade. Our proposed revised articulation of the facade seeks to avoid the appearance of a single mass of cladding material (as per the original design ambition) and provides the maritime/sail reference which will have a very similar impact when viewed from either the approach roads or the river.

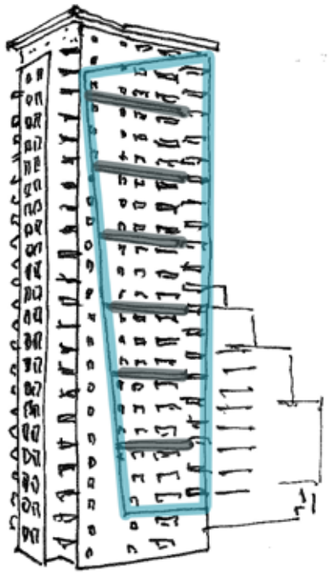
The fundamental aim for the proposed revision is to provide a three-dimensional difference between the sail element and the remainder of the cladding. This is achieved with a **secondary layer of intermediate metal extrusions** which are added to create the **dynamic play of light and shade across the sail**.

Furthermore we are proposing to introduce an **undulating rhythm** on these metal extrusions which reinforce the wave idea within the sail element on both facades. This will be achieved by the use of a series of different size metal extrusions fixed in a repeating pattern to create a visually striking pattern of light and shade across the facade.

The **play of light and shadow** on these elements as the sun moves across the sky will create a sense of architectural dynamism, whilst the colour tones selected for these elements will further reinforce the connection with the maritime environment.

A further breakdown of the sail element was to break the materials down so that it didn't appear to be a single mass of any one cladding type. By using metal panels along the lower section of the sail and the taller edge, and puncturing these metal panels with windows and balconies, helps break down the cladding.

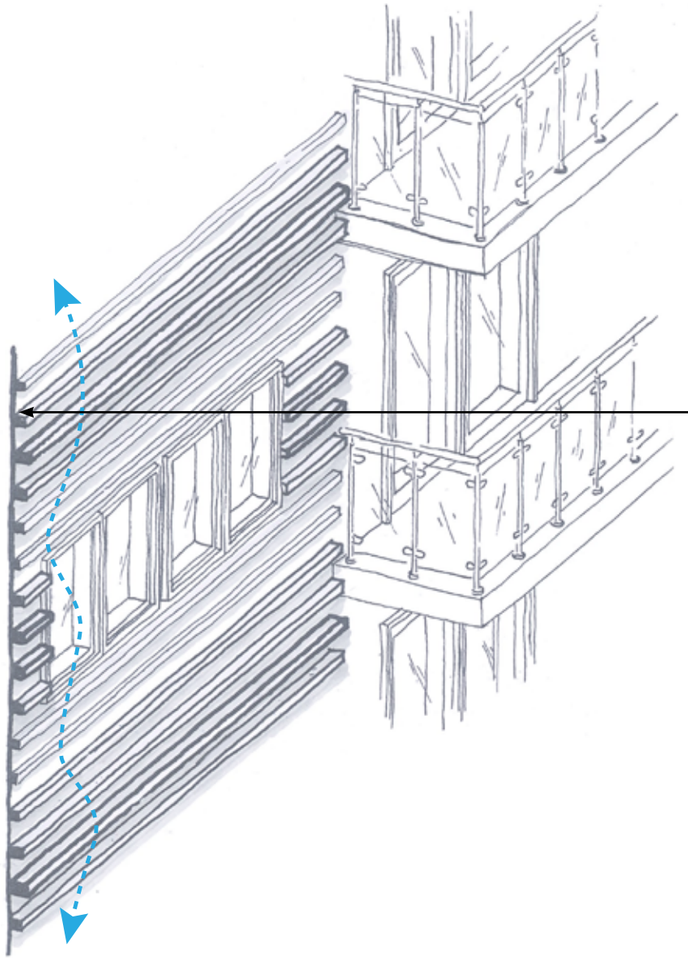




Concept design progression

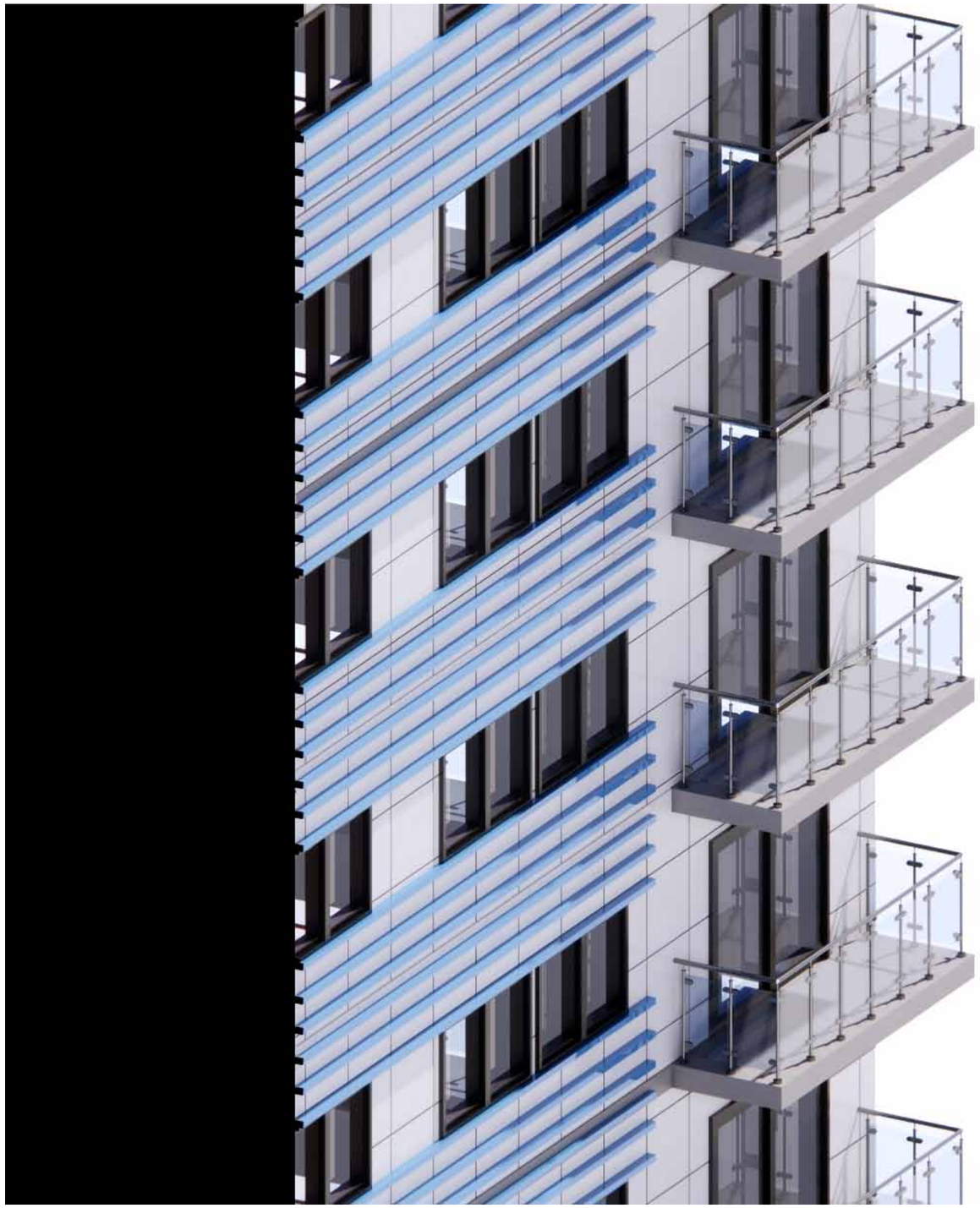
DESIGN STRATEGY - REVISED SCHEME

DESIGN DEVELOPMENT



Aluminium extrusions to be fixed to existing cladding in undulating pattern to create wave-like effect

Intermediate grey cladding panels at every 3 levels divide the sail into different sections of undulating cladding



DESIGN STRATEGY - REVISED SCHEME

DESIGN DEVELOPMENT

Detailed elevation study - We have tested the impact of various permutations of fin profile on the facade to assess their visual impact.

This close-up bay study highlights the scale and impact of an initial test where we integrate 6 fins per level, however the design developed from this point to present a graded approach to the fin cladding up along the extent of the East and West elevations.

DESIGN STRATEGY - REVISED SCHEME

DESIGN DEVELOPMENT

BLOCK D

ELEVATIONS

Schuco AWS70 glazing system

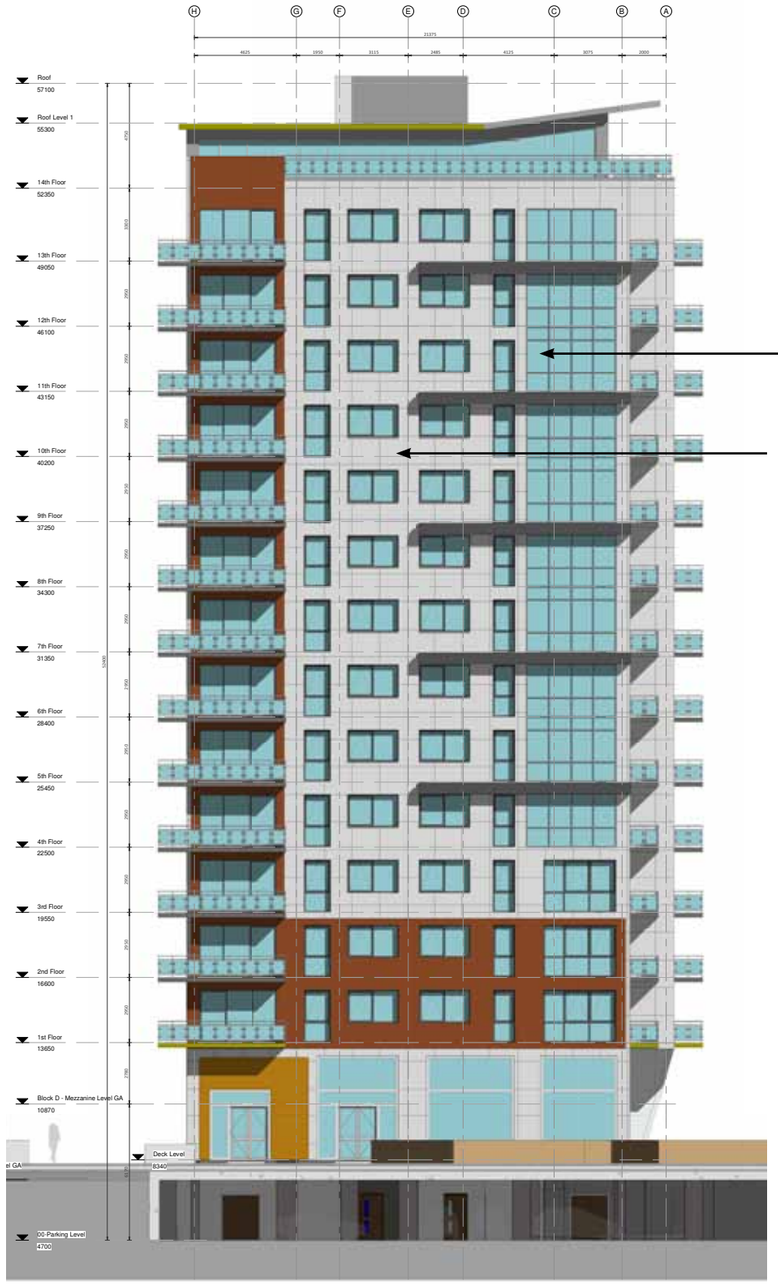
Alumet Rainscreen cladding:
- 2mm aluminium cassette on
- 80mm insulation with horizontal cavity barriers at every slab edge

FIG 1 South Elevation

FIG 2 North Elevation

BLOCK D

ELEVATIONS



Schuco AWS70 glazing system

Alumet Rainscreen cladding:
- 2mm aluminium cassette on
- 80mm insulation with horizontal cavity barriers at every slab edge

FIG 1 East Elevation

FIG 2 West Elevation