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Adur - Design and Access Addendum

Block B Core B2 Roof Alterations Statement
Revision A

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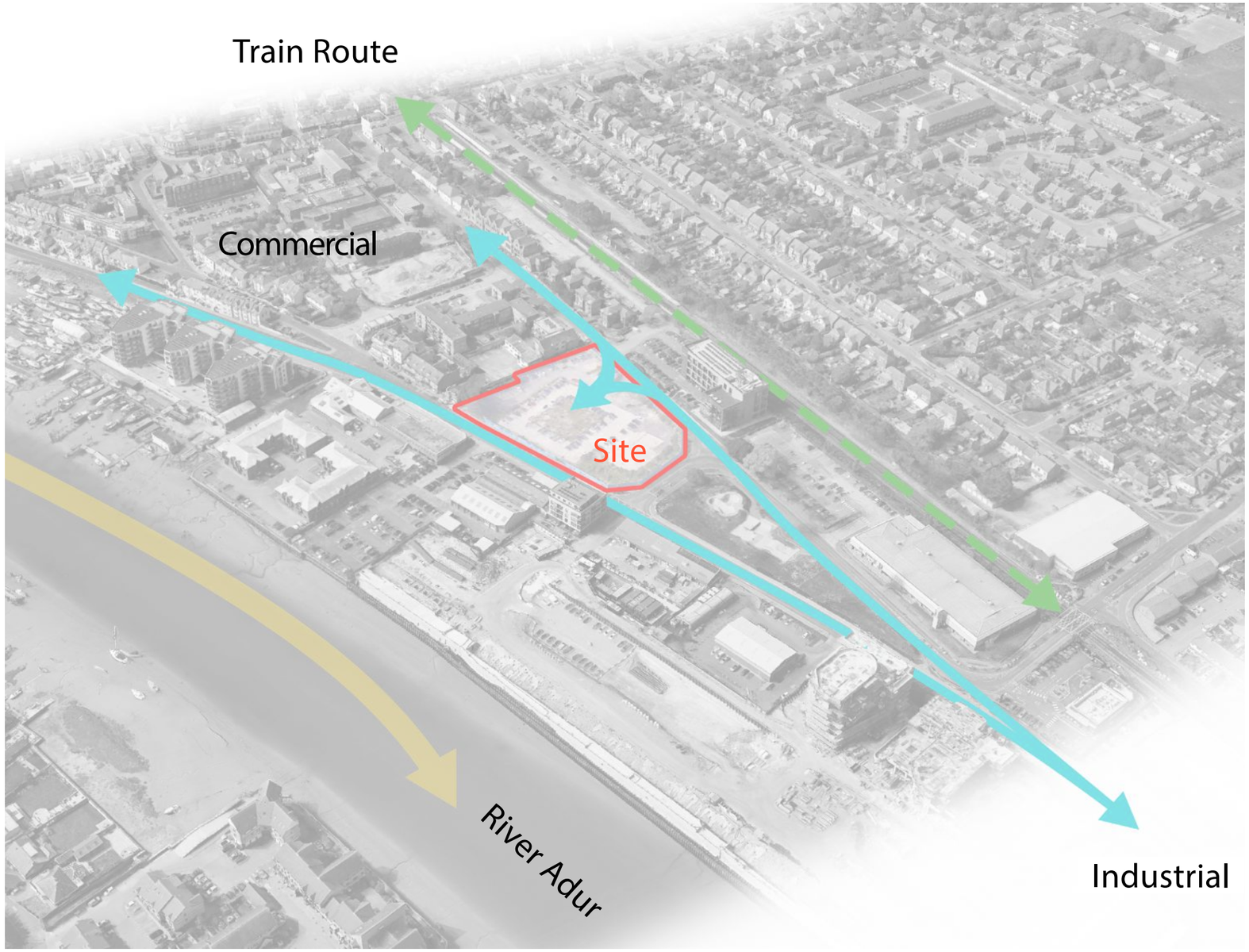
01 Introduction

Overview

This document has been prepared to demonstrate and support the intended design change to the Former Adur Civic Centre Residential Development approved scheme.

The intended change is outlined in the following pages. Specifically highlighted is how the transition from a pitched roof to a flat roof to the highest section of Block B is a direct result of detailed design development aimed at addressing compliance, health and safety, and sustainability matters.

This document sits as an addendum to ECE's previously approved Design and Access Statement, dated July 2023 which formed part of the previously approved Section 73 application AWDM/1024/23 subsequent to the original approved planning application AWDM/1450/21 dated August 2021.



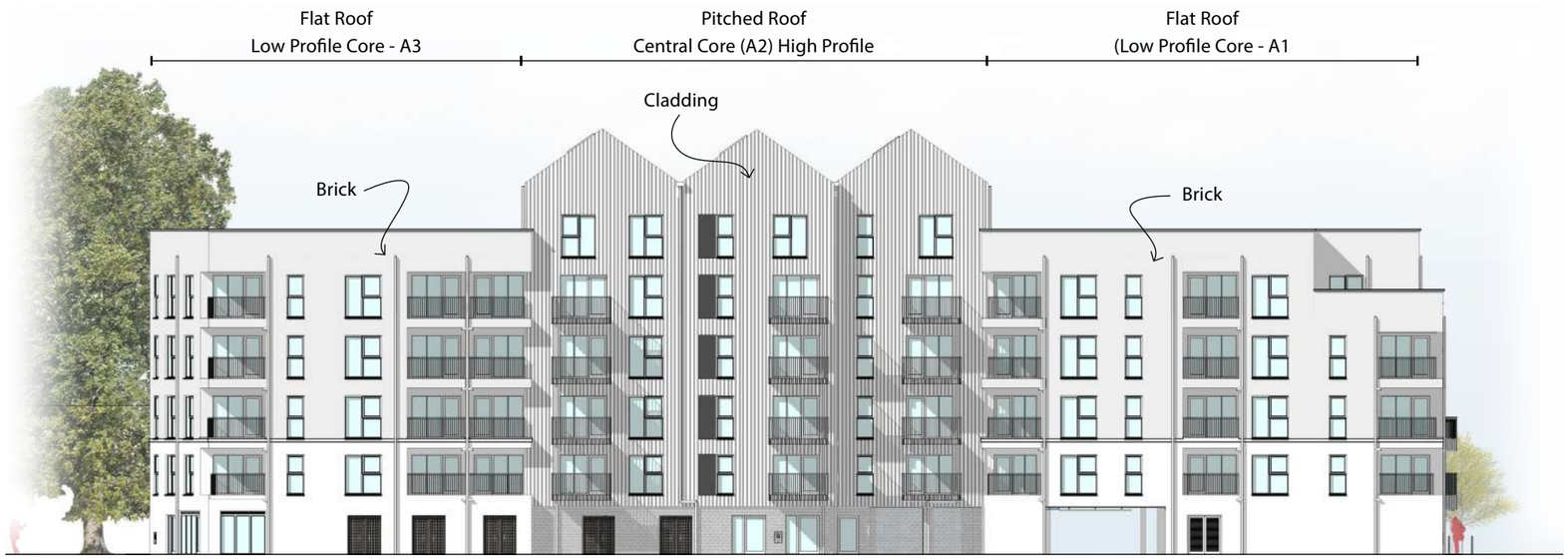
Block A as a Precedent

Block A is divided into 3 cores which is reflected in its East and West elevations. The design approach is a higher central core (Core A2) which boasts a pitched roof, flanked either side by lower flat roofs (Core A1 and Core A3) finished with facing brick. Additionally to further distinguish the central core from the wings, a standing seam cladding finish has been utilised instead of brick.

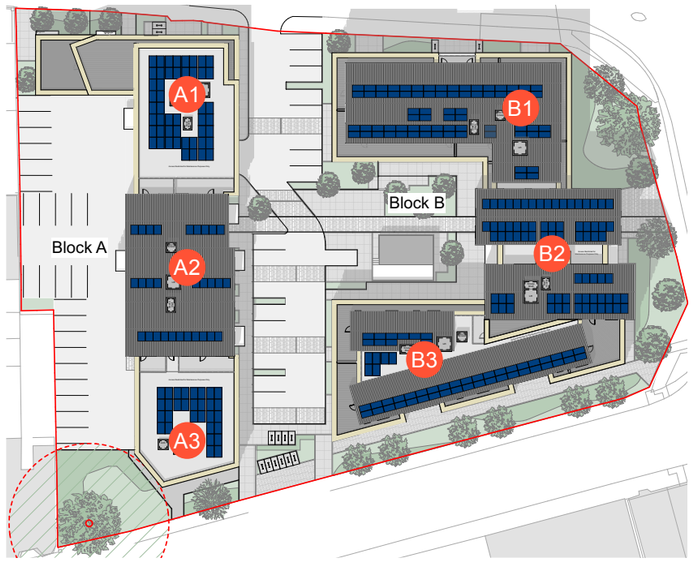
Considering Block A as a design precedent, the design approach is similarly evident in the elevations of Block B.

The design strategy for both blocks is as follows:

- Prominent central core distinct in both height, architectural elements and materials.
- Lower, supporting cores either side which reflect in each other the same architectural language and materials to create a sense of symmetry and balance around the central core.



Block A
East Elevation



Key Plan
Previously Approved Scheme



Block B
East Elevation

Block B - Design Consideration

From the approved design, through further detailed design development, it transpires that the central pitched roof elements to Block B are not conducive to achieving the effective amount of PV required, which has a knock-on effect to the overall sustainability strategy and probable solutions, or equally as important, poses significant risk in accessing and maintaining the PV at such a height in an exposed location (under the Construction Design and Management Regulations 2015), which otherwise could be designed out without significantly detracting from the design.

The proposed design solution to address this challenge is to revert the central core of Block B to a flat roof.

The flat roof will allow:

- The PV and other roof elements to be safely accessed for future maintenance and replacement.
- The majority of roof area made available to maximise PV arrays with optimal orientation to mitigate the current north-facing pitched arrangement, thereby improving solar gain and panel efficiency.
- The quantity of PV panels to be optimised to suit sustainability requirements without the need to overcompensate the number of panels to account for overshadowing created by the pitched roof itself, thus saving environmental resources.

Architecturally, the flat roof is a considered proposal in that it;

- Maintains a distinct presence as a gateway building.
- Maintains the emphasis of the central cores over the adjoining subsequent sections.
- Maintains the architectural language of pitched roof elements to be treated with a standing seam finish and flat roof elements to be finished with facing brick.
- Reflects the aesthetics and architectural features already used within the scheme and inversely mimics the architectural language of Block A.
- Reduces the overall building height.



Block B Core B2 - East Bay Elevation
Pitched Roof (Currently Approved)



Block B Core B2 - East Bay Elevation
Proposed Flat Roof Option



Block B - East Elevation
Pitched Roof (Currently Approved)



Block B - East Elevation
Proposed Flat Roof Option

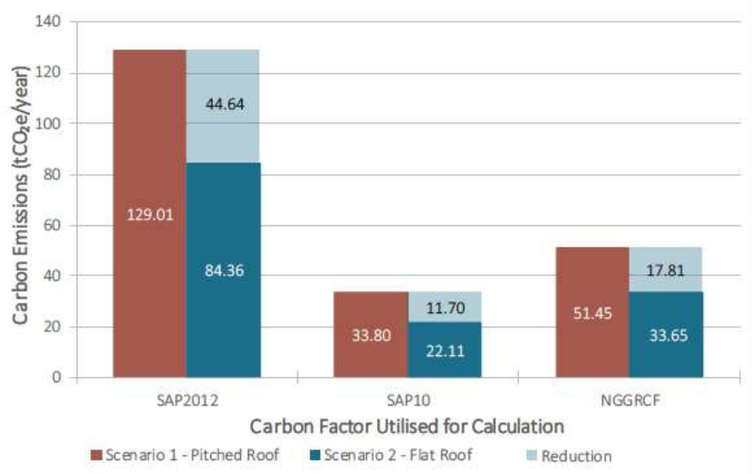
Sustainability - Flat Roof

The proposed development has high energy and sustainability targets, aiming for an EPC A rating in every unit. The change to the roof structure offers tremendous sustainability benefits, with three key factors identified by the sustainability consultant, SRE Ltd:

- Greater solar PV area possible enabling EPC A-rating throughout.
- Notable improvements to carbon emissions with reductions estimated to be 34%.
- Significant reductions to annual tenant electricity costs estimated at £25,000 across block B alone.

The energy strategy has already been optimised throughout each and every aspect with solar PV renewables being the final element in the strategy. Prioritising design factors such as this is considered to putting sustainability first and ensuring the area is best equipped for a green future.

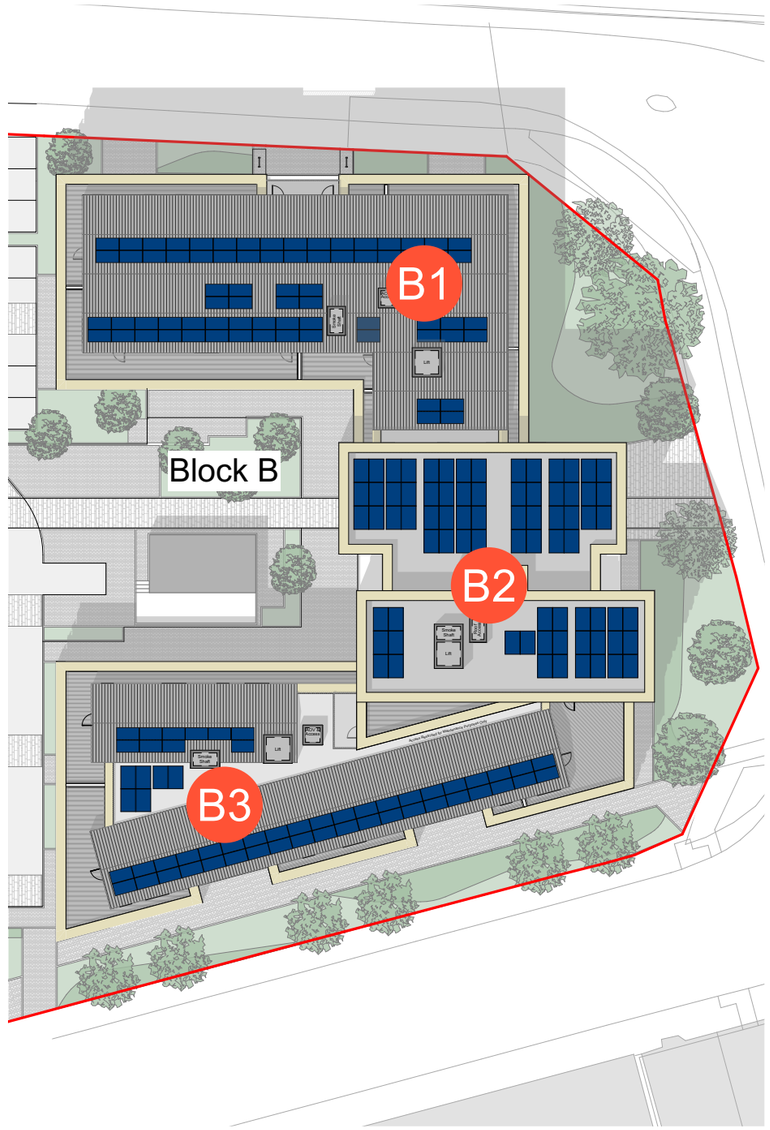
For further details and comprehensive analysis, please refer to SRE Ltd's full Energy Review Report.



Scenario comparison of net carbon emissions for the block based upon each assessed carbon factor
Extract from SRE Energy Review Report for Block B - February 2024

	Scenario 1: Pitched Roof Scenario	Scenario 2: Flat Roof Scenario
Fabric Performance	Insulated with U-value=0.11W/m².K	Insulated with U-value=0.11W/m².K
Top Floor Unit Internal Volume	Plane Ceiling at 2.40m or 2.63m floor dependent.	Plane Ceiling at 2.40m or 2.63m floor dependent.
PV System Factors: Orientation	North-South pitched roof. North-facing areas are deemed non-viable for PV due to limited solar exposure.	Flat roof. Entire roof can be utilised for PV utilising an East-West 10° arrangement.
PV System Factors: Areas	Smaller overall areas limit how panels can be arranged and reduces the overall possible PV:roof area factor.	Larger overall areas increase layout options with less edge offsets necessary. This increases the possible PV:roof area factor.
PV System Factors: Efficiency	South-facing pitched roof offers greater PV panel efficiency.	East-West 10° panel arrangement offers slightly lower PV panels efficiency.
	30° South facing offers approximately: 12.1% improvement over East-West 10° pitch per panel[1] 5.8% considering PV requirements of typical units for inverter and system purposes[2]	

Summary of differences between scenarios resulting from the change in roof structure
Extract from SRE Energy Review Report for Block B - February 2024



Proposed Block B Roof Plan
Flat Roof to Core B2

Thank you

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