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STATION ROAD

CAMBRIDGE \ GRIMSHAW

[A NEW CITY QUARTER?]

BUILDING MATTERS 2017
UNIVERSITY OF EAST LONDON

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BUILDING MATTERS GROUP 5

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[PREFACE]

A New City Quarter and an historic City Centre. How are they integrated? How do they respond to eachother and, crucially, how do they respect eachother? In 2005 Cambridge City Council were faced with the question of how to modernise the Station Road area whilst also consolidating this transitory space with the historic town that tourists arrive to visit. Built in 1847, Station road was a neccessary connection to the newly built train station and whilst being a useful and increasingly populated vehicular route, this southern axis never became unfied with the old town in the public or civic sphere. The space was defined by a palpable lack of “place”.

The 2006 CB1 masterplan, therefore, set out to address this issue, aiming both to modernise facilities, in order to cope with the increasing number of visitors arriving through Cambridge Train Station, and create a ‘New City Quarter’ which would noticeably introduce Cambridge and easily lead the visitor from New to Old down a revitalised connecting thoroughfare.

Having developed this masterplan in partnership with Brookgate Developers a complimentary masterplan was drawn up by Rogers Stirk Harbour & Partners which identified key vistas, buildings and strategies for the area. Together the plans created a loose design brief which could act as a framework for future design proposals.

The RSHP Masterplan identifies the land at 50/ 60 Station road as the lynch pin for the scheme as a whole, defining the axis and avenue from which all else is derived. This project was taken on by Grimshaw in 2008 and, despite significant difficulties at the planning phase, is now on site, due for completion in 2018.

This document critically investigates Cambridge’s ‘New City Quarter’ with a focus on its landmark project at 50 / 60 station road. The investigation will follow the Grimshaw designed project from its inception through multiple planning refusals to its current construction progress on site, analysing at each stage its response to and respect of the old city it seeks to enhance. This process aims to look critically at Grimshaw’s response to both masterplan and context, identifying the successes and shortcomings of this featured proposal within the CB1 Masterplan.

GRIMSHAW

DOCUMENT FORMATTING - MICHALE EVE \ OLIVIA PAINE

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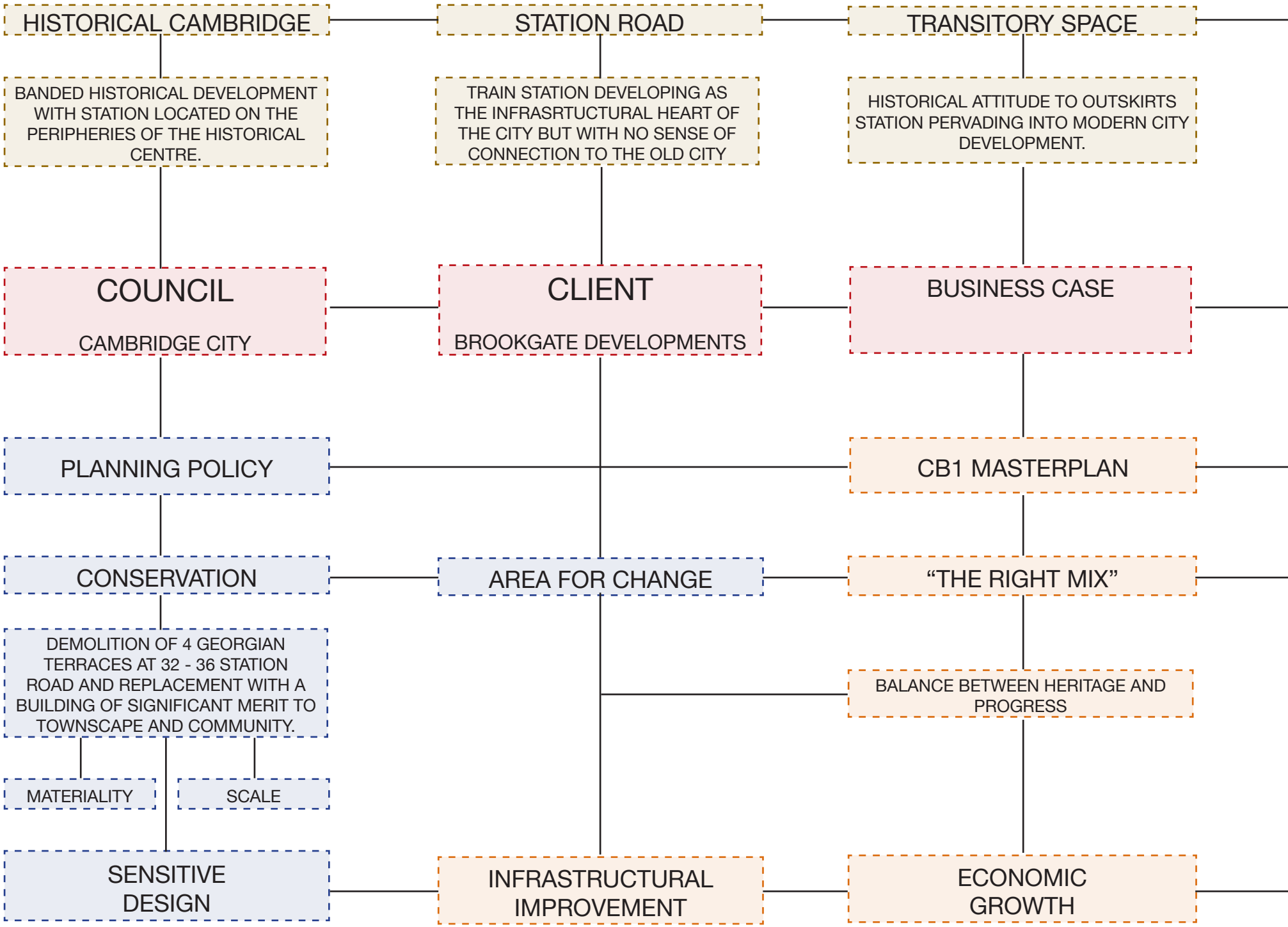
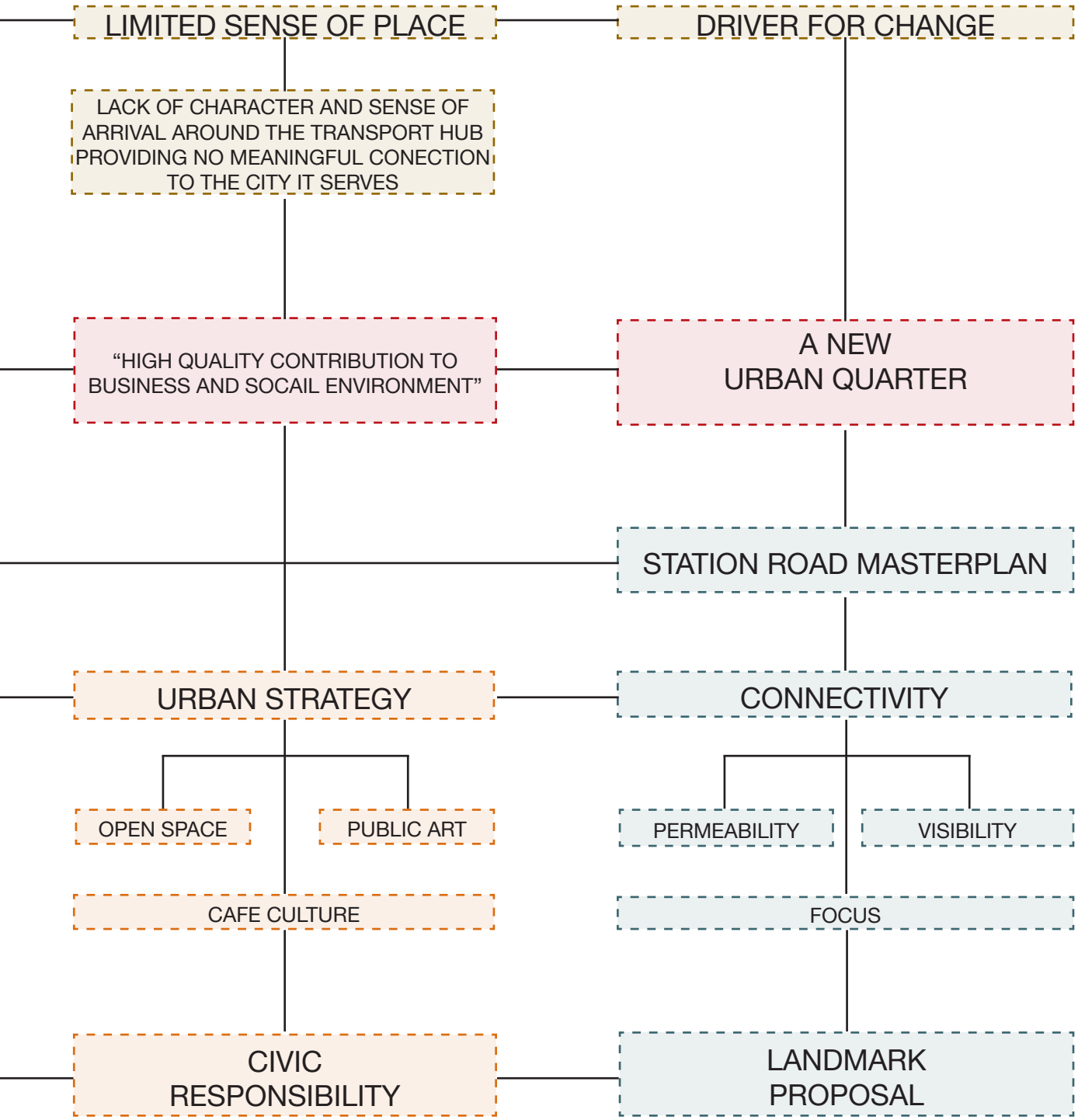
STATION ROAD

STAGE 0 - 1 \ CONNECTING HISTORY

> “THE STATION’S DEVELOPMENT TODAY IS DISCONNECTED AND UNWELCOMING, DESPITE BEING THE HEART OF TRANSPORT WITHIN THE CITY. THIS THEREFORE PROVIDES THE BASIS FOR CHANGE WITHIN THE AREA, NECCESITATING A NEW DEVELOPMENT WHICH CONNECTS THIS PERIPHERY TO ITS CITY.”

BUILDING MATTERS GROUP 5


HISTORICAL CAMBRIDGE
STATION ROAD
TRANSITORY SPACE
BANDED HISTORICAL DEVELOPMENT WITH STATION LOCATED ON THE PERIPHERIES OF THE HISTORICAL CENTRE.
TRAIN STATION DEVELOPING AS THE INFRASRTUCTURAL HEART OF THE CITY BUT WITH NO SENSE OF CONNECTION TO THE OLD CITY
HISTORICAL ATTITUDE TO OUTSKIRTS STATION PERVADING INTO MODERN CITY DEVELOPMENT.
COUNCIL
CAMBRIDGE CITY
CLIENT
BROOKGATE DEVELOPMENTS
BUSINESS CASE
PLANNING POLICY
CB1 MASTERPLAN
CONSERVATION
AREA FOR CHANGE
“THE RIGHT MIX”
DEMOLITION OF 4 GEORGIAN TERRACES AT 32 - 36 STATION ROAD AND REPLACEMENT WITH A BUILDING OF SIGNIFICANT MERIT TO TOWNSCAPE AND COMMUNITY.
BALANCE BETWEEN HERITAGE AND PROGRESS
MATERIALITY
SCALE
SENSITIVE DESIGN
INFRASTRUCTURAL IMPROVEMENT
ECONOMIC GROWTH



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50 \ STATION ROAD

1600

1800

1900

1950

1847

2000

[CAMBRIDGE THE HISTORICAL CITY]

Cambridge developed as a university town, expanding around the system of collages, churches and educational buildings which denoted the lifeblood of the city.

1600

Cambridge's enveloped developed as a small, linear town bounded by its river and the central highstreet. Its concentrated boundaries were surrounded by farmland which drew on the benefits of the river to survive.

1800

The town began to expand away from the river in the 1800's as government laws on the living arrangements of collage professors became more relaxed. This led to the formation of the main historic centre of Cambridge that we see today.

1847

Upon the arrival of the St Ives to Huntinton railway line, the station was built some way out of the town centre, neccessitating a small transitory road to be constructed, connecting the town to the new transport but with little further plans for development.

1900 - 1950

Although development and densification was rapidly increased in the 20th century, the station road remained largely neglected, percieved only as a transitory route with little further connection to the historic centre.

2000

Perpetuating the historical mindset, the station's development today is disconnected and unwelcoming, despite being the heart of transport within the city. This therefore provides the basis for change within the area, neccesitating a new development which connects this periphery to its city.


1

Botanic House opened in 2014. replacing an older smaller office building.


2

Grade II listed War Memorial. The War memorial is dedicated to all Cambridgeshire men who served in war. It was unvield by duke of York in 1922


3

There are various Victiorian houses still remaining. They where built in 1874 and designed by Richard Rowe


4

The Dememter house was built in 1960 along with two other office buildings: Leda and Jupiter house in place of numerous Victorian houses.

In 2014 Leda house was demolished for a even newer office building part of the CB1 redevelopment. The other two buildings are both posed to share the same fate

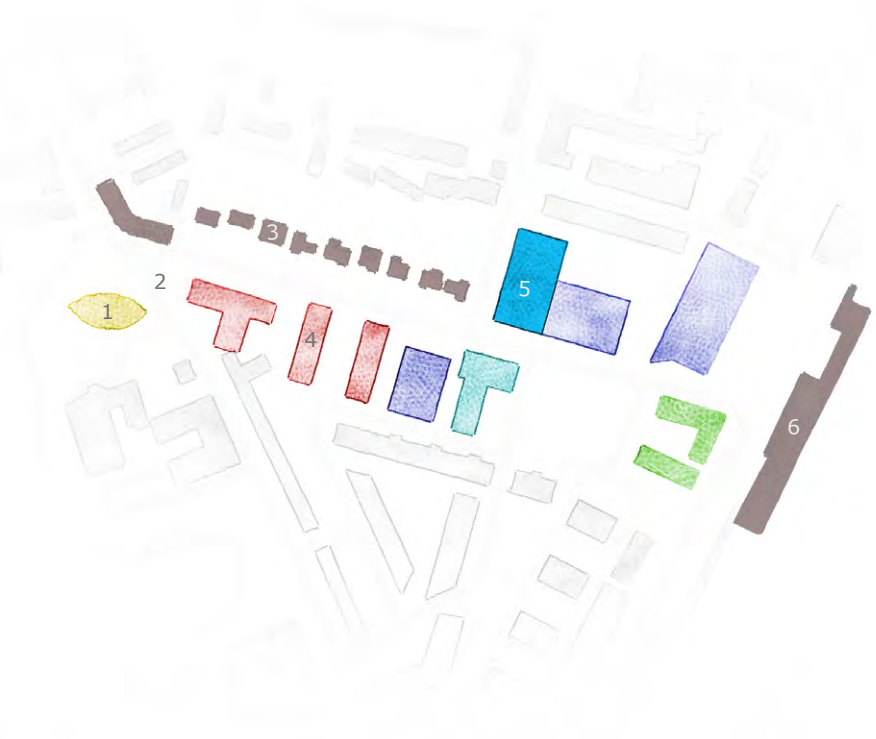

5

Microsoft's office is CB1 redevelopment first completed building. It was completed in 2012.


6

The Train Station (Grade II listed) was opened in 1845. It was deisgned by Sanction Wood and Francis Thompson.

It used to also contain a train depot which was demolished when it was no longer sustainable to operate.



YEAR OF CONSTRUCTION

- < 1900
- 1950
- 1950
- 1960
- 2012
- 2014
- 2016

[HISTORICAL CONTEXT]

STATION ROAD

Station Road's development started with the Train Station in 1845.

As the need to transport local goods was increasing from various sectors it was deemed vital to build a railway connection to the rest of England. Cambridge was much smaller in 1845, so in order to connect the city to the newly formed train station a new road was built, the "Station Road".

The train station was originally built with massive depots however by 1965 they where demolished as they where no longer useful, in order to make way for other investments (houses, apartments, shops)

Alongside Station Road beautiful vctorian houses were built in 1874. However in 1960 due to the close proximaty to the train station and reasonable transport links (easy access to for workers) most of the Victorian houses on the south side of the road were demolished in order to make space for office building.

In 2012 the first effects of the CB1 redevelopment started to be visible . The first building that was part of this scheme opened in 2012 and is owned by Microsoft. The 2nd one is the Botanic house that opened in 2014.
Station road itself is currently being revitalized as part of the CB1 scheme predominantly with stereotypical modern office buildings.

Historical photographs of Cambridge









Various images of Cambridge today

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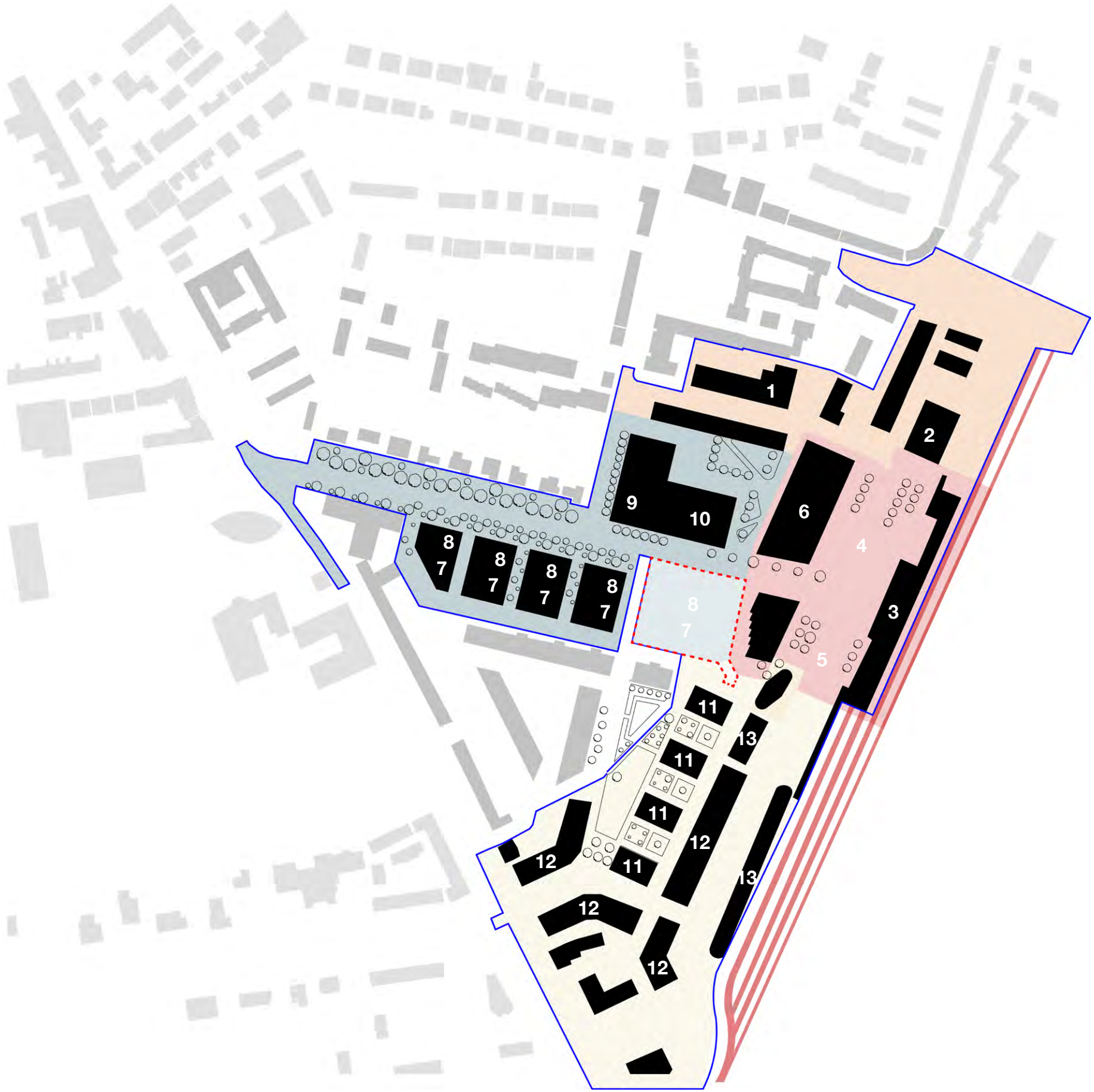
STATION ROAD

STAGE 0 - 1 \ PLANNING A BRIEF

> “THE MASTERPLANS FOR THE AREA, WHILST PROVIDING THE POTENTIAL FOR A SINGLE, COHESIVE DEVELOPMENT, SHOW LITTLE INTENTION OR SOLUTIONS TO A CONNECTION BACK TO THE HISTORICAL CITY AND THE DEVELOPMENT IS THEREFORE AT RISK OF BECOMING ANY MAJOR RAILWAY STATION RATHER THAN EXCLUSIVELY THAT OF CAMBRIDGE.”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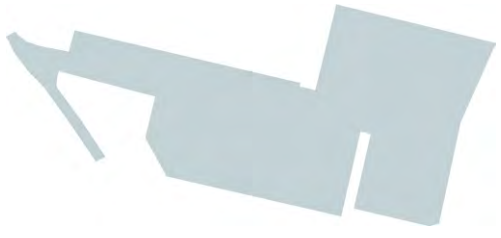
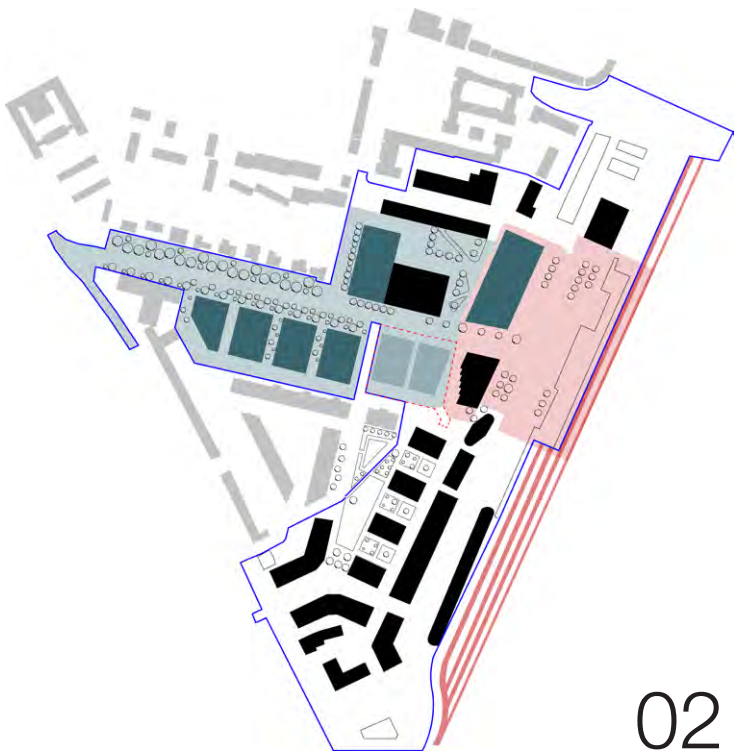
[CB1 MASTERPLAN]



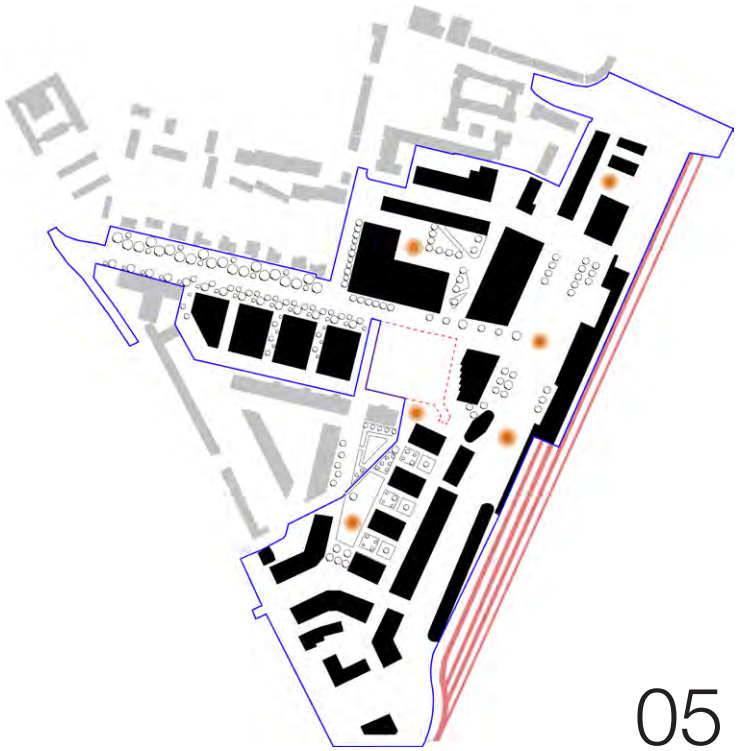
CHARACTER AREA	PLANNING APPROVAL
Northern Residential	1 \ 150 Private for sale residential units 2 \ Cycle parking providing 2,812 spaces
Station Square	3 \ New transport interchange 4 \ 28 new taxi bays 5 \ 9 new bus stops 6 \ 1000 sq m class A1 (retail) floorspace
Station Road	7 \ 53, 294 sq m class B1a (office) floorspace 8 \ 4,255 sq m class A1 (retail) floorspace 9 \ multistorey carpark providing 632 car parking spaces 10 \ 6,479 sq m hotel
Southern Reisdential	11 \ 181 residential units - private for sale and affordable mix 12 \ 1,250 student units 13 \ 1, 885 sq m D1 (community) floorspace

01



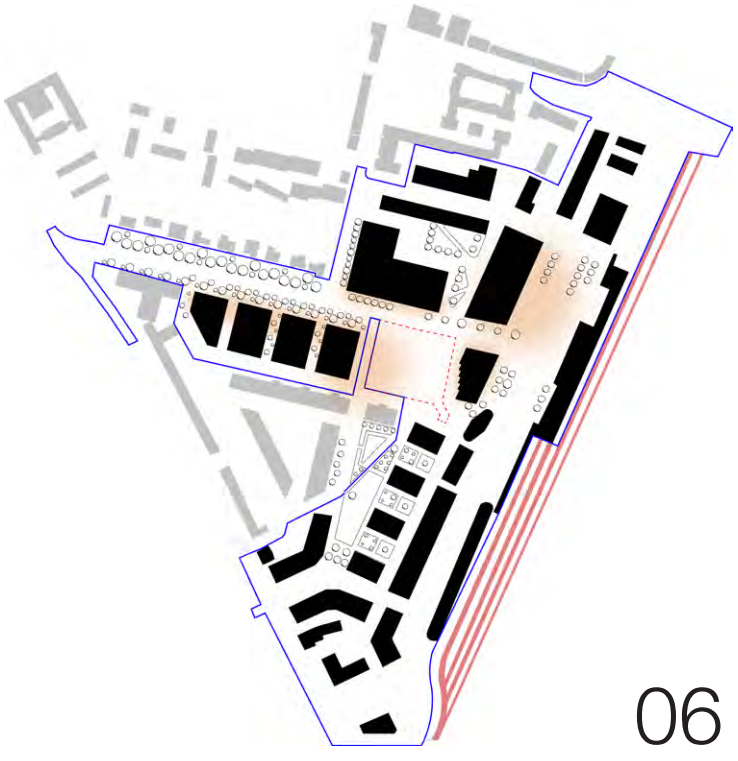
02

04



05

03



06

[CB1 MASTERPLAN]

BROOKGATE DEVELOPMENT AIMS

01 \ The Right Mix

Broadgate aim to create a vibrant, bustling interchange by ensuring a variety of different uses and inhabitants. Through a carefully implemented masterplan, the development wishes to bring together commercial, residential and student facilities to create a new city quarter which extends the character of Cambridge's historic centre.

02 \ Economic Centre

Through provision of new, flexible office workspace with well designed connections, Broadgate aim to attract more large scale companies to Cambridge. Enticing commercial opportunities out of London and injecting the economic benefits into Cambridge.

03 \ Improved Transport Links

With the addition of further cycle parking, bus stops and an improved transport hub, Broadgate aim to create a welcoming place for visitors and commercial opportunities within Cambridge whilst also making it easier for loacl inhabitants to utilise public transport.

04 \ Open Space

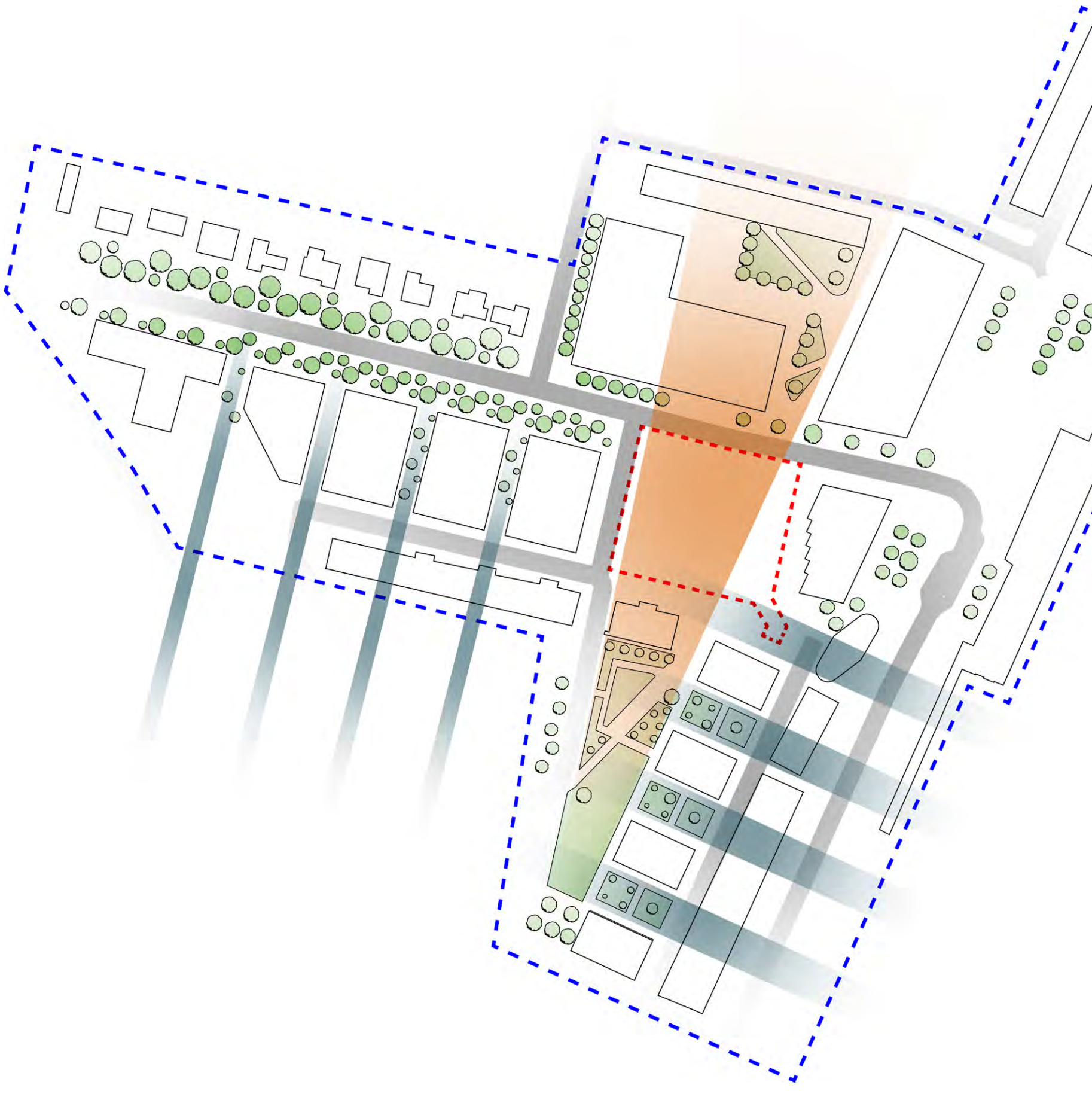
Through carfefully considered landscaping at a variety of scales, Broadgate aims to enhance the station quarter as a civic space. Providing not only large scale spaces such as station square but also intimate parks and courtyards which appeal to the variety of users through the area on a daily basis.

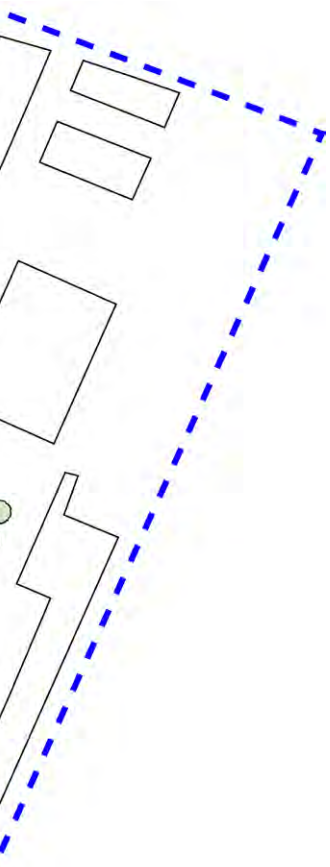
05 \ Public Art

The addition of artworks to the public realm aims to inject a sense of culture and heritage into the development. Creating a quarter which is firmly routed in the historic community it serves.

06 \ Cafe Culture

Particularly located around station square and station road, shops and cafes are crucial to the development of an arrival zone and arfe at the heart of this "new city quarter".





[STATION ROAD MASTERPLAN]

ROGERS STIRK HARBOUR + PARTNERS VISION

The RSHP Masterplan focusses particularly on Station Road and its relationship with both the train station and the historical city centre. The masterplan aims to repair the disconnect between city centre and station and enhance the sense of place within this “new city quarter”. The Masterplan focusses on three main criterea:

01 \ Permeability

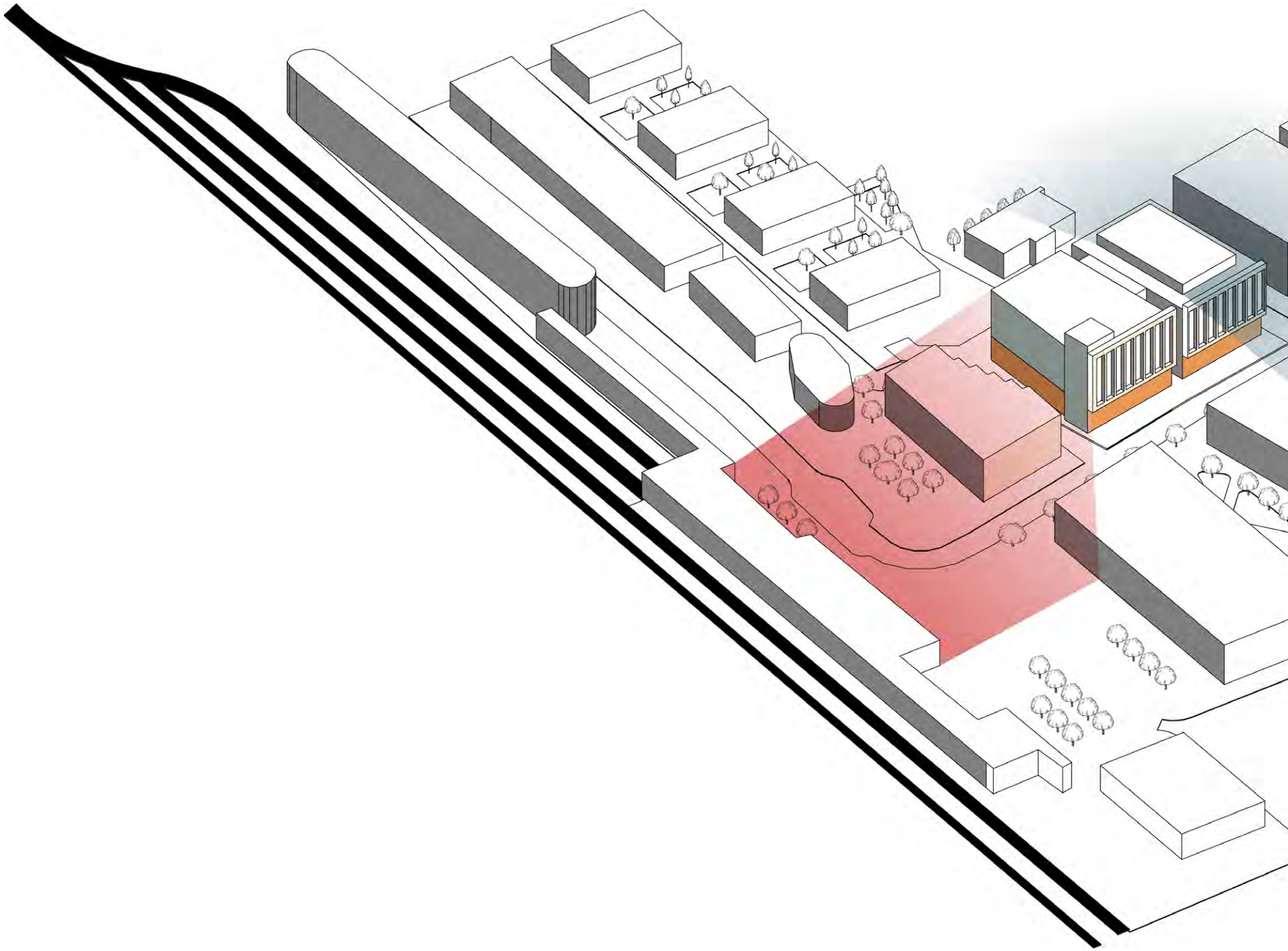
The masterplan addresses the need for simple public connections which link seperate spaces through a series of avenues. This creates a visible connectivity across the site, allowing character to develop in the areas surrounding the station as well as those adjactent to it.

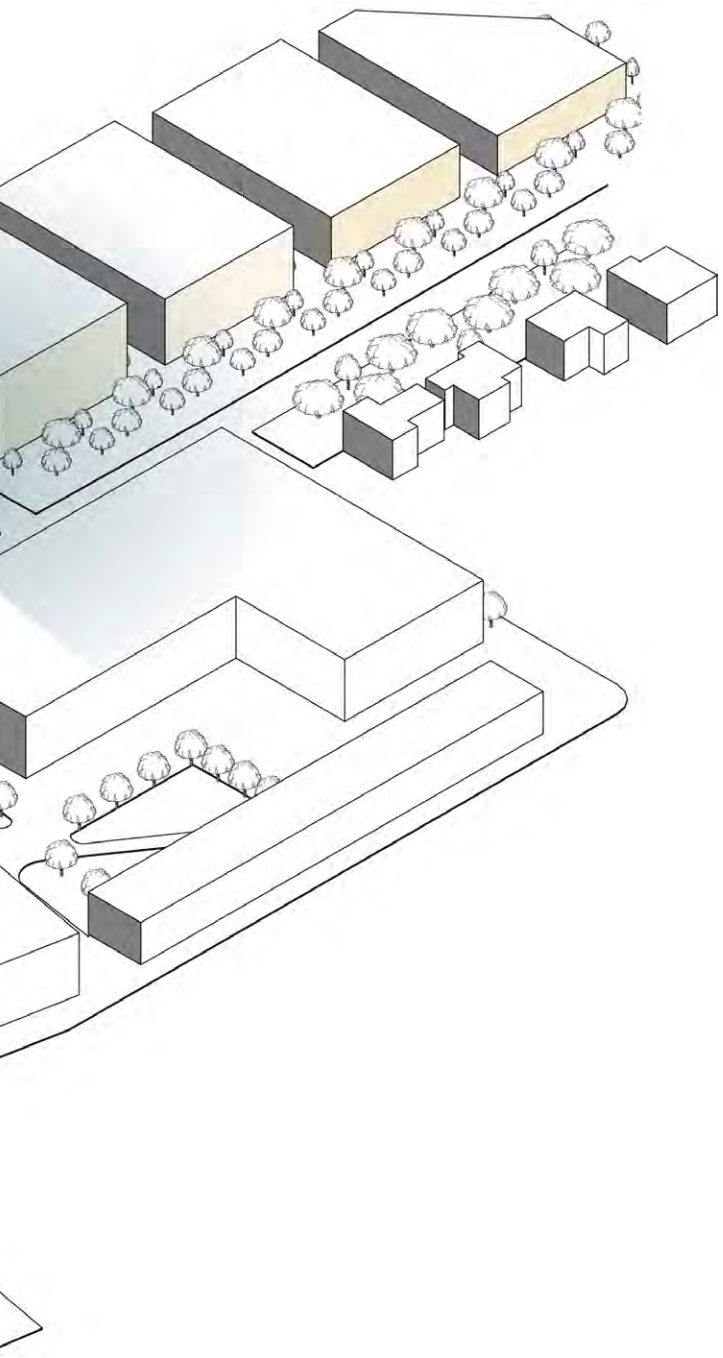
02 \ Visibility

RSHP address the need for direction around the station by suggesting a focal tower in the near vicinity of the transport interchange. The masterplan identifies the land at 50 \ 60 Station Road as the optimum space for a landmark development, providing orientation and recognisable character to the area.

03 \ Focal Vista

Enhancing the effect of this landmark, the plan additionally calls for a focal vista dominated by public realm and civic activity. This zone is defined at its centre point by the focal tower and determines the main geometry for subsequent developments.





[50 \ 60 STATION ROAD]

BROOKGATE DEVELOPMENT AIMS

As suggested in the RSHP Masterplan, the development at 50 \ 60 station road was taken on by Broadgate as their flagship development. Their main aims within the design were as follows:

01 \ Provision of Flexible Office Space

Contrary to the original masterplan set out by Cambridge Council, Brookgate's aims at 50 \ 60 Station Road were to provide the maximum lettable area to potential future tenants. This built upon past experience of letting similar spaces and led to the decision to create one building defined as two blocks as opposed to two independant buildings side by side.

02 \ Cafe Culture Public Realm

In parrallel with the RSHP master plan, Brookgate recognised the opportunity to create public realm both to the front and rear of the development, integrating not only passers-by on Station Road but also residents of the new appartement blocks behind. The development aimed to take on the challenge of being the lynch pin of the development.

03 \ Visibility on Station Road

With a maximum height of 9 storeys, as set out within the original CB1 Masterplan, the development would be the tallest building occupying Station Road, ensuring its visibility and facilitating its success as a locating feature within the new quarter.

04 \ Views over Historical Cambridge

Utilising its increased height, brookgate aims to connect the station quarter to the historical centre by providing rooftop views which connect old and new.

05 \ Sensitive Facade Desgin

The design aims to sensitively integrate modernity into a historical context by utilising the rythmn and materiality of its historical setting to inform the design.

LANDMARK FEATURE

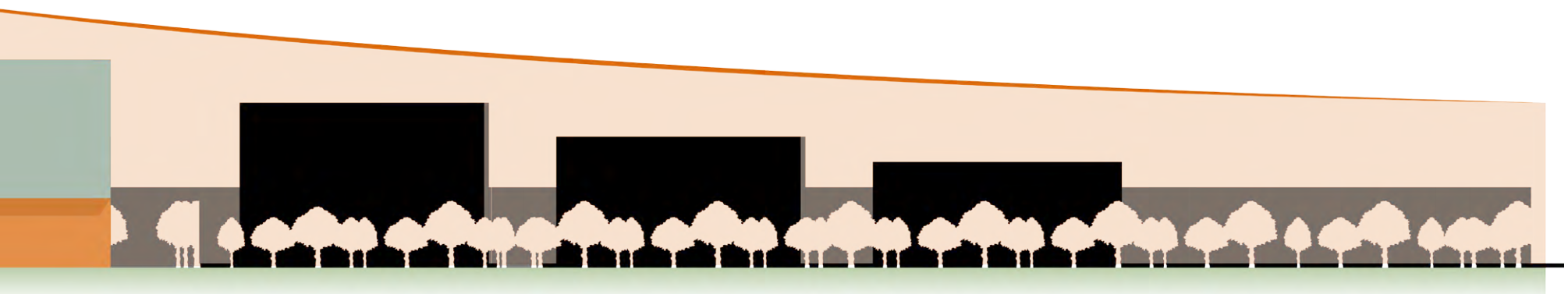
ON ARRIVAL FROM THE STATION WHICH DIRECTS VISITORS TOWARDS THE CITY CENTRE

MAXIMUM LETTABLE AREA

PROVIDING POTENTIAL FUTURE TENNANTS WITH FLEXIBLE OFFICE SPACE WHICH COULD BE ADAPTED TO ANY RANGE OF NEEDS. THIS REQUIRES THE DESIGN OF ONE, CONNECTED PROPOSAL.

[50 \ 60 STATION ROAD]

BROOKGATE BRIEF



FOCAL AVENUE

CENTRED AROUND THE DEVELOPMENT

WHICH EXTENDS THE PUBLIC REALM

ADJACENT TO THE STATION AND

FORMS THE HEART OF THE NEW PUBLIC

QUARTER

VISIBLE CONNECTIONS

WHICH ALLOW BOTH THOSE WITHIN THE

DEVELOPMENT AND THOSE WITHOUT TO FEEL A

RELATIONSHIP TO THE HISTORICAL CITY CENTRE

WHICH IT REFERENCES.

VISION

\ TO PROTECT AND ENHANCE THE CITY'S HISTORICAL CORE AND CIVIC CULTURE BY PROVIDING SENSITIVE DEVELOPMENTS CONNECTED BY A SERIES OF ACCESSIBLE GREEN SPACES

\ TO SUPPORT THE DEVELOPMENT OF CAMBRIDGE AS A CENTRE OF HIGHER EDUCATION AND RESEARCH

\ TO DEVELOP CAMBRIDGE AS A REGIONAL CENTRE FOR A VARIETY OF SERVICES

\ TO FACILITATE GROWTH IN A SUSTAINABLE AND ENVIRONMENTALLY FRIENDLY MANNER

CONSERVATION

\ TO SAFEGUARD THE CHARACTER OF CAMBRIDGE'S URBAN AND OPEN AREAS FOR FUTURE GENERATIONS

\ TO ENSURE THE CITY HAS AN ACCESSIBLE NETWORK OF GREEN SPACES

\ TO PROTECT BUILDINGS AND FEATURES THAT CONTRIBUTE TO THE CITIES CHARACTER, SETTING AND ENJOYMENT

\ TO CONSIDER CAREFULLY THE IMPLEMENTATION OF TALL BUILDINGS SO AS NOT TO RUIN THE LOW- RISE CHARACTER OF THE CITY

LEISURE

\ TO ENSURE CAMBRIDGE HAS A RANGE OF LEISURE, TOURISM AND SHOPPING FACILITIES IN ACCESSIBLE LOCATIONS

\ TO PROTECT EXISTING LEISURE FACILITIES WHILE SUPPORTING NEW PROPOSALS WITH NO NEGATIVE IMPACT ON THE SURROUNDING

\ TO DEVELOP THE VIBRANT CHARACTER OF CAMBRIDGE THROUGH ENCOURAGEMENT OF DEVELOPMENTS WHICH IMPORVE THE CIVIC REALM

\ TO PROTECT AND ENHANCE CAMBRIDGE'S UNIQUE SENSE OF PLACE

INFRASTRUCTURE

\ TO MINIMISE THE DISTANCES PEOPLE NEED TO TRAVEL, PARTICULARLY BY CAR

\ TO MAXIMISE ACCESSIBILITY FOR EVERYONE

\ TO SUPPORT THE CITY WITH SUSTAINABLE FORMS OF TRANSPORT AND ARCHITECTURE

\ TO DEVELOP PEDESTRIAN AREAS AND BIKE PATHS

[CAMBRIDGE COUNCIL]

PLANNING POLICY

DESIGN

**** TO CREATE DISTINCTIVE COMMUNITIES WHICH ENHANCE THE CHARACTER OF THE CITY AND SATISFY THE NEEDS OF ITS RESIDENTS AND USERS

**** TO ENSURE THAT DEVELOPMENT IS OF THE HIGHEST DESIGN QUALITY AND RESPECTS THE UNIQUE CHARACTER OF THE CITY

**** TO MEET THE PRINCIPLES OF SUSTAINABILITY

**** TO RESPECT AND DRAW INSPIRATION FROM KEY CHARACTERISTICS OF THE SURROUNDINGS, INTEGRATING THE DESIGN WITH THE LOCAL FABRIC.

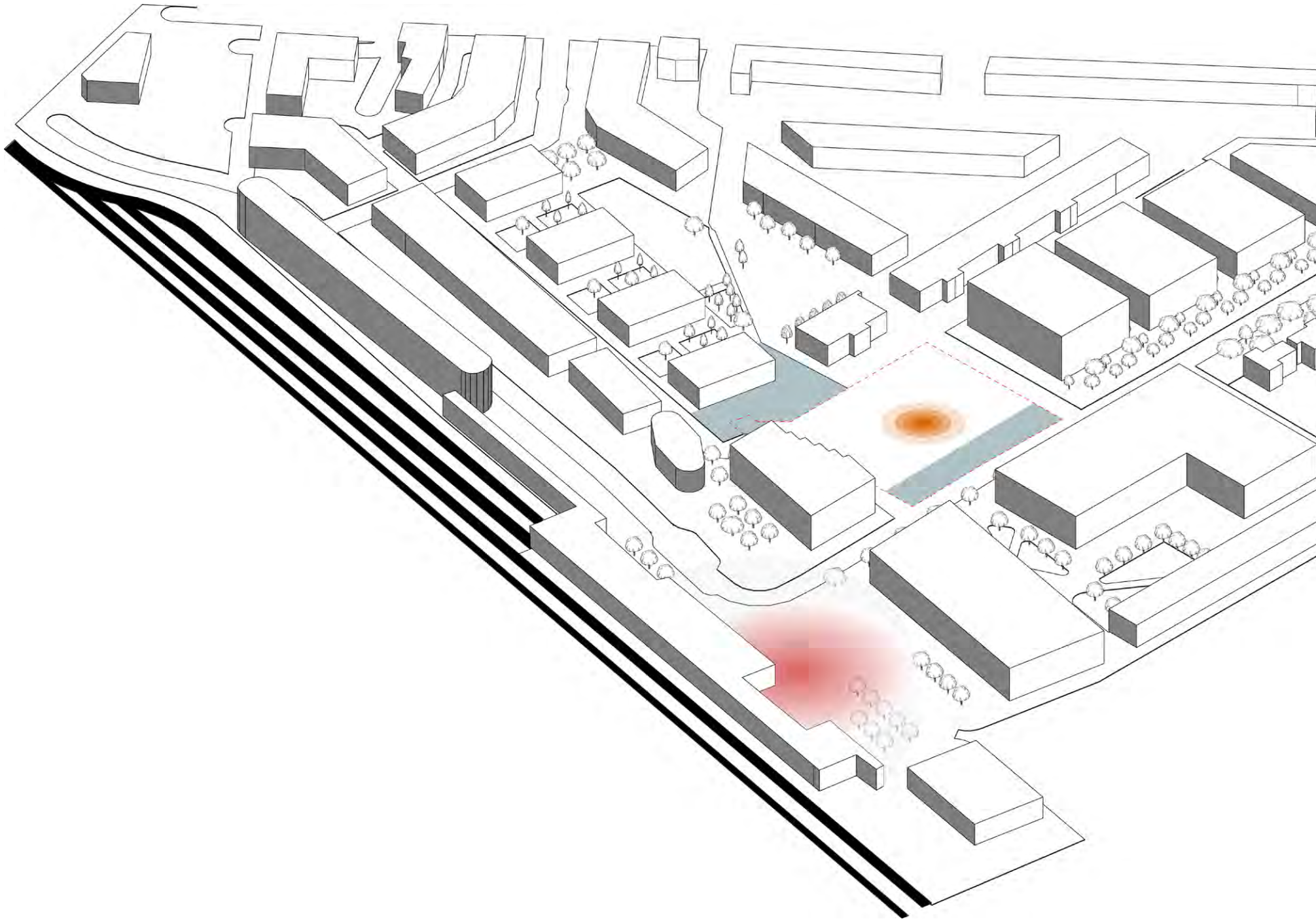
STATION ROAD DEVELOPMENT

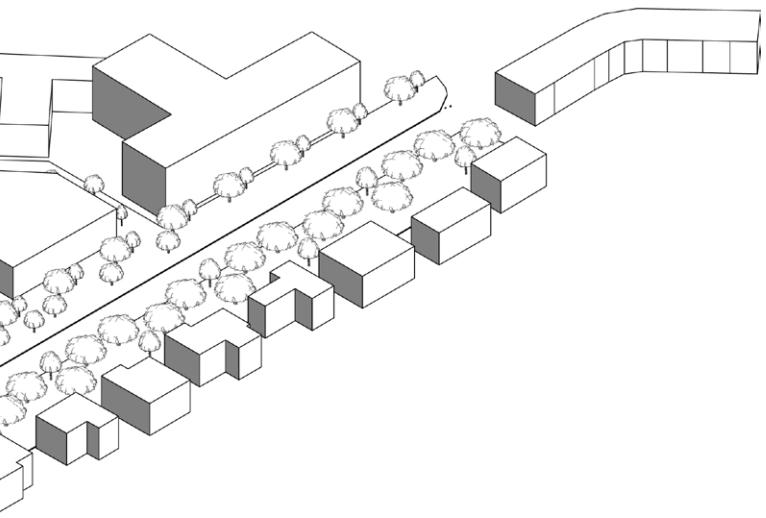
**** TO TRANSFORM THE STATION AREA INTO A MIXED USE CITY DISTRICT CONSISTING OF HIGH DENSITY RESIDENTIAL AND COMMERCIAL AREAS

**** TO IMPROVE THE QUALITY OF THE TRANSPORT INTERCHANGE FOR PEDESTRIANS, CYCLISTS, BUSES, TAXIS, CARS AND RAIL USERS.

**** TO ENHANCE THE STREET LEVEL ENVIRONMENT WITH LOCAL RETAIL, LEISURE AND COMMUNITY FACILITIES

**** TO PROVIDE ACCESSIBLE GREEN SPACES IN KEEPING WITH THE LOCAL ENVIRONMENT.





[50 \ 60 STATION ROAD]

OPPORTUNITIES

Moving forward within this framework, Grimshaw were able to undertake feasibility studies in order to ascertain the constraints and oppoutunites contained within the potential development. The site advantages consist of:

01 \ Proximity to Station

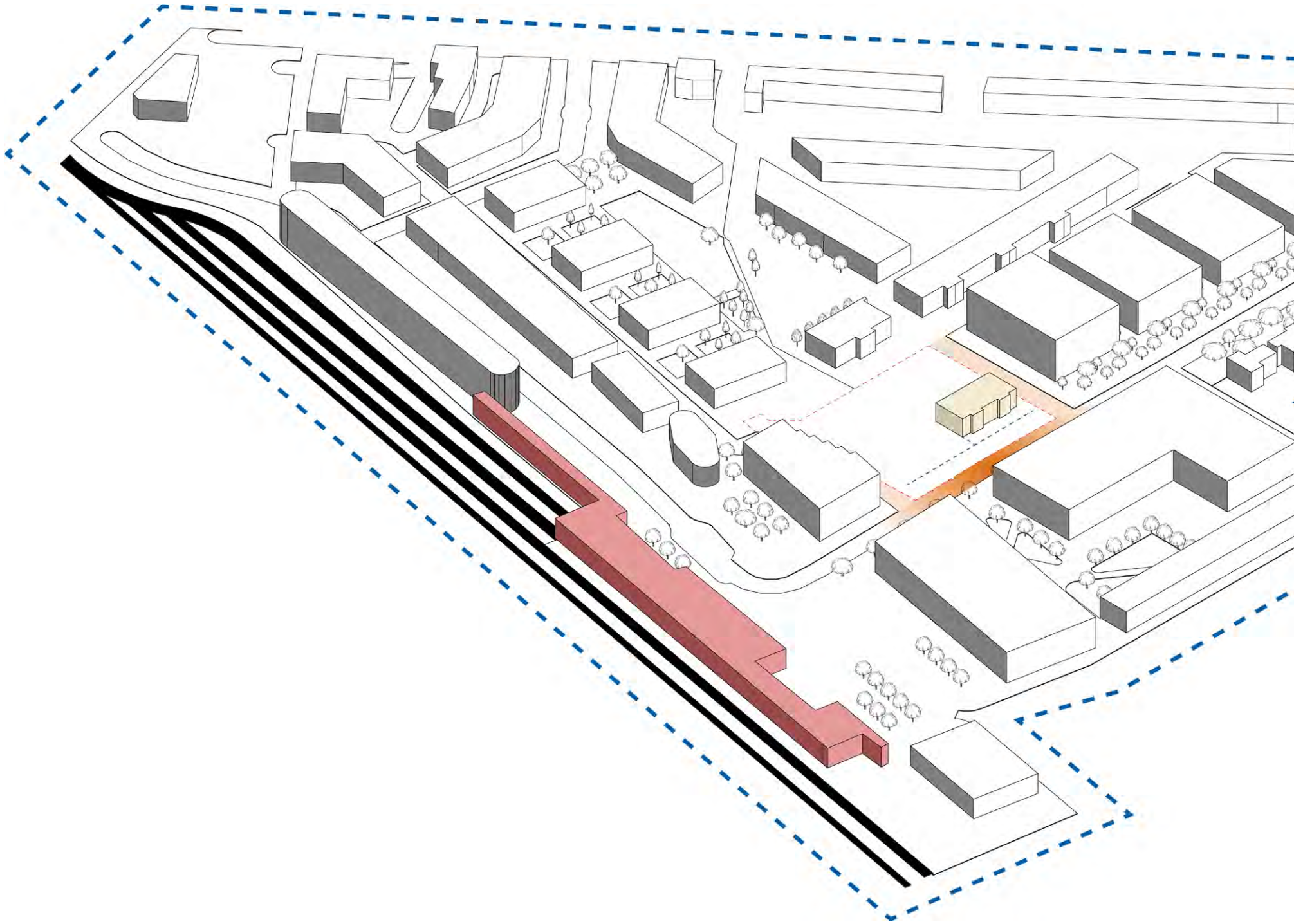
The site's location a stones throw from the station provides not only the optimum location for future commercial tennants but also a gateway development for Cambridge. This therefore offers the opportunity for a statement design which could act as a landmark feature on arrival to the city.

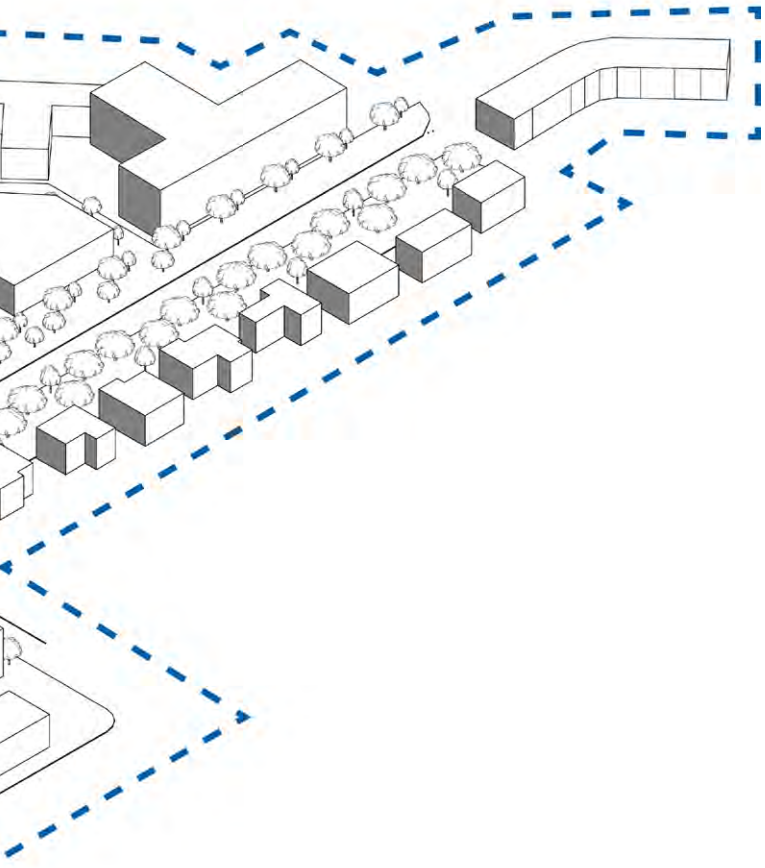
02 \ Feature Position on Station Road

Its predetermined status as a focal point on station road not only reinforces the argument for a landmark design but also provides justification for a taller building. This enables Grimshaw to provide increased lettable area for the client by pushing the envelope taller than any of the surrounding buildings.

03 \ Possibility for Public Realm

The suggestion of a public park to the rear of the site in both masterplans affords the development the unique opportunity of a double frontage with animation both to the rear and front of the design. This not only increases the potential ground floor animation but also enables the design to be expressed on more than one main elevation.





[50 \ 60 STATION ROAD]

CONSTRAINTS

Despite the advantages of a central location, the featured position of this site comes with several important constraints:

01 \ Location within Conservation Area

Cambridge Central Conservation area encompasses the station road developement. Whilst the local plan identifies the station zone as an area for change, the constraints of material, scale and design within the conservation area pose stringent restrictions on the conception and design of this project.

02 \ Proximity to Grade II listed Railway Station

The proximity of such a recognisable listed building poses significant restraints on the impact of the overall design which must not be seen to overshadow or detract from the station architecture in any way. The design must therefore carefully respond to this context whilst also aiming to effectively link itself with the city centre.

03 \ Buildings of Townscape Merit within Site Boundary

The presence of 4 Georgian houses at 32 - 38 Station Road poses potential pressures on both the design and delivery of the project. The design must be seen to respond sensitively to the history of the site whilst the delivery must prove that it will provide significant community value in order to justify the demolition of these houses.

04 \ CB1 Parametre Plan alignment

The original CB1 Masterplan set out thresholds on both the horizontal and vertical extents of the building. This dictates its positioning in relation to the street and therefore the maximum floor area it can inhabit.

05 \ Busy Existing Access Routes

Despite the advantages of a busy street frontage, existing access routes to all four sides of the site must be maintained and considered, creating both logistical and design constraints.

[BRIEF CONCLUSION]

The station road development aims to address years worth of historical disconnectivity, creating a vibrant and welcoming quarter for those arriving and residing in the area which visibly relates itself to the historic city it is announcing.

Cambridge Council planning policy, the CB1 Masterplan and the RSHP Station road masterplan are testiment to a recognition of the need for a new dialogue between station and city and provide a basic framework within which this can be developed.

However, although all parties involved recognise the need for a connection, the initial investigations into character and place-making appear only superficial. The parameters which form the basis of the architects' brief focus on very wide gestures which only address heritage and culture with a very broad brush and assume a sense of place through the placing of coffee shops.

The masterplans for the area, whilst providing the potential for a single, cohesive development, show little intention or solutions to a connection back to the historical city and the development is therefore at risk of becoming any major railway station rather than exclusively that of Cambridge.

The following sections of this document will look at this theme in more detail, investigating if, how and why the architects chose to address this fundamental issue of disconnection within the city.

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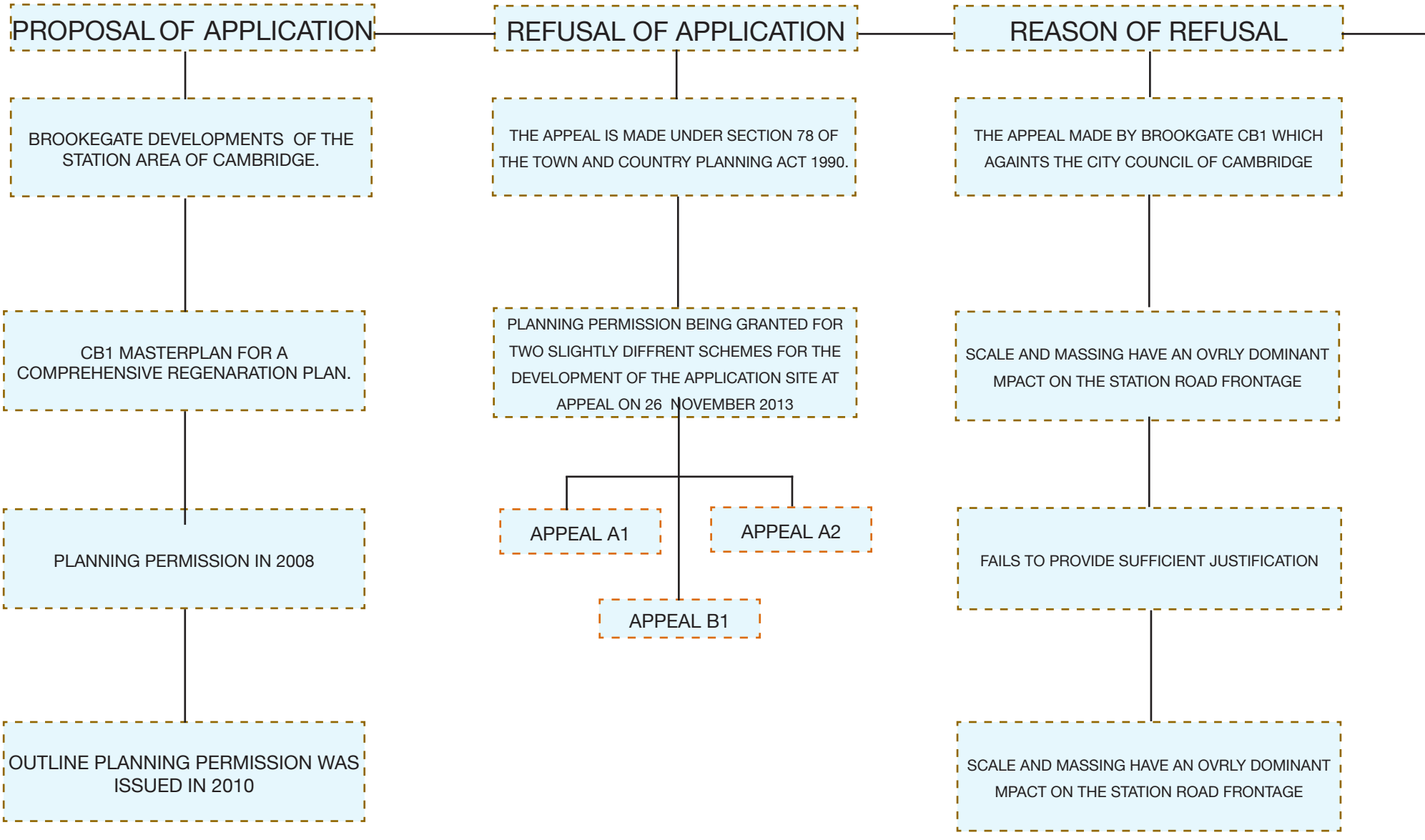
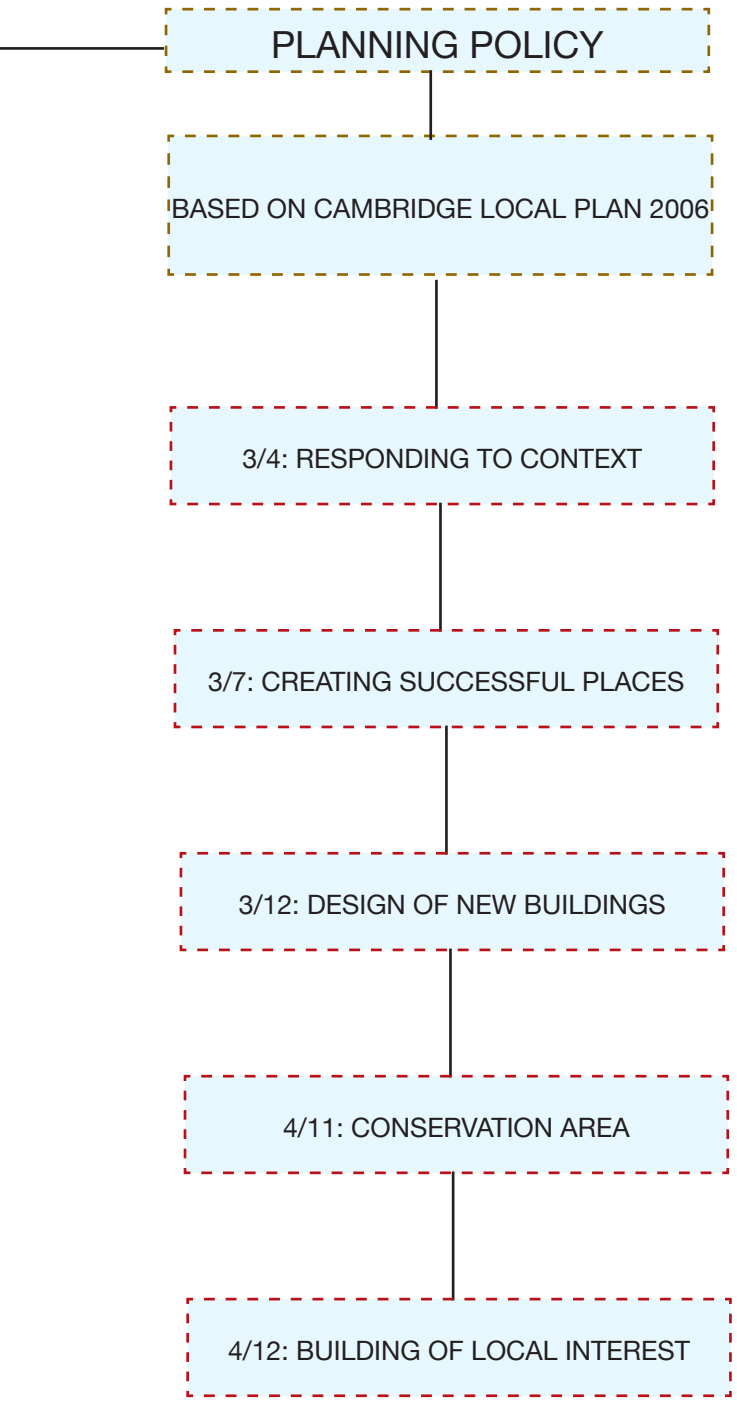
STATION ROAD

STAGE 2 \ ADDRESSING CONCEPT

> NEW DEVELOPMENTS ARE EXPECTED TO IMPROVE AND ENHANCE THE EXISTING PUBLIC REALM AND CREATE SUCCESSFUL NEW SPACES. SUCCESSFUL PLACES THAT INCLUDE; STREETS, PARKS, AND SQUARES, PROVIDE THE SETTING FOR EVERYDAY LIFE AND SHOULD BE ATTRACTIVE AND ENJOYABLE ENVIRONMENTS AVAILABLE TO EVERYONE


PROPOSAL OF APPLICATION
REFUSAL OF APPLICATION
REASON OF REFUSAL
BROOKEGATE DEVELOPMENTS OF THE STATION AREA OF CAMBRIDGE.
THE APPEAL IS MADE UNDER SECTION 78 OF THE TOWN AND COUNTRY PLANNING ACT 1990.
THE APPEAL MADE BY BROOKGATE CB1 WHICH AGAINTS THE CITY COUNCIL OF CAMBRIDGE
CB1 MASTERPLAN FOR A COMPREHENSIVE REGENARATION PLAN.
PLANNING PERMISSION BEING GRANTED FOR TWO SLIGHTLY DIFFRENT SCHEMES FOR THE DEVELOPMENT OF THE APPLICATION SITE AT APPEAL ON 26 NOVEMBER 2013
SCALE AND MASSING HAVE AN OVRLY DOMINANT MPACT ON THE STATION ROAD FRONTAGE
APPEAL A1
APPEAL A2
APPEAL B1
PLANNING PERMISSION IN 2008
FAILS TO PROVIDE SUFFICIENT JUSTIFICATION
OUTLINE PLANNING PERMISSION WAS ISSUED IN 2010
SCALE AND MASSING HAVE AN OVRLY DOMINANT MPACT ON THE STATION ROAD FRONTAGE



60

50 \ STATION ROAD

CBI Masterplan in 2005.

The work culminated in a planning application for a comprehensive regeneration plan.

Planning permission in 2008

Members resolved to grant outline planning.

Outline planning permission was issued in April 2010

Full planning permission is sought for 50 and 60 Station Road rather than a reserved matters approval under the CB1 Masterplan outline permission.

Planning permission being granted for two slightly different schemes for the development of the application site at appeal on 26 November 2013.

Appeal A1: APP/Q0505/A/13/2191482

The application, ref. 12/0502/FUL, was refused by notice dated 25 July 2012.

The development proposed is “the demolition of 32-38 Station Road and the construction of two new office buildings comprising: 7,806 sq.m office floor space (Class B1) for 50 Station Road and 8,621 sq.m office floor space (Class B1) and 271 sq.m of retail/café and restaurant floor space (Class A1/A3) for 60 Station Road as a phased development, including ancillary accommodation/ facilities with an additional single level basement to both buildings and up to 61 car parking spaces, with associated plant; along with the re-alignment of the northern section of the southern access road; 432 external cycle parking spaces; and hard and soft landscaping (including additional public realm and landscaping over the cycle storage area and basement entrance)”.

Enhance the design of proposal

This opportunity has also been grasped to enhance the design of the proposals and it is considered that the current scheme represents a better building in design terms

Changes of proposal

The proposed changes are minor when compared with the previously approved schemes and, individually and collectively are considered to be beneficial.

Appeal A2: APP/Q0505/E/13/2191474

The application, ref. 12/0496/CAC, was refused by notice dated 25 July 2012.

Conservation area consent is granted for “the demolition of 32-38 Station Road, Cambridge, CB1 2JH, in accordance with the terms of the application, ref. 12/0496/CAC, subject to the conditions set out in the attached schedule”.

Appeal B1: APP/Q0505/A/13/2196604

The application, ref. 12/1556/FUL, was refused by notice dated 6 March 2013.

The development proposed is “the demolition of 32-38 Station Road and the construction of two new office buildings comprising 7,279 sqm of office floor space (Class B1) for 50 Station Road and 8,621 sqm of office floor space (Class B1) and 271sq.m of retail/café and restaurant space (Class A1/A3) for 60 Station Road as a phased development, including ancillary accommodation/facilities with an additional single level basement to both buildings and up to 76 car parking spaces, with associated plant, up to 576 internal and external cycle parking spaces, re-alignment of the northern

Refusal of Planning Permission

All refusals were made at Planning Committee despite Officer Recommendations for approval. The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant planning permission. The appeal also made by Brookgate CB1 limited which against

The application submission is prepared

Brookgate and their design team have been mindful of the above in addition to the existing CB1 Masterplan.

Conclusion

In concluding the Inspector stated that: “Both appeal schemes would provide an acceptable form of development in the context of the Central Conservation Area and the approved CB1 Masterplan. Both would comply with the relevant saved policies in the Cambridge Local Plan.”

Additional issue:

In addition to these two main matters the Inspector considered the car parking proposed as part of the appeal schemes and concluded that the expectation was that harmful or troublesome parking would not occur as a result of the proposed development. However, if this was not to be the case, the planning obligations associated with the proposals provided for appropriate

[PLANNING APPLICATION TIMELINE]

Application addresses the area for block I2 in CBI Masterplan

The application predominantly addresses the area for block I2 in the CB1 Masterplan that consist of an architectural proposal and landscape proposal building as the consented NMA for the SAR.

Reconsideration of proposal

CB1 Masterplan application are prepared and submitted to the Council in order to reflect the revisions of previously approved scheme. The city reconsider densification and CB1 is the logical place to facilitate the demand for larger commercial floorplates in the city and sustainable location.

Contribution to the Conservation Area

First issue:

The first main issue the Inspector's decision is clear in that the existing Wilton Terrace is considered to make a very modest positive contribution to the Conservation Area and, as such, in accordance with Policy 4/12 of the Cambridge Local Plan, the demolition of Wilton Terrace may be permitted if clear public benefits would flow from the redevelopment. The outline planning permission and Masterplan associated with this show clearly that Wilton Terrace would be replaced by Block I2 and since the outline permission clearly anticipates the demolition on the basis of the public benefit arising from CB1 as a whole the demolition of these buildings could only be refused if

Second issue:

The Inspector found that the contributions proposed in the Section 106 Agreements associated with the appeals schemes complied with CIL Regulations 122 and also relevant Local Plan policy.

Final Application Proposal

The application builds on the work that was undertaken by Brookgate for the development of the Station area of Cambridge. Starting in 2005, the work culminated in a planning application called CB1 Masterplan. Members resolved to grant outline planning permission in 2008, and the outline planning permission was issued in April 2010. Since the time of the planning application submission, the global economic outlook has change dramatically. More detailed assessment of the social and economic contect and site constaints have required a reconsiderations of the proposal. For this reason, full planning persmission is sought for 50 and 60 Station Road rather than a reserved matters approval under the CB1 Masterplan outline permission.

Reference	Description	Outcome
05/1166	Conservation Area Consent for demolition buildings on the Rank Hovis site	A/C
06/0266/OUT	CB1 Station Area Redevelopment	A/C
09/0031	Conservation Area Consent for demolition buildings on the Rank Hovis site	A/C
11/1303/FUL	Demolition of 32 – 38 Station Road and erection of two office buildings	Withdrawn
11/1351/CAC	Conservation Area Consent for demolition of 32-38 Station Road	Withdrawn
12/0496/CAC	Conservation Area Consent for demolition of 32-38 Station Road	Refused Appeal Allowed
12/0502/FUL	Demolition of 32 – 38 Station Road and erection of two office buildings Non Material Amendment for Realignment of SAR	Refused Appeal Allowed Approved
12/1553/CAC	Conservation Area Consent for demolition of 32-38 Station Road	Refused Appeal Allowed
12/1556/FUL	Demolition of 32 – 38 Station Road and erection of two office buildings	Refused Appeal Allowed
13/0978/CAC	Conservation Area Consent for demolition of 32-38 Station Road	Refused
13/0997/FUL	Demolition of 32 – 38 Station Road and erection of two office buildings	Refused

Refused Applications in 2012 & 2013

[OVERVIEW OF REFUSED APPLICATIONS]

All three previous planning applications received officer recommendation for approval, but were refused at Planning Committee. The first two schemes were the subject of the 26th November 2013 appeal decisions and were deemed to 'make a fitting contribution to the street scene' and 'of a quality that is entirely acceptable in the context of both CB1 Masterplan and the character and appearance of the Conservation Area' according to the Inspector.

In this section, the focus is to identify why the previous Planning Applications was refused and conclude how the scheme changed to comply with the Planning Policies.

The key differences between this scheme and the previous schemes are as follows:

i. Connection of the floorplates to 50 and 60 across the central gap from ground to seventh floor
ii. Substitution of two separate entrance lobbies on Station Road with a single primary lobby serving the whole building and a secondary entrance serving the ground floor only of no. 50
iii. Rearrangement of internal cores so that combined office floors 1 to 6 can be used in any configuration from a single large tenancy to three smaller ones
iv. Removal of core to North West Corner
v. Removal of stair cores to South East and South West of both 50 and 60
vi. Alterations to the façade
vii. Relocation of the car park ramp parallel to the southern boundary
viii. Re-location of car park entrance gates to face Warren Close
ix. Provision of a double basement with lower and upper basement levels.
x. Revisions to cycle parking to provide 620 spaces (232 Sheffield stands/388 double stackers
xi. Revisions to car parking to provide 119 car parking spaces (1 space per 147 sq m)

The main issue for the refusal of both of the planning application was because of the overall scale of the design scheme which has a dominant impact on Station Road Frontage.

Planning Policy	Initial Proposal	Reason for Refusal
National Planning Policy Framework (NPPF) - published on the 27th of March 2012. 1. Cambridge local Plan 2006 Policy 3/4: Responding to context Policy 3/7: Creating successful places Policy 3/12: The design of New Buildings Policy 4/11: Conservation Area 2. Policy 4/12: Buildings of Local Interest 3. Policy 8/10: Off-Street Car Parking Policy 3/7: Creating successful places Policy 5/11: Protection of Existing Facilities Policy 7/2: Selective Management of the Economy Policy 8/3: Mitigating measures Policy 9/9: Major change at Station Area Policy 10/1: Infrastructure Improvement	The demolition of 32-38 Station Road and the construction of two new office buildings comprising 7806 sq.m. office floor space (class B1) for 50 Station Road and 8621 sq.m. office floor space (class B1) and 271 sq.m. of retail/cafe and restaurant floor space (class A1/A3) for 60 Station Road as a phased development, including ancillary accommodation/facilities with an additional single level basement to both buildings and up to 61 car parking spaces, with associated plant; along with the re-alignment of the northern section of the southern access road; 432 external cycle parking spaces; and hard and soft landscape (including additional public realm and landscaping over the cycle storage area and basement entrance).	The reasons for refusal of the July 2012 planning application (ref. 12/0502/FUL) were as follows: 1. The proposed building by virtue of its overall scale and massing would have an overly dominant impact on the Station Road frontage to the detriment of the street scene. 2. The public benefit arising from the development fails to provide sufficient justification for the demolition of Buildings of Local Interest, which are recognized as heritage assets. 3. The development fails to make adequate provision for car parking which would be likely to result in overspill parking into nearby residential areas. The proposed development does not make appropriate provision for transport mitigation measures/infrastructure provision, the funding and agreement of the Travel Plan Co-coordinator, public art, relocation of a community facility, restriction on occupation of offices and monitoring.

Planning Policy	Initial Proposal	Reason for Refusal
1. Cambridge local Plan 2006 Policy 3/4: Responding to context Policy 3/7: Creating successful places Policy 3/12: The design of New Buildings Policy 4/11: Conservation Area	The demolition of 32-38 Station Road and the construction of two new office buildings comprising 7279 sqm of office floorspace (class B1) for 50 Station Road and 8621 sqm of office floorspace (class B1) and 271 sqm of retail/cafe space (class A1/A3) for 60 Station Road as a phased development, including ancillary accommodation/facilities with an additional single level basement to both buildings and up to 76 car parking spaces, with associated plant, up to 576 internal and external cycle parking spaces, realignment of the northern part of the southern access road, and hard and soft landscaping.	The reasons for refusal of the March 2013 planning application (ref. 12/1556/FUL) were identical to those for the July 2012 planning application with the exception of reason for refusal one which was revised as follows: 1. The proposed building by virtue of its overall scale and massing would have an unacceptably dominant impact on the Station Road frontage to the detriment of the street scene.

[REASONS OF REFUSAL]

The table on the left explains why the proposal was first refused at Planning Committee in 2012, and the comparison with the Planning Policy that has to be complied with.

Planning Application Reference Number:
12/0502/FUL

Date: 25th July 2012

The proposal was again refused at Planning Committee in March 2013, which complies with most of the Planning Policy, but has issue with the overall scale of the bulding After this was rejected, they then make another appeal which is accepted at the 26 November 2013 appeal decisions.

Planning Application Reference Number:
12/1556/FUL

Date: 6th March 2013

12/0502/FUL
JULY 2012

12/1556/FUL
MARCH 2013

NOTE: These image are the property of Grimshaw

[PLANNING POLICY & COMPARISON]

15/0509/FUL
SEPTEMBER 2015

NOTE: These image are the property of Grimshaw

Based on the refused application, comparison between each proposed scheme has been made according to the policies that has to be complied with, under the Cambridge Local Plan 2006.

Policy 3/4 - Responding to context

Demonstrating their response to their context and drawn inspiration from the key characteristics of their surroundings to create distinctive places.

Cambridge has many distinctive qualities, which defines the identity of the city, including its varied palette of building materials which helps define different character areas within the City.

The final proposal achieved to respond well to the context by introducing a new and distinctive character to the development of along Station Road, to replace Wilton Terrace. The design shows visible connection of the new development to the historical city centre of Cambridge.

1
There was insufficient benefits in respect of loosing Wilton Terrace,the last Victorian building on the south side of Station Road. The main materials proposed for the facade are double glazing glass and natural stone. The scale and mass of the building does not suit the development along Station Road.

2
Minor changes had been made, the facade of no 50 has been set back from its previous alignment by 3 metres and the line of the main parapet dropped to the level of the roof terrace balustrade. Although, the overall scale and massing still does not suit the site and is not accepted at Planning Committee.

3
The final proposal consist of an office building instead of dividing them into two blocks. Although the maximum height is higher than previous proposals, and the area is larger but within the parameters, the design is more fitting to the site and responded positively towards the existing features of natural and historic local character with the use of reconstituted stone / GRC Panel as the facade.

12/0502/FUL
JULY 2012

12/1556/FUL
MARCH 2013

15/0509/FUL
SEPTEMBER 2015

NOTE: These image are the property of Grimshaw

[PLANNING POLICY & COMPARISON]

Based on the Cambridge Local Plan 2006;

Policy 3/7 - Creating Successful Places

New developments are expected to improve and enhance the existing public realm and create successful new spaces. Successful places that include; streets, parks, and squares, provide the setting for everyday life and should be attractive and enjoyable environments available to everyone. Places which are well integrated with their surroundings and which have identified the opportunities and constraints of the site and its surroundings and which have responded to them in a positive way will be successful.

The final proposal demonstrates that the design is providing attractive, high quality, accessible, socially inclusive and is well integrated with its surroundings, creating a good hiearchy along Station Road.

1 & 2
The materials used in both schemes are using natural stone and double glazing glass facade. The design of the front tower have somehow hide the area of the public spaces of the building, the East facade which overlooks the station are very much enclosed and does not look appealing.

3
The final proposal which does not separate the office towers into two blocks, instead linking them and landscaped to create a softer facade. The overall street elevation view gives a good hierarchy along Station Road, whilst the design of the front tower is creating an attractive built frontages to positively enhance the streetscape and enhancing the public realm which is adjacent to the station and forms the heart of a new public space. The design clearly distinct public and private spaces by designing a clear double volume glass facade with an extension of huge columns at the frontages, to create a welcoming atmosphere for the public spaces. While the private spaces are designed with extended GRC panels to frame the double glazing glass windows, to create more privacy.

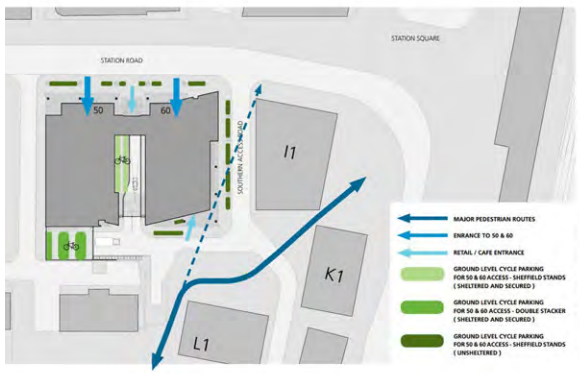
The design has successfully make use of high quality traditional and modern materials and finishes. The allocation of external cycle parking spaces at the front and sides of the building makes the design look more inviting and safe, whilst promote natural surveillance. The entrance ‘pod’ between the two buildings is more visible and therefore aids the legibility of the entrance when viewed looking east towards the Station.

1

2

3

3



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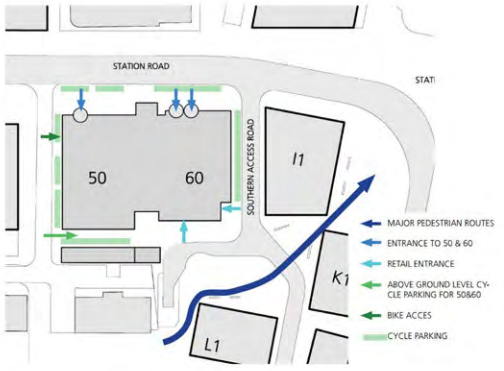

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GRC proposed color for main fins

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[PLANNING POLICY & COMPARISON]

1 - The height initial proposed scheme

2 - The height the final scheme

3 - The front mill is covering the central link which is set well back from the street

4 - The mil is designed to be more slender and elegant proportion

5 - 2012 proposal; 432 external cycle parking spaces

6 - 2013 proposal; 576 internal and external cycle parking spaces

7 - 2015 proposal; 612 internal and external cycle parking spaces, sufficient cycle parking which are easily accessible

8 - The initial proposal is using natural stone for its facade

9 - The final proposal is using GRC stone for the facade

Based on the Cambridge Local Plan 2006;

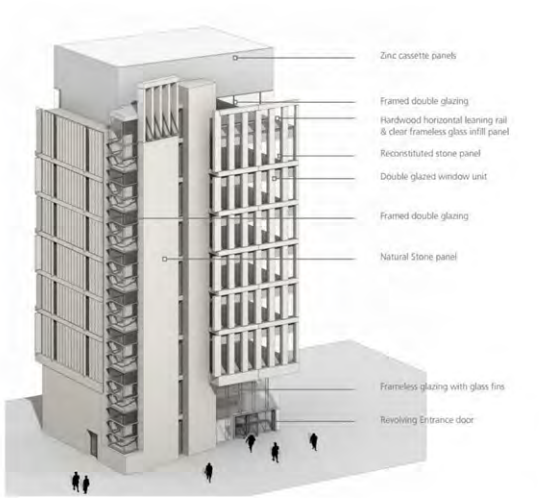
Policy 3/12 - The design of new buildings

The design of new building has to have a positive impact on their setting in terms of location, height, scale and form, materials, detailing, wider townscape and landscape impacts on available views. The design should be convenient, safe, and accessible for all users. The building should be constructed in a sustainable manner and easily adaptable, which successfully integrate with refuse and recycling facilities, cycle parking and plant and other environmental services. The design should contribute to the sense of place from the day it is built and as it ages, which can be achieved by following closely of historic precedents.

The final scheme reflects the approved designs but with a relatively consistent building line along Station Road to both No.50 and No.60 set back behind a 2-storey arcade base, but with a larger basement car parking area over two floors and a central green link connecting the floors of the two blocks. The development achieved all of the objectives for the design of new building by proposing the following: -

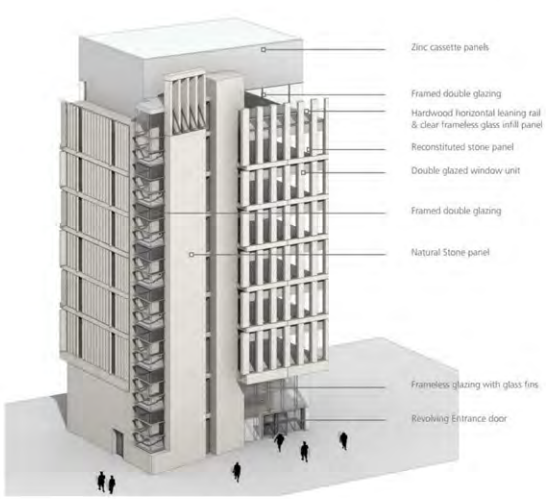
a. The height and scale of the building
b. The convenience - providing sufficient amount of cycle parking which are very safe and accessible, located at around the building
c. The choice of material – the new scheme uses a modern type of material GRC/reconstituted stone (natural aggregate, combined with cement) as the vertical and horizontal element of the façade, creating a nice fitting for the local urban fabric and making it stands out as a new identifier of the redeveloped Station Road, along with the design of the new cental link with landscape that creates softness in the facade.

The initial proposed scheme did not have sufficient cycle parking, the design of the facade from Station Road street elevation and the massing of the whole project appear to be massive in the view of the street. The GRC stone as facade material suits more to the local urban fabric than the appearance of the natural stone.



12/0502/FUL
JULY 2012

1



12/1556/FUL
MARCH 2013

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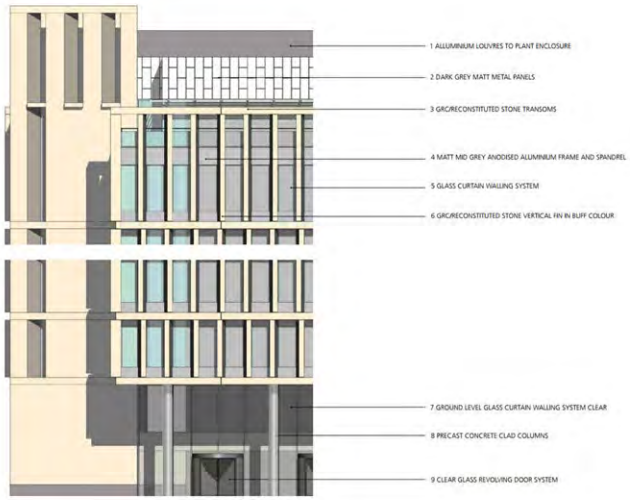

15/0509/FUL
SEPTEMBER 2015

3

PREVIOUS REAR ELEVATION

CURRENT REAR ELEVATION

CURRENT PERSPECTIVE VIEW FROM SOUTH

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[PLANNING POLICY & COMPARISON]

Based on the Cambridge Local Plan 2006;

Policy 4/11 - Conservation Area

The new proposal sits within the Conservation Area within Station Road and Cambridge city centre, the site was previously the Wilton Terrace building.

The aspects that needed to be taken into account are: -

a. Material Consideration

b. Referring to individual Conservation Area's character, including the guidance in preserving and enhancing the area's feature

c. When considering the demolition of buildings, which contribute positively to the character of a Conservation Area, the same tests that would apply to the demolition of a Listed Building will be applied (see Policy 4/10).

Based on the above statement in (c), the English Heritage commented that the demolition of Wilton Terrace 'was given tacit support when the cb1 masterplan was granted outline planning permission', whilst the City Council's Urban Design and Conservation Team commented that 'based on the precedent of the approval of the outline application..., it is considered that the demolition of this BLI has been justified on the grounds of 'clear public benefit' .

1 & 2

The scheme retains the design key features of Block 12, but according to the English Heritage, consideration to refine the rear (south) elevation of No 50 at ground/first floor is to be made and to control the colour and texture of the reconstituted stone 'mullions' and 'transoms', signage and detailing to avoid staining.

3

The final proposal has the same height as the scheme approved at appeal in 2013. The design The south elevation has a similar appearance to the north particularly above first floor level whilst the side elevations repeat the strong sense of verticality but with the uprights varying in angle and position to assist with solar gain and overlooking. The current design has a more sense of inviting and serves more public benefit.

[PLANNING POLICY & COMPARISON]

Based on the Cambridge Local Plan 2006;

Policy 4/12 - Buildings of local interest

The demolition of the previous building will only be permitted if the building is demonstrably incapable of beneficial use or reuse or there are clear public benefits arising from redevelopment. The new development will need to follow the guidance and criteria to reserve the characteristics of the conservation area by following closely to the material considerations.

Wilton Terrace

Wilton Terrace, (32-38 Station Road) are Buildings of Local Interest (BLI). It is the last Victorian building on the south of Station Road. The design is pretty typical of their type and era and common enough in many larger towns and cities across Britain. The terrace house in particular is not a rare piece of architecture, and have lost some of their residential character through change-of-use, particularly by the unfortunate and visually prominent ramp occupying the front garden space of the surgery.

50/60 Station Road

The proposals have not changed significantly in terms of the proposed scale and massing. Instead the applicant has moved the Station Road building line of No. 50 back by approximately 2m and amended the top of the 6th floor to drop the perceived height of this part of the building. This has been achieved through the removal of the extended stone columns (as seen on the adjacent No. 60) to reduce the top level of the 6th floor.

Given that this scheme is so similar to the previously refused scheme on balance, the UDC team view is that it is supportable in Design & Conservation terms. The ‘stepping’ of the building line by moving No50 back does not radically change the perceived scale and massing of the proposals overall, and in particular from Station Road.

Previous Housing: Wilton Terrace (32-38 Station Road

New Development: 50/60 Station Road

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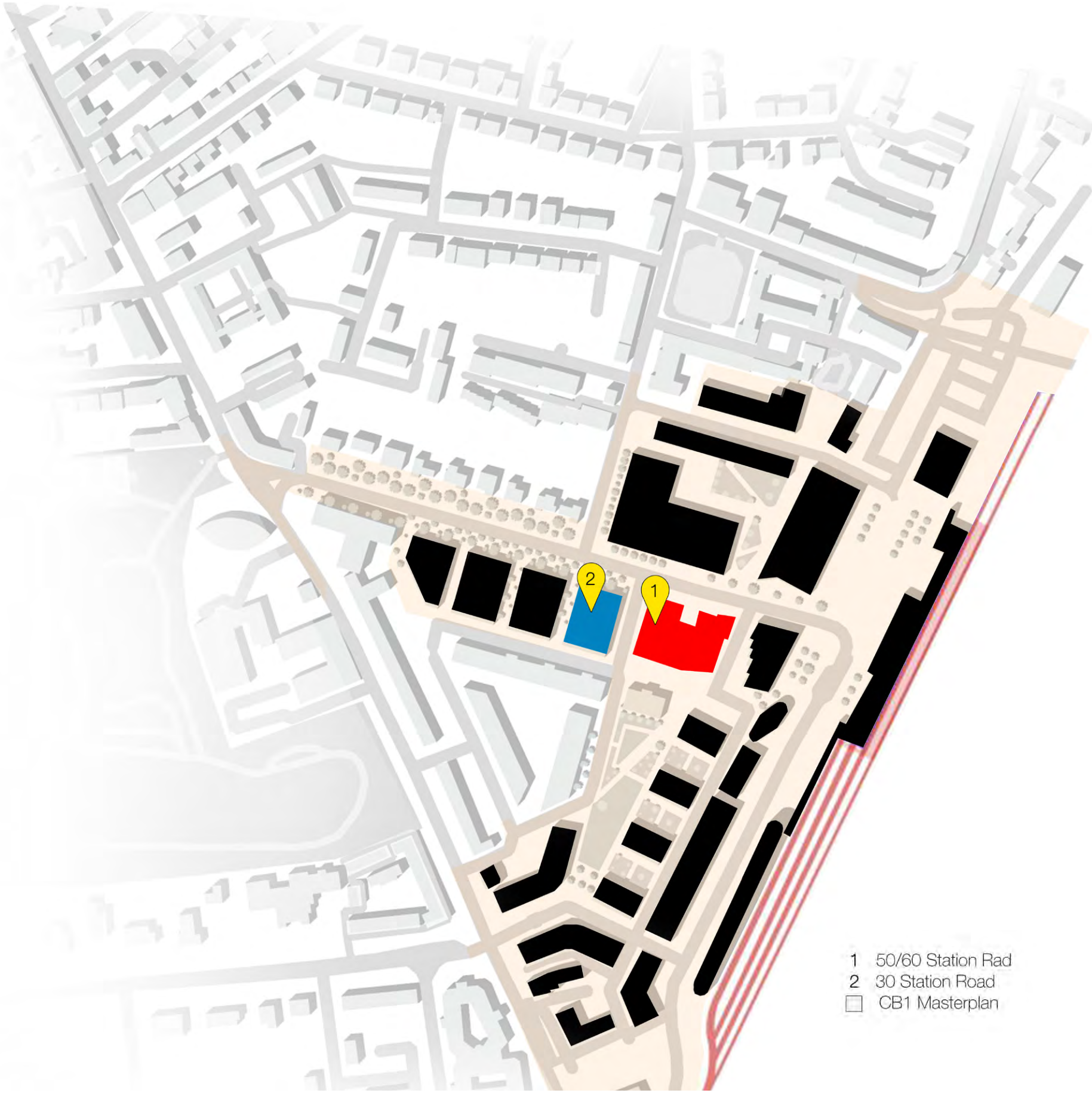
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1
1 50/60 Station Rad
2 30 Station Road
CB1 Masterplan

[PRECEDENT : 30 STATION ROAD]

30 Station Road is a proposal for a 7 storey office building, which is part of the CB1 Masterplan. It is located along the Station Road, at the junction of Warren CI, just beside the 50/60 development. The proposal includes a single level basement car parking spaces and cycle parkings at groun level. The existing ramp to No.22 will be used to serve No.22 and No.30 developments.

Full Planning Permission is required for this development because the proposed building differs from the parameter plans, such that the building would extend a further 4m to the north, 1.9m to the east, 2m to the south and 0.9m to the west, while the height of the building will follow according to the parameter plan.

[PRECEDENT : 30 STATION ROAD]

Both 50/60 Station Road and 30 Station Road are proosed developments under the CB1 Masterplan.

The 30 Station Road's proposal is more direct and was accepted at the first Planning Application. Based on the study, this was due to the strong reason that the Daedalus House has a very poor townscape value and that the new development will significantly improve the local environment along Station Road. The objectives of the development are strong, while the massing and scale of the proposed design has not change much of the previous building's form. The choice of material for the design scheme has followed the outline of the 50/60 proposed material, therefore create a nice fitting to the local fabric.

The 50/60 Station Road proposal faced many refusal because of the preious building, Wilton Terrace had served the community well, therefore a very strong reason was needed for the demolition of the terrace. Second, was because of the transition of local fabric, which affect the scale and massing from previous development to the new development significantly. The choice of material was changed for the final scheme to better fit on the site, from using natural stone to the use of GRC stone for the facade.

Application Type	Full Planning Permission
Previous Development / Site	 Daedalus House Station Road Cambridge
Type of New Development	Office Building
Proposal	• Demolition of Daedalus House • Construction of a new 7 storey office building(class B1); • Cycle parking spaces • Associated plant; hard and soft landscaping • A basement with 51 car parking spaces and 7 motorcycle bays • Infrastructure works.
Number of Planning Application(s) Submitted	1
Date of Approval	October 2016
Area	9026 sqm
Material Used	Reconstituted Stone, Brick, Double Glazing Glass Window
Reason of Approval on Demolition	Poor townscape value
Future Impact on Local Environment	• A good transition of buildings from 50/60 Building towards the family of buildings concept expressed in No. 10, 20 and 22. • Continuous 'boulevard' feel along Station Road with the design of having a set-back on street frontage to allow plantings of new street trees to perpetuate the tree-lined appearance

Application Type	Full Planning Permission
Previous Development / Site	 Wilton Terrace Station Road Cambridge
Type of New Development	Office Building
Proposal	• Demolition of 32-38 Station Road / Wilton Terrace • Construction of a new office building(class B1); • Retail/ cafe and restaurant (Class A1/A3) • Ancillary accommodation/facilities with an additional double level basement up to 124 car parking spaces, with associated plant • Up to 612 internal and external cycle parking spaces • Hard and soft landscaping
Number of Planning Application(s) Submitted	4
Date of Approval	February 2016
Area	17,245.6 sqm office floorspace and 339.5 sqm retail/café floorspace
Material Used	GRC Panels/ Reconstituted Stone, Double Glazing Glass
Reason of Approval on Demolition	The terrace house in particular is not a rare piece of architecture, and have lost some of their residential character through change-of-use
Future Impact on Local Environment	• The overall street elevation view gives a good hierarchy along Station Road • The design of the front tower is creating an attractive built frontages to positively enhance the streetscape and enhancing the public realm which is adjacent to the station and forms the heart of a new public space.

NOTE: These image are the property of Grimshaw

[PRECEDENT ON CB1 PLANNING APPLICATION]

Based on the Cambridge Local Plan 2006;

Policy 4/12 - Buildings of local interest

The demolition of the previous building will only be permitted if the building is demonstrably incapable of beneficial use or reuse or there are clear public benefits arising from redevelopment. The new development will need to follow the guidance and criteria to reserve the characteristics of the conservation area by following closely to the material considerations.

30 Station Road

The design of the replacement building for Daedalus House is clearly part of the ‘family’ of four buildings (the J-Blocks) which mirror the close architectural relationship that the Victorian villas share on the opposite side of the road. Maintaining an architectural similarity between the J-blocks will extend the ‘family’ from the existing three to four and thereby strengthening and reinforcing the sense of unity along Station Road. The sense of ‘family resemblance’ will be echoed on the south side with the use of a consisten mansory frame and proportions of fenestration, but with variations in the detailing. The greater use of reconstitued stone also reflects the importance of this block as a transitional element from the ‘mathcing pair’ of Nos.20 and 22 towards the larger landmark bulding Nos. 50 & 60.

50/60 Station Road

The proposals have not changed significantly in terms of the proposed scale and massing. Instead the applicant has moved the Station Road building line of No. 50 back by approximately 2m and amended the top of the 6th floor to drop the perceived height of this part of the building. This has been achieved through the removal of the extended stone columns (as seen on the adjacent No. 60) to reduce the top level of the 6th floor.

Daedalus house at 30 Station Road

30 Station Road Proposed development of design scheme

Wilton Terrace, (32-38 Station Road) are Buildings of Local Interest (BLI).

50/60 Station Road Proposed Development of Design Scheme

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Set back nature of the building which allows planting to continues the boulevard effect of Station Road.

A landscape to create a softer facade

The effect of ‘pavilions’ in the street is emphasised by teh strong mansory frame with the recessed corners contributing to the pattern of solid and void.

The current design of 50/60 Station road has a more sense of inviting and serves more public benefit

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[PRECEDENT ON CB1 PLANNING APPLICATION]

MATERIALS CONSIDERATION

Based on the refused application, comparison between each proposed scheme has been made according to the policies that has to be complied with, under the Cambridge Local Plan 2006.

Policy 3/4 - Responding to context

Demonstrating their response to their context and drawn inspiration from the key characteristics of their surroundings to create distinctive places.

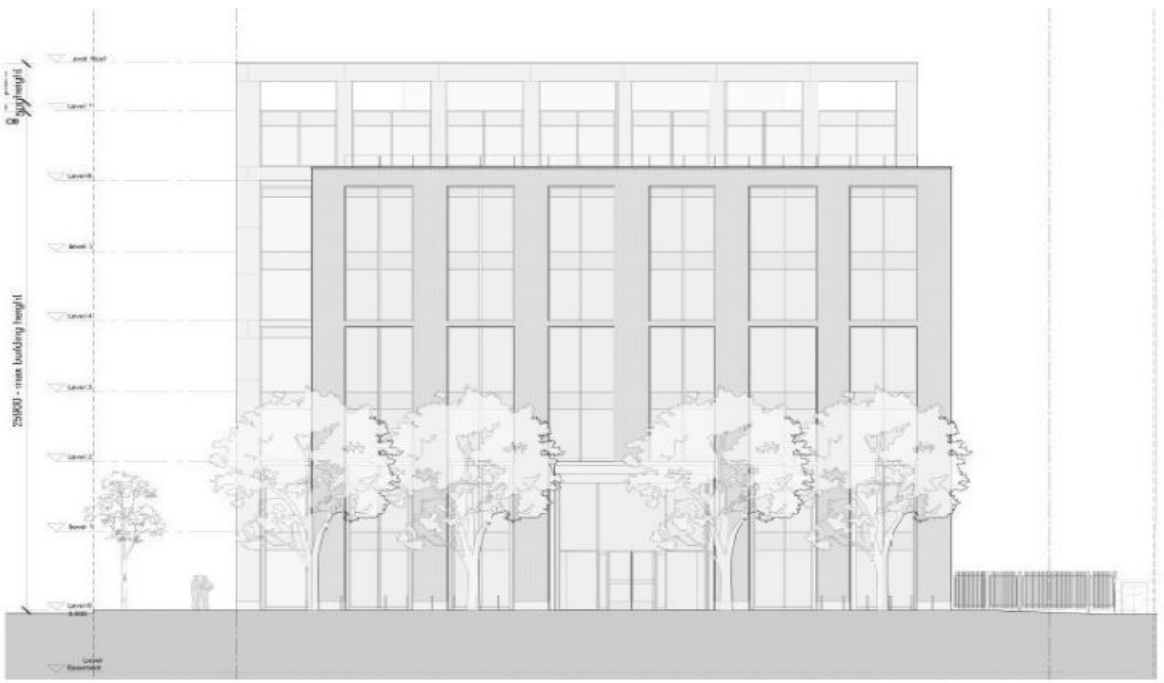
Cambridge has many distinctive qualities, which defines the identity of the city, including its varied palette of building materials which helps define different character areas within the City.

30 Station Road

The building is designed to reflect the 'family resemblance' of the new office buildings (the J blocks of the masterplan) along the Station Road which are to replace the 'Three Deities' and Daedalus House. It is therefore of similar building materials, reflect the established building line and fulfils the vision contained within the original masterplan in terms of stepping up the height terms from west to east. The transitional nature of the design is reflected by the use of a 'cube within a cube' concept effectively combining the two design approcahes. The larger cube which projects towards Nos. 50/60 is thus reconstituted stone, reflecting its landmark neighbour in terms of its amterilas and rhythm.

50 60 Station Road

The final proposal consist of an office building instead of dividing them into two blocks. Although the maximum height is higher than previous proposals, and the area is larger but within the parameters, the design is more fitting to the site and responded positively towards the existing features of natural and historic local character with the use of reconstituted stone / GRC Panel as the facade.



North Elevation of 30 Station Road showing the six bays of brick facade

Rear Elevation of 50/60 Station Road

NOTE: These image are the property of Grimshaw

[PRECEDENT ON CB1 PLANNING APPLICATION]

DESIGN APPERANCE

Based on the Cambridge Local Plan 2006;

Policy 4/11 - Conservation Area

The development of the new proposal sits on a Conservation Area in Station Road, Cambridge, which was previously Wilton Terrace building.

The aspects that needed to be taken into account are: -

a. Material Consideration

b. Referring to individual Conservation Area's character, including the guidance in preserving and enhancing the area's feature

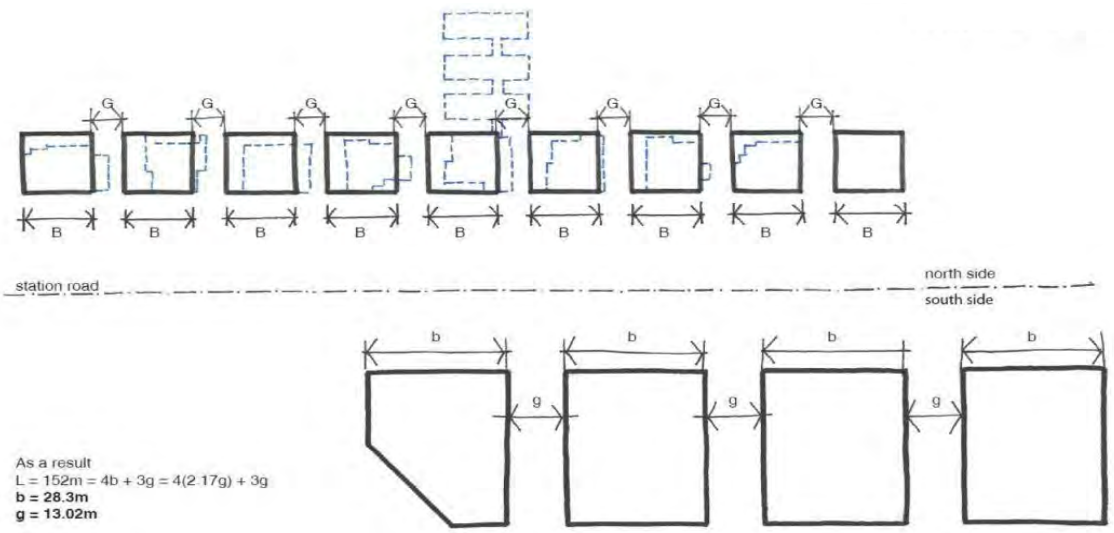
c. When considering the demolition of buildings, which contribute positively to the character of a Conservation Area, the same tests that would apply to the demolition of a Listed Building will be applied (see Policy 4/10).

30 Station Road

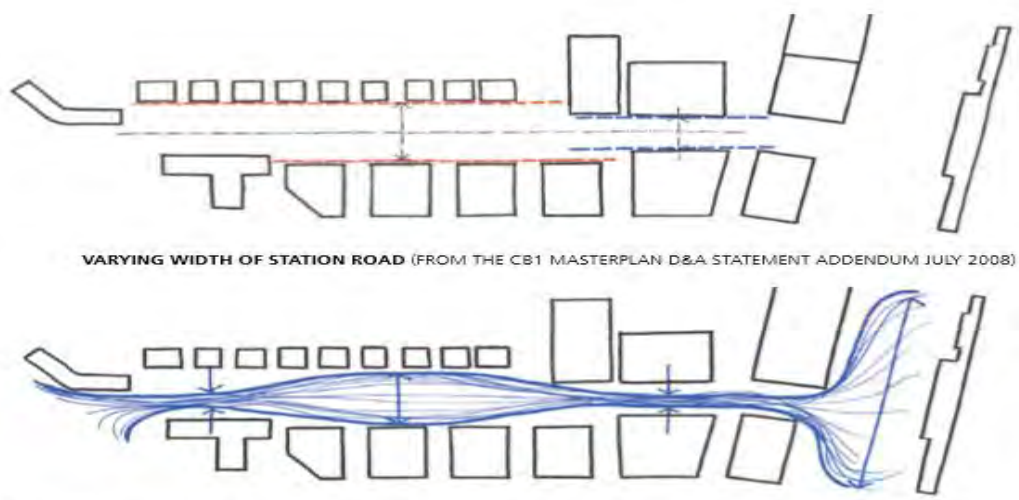
The north elevation to Station Road is of six bays to the principal brick facade with the window openings paired over two floors to give a strong vertical character to the elevation. The main entrance is centred within the brick cube frame to Staton road, matching the approach taken to the entrances in the other J blocks. The reconstitued stone 'cube', projects eastewards, behind the frontage brick 'cube' and continues the fenestration patterm within the brick element.

50 60 Station Road

The final proposal has the same height as the scheme approved at appeal in 2013. The design The south elevation has a similar appearance to the north particularly above first floor level whilst the side elevations repeat the strong sense of verticality but with the uprights varying in angle and position to assist with solar gain and overlooking. The current design has a more sense of inviting and serves more public benefit.



30 Station Road Design Rhythm



30 Station Road Design Rhythm

NOTE: These image are the property of Grimshaw

[PRECEDENT ON CB1 PLANNING APPLICATION]

PROPOSED RHYTHM

30 Station Road

The illustration within the Design and Access Statement submitted with the outline applcation shows how the intention was to echo the solid: void rhythm of the Victorial villas on the north road in the new ‘J’ blocks rather than retain the greater feeling of openness which Three Deities allowed.

50 60 Station Road

In laying out the plots for 50 and 60 Station Road, consideration was given to the rhythm of building volumes and open spaces along the south of Station Road. The south side has different module to the north side which roughly corresponds to the two times width of the villa plots. The J blocks are inteded to be a maximum of 29m wide with 12m gaps in between the volumes. For 50 and 60 Station Road to read as one development gap between them is reduced to 9m, leaving 23m to the wst and east sides.

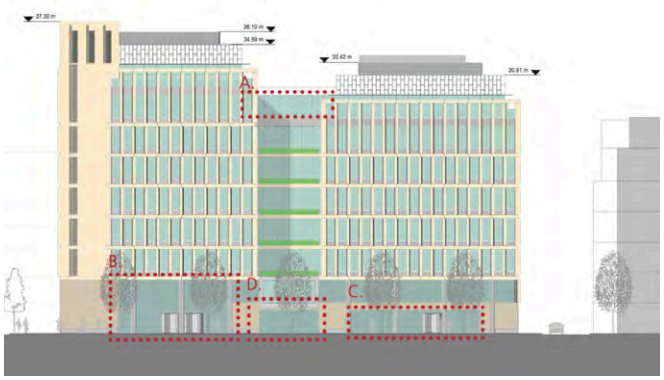
50 \ 60

STATION ROAD

STAGE 3 \ ADDRESSING CONTEXT

“ THE CB1 MASTERPLAN PROPOSALS WILL DRAW FROM EXISTING PRECEDENT WITHIN THE MASTERPLAN AREA AND WILL SET OUT TO RESPOND TO HISTORIC AND LOCAL MATERIAL AND COLOUR PALETTE OF CAMBRIDGE. THE BALANCE BETWEEN CONTEMPORARY AND TRADITIONAL MATERIALS AND CONTRAST AND HOMOGENEITY WAS EXPLORED... ”

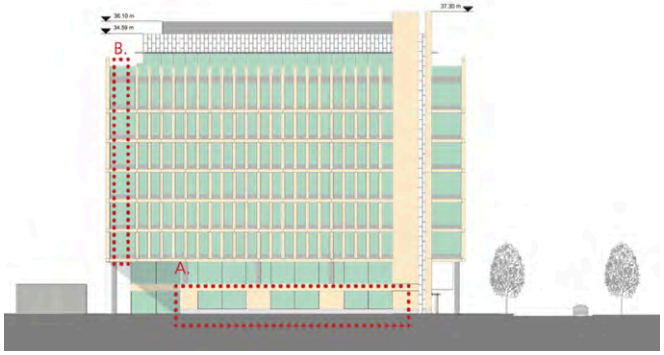
North Elevation of initial drawing rejected at planning.



Revised North Elevation

West Elevation of initial drawing rejected at planning.

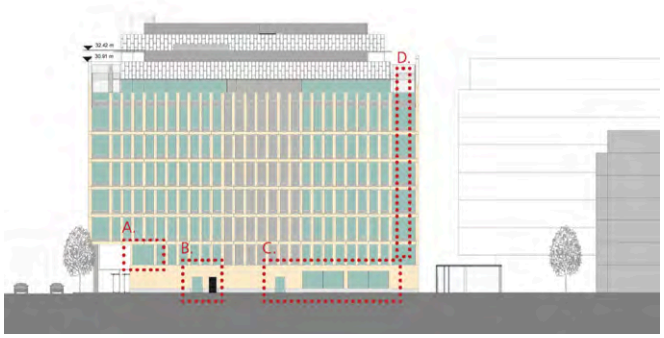
East Elevation of initial drawing rejected at planning.



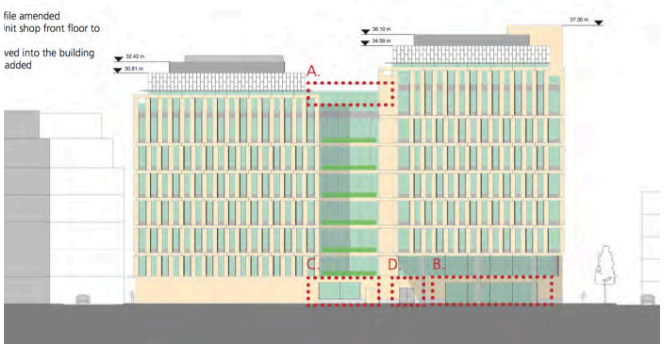
Revised East Elevation

South Elevation of initial drawing rejected at planning.

[DESIGN DEVELOPMENT]



Revised West Elevation



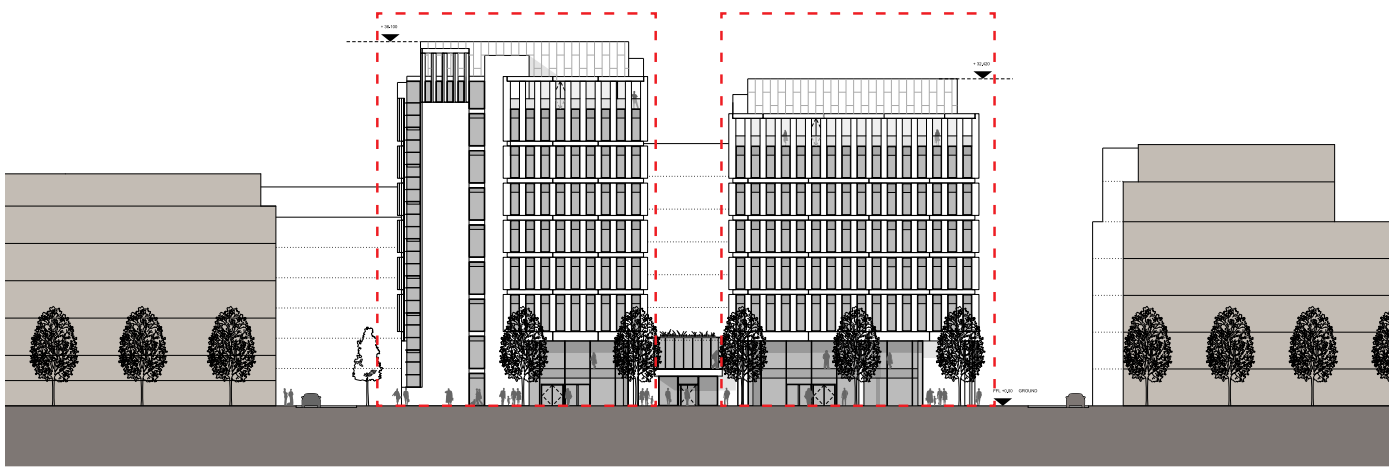
Revised South Elevation

As detailed in the previous section, the design went through a large number of changes in order to comply with planning regulations and create a building which was deemed to ‘fit’ into the character of Cambridge. This largely focussed on issues of materiality and scale and each version aimed to better integrate the proposal with its context.

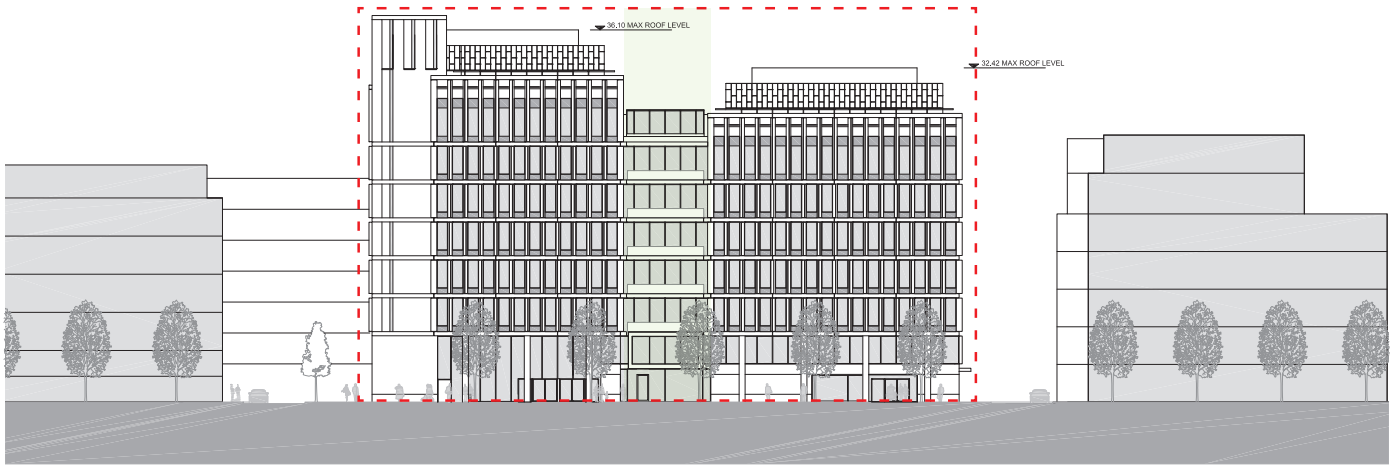
The focal point of the aesthetics were the front and back elevations, particularly the ground floor where the client decided to enhance the retail areas for capital. At this level, there is a strong coffee culture which aims to involve the community in the proposal, creating more foot traffic and adding to the legacy of development.

The facade was altered on each elevation to improve its relationship to context and create a welcoming commercial building which would draw attention to the building through the use of glazing.

This section looks at the design within its context, aiming to understand the principles extracted from the surrounding area which drove the aesthetic resolution.



North Elevation of initial drawing submitted for planning and rejected by the council



Modified central zone is highlighted to create more harmonious massing.

[CHARACTER DEVELOPMENT]

Through a response to local scale and massing, the building has developed as a single building defined as two clear blocks, enabling the space to be let as significantly larger offices. This represents a compromise between the planning desire for two seperate buildings, which better respond to the mass and context of Cambridge, and the developers knowledge of successfully letting larger floor areas. This example demonstrates the careful balance of context and use which has to be understood and rationalised by the architect and shows how contextual influences can become diluted through the design process.

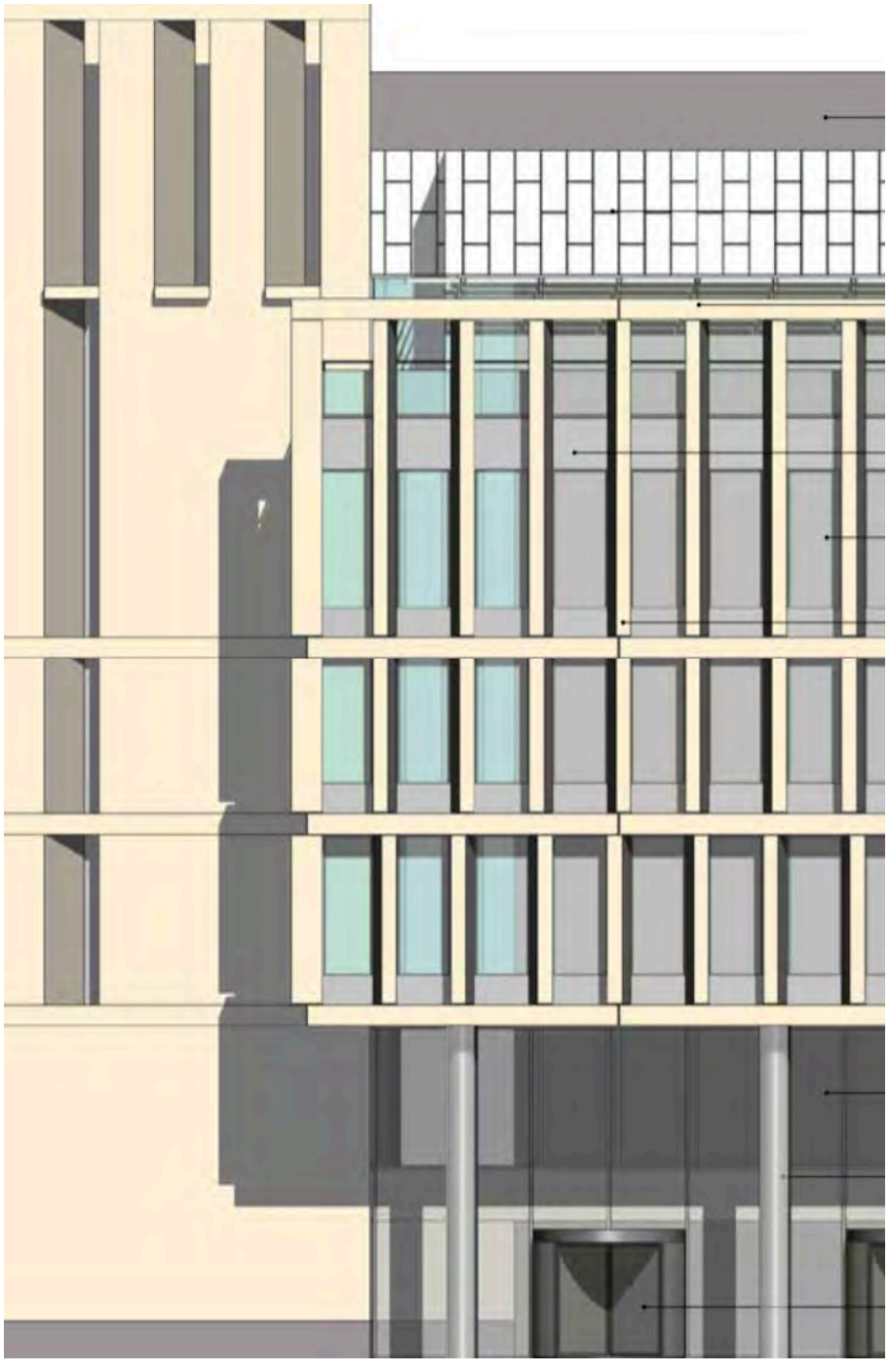
The existing character of the Central Conservation Area and the proposed character areas in the CB1 masterplan have strongly informed the design. The building facade responds to the local rhythms of building widths and facade bays. The division in base, middle and top and framing of the main facade also corresponds to the Cambridge context.

Each facade responds to its orientation in terms of views out, daylight, the character of the areas it faces and the overall presentation of the building. A distinct facade design incorporates different cladding elements, from glazed areas to varying degrees of shading by vertical fins and horizontal brise soleils. One of the main materials proposed is a buff coloured reconstituted stone, which suits the local Cambridge palette. This material is durable and sustainable whilst allowing precise sculptural shapes to be made.


Site area

[STATION ROAD VISUAL CONTEXT]

Traditional Cambridge street scape



[HISTORICAL CONTEXT]

COLOUR PALETTE

The material character of Cambridge buildings is one with a generally subdued palette, which is especially true of the Central Conservation Area. Towards the city centre there are multiple limestone buildings, often with zinc or slate roofs. In the Station Area the main colour tones are cream and buff shades, often but not always accented with bands of red bricks.

In addition to the conservation character described above, the Station Area has and will see the new developments. These will be faced in hung stone type materials, with shades probably varying from limestone to pale cream.

There is a clear theme between the new builds. They follow the same colour sequence which creates coherency with the existing context of more traditional Cambridge buildings. The simple palette enables the building to be perceived as a coherent contextual insertion within the local urban fabric while still standing out as a new identifier for the redeveloped Station Road.

The roof top solid element will be clad in dark grey matt metal panels and the plant screen behind will be enclosed by matt dark grey aluminium louvres.

Brick colour in the station road area

GRC cladding on the faculty of divinity in Cambridge


1 dark grey matte metal panels
2 matte mid grey anodised aluminium frame and spandrel
3 glass curtain walling system
4 GRC/reconstituted stone vertical fin in buff colour
5 ground level glass curtain walling system clear
6 precast concrete clad columns
7 clear glass revolving door system
8 GRC/reconstituted stone transoms
9 matte dark grey aluminium louvres

Alfred

Cambridge station brickwork facade

O'callaghan Hotel opposite the site

Sainsbury's Laboratory Cambridge university

[HISTORICAL CONTEXT]

MATERIAL PALETTE

With regard to materials, the CB1 Masterplan states: "...Proposals will draw from existing precedent within the masterplan area and will continue the type of materials suggested in extant applications..."

As a guideline the material palette set out to respond to historic and local Cambridge.

The balance between contemporary and traditional materials as well as between contrast and homogeneity was explored thoroughly.

The palette for 50 and 60 station Road tried not to jar too much with this context to preserve (or even restore) some consistency in the streetscape of Station Road. It was therefore proposed to complement the glazing with GRC reconstituted stone panels.

Originally, the cladding was meant to be stone but this was changed to GRC matte (glass fibre reinforced concrete) and reconstitute stone as durable engineered materials which offer the opportunity to modulate and mimic colour and texture of more traditional systems and will sit harmoniously with the existing and proposed buildings.


RAVENSWORTH GARDENS
GEORGE PATEMAN COURT

[MASTERPLAN CONTEXT]

INVENTORY

O'callaghan Hotel

Cambridge Rail Station

Foster's Mill

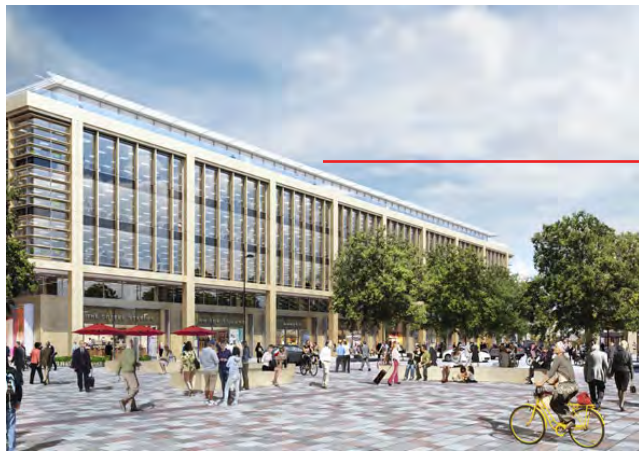
Triangle Buildings

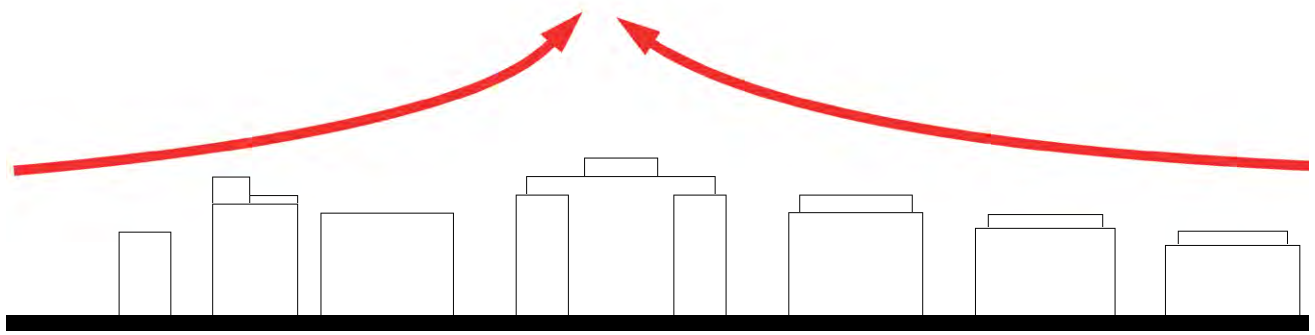
Microsoft Headquarters

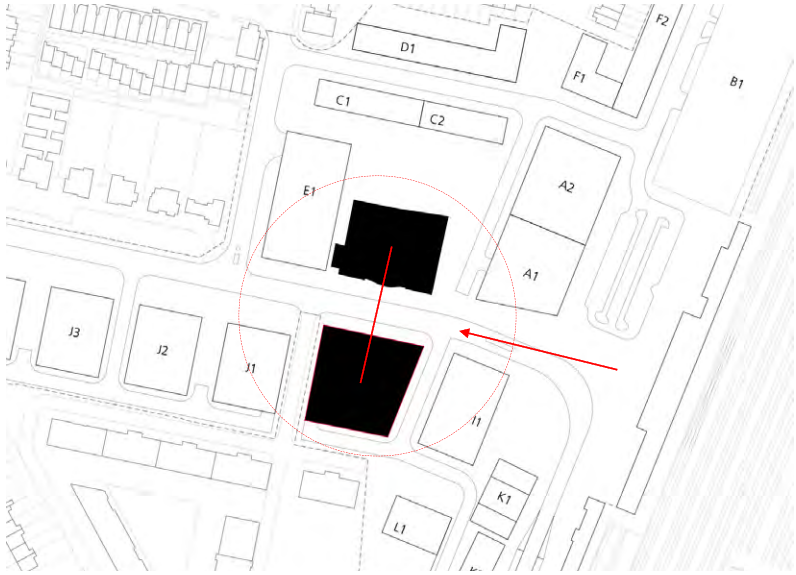
Murdoch House

Proposal to replace the Murdoch House

Clear continuing theme and rhythm through the master plan







[MASTERPLAN CONTEXT]

RYTHMN AND FACADE

There is a clear theme/ rhythm between the new builds. They follow a similar sequence in their facades, adopting a harmonious approach aiming to replicate detail and elements of horizontal / verticality.

This similar style creates coherency with the railway station building. The articulation differs on purpose from walls with inset windows and celebrates the series of repeated elements.
There is a clear relationship between the blocks and a smooth continuation down station road.

50 \ 60

STATION ROAD

STAGE 4 \ A DETAILED FACADE

“ THE TECHNICAL STUDY EVALUATES THE NOTION OF THE DESIGN & BUILD PROCESS WHILE INFORMING AN INSIGHT INTO THE ISSUES THAT COULD ARISE AND EVALUATING WHY THE CONTRACTURAL AGREEMENT COULD HAVE REINFORMED THE PROPOSED DESIGN INTENT. ”

BUILDING MATTERS GROUP 5

[STAGE FOUR]

CORE OBJECTIVE

Preperation of technical package of drawings for tendering / construction phase.

PROCURMENT ROUTE

Direction of procurement will depend on the type of building contract outlined in stage one.

For Station road appointment of Galliford Try began at stage four to oversee the construction and procurment of sub contractors to undertake the works required.

PROGRAM STAGE

Direction of procurement will depend on the type of building contract outlined in stage one

KEY TASKS

To review and update; services and structural drawing packages

Handover strategy to be undertaken: Galliford trys appointment to the project.

Package of drawings will need to be submitted to building control for approval of compliance to building regulations

SUSTAINABILITY

All drawings are required to meet sustainability checklist 4

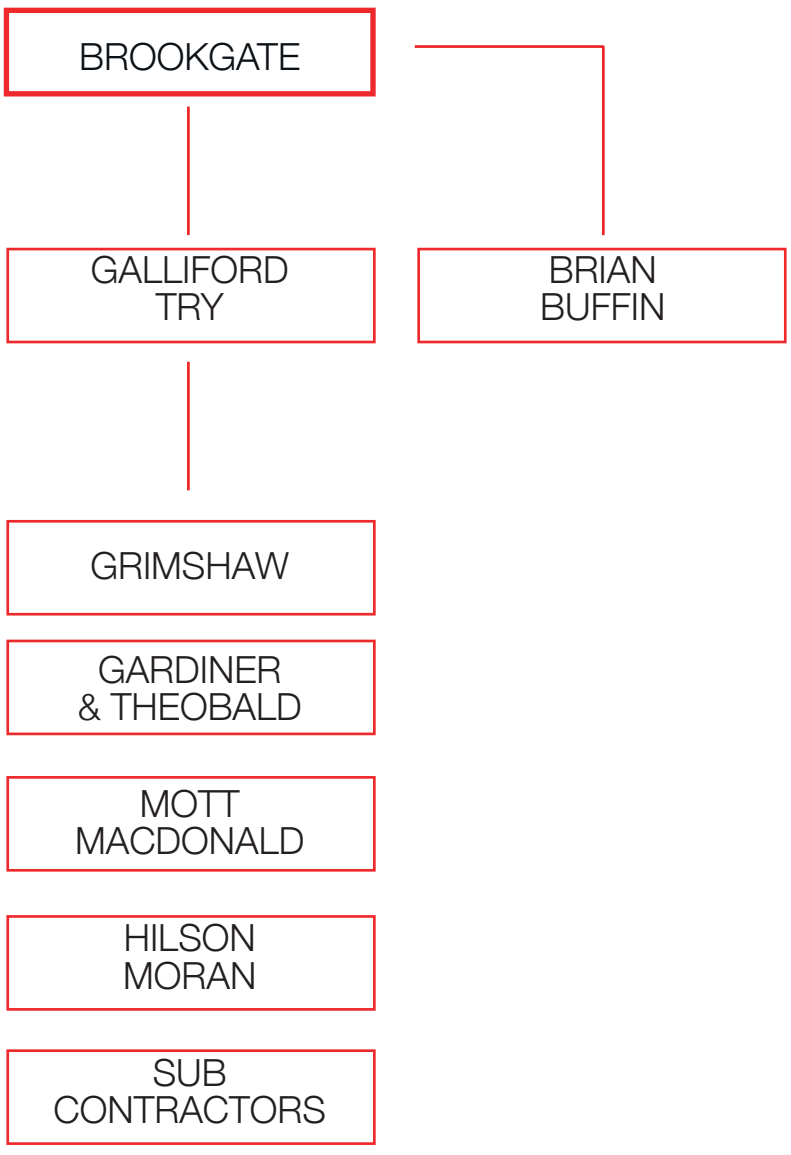
Proposed details are required to meet Part L of the building regulations

Initial sustainability requirments are to also be submitted (initial epc and sap calcs)

OUTCOME AT COMPLETETION OF STAGE FOUR OBJECTIVES

Completed technical package of drawings

Mind map for RIBA stage four plan of works 2013



Typical Design and Build contractural procurement

[INTRODUCTION]

The technical stages of the RIBA plan of works stage 4 focuses on the procurment of a working drawing packages for a project to move into the construction phase. At this point of a project the key elements of structural and services are typically refined to allow for tendering for potential contractors to be undertaken.

GALLIFORD TRY INTRODUCTION AT STAGE FOUR

Galliford Try PLC were apointed by Brookgate to undertake the project on site from stage four. The transition period from stages three to four were undertaken by the company through design team meetings and early involvement towards the end of stage three using a two stage tendering process.

During this transition period the company evaluated the package of drawings submitted by Grimshaw to evaluate the potential risks that could arise. This ensured that any issues that would or could be a possible issue later on within the project could be altered to ensure the project program or budget could not be comprimised.

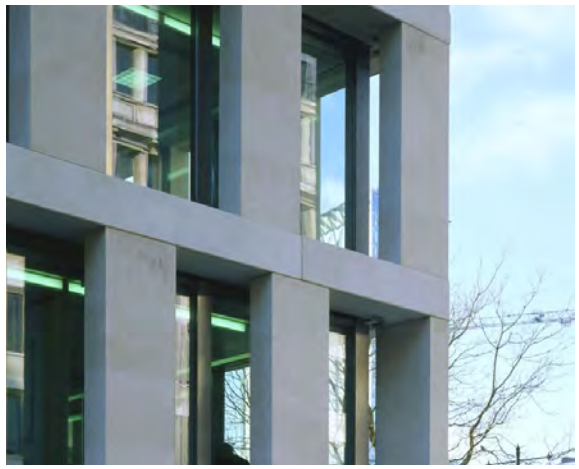
At handover to stage four, the budget for the exceeded drastically by an undisclosed cost by Galliford try. During stage four they alongside the client have undertaken decisions to reduce the cost of the building by using alternative sub contractor componenents while using a value management system.

[PRECEDENT RESEARCH]

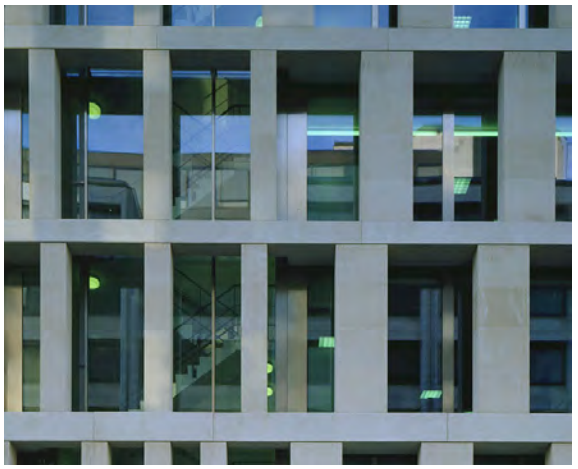
To begin our study into 50/60 Station road we decided to look at three case study projects and in particular the facade system proposed for each, one being a Grimshaw project that took the element of a suspended structural system and used it to evoke the notion of the projects facade and narrative.

The two remaining projects would focus on the element of using stone as a cladding finish and a load bearing system with the aim of investigating as to why Grimshaw and all parties involved decided to remove the Cambridge stone cladding and as to why certain details have still been resolved.

The outcome of the case study research is to understand the structural design of all three projects while also understanding how the notion of stone that typically expresses this strong structural presence could have been used at 50/60 station road in a similar system to 30 Finsbury Square.









Various image of the precedent study projects

[SAINSBURY SUPERSTORE]

CLIENT: J SAINSBURY PLC
ARCHITECT: GRIMSHAW
LOCATION: CAMDEN, LONDON, UK
COMPLETION: 1988

INTRODUCTION:

Located within the architectural context of Georgian terraces and industrial buildings, the development of the Sainsbury superstore envisaged a mixed use scheme that reinstated a disused brownfield site. At street level the supermarket is set back from the existing building line of the street to ensure minimal impact onto the historic character of the street.

Completed in 1988 the buildings structural design is a skeletal steel frame allows for a deep and open floor plan for the superstore, allowing for unrestricted opportunities for an internal layout for the client to make use of its total 6000sqm.

DETAIL OF FAÇADE:

The key structural element of the building is a skeletal steel frame which contains a double height volume that houses the mechanical and ancillary systems. A shallow vault of curved trusses span the retail floor to ensure for a column free space for the retailer.

To counterweight the structure of the trusses, a tapered plate girder projects from the inner edge of the store outwards beyond the perimeter walls which is expressed as a statement of structure through steelwork, the structure is counterbalanced on tension rod ties transferring the load and tension strength of the building into the foundations.

Close up detail of roof (www.grimshaw.global)

External facade (www.grimshaw.global)

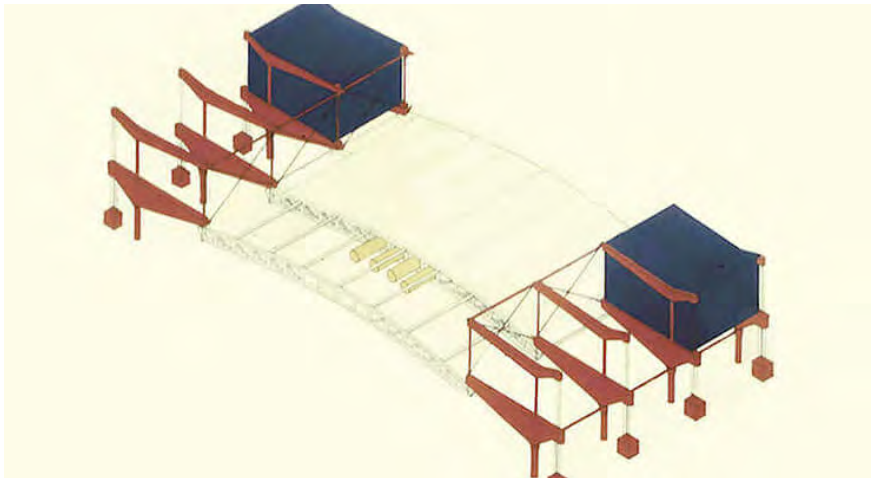
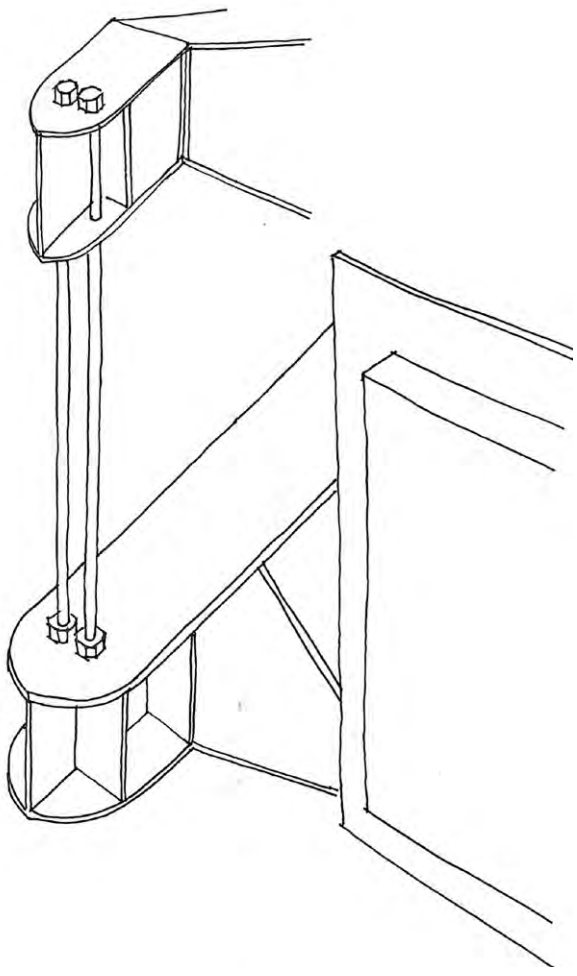
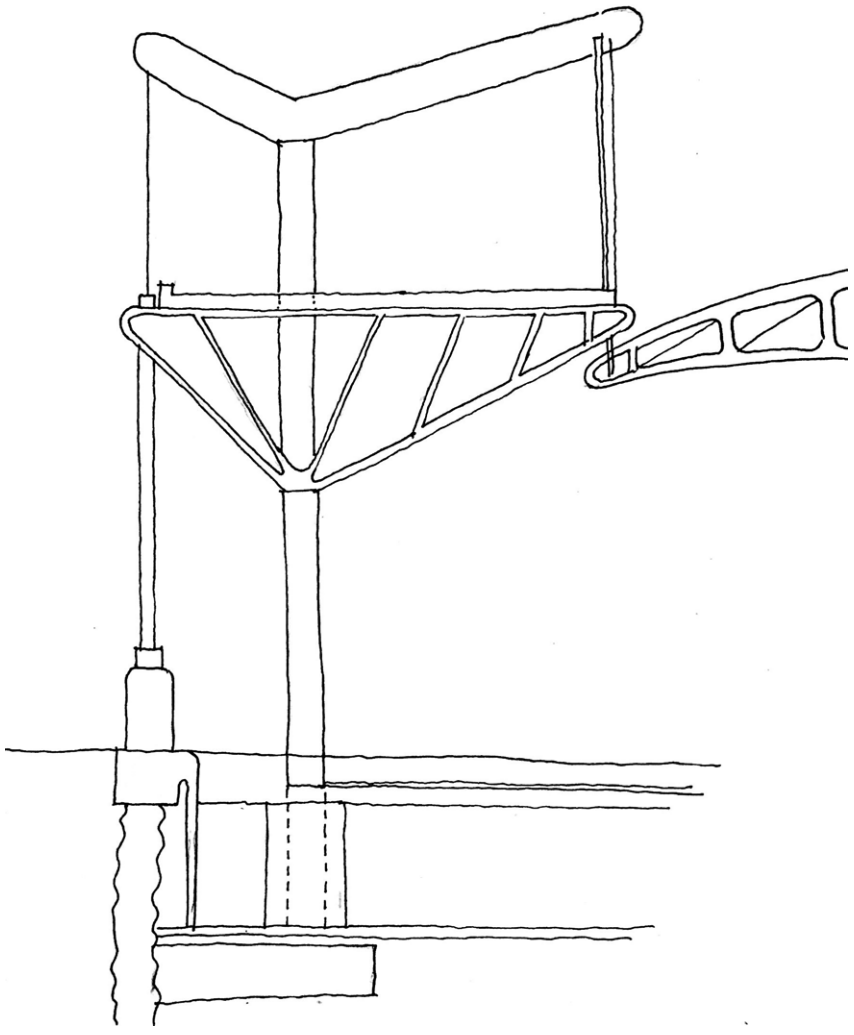


Diagram describing the structural system (www.grimshaw.global)



Detail Close up sketch



Section sketch through the external facade

[SAINSBURY LABORATORY]

CLIENT: UNIVERSITY OF CAMBRIDGE
ARCHITECT: STANTON WILLIAMS
LOCATION: CAMBRIDGE, UK
COMPLETION: 2010

INTRODUCTION:

Completed in 2010, the Sainsbury Laboratory brings together world-leading scientists in a working environment of the highest quality. Located in 11,000 sq.m. plant science research centre set in the University of Cambridge's Botanic Garden, the laboratory design was therefore inspired by the initial intention that the Laboratory's architecture would express its integral relationship with the Garden beyond.

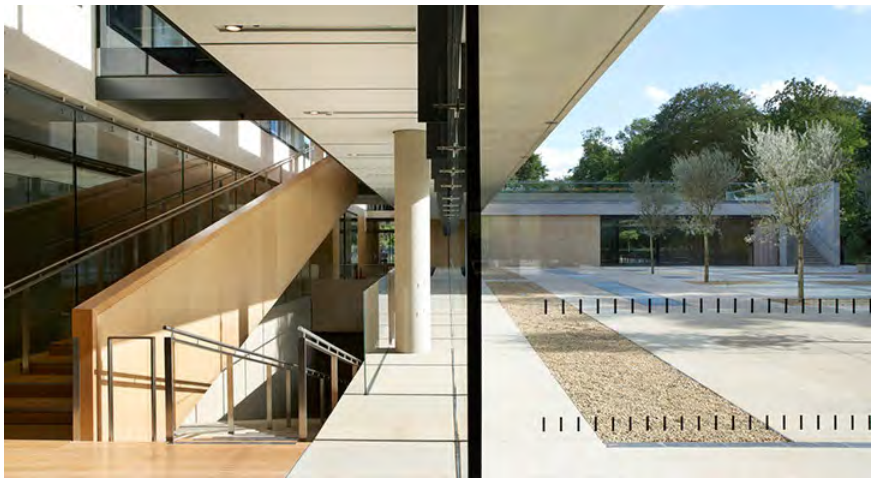
The Sainsbury Laboratory stands as a medium in delivering Cambrodge figure; Professor Henslow's agenda in seeking integral relationship of plant species and systematically catalouged.

DETAIL OF FAÇADE:

The design of the facade was rather an honest approached where the cladding of the building is seriesof fin clad in front of the window glazing act as the sun shading device. The construction was a fluid in realtion to the floor level and the whole structural element of the building.

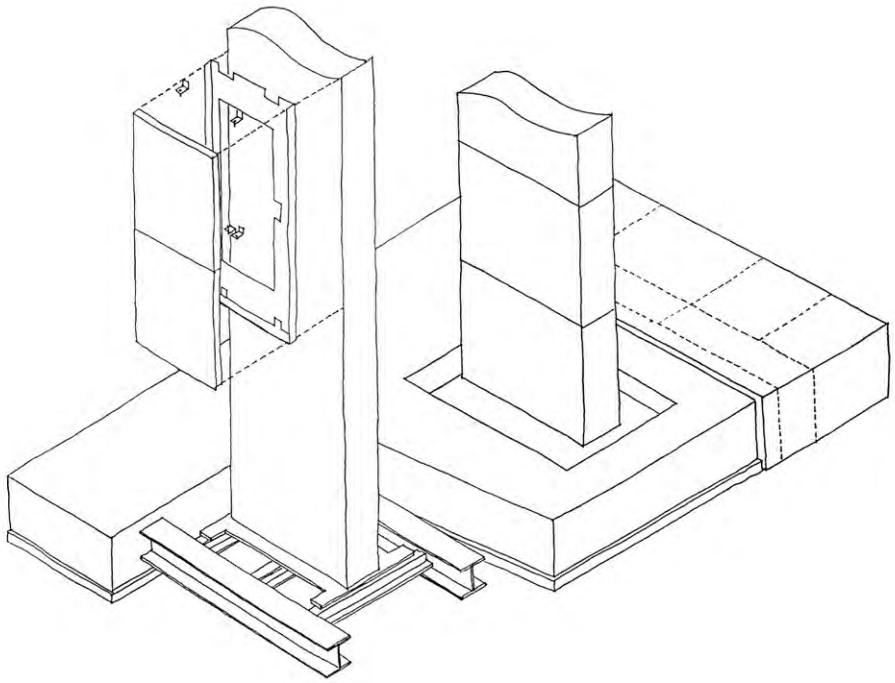
The fins extended in front of space, where the cladding suspended off the ground floor by reinforced concrete beam. Instead uses different material, the fins applied with the same material from the rest of the building.

Detail photograph of fenestration (www.stantonwilliams.com)

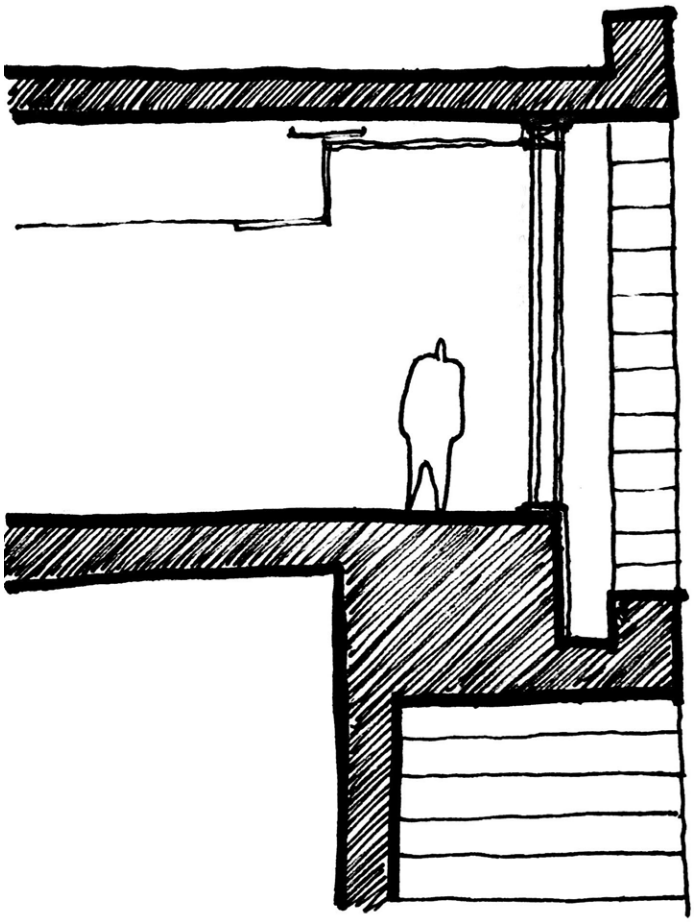


Foyer space (www.stantonwilliams.com)

External facade (www.stantonwilliams.com)



Sketch describing the junction of the superstructure to facade



Sketch section describing the external fin connection to superstructure

[30 FINSBURY SQUARE]

CLIENT: SCOTTISH WIDOWS PL
ARCHITECT: ERIC PARRY ARCHITECTS
LOCATION: LONDON, UK
COMPLETION: 2003

INTRODUCTION:

30 Finsbury Square was completed in 2003 a project designed for Scottish Widows PLC. Eric Parry Architects were approached to undertake this project by Jones land La Salle who were acting on behalf of Scottish Widows PLC. The proposed site for the office building was located within the conservation zone of Finsbury, London, originally on the site of two buildings. One a grade two listed bank which had been left unoccupied for a number of years and a generic 1960s office development.

One of the underlying elements of the brief provided by the clients was to create an optimal floorplate which would allow for a flexible space to suit the needs of the occupants. The design proposal which began from the notion of studying the urban setting of the city and the function of the public square, provided an internal layout that had uninterrupted floor plates untouched by internal columns.

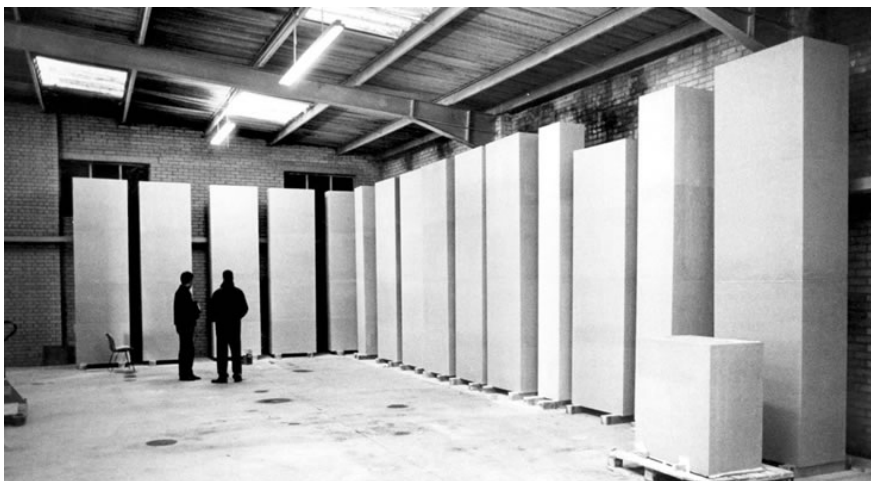
STRUCTURAL SYSTEM:

Unlike traditional buildings of a similar function 30 Finsbury park uses its external façade which in this instance is a loadbearing limestone system to reduce the need for internal columns. The loadbearing limestone external junctions to the internal floorplates of the building using a ring beam at each level and a steel beam than spans the width of the floor plate to the internal atrium space.

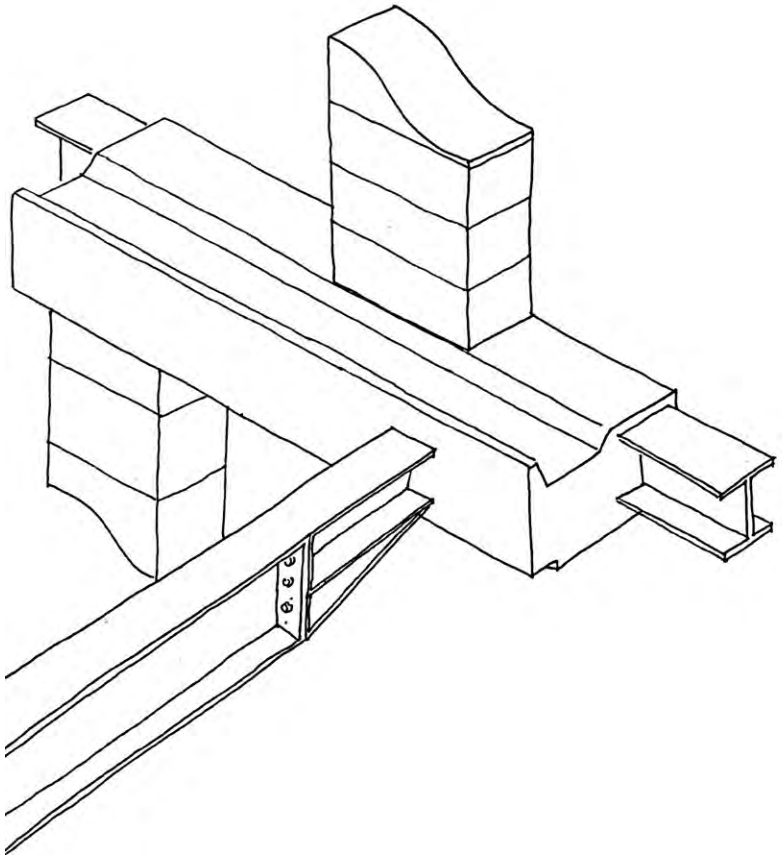
The lower levels of the building are defined by large elements of limestone that are both deeper and within close proximity to one another, As the load of the building decreases further the top of the building these closely linked limestone elements begin to reduce in scale and their proximity to one another increases. The decision to use this system of construction follows the initial brief given by the clients while also using a façade system of stone that reflects the wider context of the site but also serves a structural purpose.

Front Elevation (www.ericparryarchitects.co.uk)

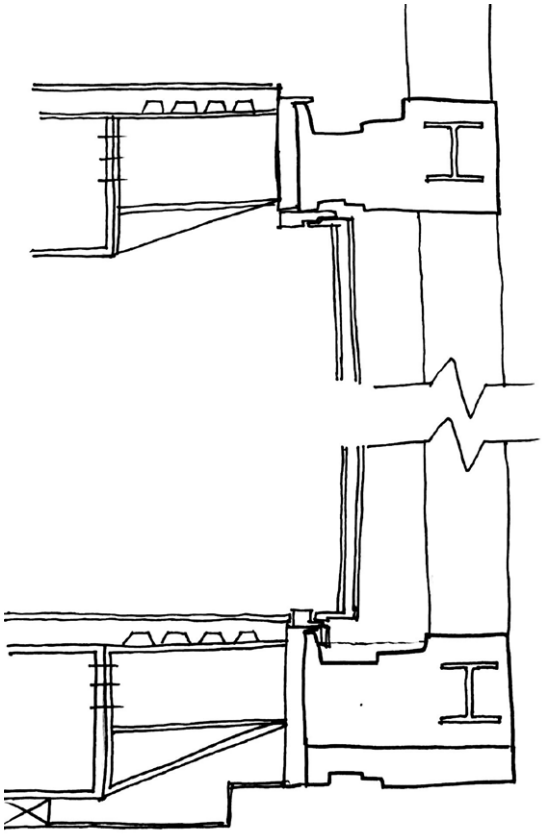
Detail Close up (www.ericparryarchitects.co.uk)



Stone Workshop (www.ericparryarchitects.co.uk)



Sketch describing the junction of beam to loadbearing wall



Section through sketch describing the junction

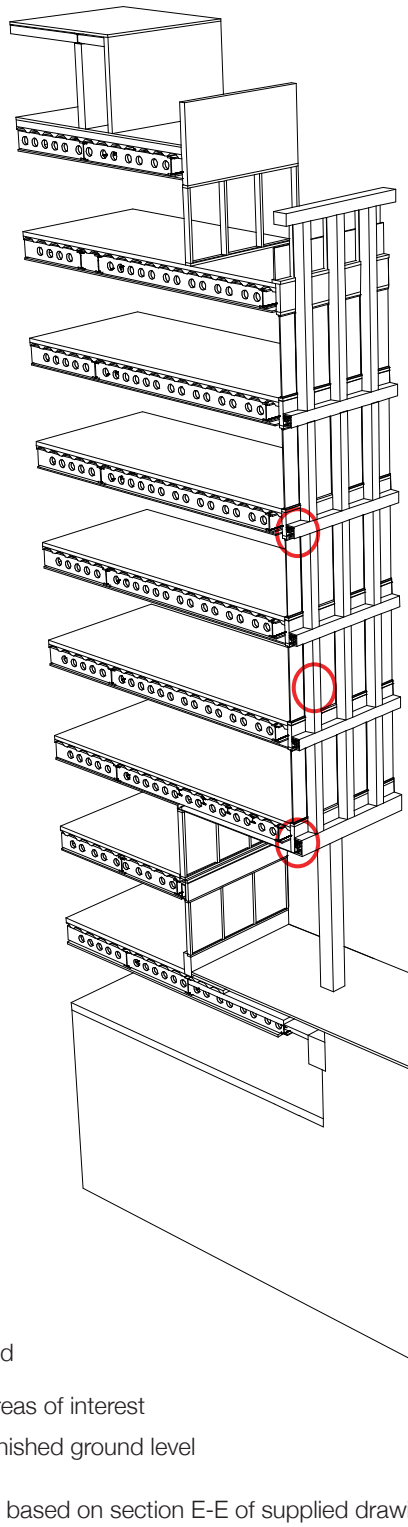
[FACADE TECHNICAL STUDY]

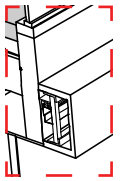
The design and finish of the facade at 50/60 Station road were one of the key factors that affected both the project during its various planning resubmissions and currently during stage four at which Galliford Try on behalf of the client Brookgate have been investigating alternative cladding systems during the stage four element of the project program.

One of the key requirements of approval for the project at planning was the condition set by the council regarding the cladding finish of the building be reminiscent of the Cambridge stone which can found across the city.

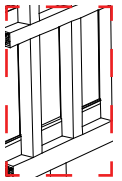
From Galliford Try's appointment at stage four of the RIBA plan of works, there underlying aim to coordinate the construction of the project is to cost control the design proposal to suit the clients; Brookgate intended project budget. After initial cost structure strategies undertaken by a sub contracted Quantity surveyor, initial estimates were over the initial budget by an excess extent but undisclosed.

While Brookgate's intention from the start was to build a landmark building within the CB1 masterplan, Galliford try worked to find cost effective methods to reduce the overall build cost without having a drastic effect on the project aspiration. It became apparent that the intention to clad the exterior of the building in Cambridge stone would exceed the initial estimated cladding costs drastically due to the depth and local sourcing of the stone.

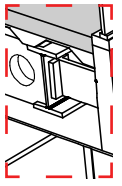




Study: C



Study: B

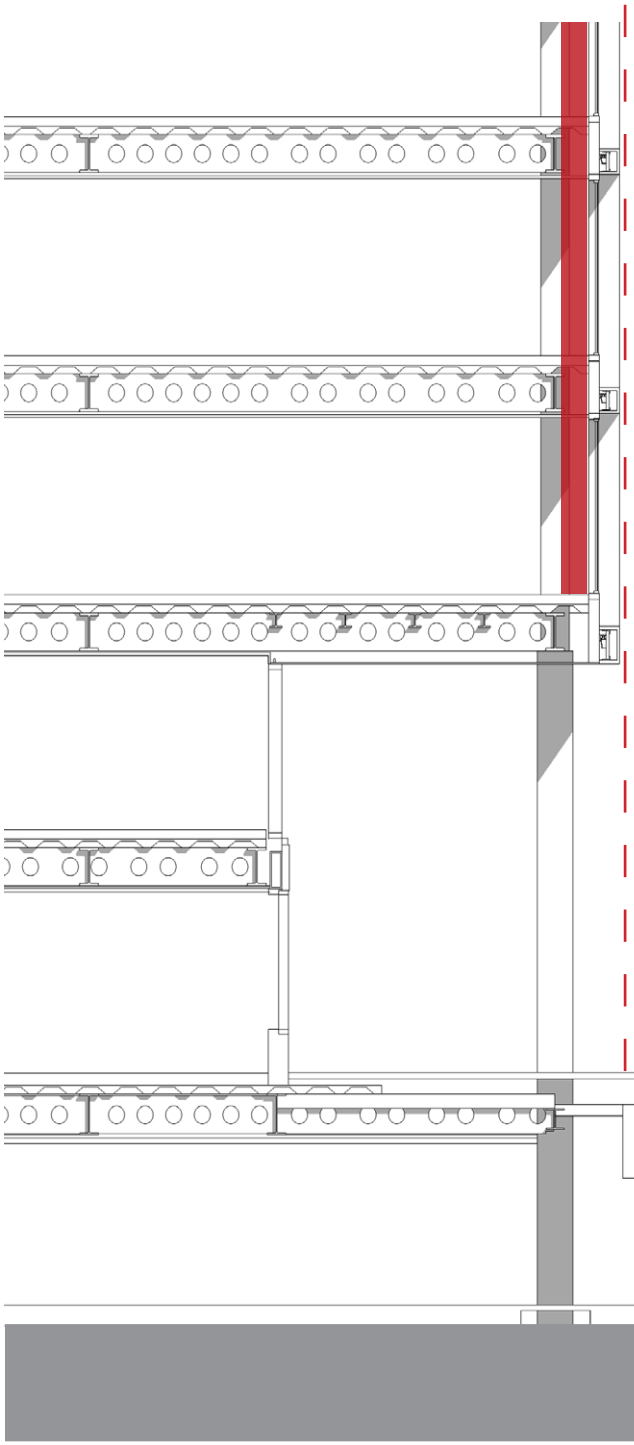


Study: A

Legend

- Areas of interest
- Finished ground level

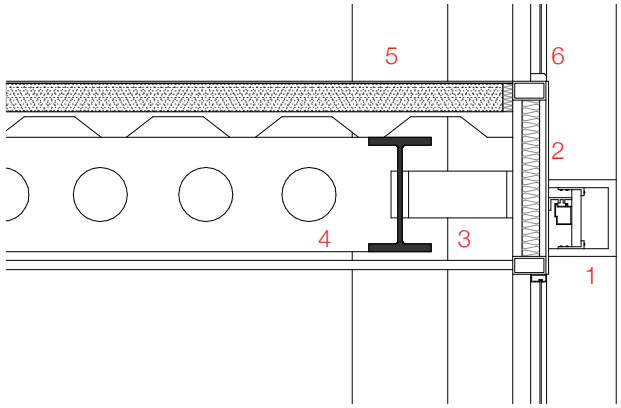
Model based on section E-E of supplied drawings



Legend for perspective section diagram (above)

Approved building line by planning application

Increased area of lettable floor space (total of 15% increase)



Detail A: Proposed canterlever junction

1. GRC Horizontal beam (Cambridge stone finish)
   Aluminium bracket system fixed to metsec system
2. Metsec panel system with internal fill of 90mm insulation
   External finish with alumiunium (or other) panel
3. Steel bracket bolted to steel beam / fixed to metsec panel
4. Standard I Beam fixed to steel column
   Celluar beam bolted to outter steel frame
5. 10mm floor finish with insulation layer below
   65mm in-situ concrete screed with insulation block at external edge (thermal bridge barrier)
   Hollow U channel steel floor decking
6. Double glazed unit fixed within metsec frame opening

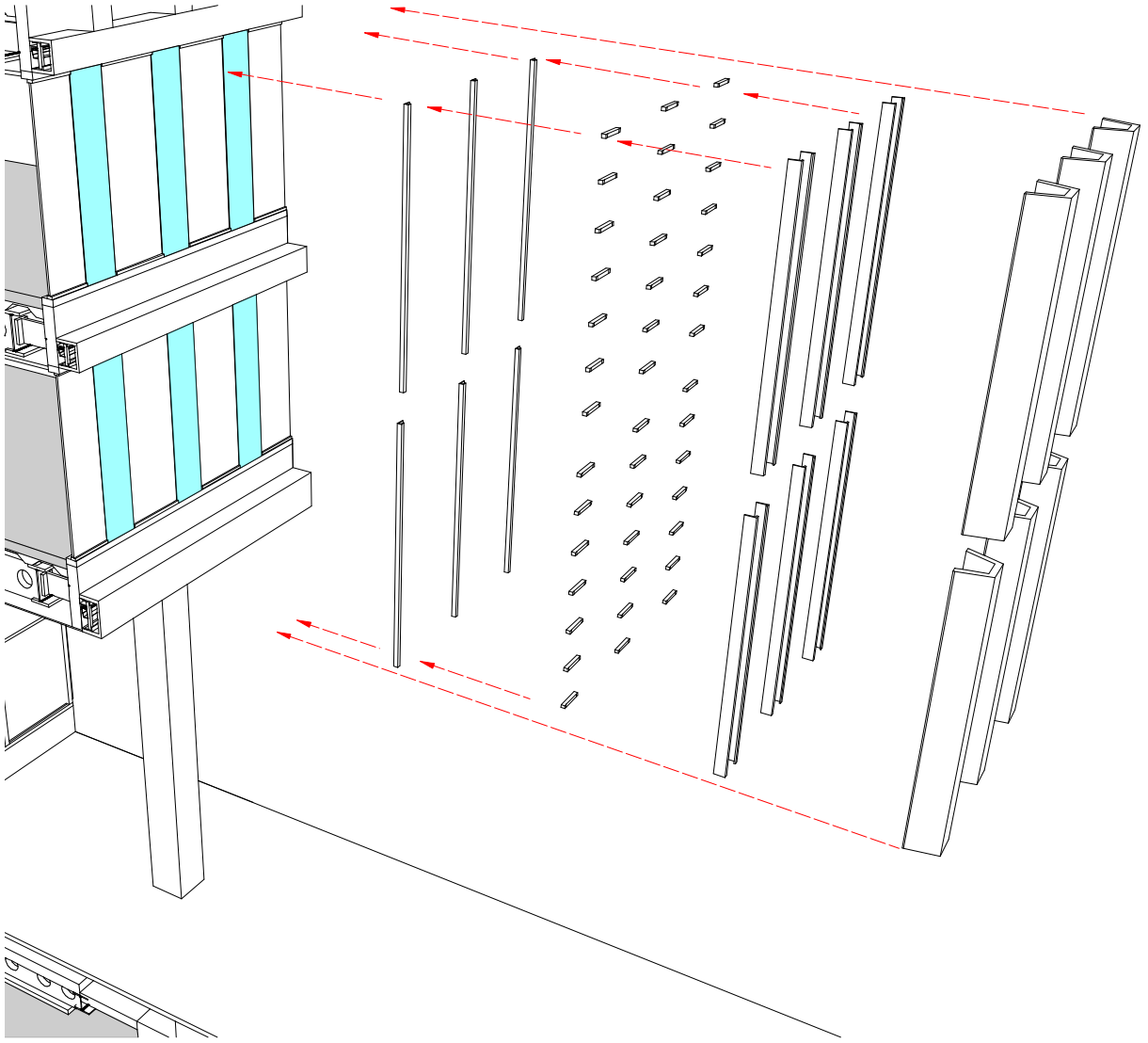
RETAINING THE ORIGINAL BUILDING LINE.

STUDY SECTION A: CANTERLIEVERED FLOOR PLATE

After the cost reduction exercise at stage four, one of the key issues was the stone facade. Due to the weight of the Cambridge stone and the increase on the foundations and structural work required to take the load and while the basement of the building had been reduced to one level for cost, the decision was made to use a GRC (glass fibre reinforced concrete) panel system that fixings to the structure of building using a bracket system. While cost effective it also alongside other excercises increased the lettable floor area by 15%.

NOTE:

Detail A has been drawn as a indicative proposal as to how the replacement of the facade for a GRC panel system with the approved canterliever could be fixed the super structure.



Vertical GRC cladding system

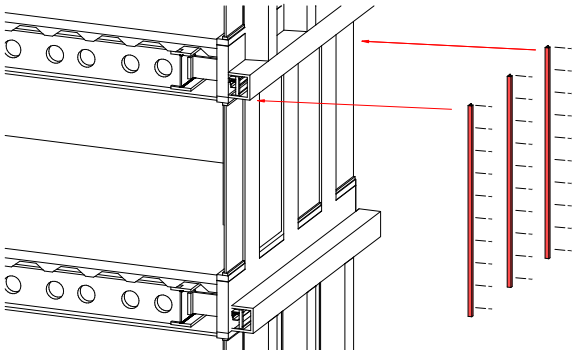
The Illustration depicts the three key elements required for fixing the GRC panel the Metsec frame (blue) which is fixed between the two floor plates.

[GRC CLADDING SYSTEM]

VERTICAL GRC CLADDING PANELS
STUDY SECTION B

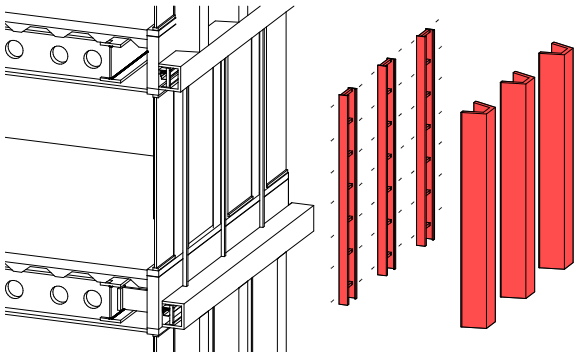
Due to the current status of the required technical drawings for the newly proposed GRC cladding panels being undertaken by a specialist designer, there was not information availlable to understand how the proposed system will work at 50/60 station road. Due to this issue an indicative was undertaken to understand how the system may work as the strcutural system has not been altered to accomodation the reduction in external facade depth. This study has been undertaken looking at the vertical and horizontal GRC panel components.

Our understanding of the fixing system for the vertical GRC panel would use a bracing system fixed internally to the GRC panel system with an initial U shaped bracket bolted to the upright metsec panels using anchor bolts. The GRC panel will drop onto fixing points located vertically on the U bracket.



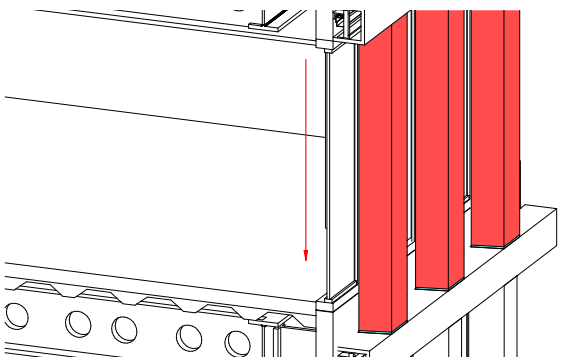
1. Fixing of vertical support U bracket to Metsec

Vertical U shaped brackets would be screw fixed using anchor bolts to the metsec uprights that are fixed between the structural slab.



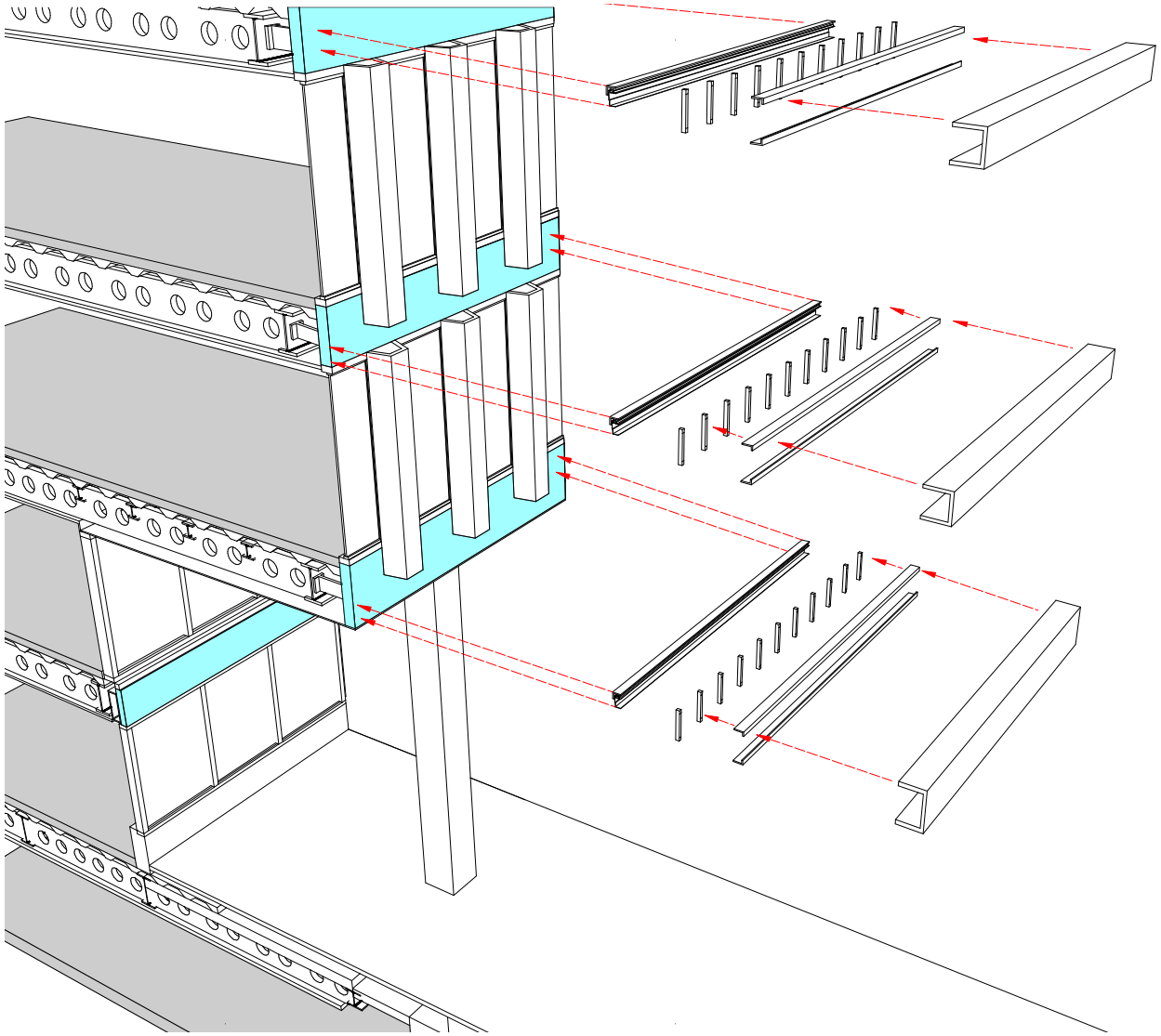
2. Inner GRC panel hollow aluminium frame

Using a similar system to the horizontal cladding, internal aluminium hollow frame is fixed to the GRC panel for stability and fixing to the vertical bracket.



3. Fixing GRC component to support bracket

Fixed to the U shaped bracket, The junction between the vertical and horizontal panels would be finished with a silicon to prevent moisture build up (blue).



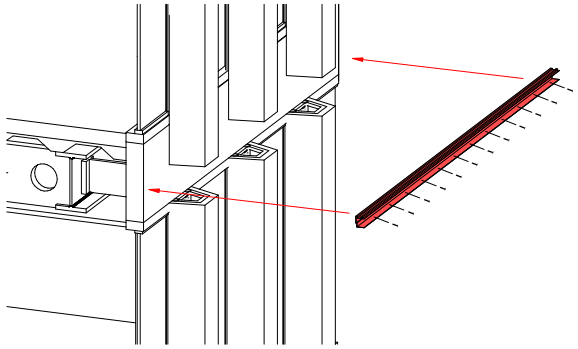
Horizontal GRC cladding system

The Illustration depicts the three key elements required for fixing the GRC panel the Metsec frame (blue). The metsec panels are fixed to a supporting arm which is fixed the main structural beam as shown in the diagrams opposite.

[GRC CLADDING SYSTEM]

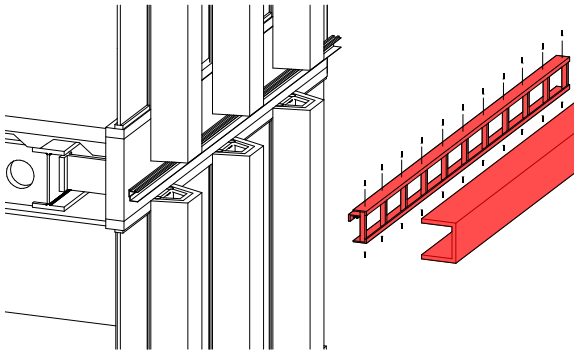
HORIZONTAL GRC CLADDING PANELS
STUDY SECTION C

Our understanding of the fixing system for the horizontal GRC panel uses a similar system to the vertical panel, although in this instance a supporting horizontal L bracket is fixed to the Metsec panel as the bracing frame fixed to the panel is top hung over the fixed bracket.



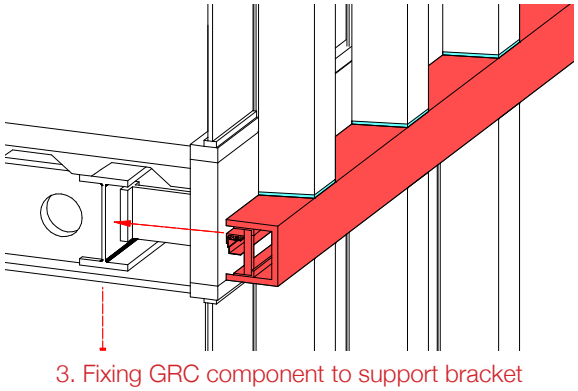
1. Fixing of Horizontal support bracket to Metsec

The horizontal support bracket cast of aluminium is screw fixed using anchor bolts to the secondary structure of the external face.



2. Construction of GRC system

Within the GRC fabricated componenent, two L bracket components and hollow channel uprights set up the frame and bracing junction for the panel.



3. Fixing GRC component to support bracket

The juction between horizontal support and GRC panel is a slip in system where the fixed GRC bracket fixes behind the horizontal wall support.

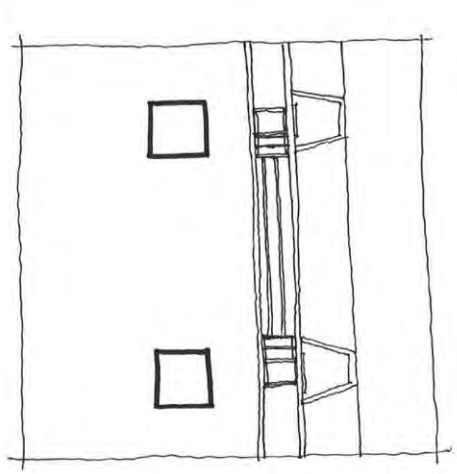
[ARISING ISSUES OF D&B]

In these diagrams, explaining the construction detail from the steel structure to the GRC panels. The general understanding is the Metsec panel use as the external wall, which support the glazing and GRC panel.

For economical application, Metsec horizontal cladding supports with riveted end cleats are used as vertical supports to the horizontal cladding panels. Joints in panels may require a wider flange for fixing purposes which can be provided by using a Metsec panel joint rail. Alignment of the steel face can easily be achieved by adjustment of the horizontal rails on slotted cleats at the stanchion position.

The GRC panel adjusted on both vertical and horizontal rails, fixed with bracket system onto the rails. The Metsec riveted onto the floor frame extended from floor to ceiling. The GRC mounted on the external side of the 'I' beam, without relying on Metsec as the bracing system.

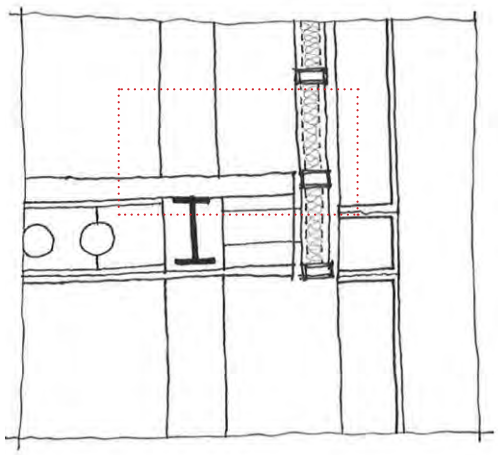
However, the diagram shows two possible connection errors where the Metsec are not properly installed in relation to the steel framing. Hence, it appears the Metsec actually stand on its own, supporting the GRC panels and bracing the lateral wind load altogehter.



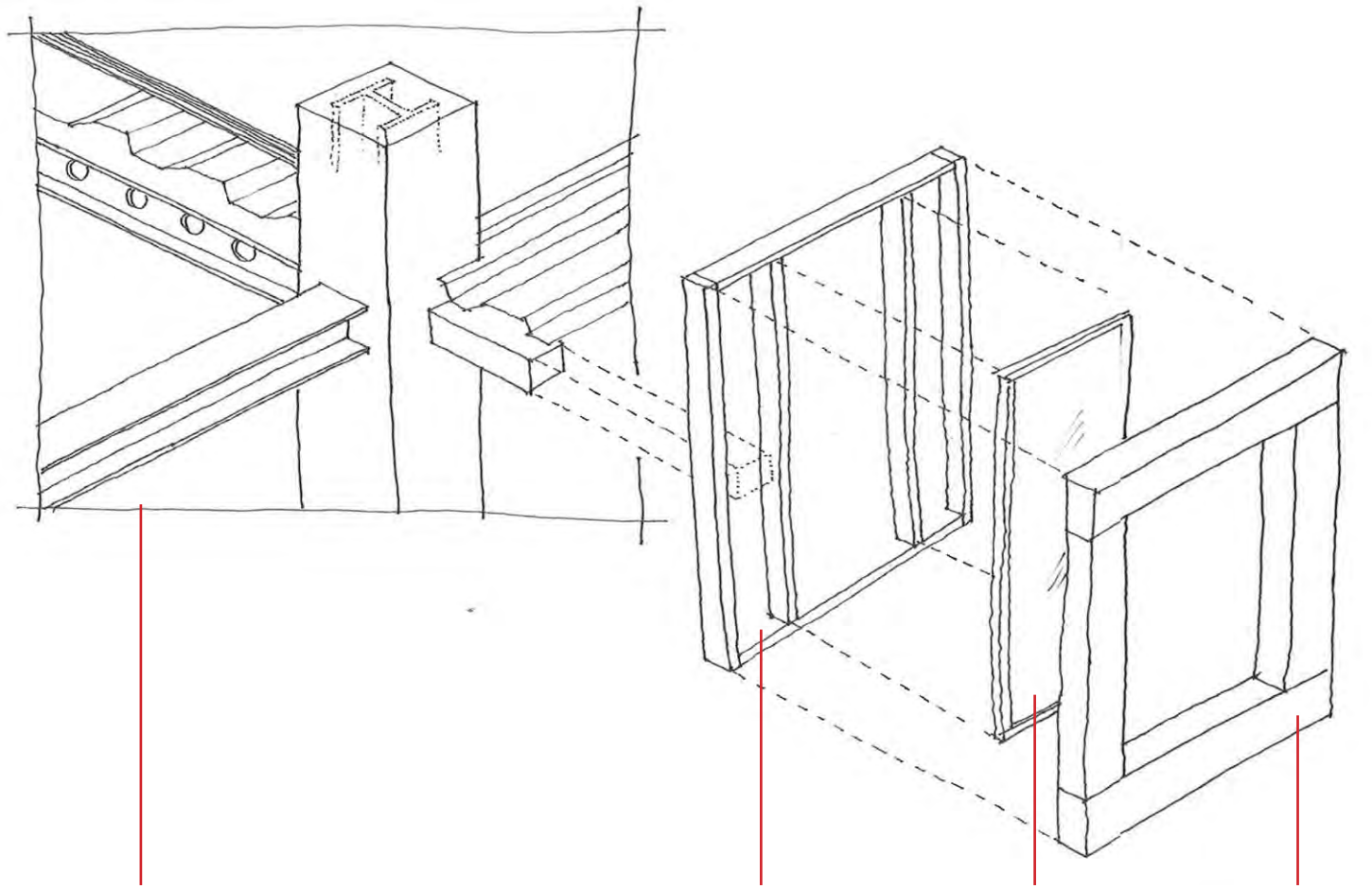
Sketched plan view describing the structural system of the external facade.

UNRESOLVED ISSUES SKETCHES (RIGHT)

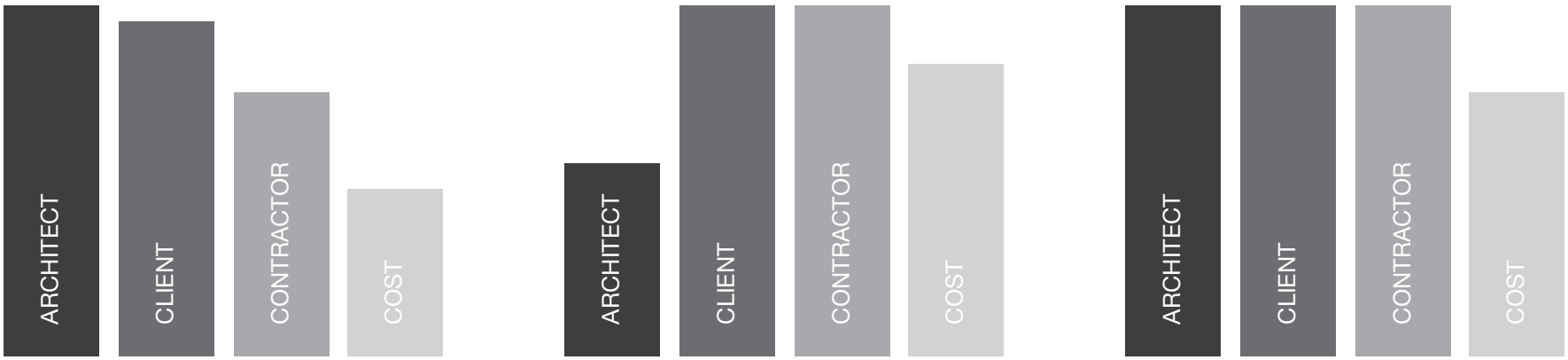
Cellular beam not extended off the column to support the Metsec panel. The Metsec panel seems to rest on its own onto the column. This situation is not possible because the load from GRC panels and the wind load brace only by Metsec.



Sketch describes the unresolved connection issue with the amendment made to the facade system.



Sketch diagram descirbes the unresolved junction of the Metsec panel and the GRC facade panel in relation to the skeletal frame.



1. Historic working relationship

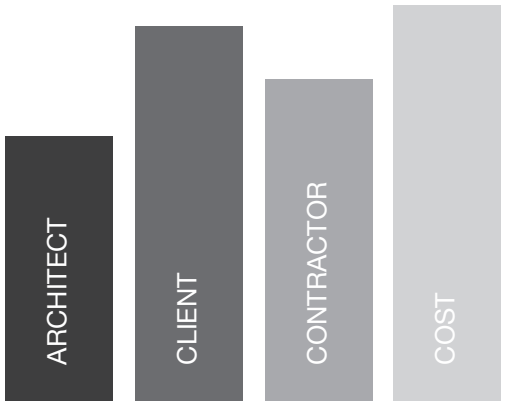
Historically the architect working with the client would control the process of the project from the initial stages through to completion. Ensuring technical details were developed before construction began.

2. Current working relationship

Today in regards to the availability of certain contractual agreements, the architect can be removed as the principle designer by the client leaving the contractor to undertake cost provisions and collecting technical information from employeed specialists.

3. Optimum solution

While contracts set out the requirments of each co-professionals tasks, in an ideal situation the architect, client and contractor should be equal in regards to making design decisions. While cost is still key to ensuring a project is completed emphasis on design should take precedent over cost.



50/60 Station road situation

Due to the design and build contract Grimshaw are employed by Galliford Try to develop the technical package while Galliford Try undertake the cost cutting exercise to ensure Brookgate gain a high standard project for their budget. This leads to situation as the GRC facade alternative becoming an amendment to the project.

[IMPORTANCE OF ARCHITECTS]

The design and build contract at 50/60 Station road has lead to the Galliford Try employed to undertake the project from stage four to make a number of design decisions to ensure the client gains a high standard project for their intended budget.

One of the issue's that has arose from this form of contractual agreement is the unknown detailing of a number of elements in particular the external cladding junction that has been discussed.This current unknown in to the cladding detail is due to the form of contract, allowing Galliford Try and Brookgate to source specialist to produce the technical detail thus leaving Grimshaw to approve the suitability of the detail.

50/60 Station road is unlike the majority of Grimshaws current and previous projects, there high level for detail throughout including the structure seems to have been forgotten for Station road and this may be due to the uncertainty of the next project, thus allowing the client and contractor to take a leading role in substituting design to ensure the budget is not comprimised.

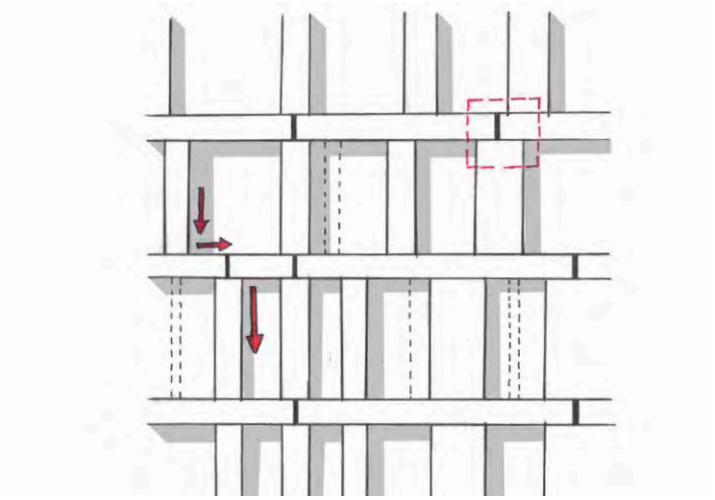
[CONCLUSION]

50/60 Station road is the intended landmark project for the CB1 masterplan seen as the key building that stands out when exiting the station. While landmark is still the key word for the project from stage four and Galliford Try's undertaking of the project from this stage onwards it seems that cost has been the driving factor for the project. While Galliford Try's involvement has reduced the cost and increased the saleable area of the building for the client, the project has been removed of its defining identity of the true Cambridge stone facade.

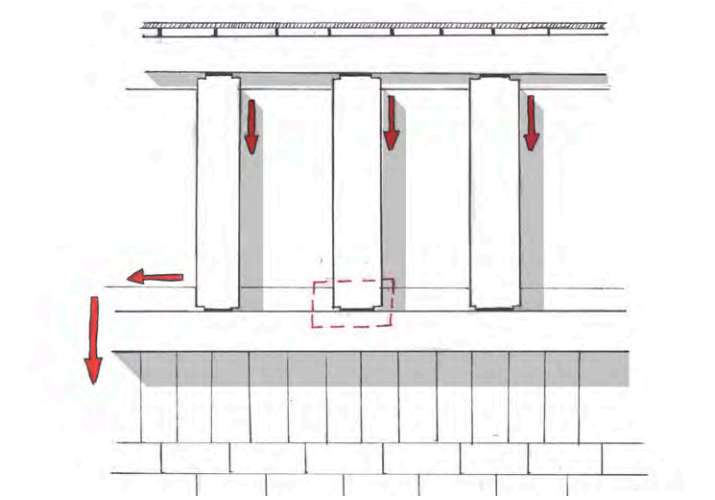
As a landmark building to tie into the existing fabric of the historic Cambridge context the removal of the stone for a GRC alternative that replicates the finish may be unrecognisable to many as being a substitute but it is still untrue to the character of the city and the intentions of the project by Grimshaw during the design stages.

Unlike the Sainsbury superstore completed by Grimshaw previously it would seem as though the notion of the architect being the key individual to realise a project is an outdated concept, today the architect fulfils their duty as principle designer or to gain planning approval for a design and build contractor to undertake the key works of an architect through subcontractors and specialists and in the case of 50/60 station road this seems to be the outcome.

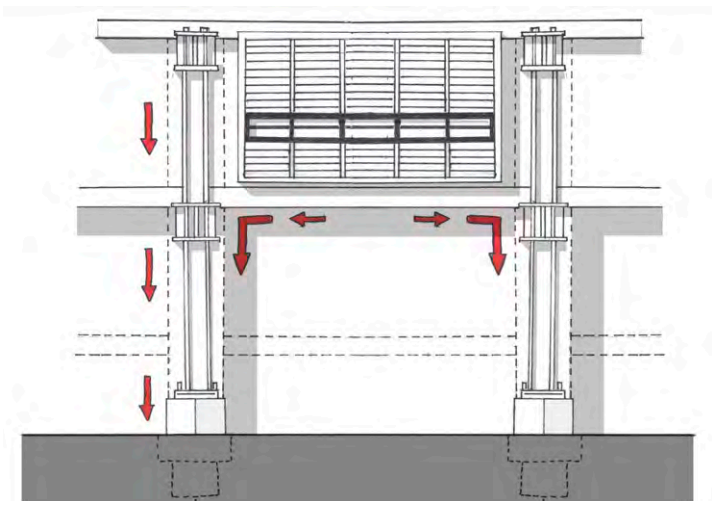
Although the question still remains as to whether the change to GRC cladding was known from the offset and if so why was stone still a specified finish and why couldnt an alternative structural system have been used to ensure the facade would undertake a structural element similar to 30 Finsbury square or the Sainsbury Laboratory.



Finsbury square facade sketch



Sainsbury Laboratory facade sketch



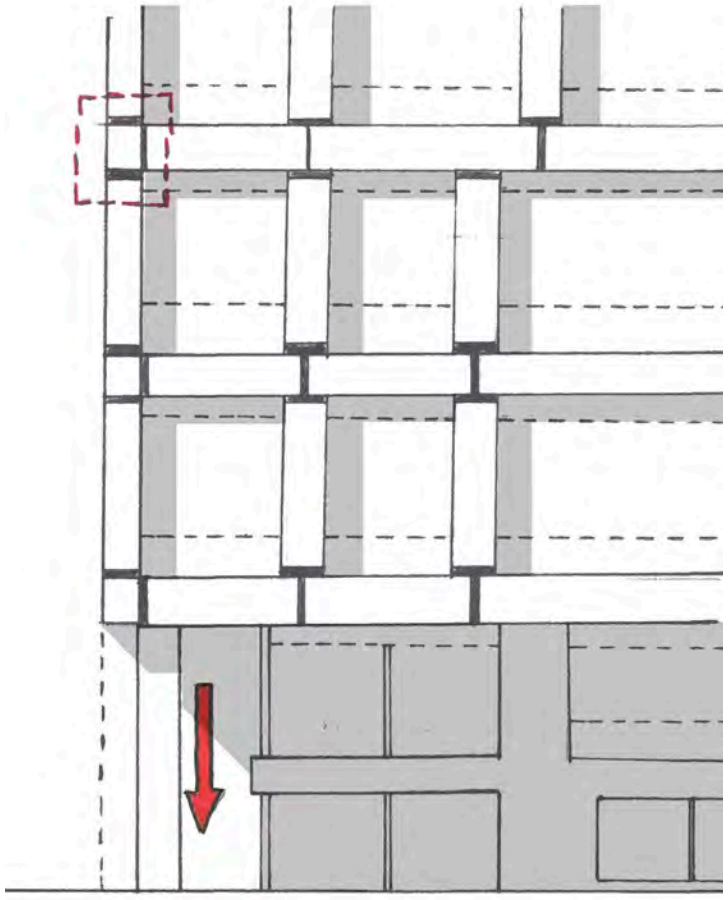
Sainsbury superstore facade sketch

(Figures 01-04) Describe the loadbearing and connection points of the facade for the three case study projects and 50/60 Station road.

LEGEND:

Direction of structural load

structural junction of components



50 / 60 Station road facade sketch

Unlike the three previous case study projects, 50/60 station road facade is purely decorative and does not transfer the load of structure to ground. The connection point between two GRC components (red dash) is given a tolerance for a silicon based substance to seal the junction, all loads of the building is tranferred back to the steel frame and discharged into the ground as shown in the illustration above.

50 \ 60

STATION ROAD

STAGE 5 \ CONSTRUCTION NOW

“ THE LATERAL STABILITY OF THE STRUCTURE IS PROVIDED THROUGH TWO CONCRETE CORE STRUCTURES, INTO WHICH THE STEEL FRAME CONNECTS.TESE CORES PROVIDE THE LIF LOBBIES AND STAIRWELLS FOR THE BUILDING. THE STRUCTURE IS SUPPORTED ON PILED FOUNDATIONS WITH STEEL SHEET PILES CREATING THE PERIMETER OF THE BASEMENT. ”

[RIBA STAGE FIVE]

Core Objectives:

Off site manufacturing and onsite Construction in accordance with Construction Programme and resolution of design queries from site as they arise. Design Queries

Queries relating to the design arising from the site, typically managed using a contractor's in-house request for information (RFI) /technical query (TQ) process.

Procurement:

Administration of Building Contract, including regular site inspections and review of progress. Building Contract the contract between the client and the contractor for the construction of the project. In some instances, the Building Contract may contain design duties for specialist subcontractors and the design team members.

Programme:

The procurement route may dictate the Project Programme and may result in certain stages overlapping or being undertaken concurrently. The overall period for the briefing, design, construction and post-completion activities of a project.

Sustainablity Checkpoint:

Has the design stage sustainability assessment been certified?
Have sustainability procedures been developed with the contractor and included in the Construction Strategy?
The detailed commissioning and Handover Strategy programme been reviewed?
Confirm that the contractor's interim testing and monitoring of construction has been reviewed and observed, particularly in relation to airtightness and continuity of insulation.
Is the non-technical user guide complete and has the aftercare service been set up?
Has the 'As Constructed' Information been issued for post-construction sustainability certification?

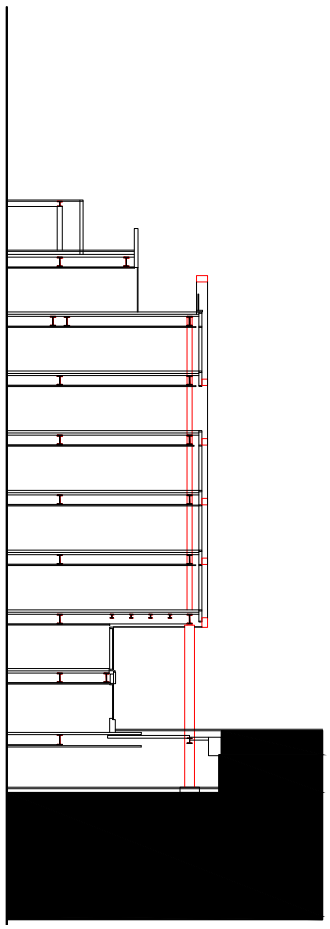
Suggested Key Support Tasks:

Sustainability Strategy
The strategy for delivering the Sustainability Aspirations.

Health and Safety Strategy
-Sensibly plan the work so the risks involved are managed from start to finish
-Cave the right people for the right job at the right time
-Cooperate and coordinate your work with others
-Have the right information about the risks and how they are being managed
-Communicate this information effectively to those who need to know
-Consult and engage with workers about the risks and how they are being managed
The strategy covering all aspects of health and safety on the project, outlining legislative requirements as well as other project initiatives, including the Maintenance and Operational Strategy.

Handover Strategy, Construction Strategy
Review and update

[CONSTRUCTION MATERIALS]



Modelling of the basement and piles using slabs and supports. This allowed for the structural design of the pile caps and basement slab. The piles were modelled as individual springs and allowed the output of individual pile loadings both strength and geotechnical combinations.

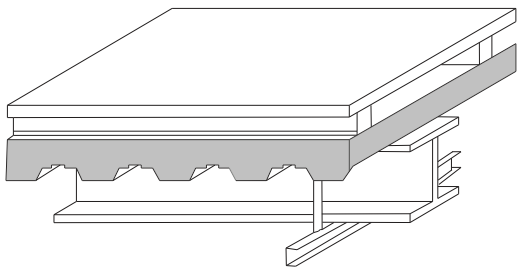
Pile loading generation using this process was automatic allowing easily outputted pile loadings with minimum user interaction. The benefits of this include the reduction in human error and the ease in regenerating pile loads when changes occurred to the structure.

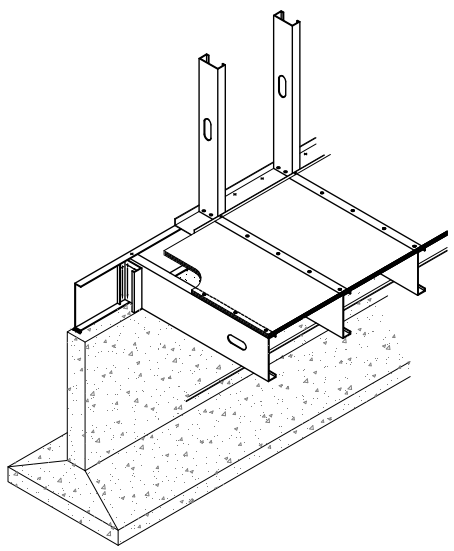
Key elements like the cantilever pod structure were modelled allowing for analysis of their interaction with the larger structure including deflections and push/pull effects. The pod structure is a boxed structure cantilevering from the building between the first and second floor.

The two cores have different stiffness's and modelling both in one package was beneficial, ensuring an accurate analytical model of their behaviour.

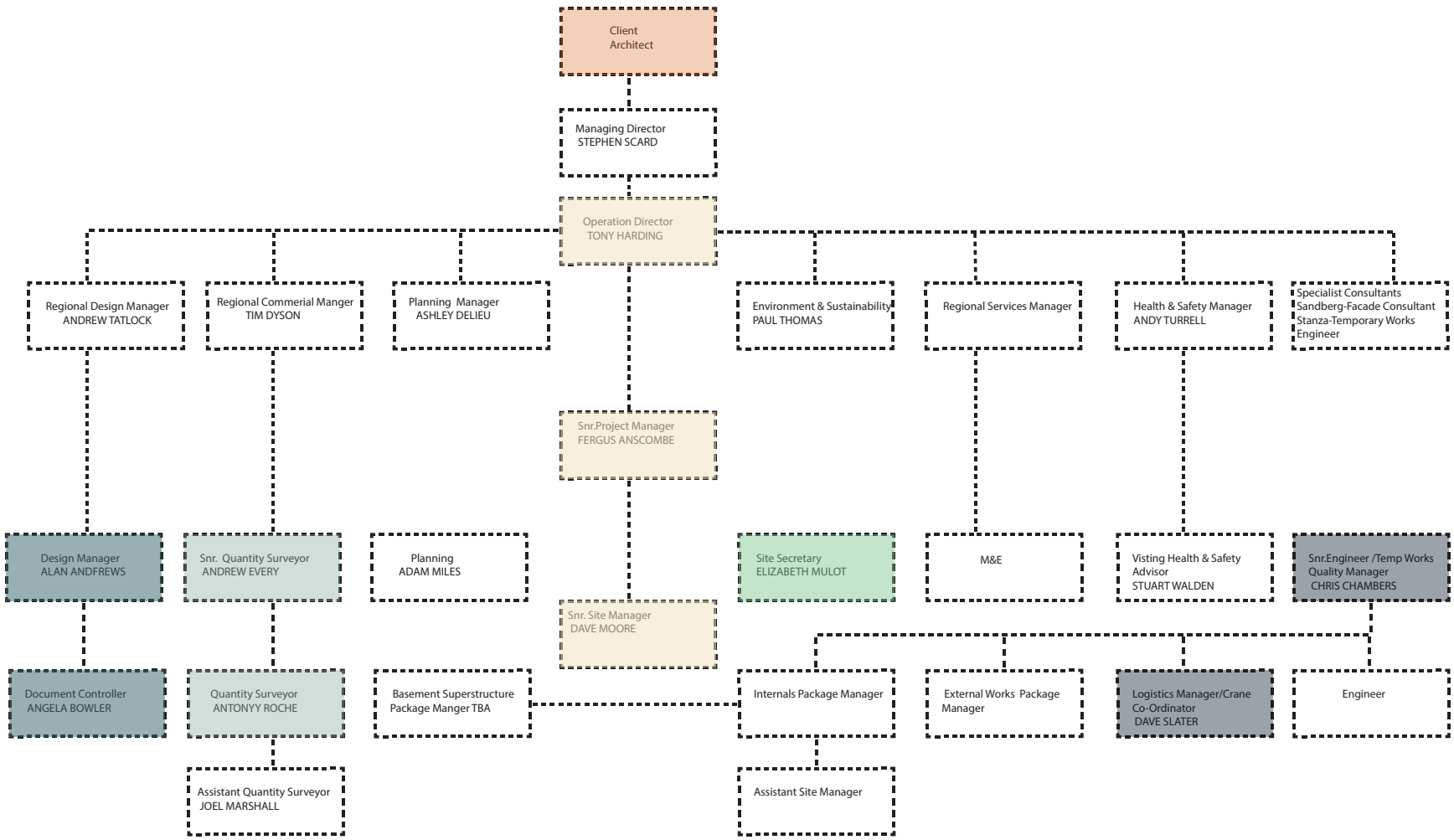
1) Narrative diagramme - from off site to on site
2) Heritage policy
3) Restricitions and conditions on site such as noise and pollution

-The steel frame structures
-Pile Foundation
-walls, columns, slabs and piles caps
-Composite metal deck floor
-Sandstone
-Concrete core structures

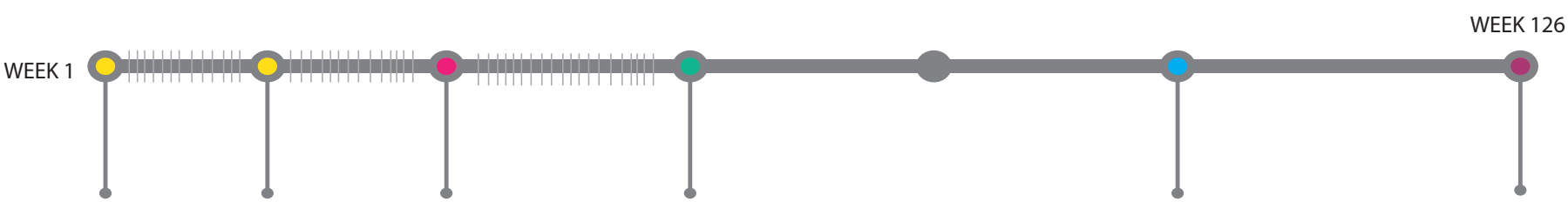




[DESIGN CONTACTS]



[CONSTRUCTION TIMELINE]



Week1 & 4

Safe operation,Site layout clear waste on site removing the old railway tracks

week5

Materials arriving on site,supplys,Machinery

Week15

Started Construction of steel Sheet foundation on site , sheetplie around the whole site line.And the start of Heavy machinery use

50/60 CB1

50/60 Station Road is in the heart of CB1, the signi cant mixed-use project that is transforming the established business quarter of the city around Cambridge Railway Station.

10 week early

According to schedule of construction Grimshaw is estimating construction could be finished 10weeks ahead of schedule in the 126 week Working period

Completion

The Construction on site is due to complete within week 126 of the schedule

The development has planning consent and work as begin ongoing
towards it 16 to 17 weeks now of Construction onsite with completion due in February 2019.

[CONSTRUCTION STRATEGY]

STRUCTURE:

The steel frame comprises composite westok cellular beams used along with a composite metal deck floor, this allows spans of 13m with circular cells and elongated holes for services to pass through. The lateral stability of the structure is provided through two concrete core structures, into which the steel frame connects. These cores provide the lift lobbies and stairwells for the building. The structure is supported on piled foundations with steel sheet piles creating the perimeter of the basement.

FACADE:

The building facades are designed to fit within the existing surroundings and form a key part of the overall CB1 vision.

CLIENT:

Aviva Life and Pensions UK Ltd and developers, Brookgate, have announced the £87 million forward funding of a new speculative office building to be situated at 50 and 60 Station Road at CB1, Cambridge.

BUDGET:

£87 million city centre office block

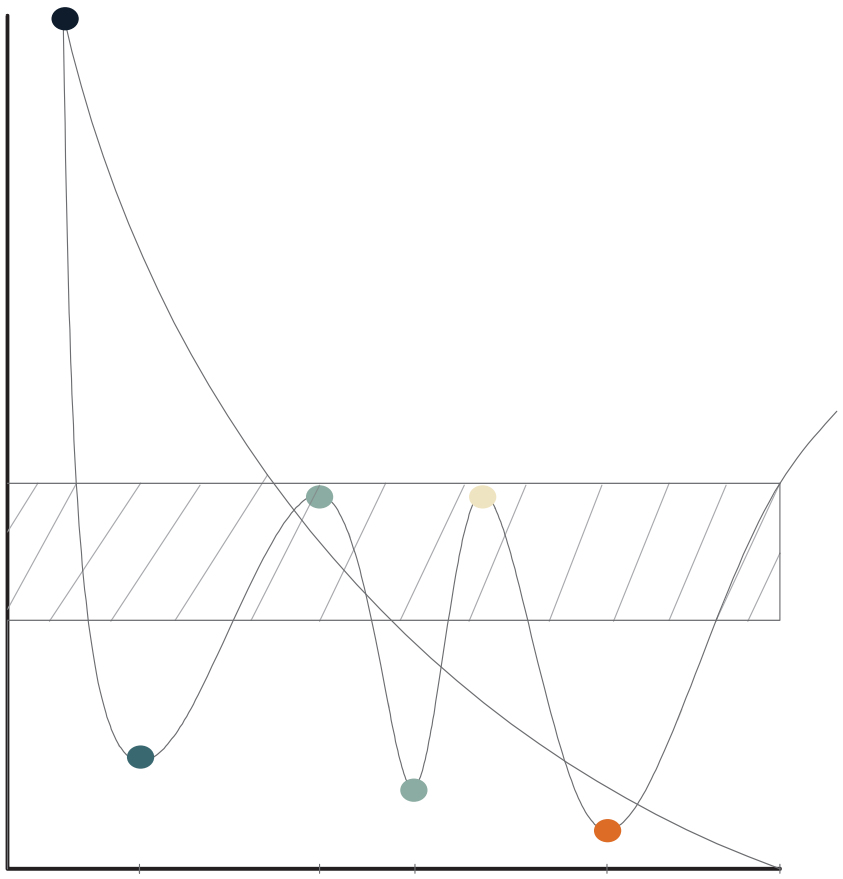
AMMENDMENTS:

Their was some cut back on the design stages Originally designed as two separate buildings, the design developed merging the two buildings to form one structure. It will now be an eight and nine storey steel framed building with a single storey basement increasing construction efficiency and delivering a greater floor plate.

DESIGN INTENT

£

BUILDABILITY



KEY

STRUCTURE

FACADE

CLIENT

BUDGET

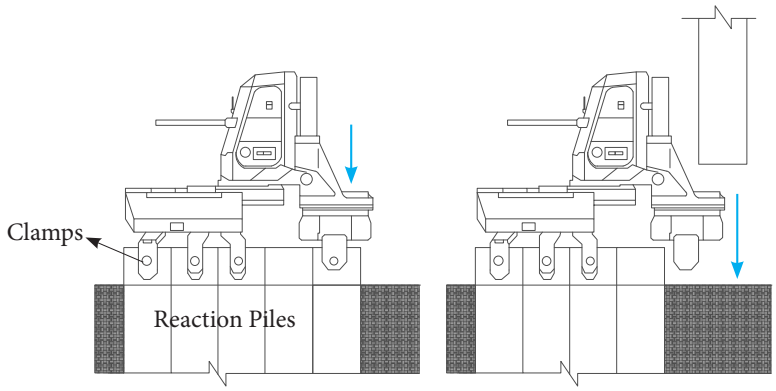
AMMENDMENTS

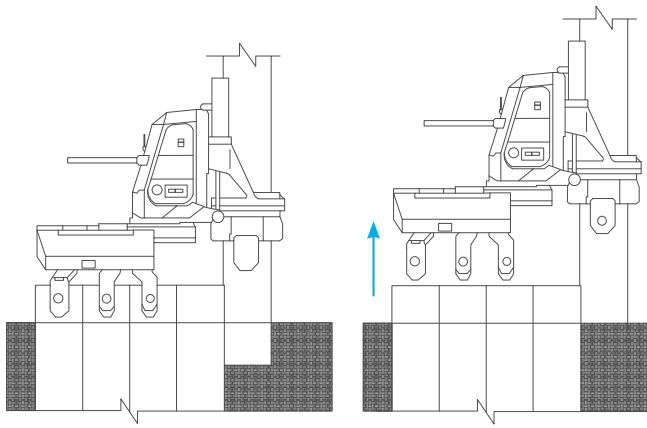
Graph sets out the priority of the construction strategy discussed (Left)

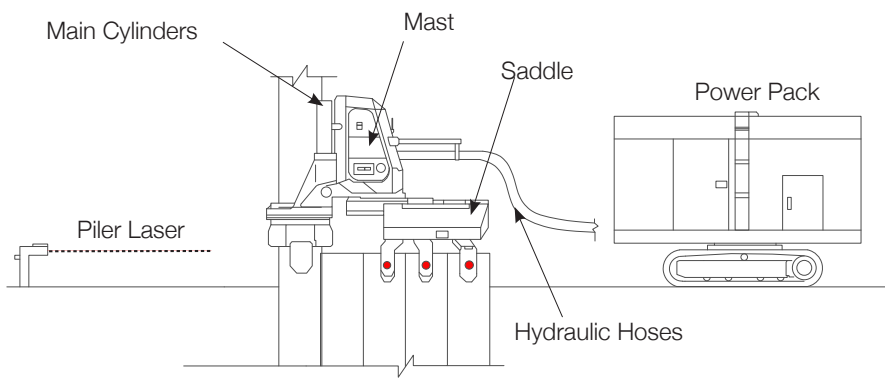
[SHEET PILING PROCESS]

Standard mode piling involves the operation of pressing piles into the ground un-aided by auxilary equipment. The silent piler clamps reaction piles No1-3 and press in pile No4 and complete pressing in pile No4 to the specified height and open chuck.

The Silent Piler under optimum ground conditions will press-in piles of up to 15 metres in length by utilising the reaction force generated by the GIKEN Reaction Base sysytem. Then the Silent Piler sits atop of already installed piles and continues to install, by self moving along the pile line, as shown below.















Various process photographs of the sheet piling process

[DESIGN QUERIES]

LOGISTICS ISSUE OF 50/60 STATION ROAD

Design queries are issues that arise on site as stated based on the RIBA workplan construction stage. The issues involve are seperated into two section:

(a) Off site construction
(b) On site construction

01 - TRANSPORTATION HUB

The site located next to Cambridge train station is the main source of traffic flow on to the site that needed to be control by traffic monitor on site during loading/unloading materials phase.

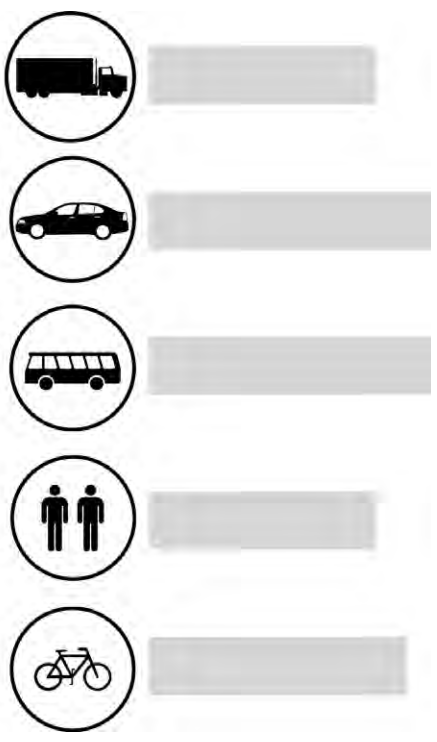
02 - TRANSPORTATION USER

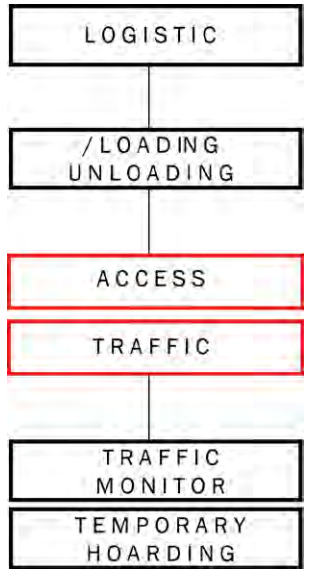
The chart represent a rough indication of transportation user in relation to Cambridge station and the surrounding area. The highest transportation flow that needed to be control are the heavy transportation such as cars and buses.

03 - TEMPORARY HOARDING

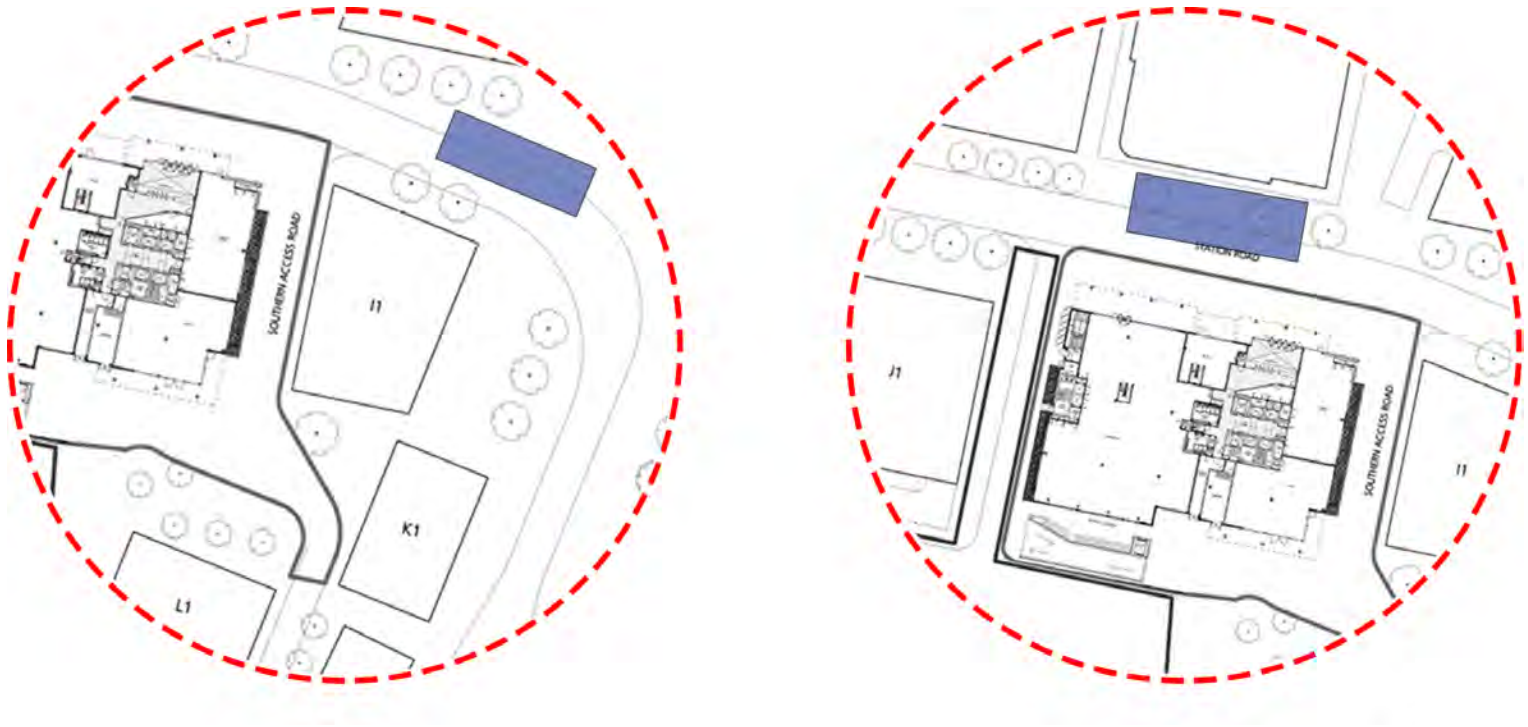
Temporary hoardings are placed in order to control traffic flow by reducing movement near the site. The flow of the traffic are controlled by traffic monitor on site. The hoardings are placed near the main access of the site and at the corner of the road controlling car manouver within the site perimeter

Transport Hub diagram: 01


Transport User diagram: 02



Access logistic diagram



Temporary hoarding locations

[DESIGN QUERIES]

ACTIVE SOLUTION

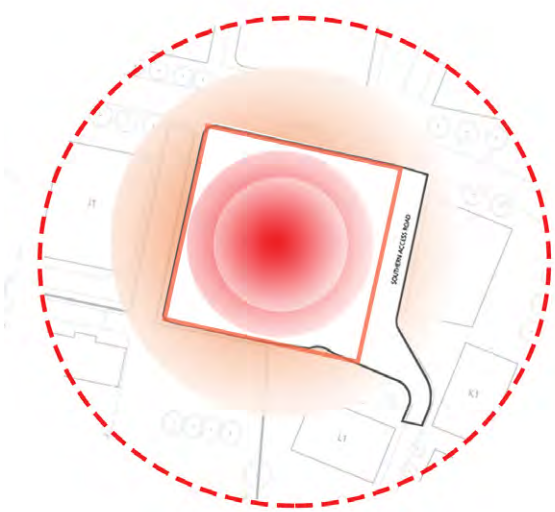
The main issue for sound is noise and vibration mainly generated from operating heavy machineries. Several active solutions implemented in reducing noise while maintaining efficiency on site.

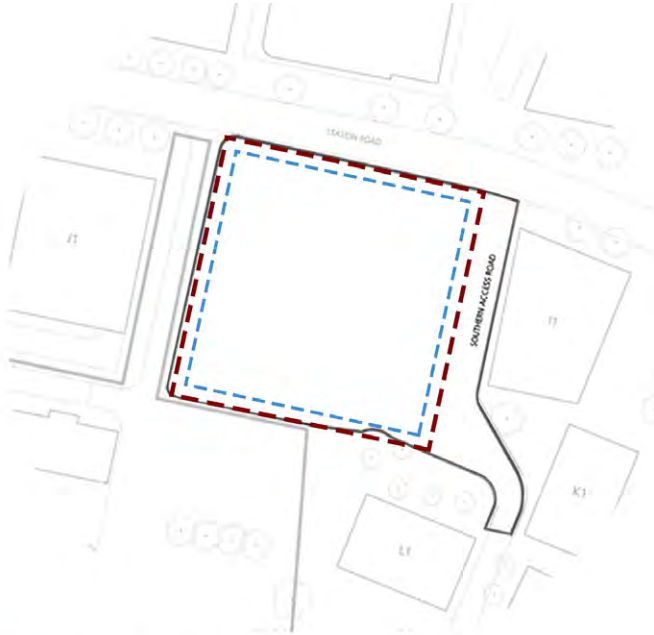
01 - NOISE BARRIER

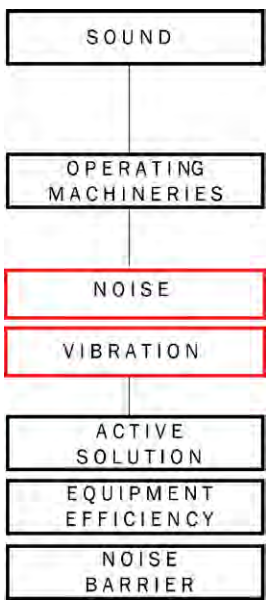
The current condition of the construction phase has two types of piling which is temporary piling for road and permanent piling for on site construction. The noise barrier reducing noise travel outside the construction site area which might affect the surrounding residential area.

02 - SILENT SHEET PILING

Silent sheet piling are the main operating machinery based on the current on site condition. The silent sheet piling is part of an active solution in construction phase whereby the noise generated from the machine is greatly reduce compare to the other sheet piling machinery.

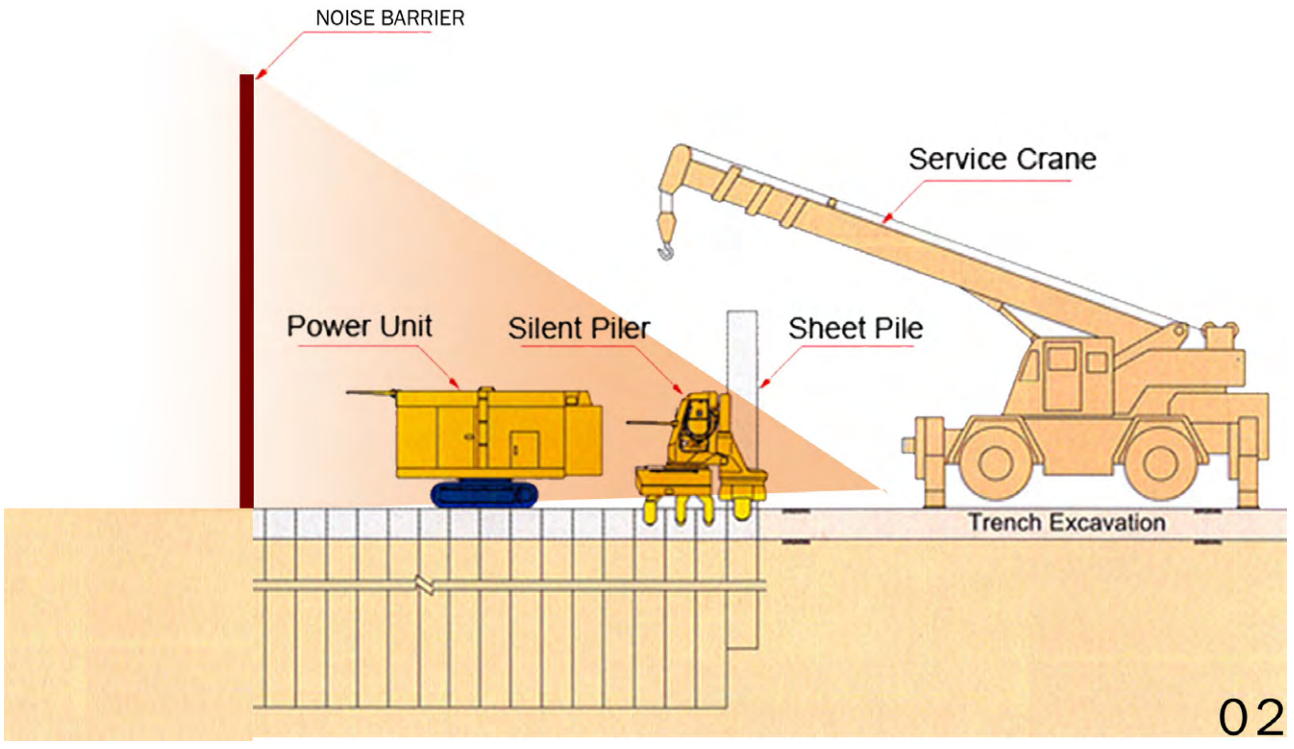






TEMPORARY HOARDING
PERMANENT HOARDING
NOISE BARRIER

Noise Barrier (Top)
Silent sheet piling perimeter (bottom)
Prevention flowchart (left)



Sheet piling system used to reduce sound
impact on local residents

[DESIGN QUERIES]

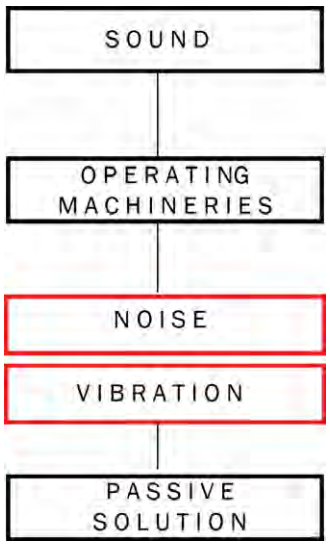
SOUND ISSUE - PASSIVE SOLUTION

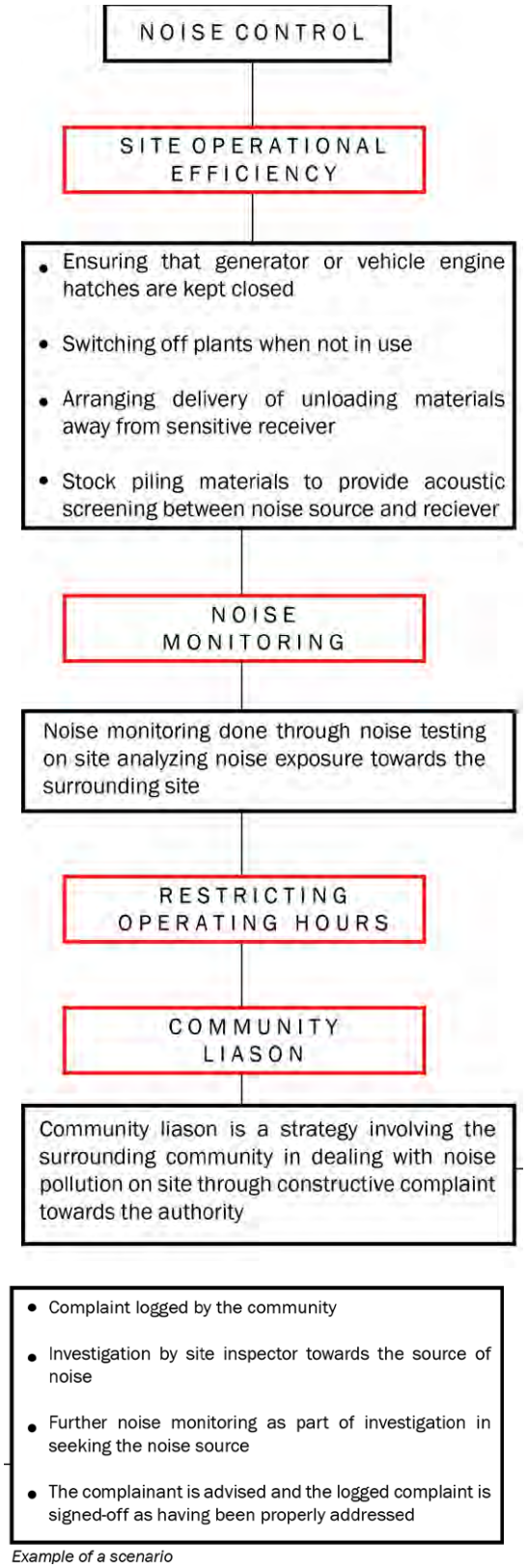
Passive solution as part of design strategy is part of the planning and management strategy to reducing noise on site. The efficiency of passive solution revolves within workers on construction site.

RESTRICTING OPERATING HOURS

Restricting The operating hours of noisy activities can be an extremely effective way of mitigating community noise impacts and is often used to great effect, in planning conditions for new facilities.

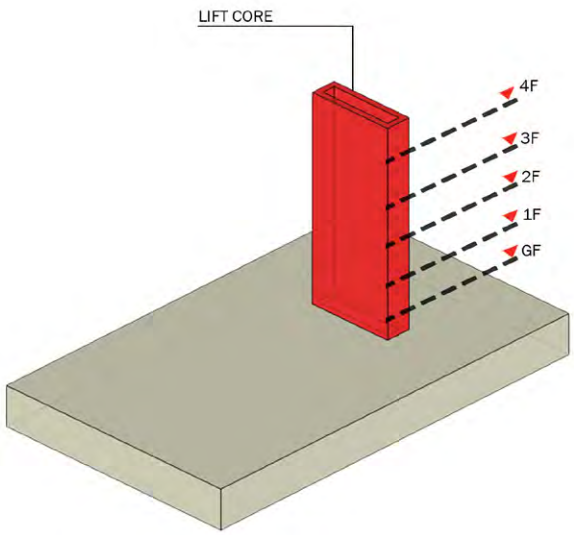
Restricting operating hours can of course reduce productivity and create operational difficulties, but it need not necessarily require a completed report of all activity on the site. In some cases it will be possible to schedule noisy operations during the daytime weekday periods in order to keep noise emissions to a minimum at night.



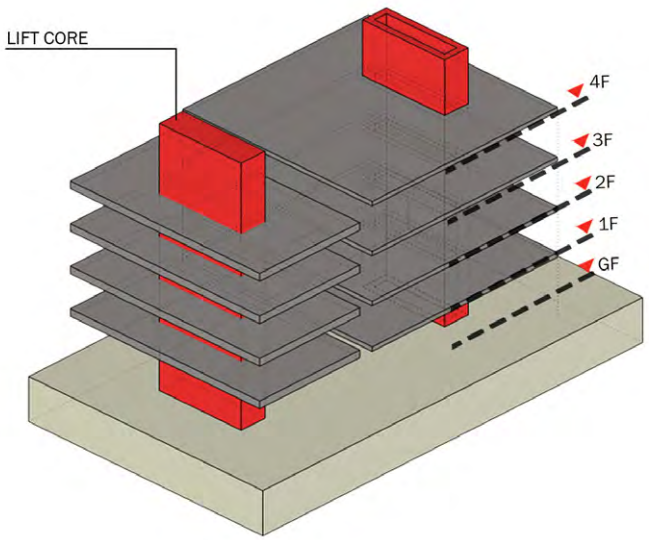


Example of a scenario

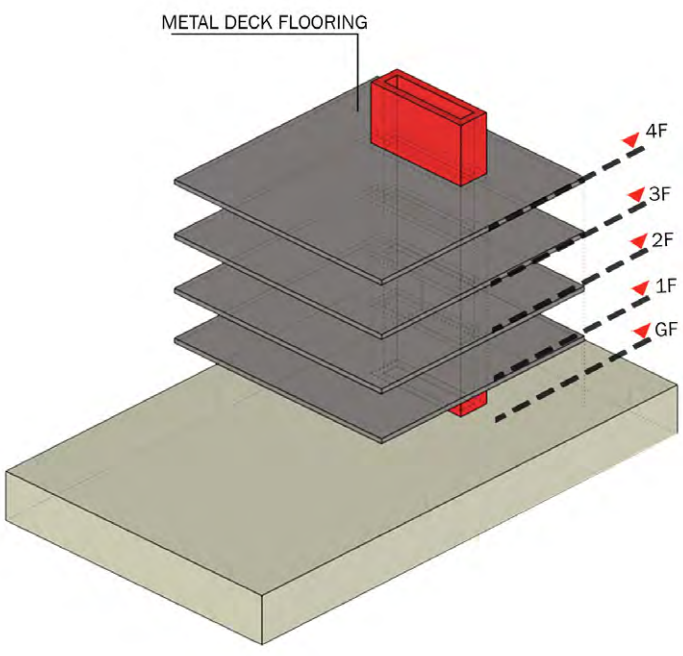
CONSTRUCTION NARRATIVE DIAGRAM



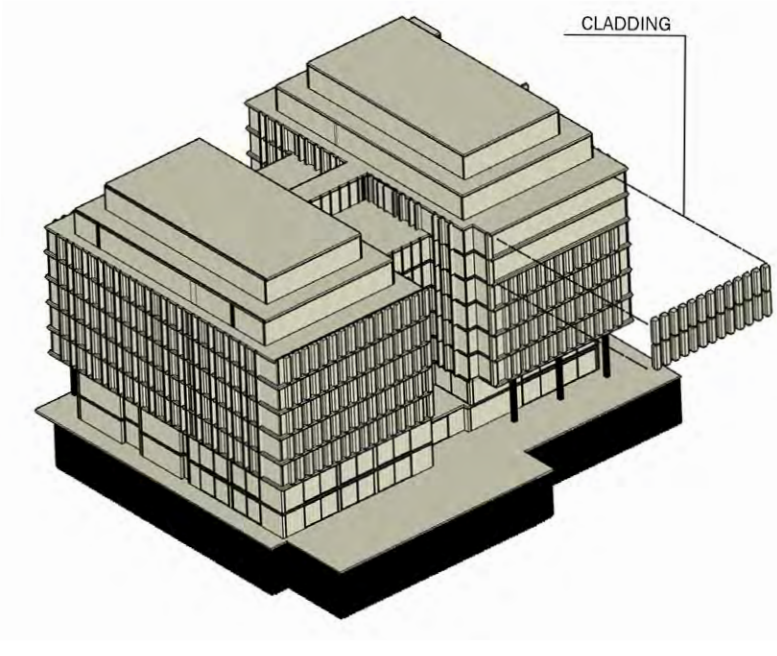
Lift shaft constructed as the core which stops at the 4th floor



The following lift core constructed followed with the other steel framing interlocking between one another



Steel frame constructed supported by lift core surrounding the first core



Cladding installed as part of the final phase of the construction

[DESIGN QUERIES]

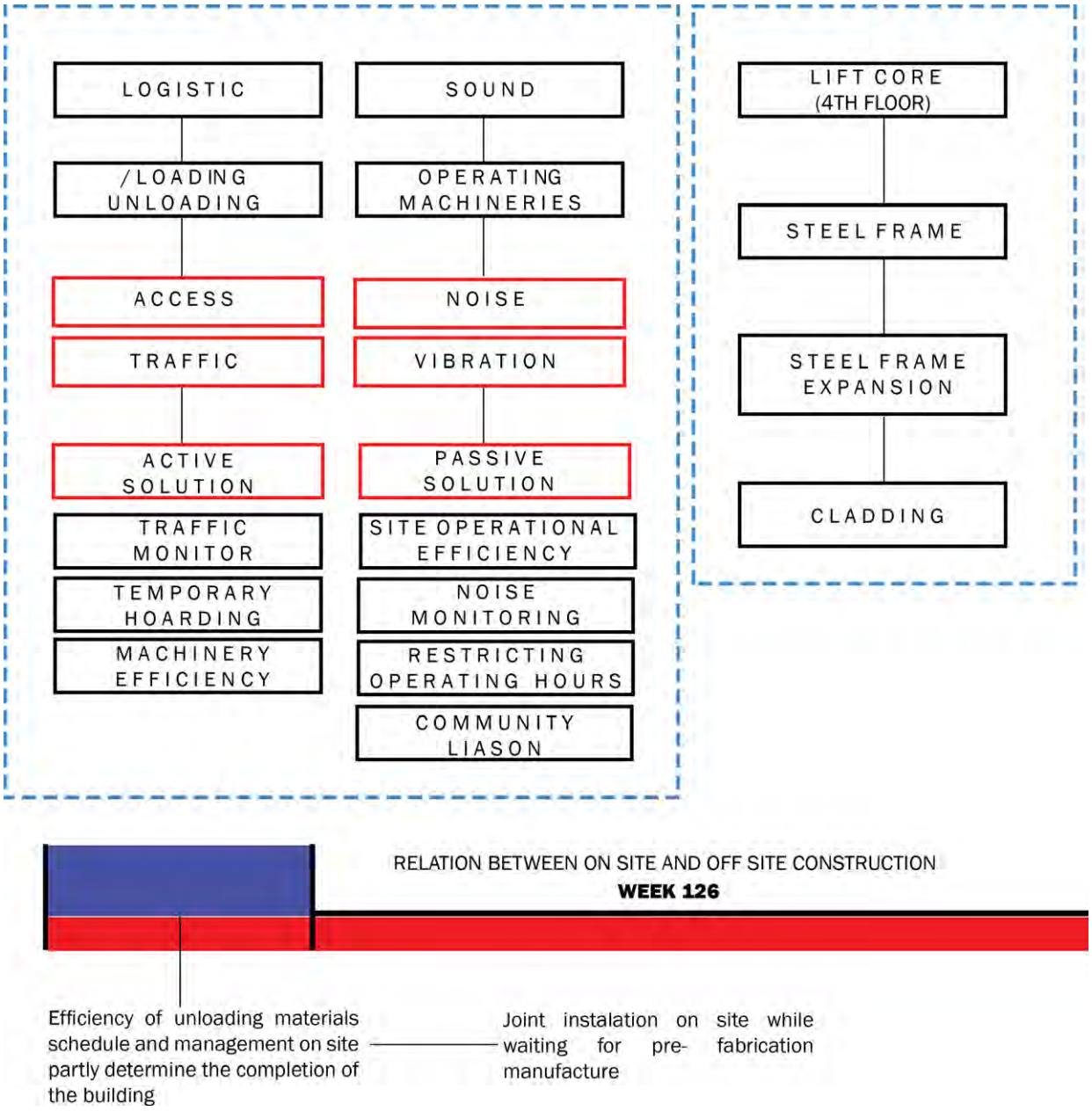
BRIEF CONCLUSION

The proparble conclusion of design queries between off site and on site construction can be sen as the efficiency of management on and off site in completing the building.

Logistics are based on loading and unloading of materials off site is crucial within the 126 weeks completion date as materials unloading on site has to be punctual according to time schedule in order for construction work to be on going. The constraint based on the unloading materials phase is crucial as well whereby 20 lorries will be on to site to unload materials per day.

Hence, the design strategy based on management efficiency through traffic monitoring in controlling the traffic flow has to be effective as well due to exisiting high traffic program such as transportation hub and commercial district.

The study of on site and off site construction documentation indicate heavily on the effiency of involved parties from client to worker subseqeuntly captures the timeline of construction completion.



Logistics flowchart

50 \ 60

STATION ROAD

\ CONCLUSION

“ WHILST THE DESIGN OF 50 \ 60 STATION ROAD WILL UNDOUBTEDLY CREATE A FAR MORE BUSTLING, LIVELY “PLACE” AND ITS ASSOCIATED MASTERPLAN WILL SURELY ACHIEVE ITS AIM IN IMPLEMENTING CAFE CULTURE AND A MORE VIBRANT, FIT FOR PURPOSE TRANSPORT HUB, IT IS DIFFICULT TO SEE HOW THIS NEW DEVELOPMENT WILL BEAR SIGNIFICANT RELATIONSHIP TO CAMBRIDGE ITSELF. A NEW CITY QUARTER WILL INDEED BE CREATED BUT IT WILL, WE FEAR, BE DIFFICULT TO TELL WHICH CITY THIS QUARTER MIGHT BELONG TO. ”

GRIMSHAW

OLIVIA PAINE

[A NEW CITY QUARTER?]

The investigation and research detailed within this document has led us to the conclusion that whilst the development at 50 \ 60 station road sits comfortably within the framework of the CB1 masterplan and the surrounding developments, however, the project's response to the existing and underlying heritage of Cambridge is perhaps more tenuous.

Through analysing the intial reasons behind the instigation of the masterplan it became clear that Station Road has a long standing history of disconnection which, as the most prominent reason for change in the area, should have formed the basis of the framework set out for developers and architects alike. Unfortunately, by following the design through its difficult planning process, it has become clear that although the massing framework had been set out in both masterplans, design principles relating to issues of conservation and heritage were governed by a rigorous and unyielding planning committee. Design responses at 50 \ 60 Station Road therefore became more and more homogenous with its surrounding masterplan buildings, these having already been approved by the council, to result in a proposal which, whilst blending in with its contemporary framework, does little to denote it as the landmark feature of the road.

This conclusion was reinforced by our exploration of both the relationship between the masterplan buildings and the surrounding context in particular the technicalities behind the GRC facade. Despite a basic similarity to the material and colour palette of Cambridge itself, the buildings of CB1 do little to capture the essence of the historical architecture and through a process of value engineering, the design at 50 \ 60 Station Road was forced to remove the stone facade which set it apart from its fellow developments. Through analysis of further precedents it has become apparent that alternative methods of stone construction have been implemented elsewhere in Cambridge and, whilst the material change cannot be judged without understanding its full history, it does point to a superficial aesthetic priority within the masterplan and council alike.

In Summary, therefore, whilst the design of 50 \ 60 Station Road will undoubtedly create a far more bustling, lively "place" and its associated masterplan will surely achieve its aim in implementing cafe culture and a more vibrant, fit for purpose transport hub, it is difficult to see how this new development will bear significant relationship to Cambridge itself. A New City Quarter will indeed be created but it will, we fear, be difficult to tell which city this quarter might belong to.