ARCHITECTURAL DESIGN REPORT

Cleeves Riverside Quarter | October 2025

CRQMP-FCBS-XX-XX-RP-AA-0010
P01 - 16/10/2025

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INTERNAL REVIEW AND QA CHECK

Sections written by Feilden Clegg Bradley Studios and Bucholz McEvoy Architects

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Role: Partner and Founder/ Director

P01 - Issued for Planning

Date: 16/10/2025

“CLEEVES RIVERSIDE QUARTER IS AN OPPORTUNITY THAT HAS BEEN WAITING TO HAPPEN IN LIMERICK FOR OVER A DECADE AND LTT ARE VERY EXCITED TO BRING IT INTO THE 21ST CENTURY.”

Limerick Twenty Thirty

0.0 INTRODUCTION

0.0 Introduction

This Architectural Design Report has been prepared by Feilden Clegg Bradley Studios and Bucholz McEvoy Architects on behalf of Limerick Twenty Thirty (LTT) to illustrate the architectural proposals to support an application for consent to An Coimisiun Pleanala for the Cleeves Riverside Quarter site.

Project Description

The site, known locally as 'Cleeves Riverside Quarter' comprises the former industrial mill complex ('Cleeves') situated on the northern side of the River Shannon, Limerick City and occupies the area between; Stonetown Terrace Road to the northeast; O'Callaghan Strand to the southeast; Condell Road (R527) to the southwest; and, Salesian Primary School and the 'Fernhill' residential estate to the northwest and west respectively - all situated in the townland of Farranshone More in Limerick City. The site is dissected by North Circular Road where it extends between Shelborne Road Lower and O'Callaghan Strand. The full extent of the planning application site is detailed in Figure 0.0.1.

The proposed development seeks the demolition of a number of structures and the construction and phased delivery of a number of buildings within the site ranging in height from 3 – 7 stories including 234 no. residential units; 270 no. student bedspaces; commercial floorspace; and a creche. Extensive public realm works are proposed inclusive of the Flaxmill Plaza and a riverside canopy area.

Project Team

The following team of consultants have been employed to develop these proposals:

Architect:	Feilden Clegg Bradley Studios
Architect:	Bucholz McEvoy Architects
Landscape Architect:	Mitchell + Associates
Structural Engineer:	ARUP
Civil Engineer:	ARUP
Services Engineer:	ARUP
Fire Safety Engineer:	ARUP
Flooding Consultant:	ARUP
CDWMP Consultant:	ARUP



Figure 0.0.1 - Planning Application Boundary

1.0 SITE CONTEXT & ANALYSIS



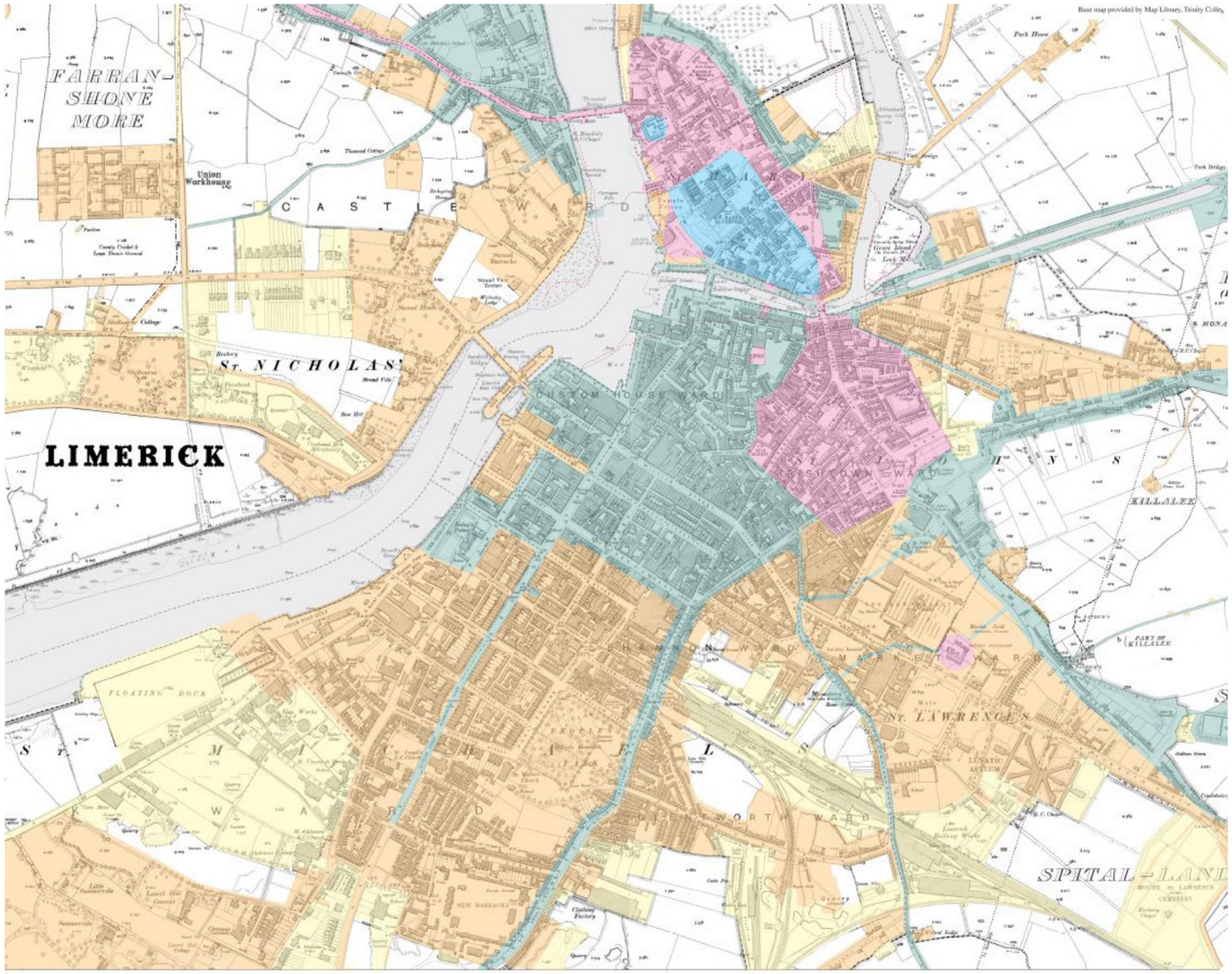
1.0 SITE CONTEXT & ANALYSIS

1.1 Limerick

Limerick's rich history has defined many different character areas reflecting histories, communities and various opportunities for change. There is a recognised need to protect conservation areas and the architectural character of existing buildings, streets and spaces of artistic, civic or historic importance. In particular, any new proposal must be sensitive to the historic city centre. The character areas of Limerick can broadly be defined through the historical development of the city.

These can be seen as:

- Viking/Norman (up to c.1100)
- Medieval (1100 - 1600)
- Late Medieval (1600 - 1786)
- Georgian (1787 - 1840)
- Victorian (1841- 1900)



Map Source - Eamon O'Flaherty and Jennifer Moore, 2010: Limerick c. 840 to c. 1900: Viking longphort to Victorian city. IHTA

1.0 SITE CONTEXT & ANALYSIS

1.2 Cleeves Riverside Quarter: Overview and Immediate Site Context

The Cleeves site has a unique location being to the north west of the River Shannon, yet also being assigned part of the City Centre Area.

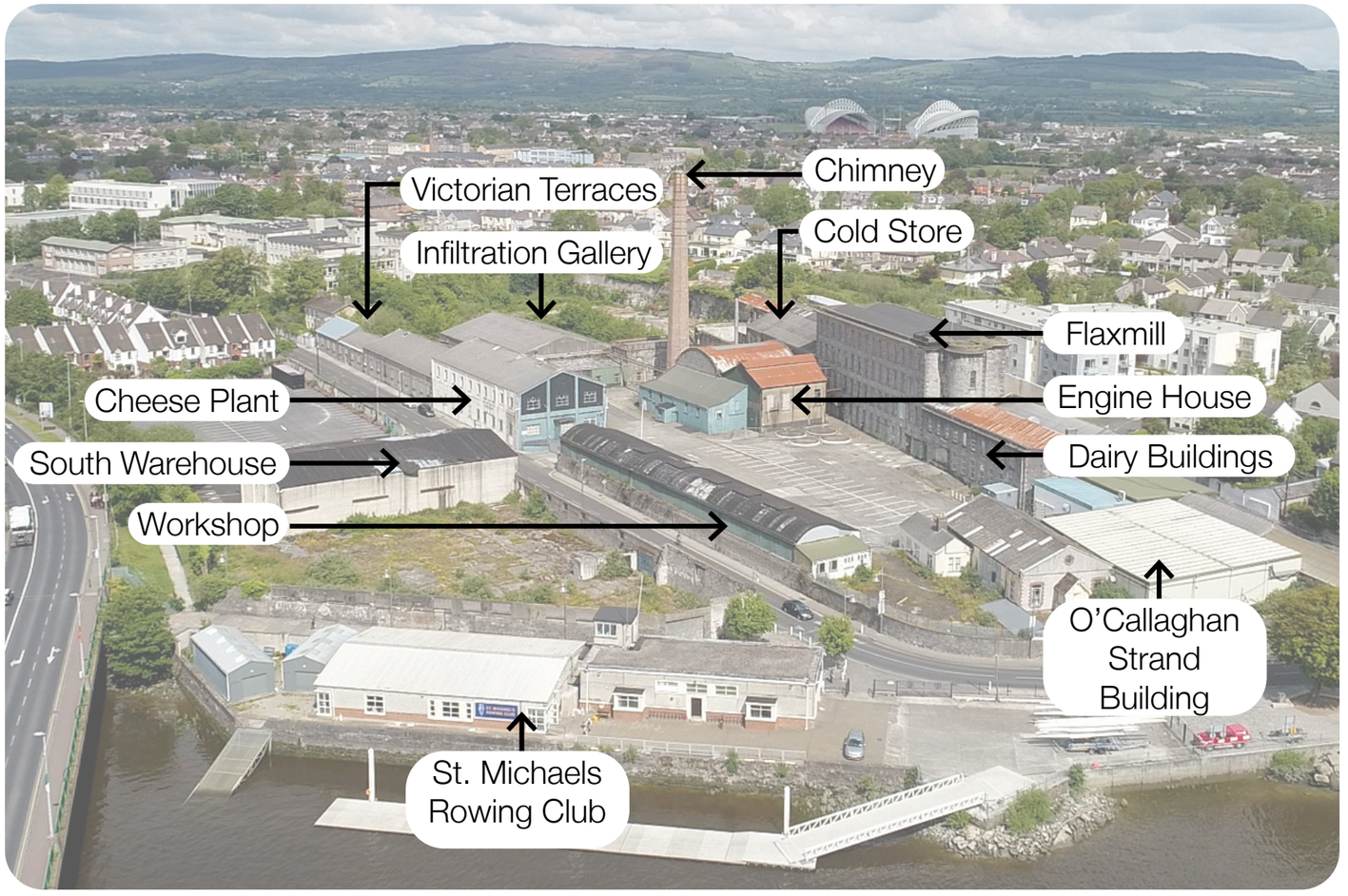
The river visually separates the site from the main city which allows it to form a stronger relationship with the immediate context west of the river. Local residential neighbourhoods and educational facilities, public parks and sports facilities, as well as the Westfield Wetlands (part of the SAC) are all comfortably reachable within a 10-25 minute walk.

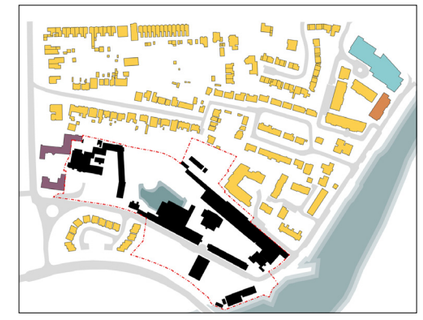
The site's favourable location adjacent to the Shannon Bridge allows direct access across the river to the city centre, with local facilities along the docks, the hospital and the train station all within a 15 minute walk.

Condell Road which runs past the site into the City Centre is the main route between Shannon Airport and the City itself. Therefore the site will not only benefit from direct and easy access to the airport, but also has the opportunity to form a gateway to the City, welcoming local and international visitors.

The existing character of the riverine landscape has always been an important part of the character of this site, though much has been lost following the walled enclosure of the Cleeves site. The Cleeves masterplan identified an opportunity to re-create this link to the river both in terms of opening up the landscape and creating new landmark buildings.

The dominant cliff faces of the quarry, and the reservoir's breadth of water make this a unique opportunity for an interface of active amenity and biodiversity in the city. The Cleeves scheme will offer distinct spaces that do not replicate the amenities and character of other urban spaces but will compliment them. In this way, the Cleeves site is to be seen as a part of a suite of public realm spaces across the city.





Existing Local Land Uses: There is a limited variety of land uses within the local context. For the most part, the immediate surrounding buildings are residential. The exception to this is the Salesians Primary School which is still in use, and connects to the Salesians Secondary School which lies within the development boundary. The other exception is the Limerick Strand Hotel which sits to the north of the Cleeves site along the river edge. The development adjacent to it contains a mix of leisure and retail units at the ground floor along the O'Callaghan Strand, with residential on the floors above. Beyond this map to the north, a small cluster of local shops lies on Ennis Road which leads to Sarsfield Bridge. To the immediate west is Ardscoil Rís Boys Secondary School, and Ennis Road Medical Centre, and to the north-west is St Camillus Hospital. The sites to the immediate south-west are undeveloped and form part of the National Heritage Area as part of the lower Shannon Special Area of Conservation.

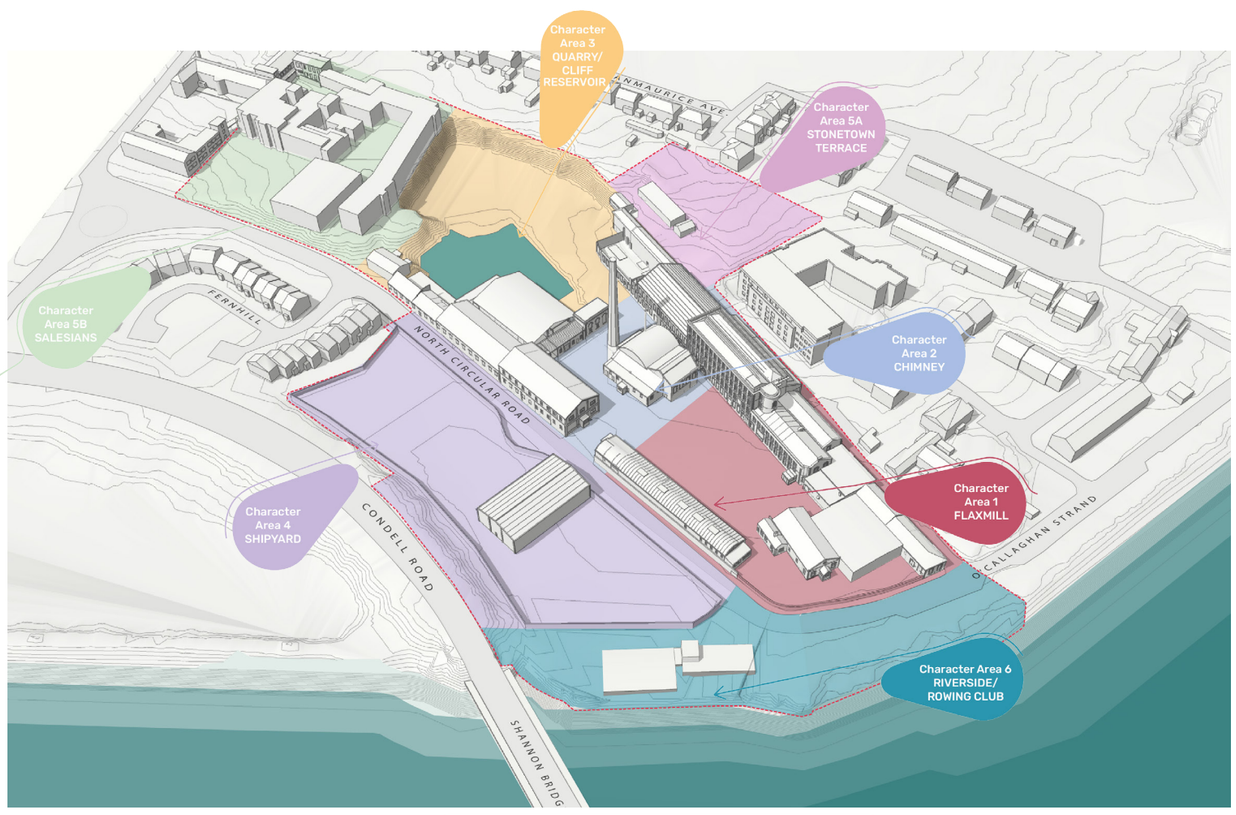
1.0 SITE CONTEXT & ANALYSIS

1.2 Existing Site: Character Areas

The spatial arrangements of the sites rely on flowing connectivity between the public spaces. Some of the key connections include the upper Salesians site through to the Quarry and the proposed space outside the Flaxmill through to the river's edge.

These spaces will not exist in isolation; their relationship to the other sites and the city is critical. Permeability into and out of the sites will allow the scheme to come alive and not rely on its internal population in isolation.

Furthermore, the proposed spaces have a relationship with other existing and proposed spaces across the city. The Cleeves scheme will offer distinct spaces that do not replicate the amenities and character of other urban spaces but will compliment them. In this way, the Cleeves Riverside Quarter site is to be seen as a part of a suite of public realm spaces across the city.





Character Area 6 Riverside/Rowing Club
An important connection the river, where the city kneels to meet the Shannon. It is also an important gateway to nature and the Special Area of Conservation

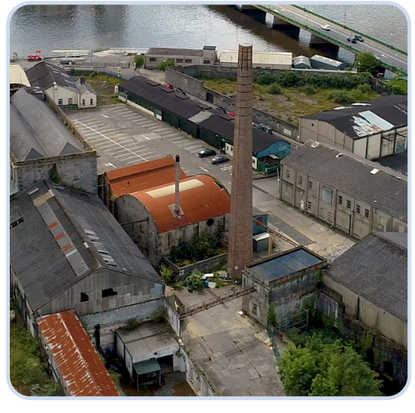


Character Area 5A Stonetown Terrace
Village of Connected Spaces reminiscent of an Italian Hill town, buildings and public space work in concert to create an urban character of human scale and proportion

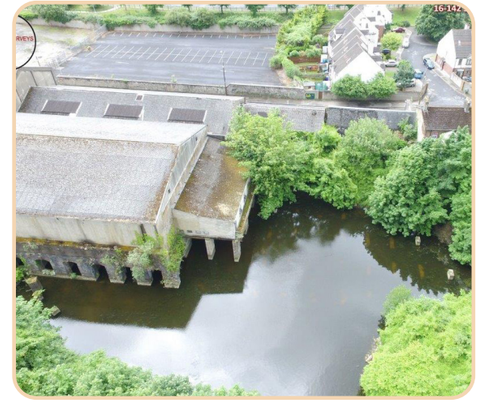




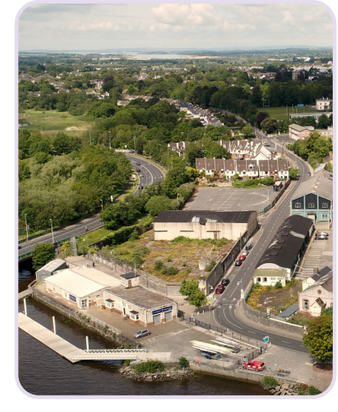
Character Area 1 Flaxmill
Comprising of the Flax Mill, Dairy buildings, partial perimeter walls and O'Callaghan Strand Offices. One of the most significant industrial sites in the country



Character Area 2 Chimney / Engine House / Water Tank / Infiltration Galleries
Comprising the Chimney, Water Tank Building, Engine House, Infiltration Galleries and partial perimeter walls



Character Area 3 Quarry / Cliff Reservoir
Biosphere area of natural restoration / new ecology / urban ecological zone / human / plant / animal habitat / water / limestone / sheltered micro-climate / recreation / living



Character Area 4 Shipyard
Gently sloping towards the River, part of the tidal flood plane



Character Area 5B Salesians
Village of Connected Spaces reminiscent of an Italian Hill town

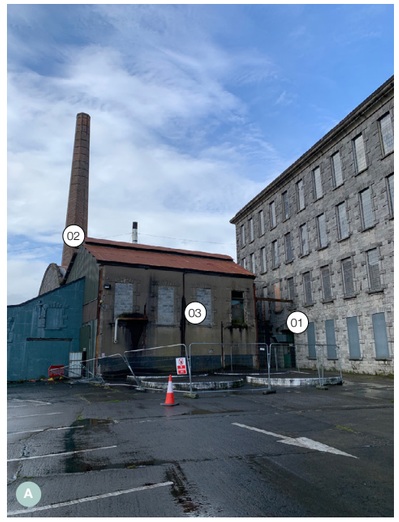
1.0 SITE CONTEXT & ANALYSIS

1.2 Existing Site: Character Areas - Flaxmill

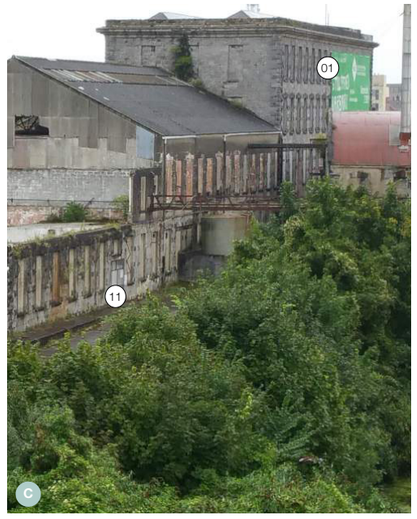
Character area 1 comprises the Flaxmill, perimeter walls, Chimney, Engine House, Water Tank and Steeping Galleries, and is one of the most significant industrial sites in the country.

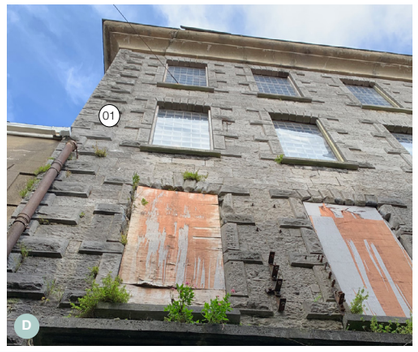
The spatial form allows the historical Flaxmill building to stand out - an open plaza, connected to the other public spaces yet spatially defined. The aim is to leave the space in front of the sunlit Flaxmill facade open in order to give space for the building to stand out. This will also offer a flexible space for events in the middle, with cafe terraces along the sun-lit edge. Playful, movable furniture can be used to animate the space when no events are taking place.

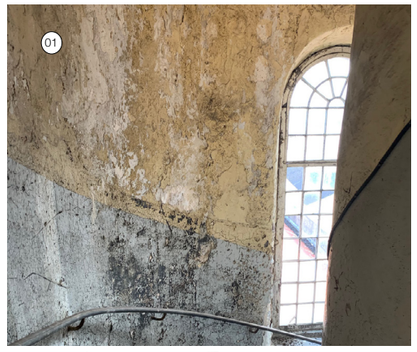
01 Flaxmill Factory
02 Chimney Stack
03 Engine House
04 Water Tank Building
05 Infiltration Gallery
06 Lower Reservoir
07 Dairy Buildings (Stonetown Terrace)
08 Workshop (North Circular Rd)
09 Cheese Plant/Packaging/Store
10 Offices to O'Callaghan Strand
11 Cold Store (North West)
12 Upper Reservoir
13 South Warehouse Site
14 Victorian Terrace
15 Quarry Face
16 Salesians Secondary School
17 Salesians Primary School
18 Rowing Club
19 Shipyard Boundary Wall

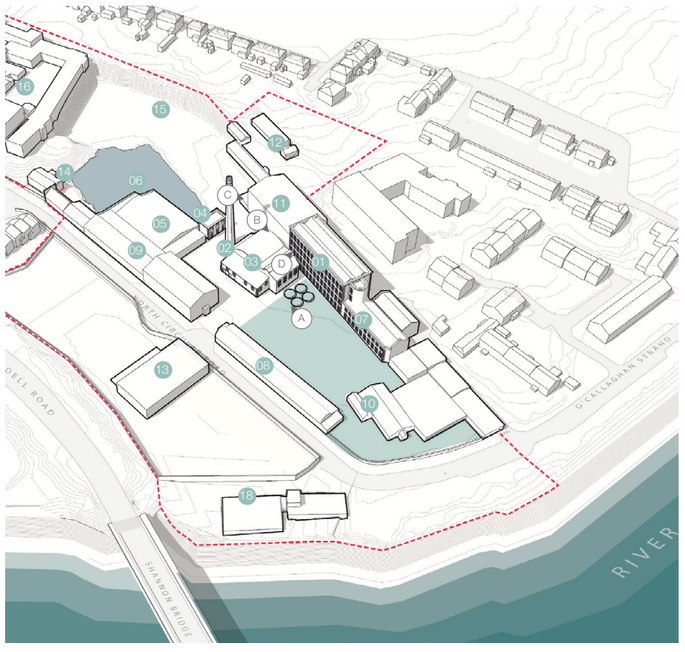
















1.0 SITE CONTEXT & ANALYSIS

1.2 Existing Site: Character Areas - Chimney Space

The buildings neighbouring the Flaxmill include the Engine house and the Water Tank building. The Engine building has a unique barrel-vaulted roof and is connected to the Flaxmill building externally. It has an interesting fabric including a circular opening in the north facade, once used by the dairy disposal company.

The Water Tank building has a small footprint but a high floor-to-ceiling height.

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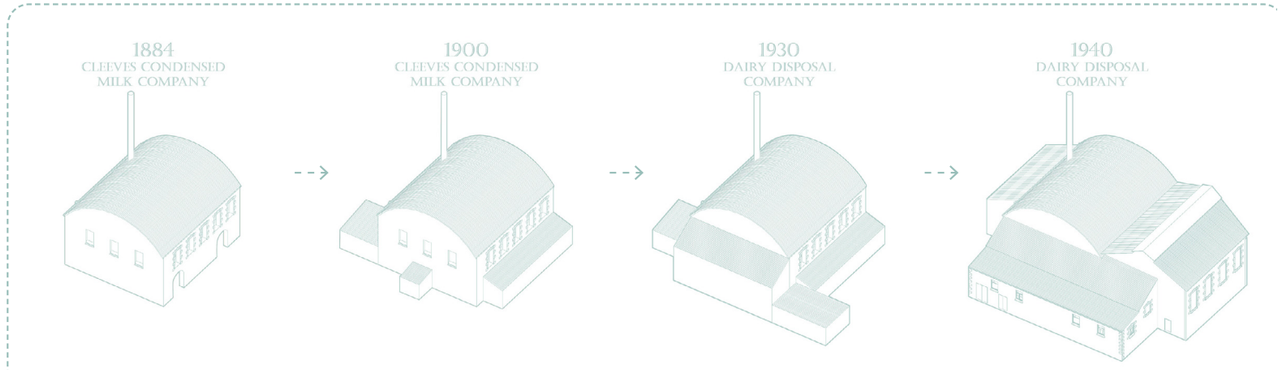

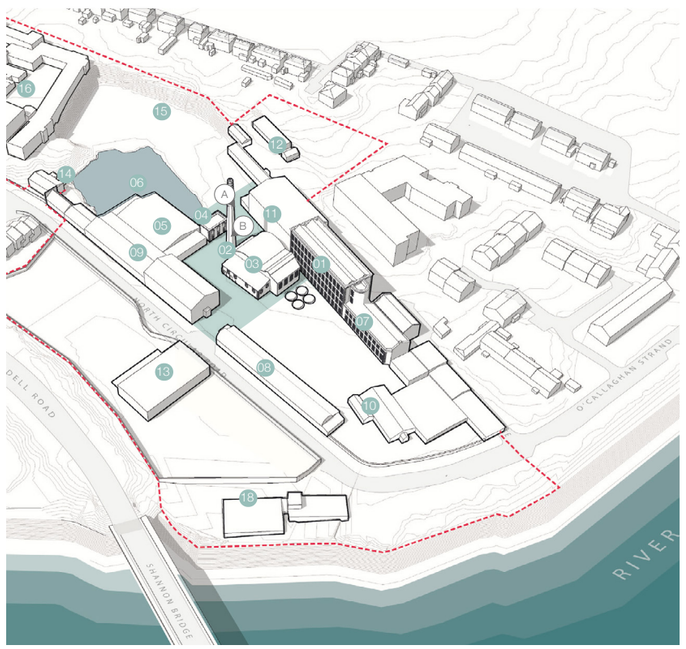





1.0 SITE CONTEXT & ANALYSIS

1.2 Existing Site: Character Areas - Quarry

Character area 3 is the Quarry. This area was quarried to create building materials for the Flaxmill in the 1850s. Since it had been out of use, the area had become overgrown but has recently been cleaned up.

Both the reservoir and the Quarry walls enclosing the space define its unique character, and the two should be visually connected within the space. They both have a special character and heritage that make the inclusion of publicly accessible open space a key landscape opportunity within the scheme. The stone quarry floor has the capacity to support a calcareous grassland type habitat.

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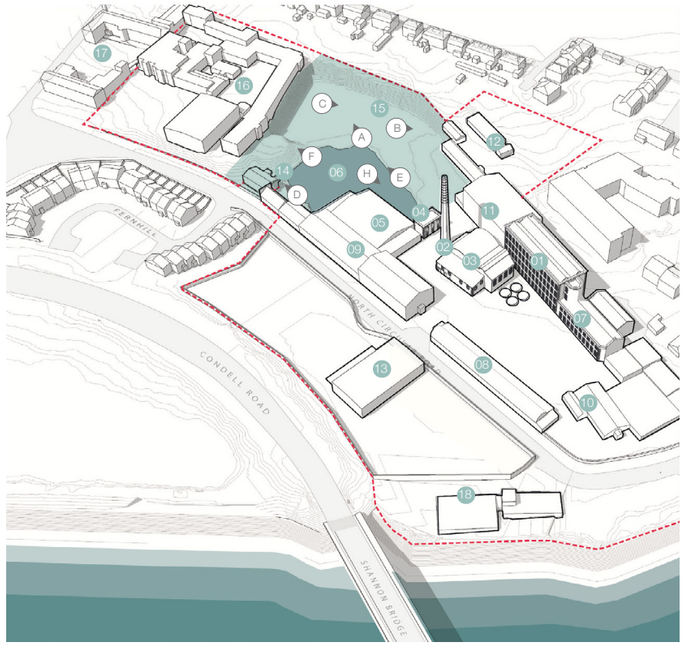





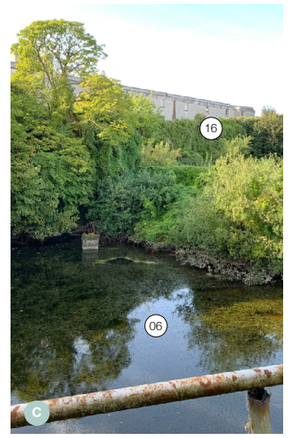



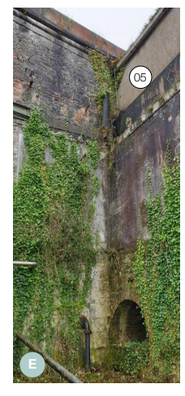





1.0 SITE CONTEXT & ANALYSIS

1.2 Existing Site: Character Areas - Shipyard

The Shipyard site gently slopes towards the River. The nature of the site as part of the tidal flood plane renders it primarily suitable for commercial development, along with open space and parking - including boat storage/ supporting rowing club uses at the lower level and with a public interface to the river edge.

The proximity of the site adjacent to Condell Road, with access into and out of the city, makes this site preferable for a gateway/landmark building that would announce the presence of the new modern Industry of the Cleeves site as part of the overall masterplan.

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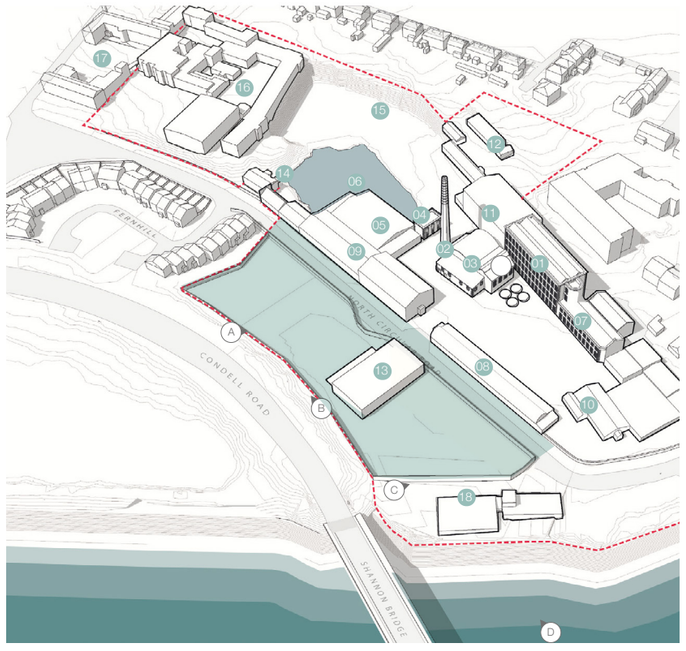



1.0 SITE CONTEXT & ANALYSIS

1.2 Existing Site: Character Areas - Stonetown Terrace

Character area 6 includes the Stonetown Terrace site. This site has interesting views overlooking the Flaxmill and has great connections to the rest of the masterplan.

The orientation of the Stonetown reflect the quarry form, creating potential for sunny, sheltered residential spaces between buildings.

The site has a strong relation to the site boundaries: Garden boundaries. Enclosed space (garden walls), provided opportunities for continuation of the garden theme.

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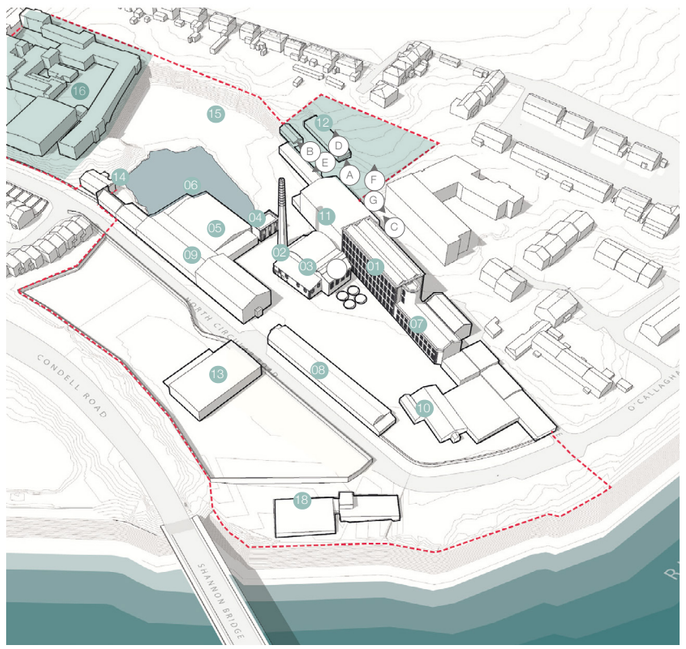

















1.0 SITE CONTEXT & ANALYSIS

1.2 Existing Site: Character Areas - Salesians

Character area 4 is the site formerly the Salesians Educate Together Secondary School, that currently accommodates Ukrainian refugees. This site has connections directly to the North Circular Road. The site has a terrain that offered the opportunity for integration the site levels intoan interesting design approach.

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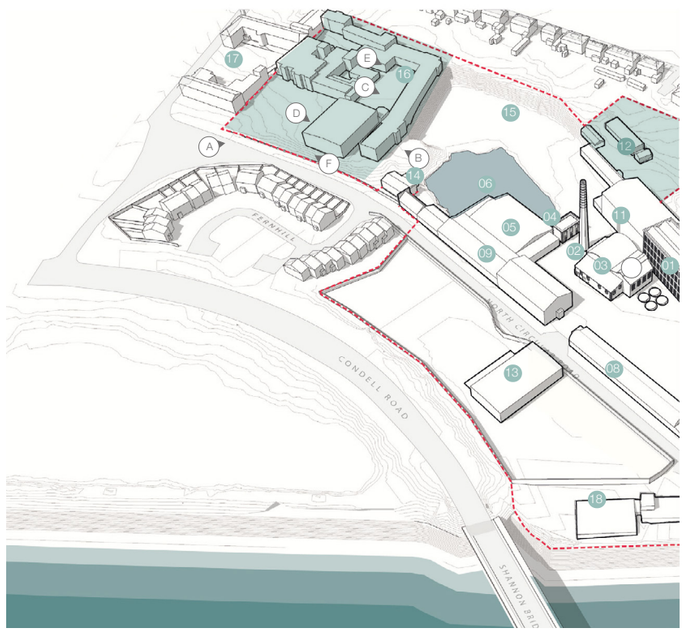



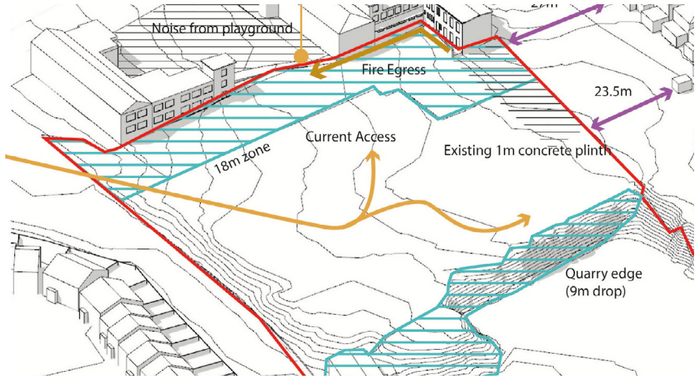









1.0 SITE CONTEXT & ANALYSIS

1.2 Existing Site: Character Areas - Riverside

The Cleeves site sits prominently on the river Shannon. The design of the masterplan highlights the importance of this connection. The waterfront is hoped to be a place where the city meets the river: the aim is to bring people into contact with the river, and creating space for water sports, gatherings and other connections.

The masterplan's proximity to the river Shannon requires the design to have adaptability to water level changes: tides, flood risk - although the aim is to provide access to the water for public, the design is resilient to withstand flooding.

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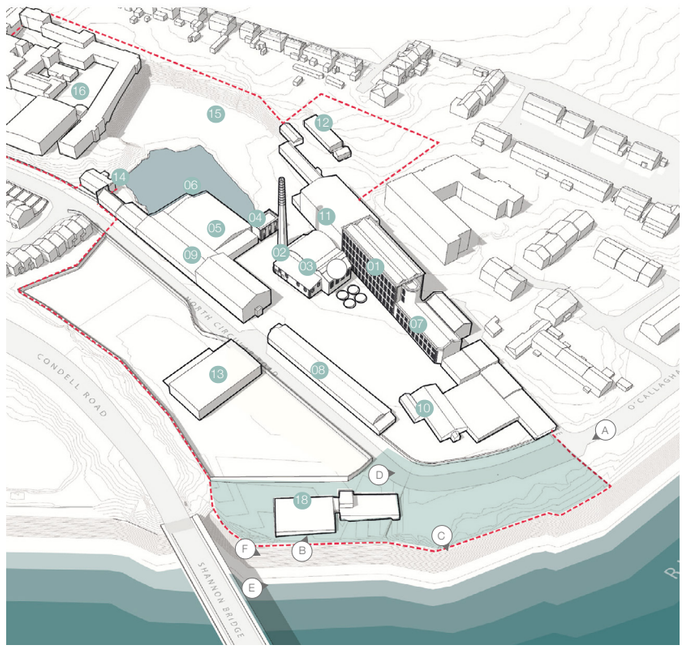
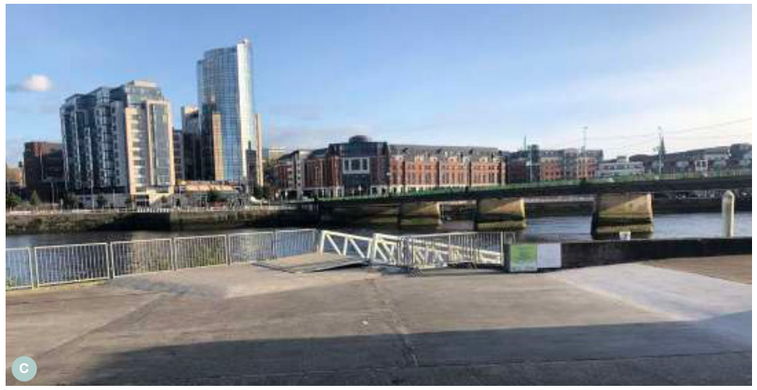


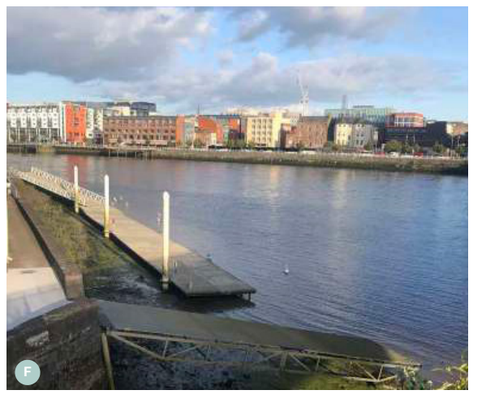












1.0 SITE CONTEXT & ANALYSIS

1.3 Historic Context and Significance

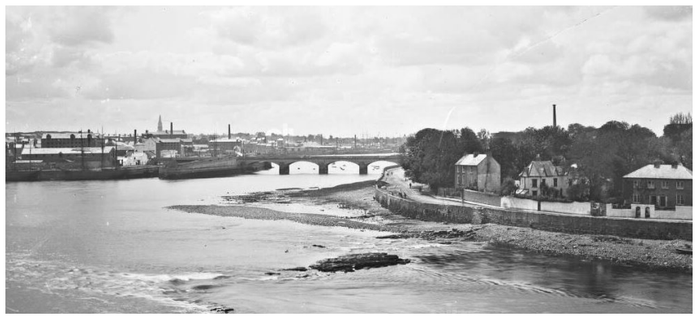
Setting
The site is located on the west bank of the River Shannon opposite the city. The area was largely undeveloped prior to the opening of the quarry in 1833. A shipyard existed opposite the site with some housing scattered in the surrounding countryside. Most urban spread focused further north near Thomond Bridge. In the 1850s, the site would have been largely exposed to the weather with a clear aspect over the southern area of Limerick city. Development of housing occurred after the opening of the Lansdowne Mill in 1853. By the mid-1900s the surrounding area was a mixture of housing and other low-rise buildings.

The site is described as a 'vast early industrial building complex'. The curtilage of the 'Main Mill' and 'Chimney Stack' are defined by the sites historic operational extents. This aligns with the line of the boundary wall and topography cut into the hill side. The shipyard site to the south-east once informed the site's setting however the arrival of the Condell Road, construction of the Shannon Bridge in 1988 and clearance of historic structures redefined the context denuding the site of this aspect.

Early Mill Complex
The mill complex was designed to be capable of processing raw flax through to the weaving of linen. The original concept was largely and substantially realised between 1850-1855. As a surviving example of full-scale mechanisation of a fabrication process, the complex of buildings retains collective significance and is of Artistic, Architectural and Technical interest.

1850-1877 - The operation is known to have been spread across two sites both originally operated by J.N.Russell. The flax mill exploited the shipyard site for its construction. In the 1880s the shipyard briefly hosted the Cleeve's coffee roasting venture prior to their move to the disused flax mill site and change to milk processing. 1884-1927 - The operation of the site for the processing of milk holds Architectural and Technical interest.





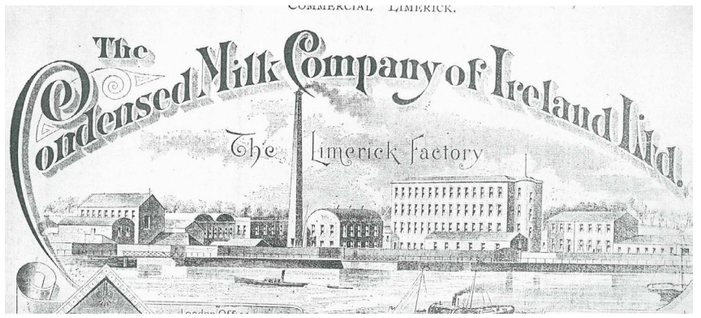


Figure 1.3.1 - Historic view of the Cleeves Flaxmill Site

1.0 SITE CONTEXT & ANALYSIS

1.3 Historic Context and Significance

The operation of the factory for the processing of condensed milk also retains significance. There is Social Interest arising from the activity of the workers at the conclusion of operation in 1918 – 1923.

Heritage Values Present on Site:

- Historical
- Architectural
- Technological
- Archaeological
- Artistic
- Social

Potential for Heritage Gain
Retention of Character:

- Peeling back negative elements
- Repairing historically significant fabric
- Investigating and sharing the history of the site

Appropriate reuse:

- Bringing the buildings and site back into use
- Uses aligned with public access
- Celebrating the historic fabric through sensitive interventions and additions

Enhancement

- Addressing inherent defects and failing fabric
- Positive reuse that celebrates the historic fabric
- Improving accessibility and public access

Sensitive Integration

- Designing interventions that are in keeping with the setting
- Responding to and remain subservient to the primary structures
- Providing a shared public realm that brings people up close to their heritage

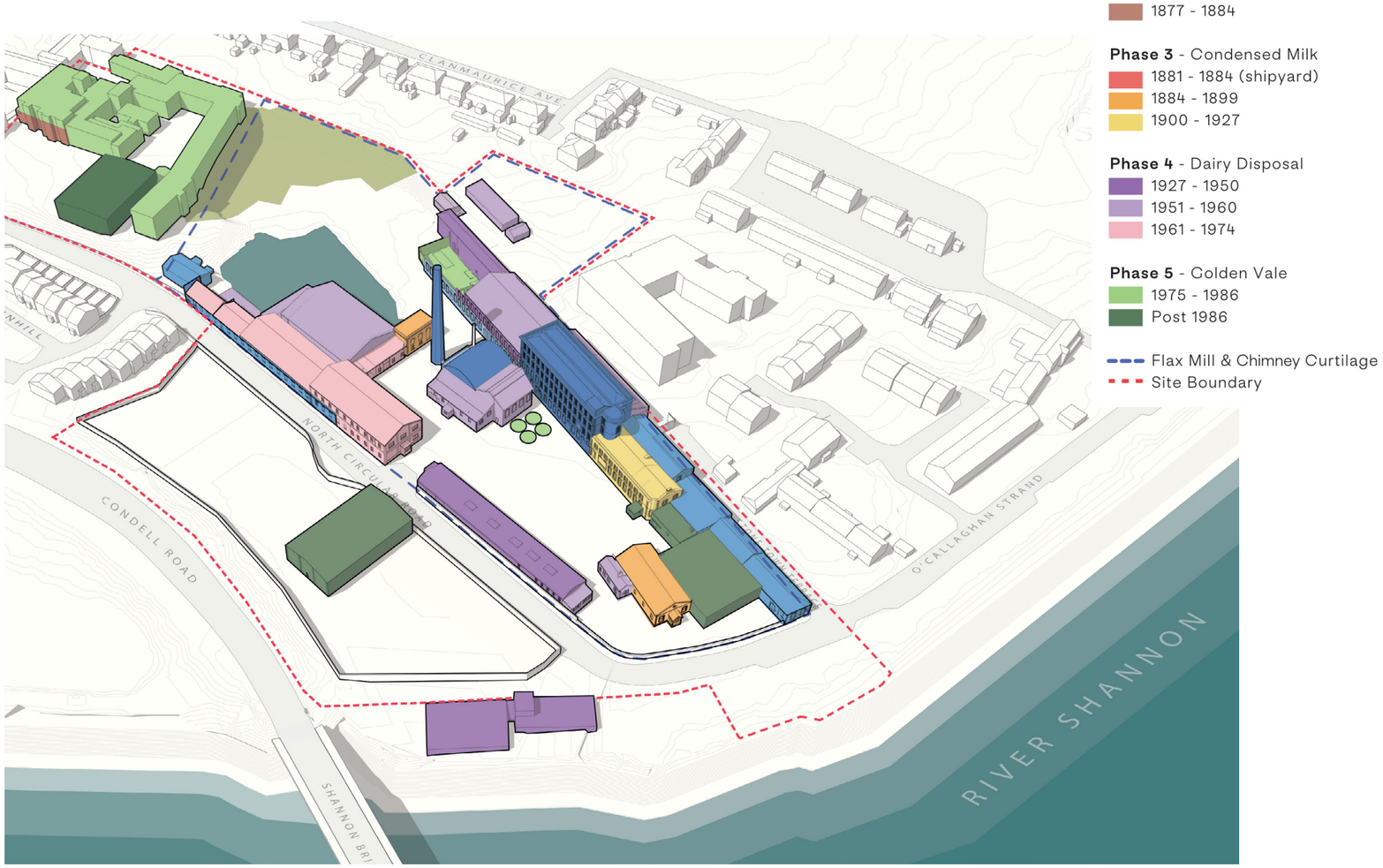


Figure 1.3.2 - Phasing Analysis

1.0 SITE CONTEXT & ANALYSIS

1.3 Historic Context and Significance

Significance is derived from the cultural heritage as defined under the key headings special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.
It can be attributed as a scale that reflects the hierarchy of importance embody by the building, its fabric and setting. Significance will reflect the importance that these assets hold in embodying the values. Where historic change has occurred over multiple phases it is possible that these phases can embody significance. This can be both negative and, where they erode interest or legibility, can also be deemed to be negative.

Structures from the initial construction of the Flax Mill retain high significance as do those of the initial phase of the Cleeves operation from the period 1884-1895. Later phases of use resulted in multiple layers of adaption, reduction and addition often disguising the earlier structures beneath new envelopes or behind new buildings. There is much on the site that dates to its operation post-1927 and which imposes a negative significance.

Highest Significance:
- Structures from the Flax Mill phases
- Early Structures from the Cleeves phase

Medium and Low Significance:
- Elements from all phases

Negative Significance:
- Broadly many changes post-1927

The heritage gains that can be made will be most successfully achieved by balancing the vision for reuse with the careful retention of historic fabric that embodies heritage significance and represents the special interest that describes the mill complex.

For more detail, please refer to the Statement of Significance that accompanies this planning application.

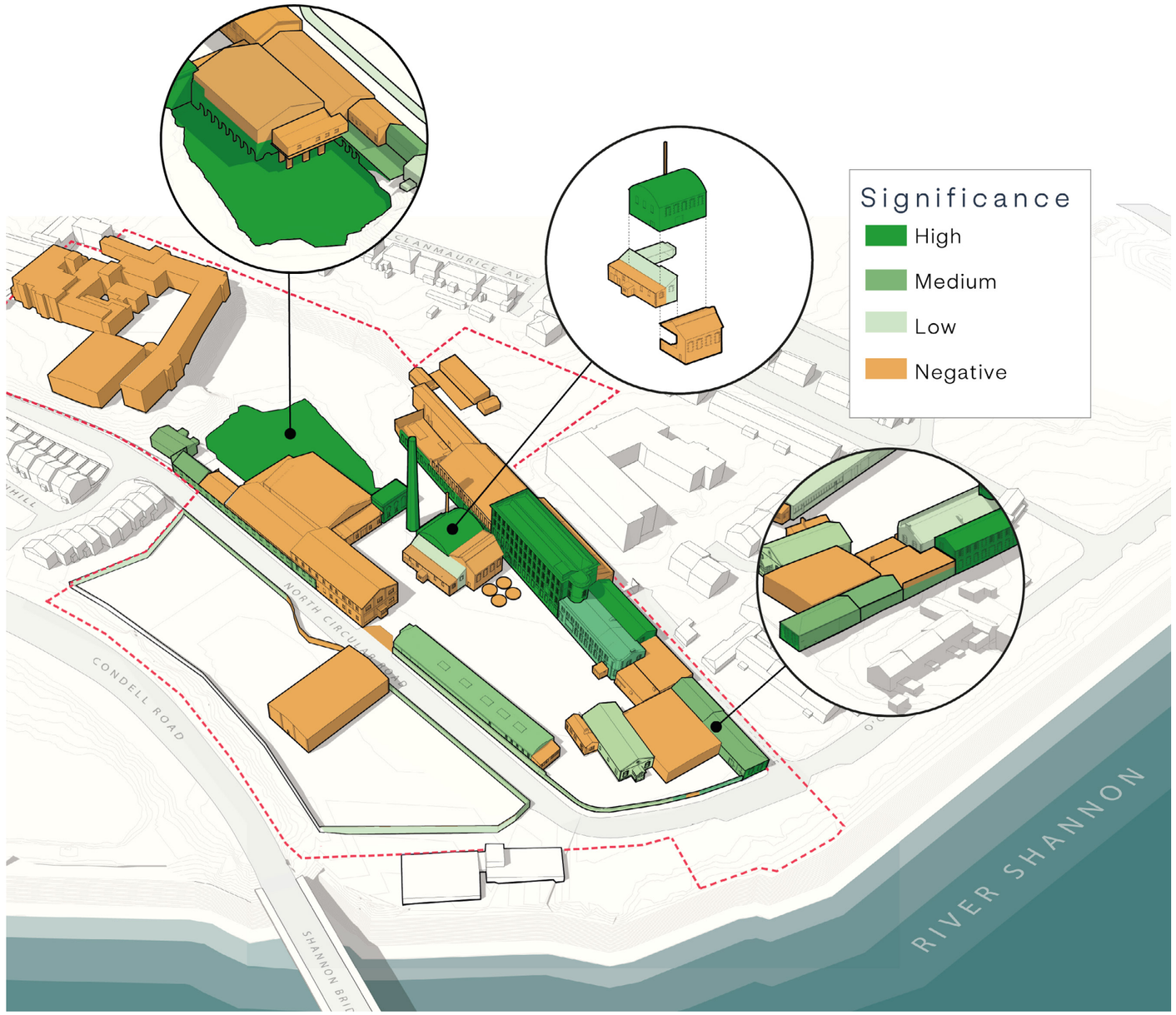


Figure 1.3.3 - Diagram identifying the significance of the existing buildings on the Flax Mill site

Note: The buildings on the Salesians site do not appear on the Record of Protected Structures nor are they part of curtilage of the Flaxmill complex meaning they are not in the attendant grounds. A summary appraisal of Fernbank House is included in the Statement of Significance.

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.1 Masterplan (2023)

The Masterplan, published in 2023, was prepared in response to the requirements for a coordinated and holistic approach to development on the Cleeves Site (5.30 hectares) as detailed in the Limerick Development Plan 2022 – 2028. It provides a broad framework for LTT's vision for the future and creative re-use of this strategic city centre site and its valuable assets, providing a flexible and phased approach to development.

Masterplan Principles

A series of site specific masterplan principles were developed as part of LTT's ambition and project objectives:

#1: Enhancing Engagement with the City and Celebrating the River's Edge

#2: Harnessing the Value of Unique Heritage Fabric, offering a specific identity

#3: Creating a Strong Public Realm around Accessible Urban Spaces and Connecting Public Open Spaces of the Character Areas

#4: Connecting to the City: Supporting a Sustainable Movement Infrastructure and Enhancing Pedestrian and Cycle Connectivity

#5: Offering Permeability and Enhancing Urban Connectivity

#6: Optimising compact development whilst respecting Historic Context with Complementary Contemporary Massing

#7: Integrating a Diverse and Complementary Mix of Uses with Mutual Synergies to Create a Vibrant Quarter, Offering Flexible Venues for Public Uses to Activate the Public Realm.

#8: Connecting with Natural Eco-Systems and Enhancing Bio-Diversity

#9: Providing a Resilient Response to the Environmental and Climate Setting, Harnessing Naturally Available Energies within a Framework of Exemplar Sustainability Targets

#10: Supporting Sustainable, Integrated Development



Figure 2.1.1 - 2023 Illustrative Masterplan

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.2 Approach to delivering the Masterplan

In order to realise this complex masterplan a series of phases have been proposed:

Phase I – Conservation & Repair of the Mill
Works on the conservation and repair of the Mill building were identified as a priority, specifically to stabilise the top floor. A contractor has been selected to undertake these works, which are due to be complete in Q3 2026.

Phase II – Residential & Public Realm (The phase this application refers to)
Simultaneously the Client's development objectives have been to prioritise and expedite the residential and public realm elements, which will form this Phase.

Phase III – Educational
The next phase will include 13,000 sqm GIA of academic uses in the Flaxmill, NCR and Inflation Gallery Buildings and employment generation.

Phase IV
The final phase will see the realisation of employment-led uses on the Shipyard site.

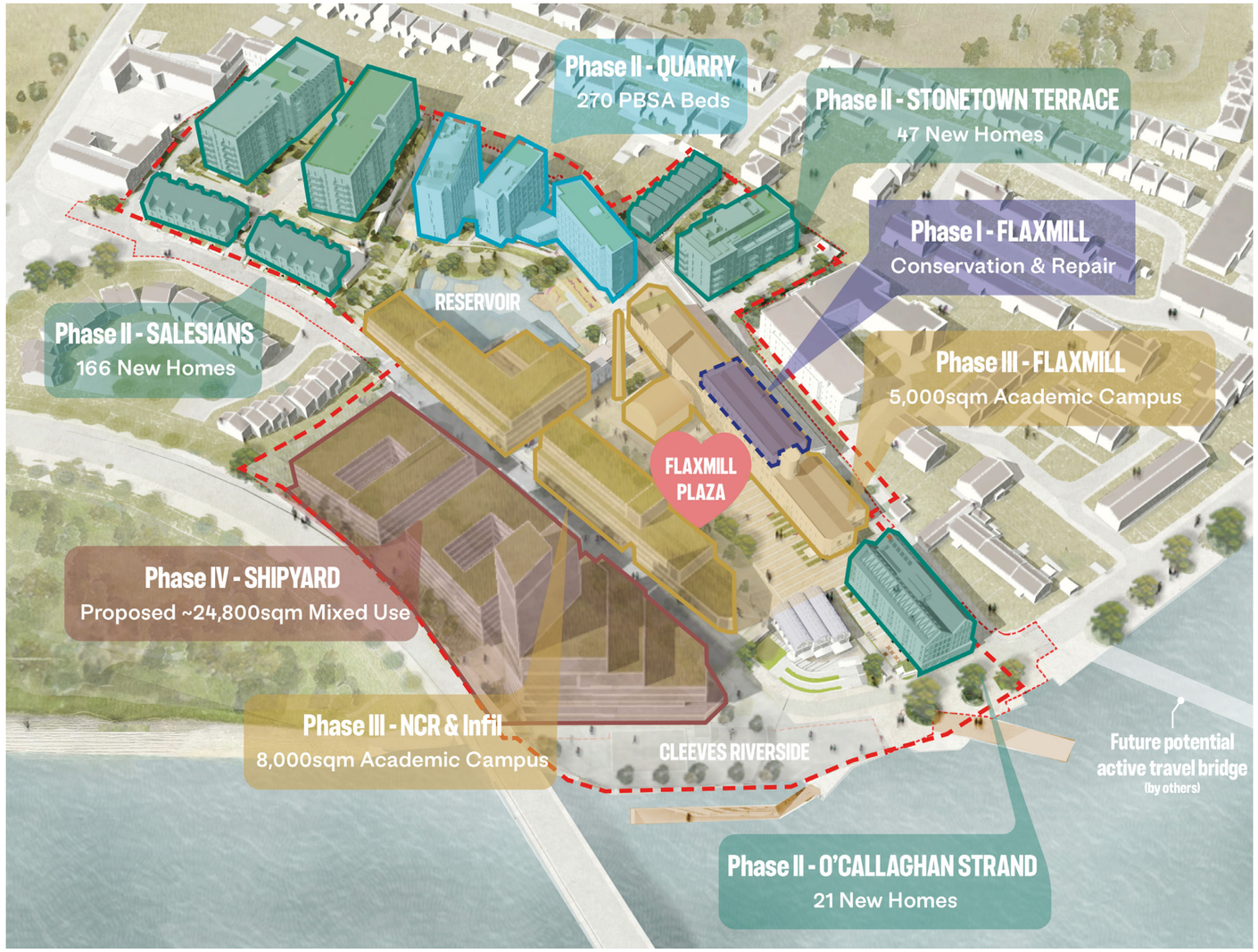


Figure 2.2.1 - Masterplan Extent and Overall Phases

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.3 Phase 1 Works

This section provides an executive summary of the works proposed to the top floor of the Flaxmill building, Phase I of the masterplan. These works are out for tender, with consolidation and repair works to commence late 2025. A sample of drawings from this work is provided as an appendices, to aid understanding.

Project Objective

The stabilisation, consolidation and repair of the upper storey and roof of the main mill building. The resolution of a package of work that targets best value from the temporary works and scaffold required to permit the upper storey of the mill to be stabilised though partial reconstruction and repaired more broadly.

Building Needs - Methods of Decay

The main factors of decay in order of impact are:

- Rainwater penetration due to inadequate rainwater drainage;
- Embedded iron, corroding and causing extensive jacking / displacement of masonry;
- Past adaption resulting in removal of structure / creation of service penetrations;
- Additional layers of fabric imposed as part of reuse leading to trapped moisture and encouraging decay.

Phase 01 Scope

Works are concerned with the rectification of defects and remediation of structural failure. The objective is the reinstatement of the building to a shell state ready for a future reuse.

The extent of Phase 01 is defined as the underside of the structural deck of the third floor and all fabric above. The lower extent approximately aligns with the springing point of the second-floor window lintels.

To deliver the Phase 01 Repairs it will be necessary to undertake works elsewhere in the building. This is being described as the 'enabling works'. These cover matters of asbestos, unsafe structures and temporary works.

Phase 01 Conservation Philosophy

In keeping with the appropriate care of a protected structure, the works are informed by a Conservation Philosophy. Repairs must be designed and executed on a 'like for like' basis with 'maximum retention of historic fabric' a core principle. Remediation of defects necessary to secure the long-term future of the building will result in some loss of historic fabric, notably the iron band.

The reinstatement of fabric has been designed to allow the building envelope and structure to be renovation ready. The roof is being reinstated in an insulated form in compliance with Part L of the building regulations. The roof and floor structures have been assessed to confirm their load bearing capacity. The conclusion is that structural enhancement of these elements is not essential for most potential future uses. As such the roof and floor are to be consolidated and repaired as found. Future enhancements driven by explicit performance needs that exceed current capacity are to be the subject of a future study, design and if required package of structural enhancement works.

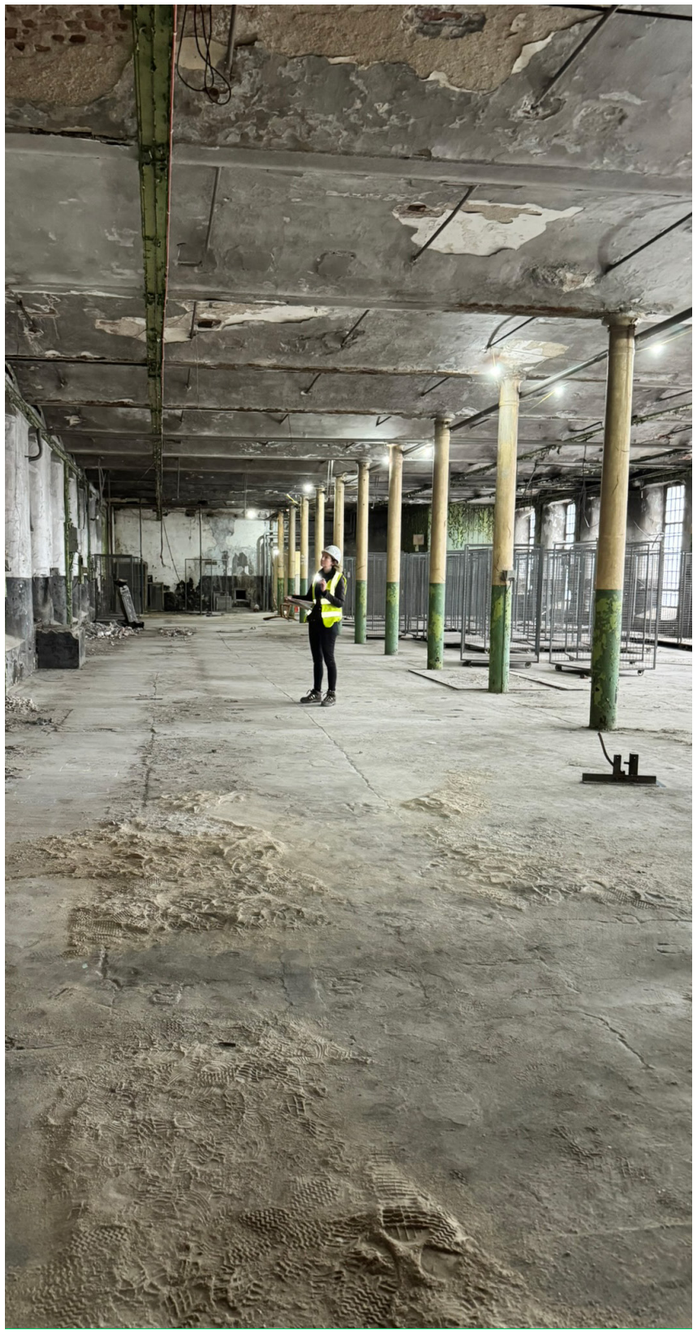


Figure 2.3.1 - Photo of survey activity for Phase I consoidaion and repair

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.3 Phase 1 Works

Phase 01 Works
Repair works to the main mill comprise the following:

Roof:
- Roof coverings replaced with thermal enhancements to form insulated warm roof;
- Repair / renewal of timber roof trusses, purlins and rafters on a basis of repair need;
- Removal of lift overrun to enable reforming of hipped roof profile;
- New roof access via central valley to serve building in its Phase 01-completed 'shell state';
- Repair / renewal of cast iron gutters;
- Upgrade of rainwater drainage system - new and additional downpipes and chutes;
- New secondary 'fail safe' gutter system;
- Water tank retained, overhauled, repaired
- New roof to the water tank.

External Walls:
- Demounting and storage of historic windows to allow for masonry repair works to progress;
- Rebuild north-west aspect - Partial take down and rebuild of masonry at the north-west aspect to address displacement;
- Rebuild parapet - Take down and reconstruction of parapet to address displacement
- New, additional brick courses to top of parapet to provide edge protection
- New, lead clad coverings to improve weathering,
- New rainwater outlets – to improve drainage;
- Cornice reformed with weathering, repaired / rebuilt as required;
- Removal of horizontal wrought iron banding at Level 03 - NE and SW walls, NW gable;
- Removal of wall linings back to masonry at Level 03, grouting / repointing / packing;
- Rebuild, original Level 03 window openings reformed through removal of wall linings / blockwork infill;
- New, temporary linings installed to window openings to remain post-Phase 01 completion;
- Rebuild internal window cill - Take down and reassembly of below-cill spandrel at windows to allow through floor voids to be closed;
- New - Bat roosts integrated into former below-cill voids.

Floors:
- Repair of cut / failed beam supporting Level 03 floor deck;
- Removal of ceiling and modern partitions at Level 03;
- Modern Level 03 floor linings removed back to original floor finish and consolidation where eroded / missing;
- Consolidation of jack arches forming the structural deck of level 03 - entailing removal of soffit plaster where it survives at Level 02, deep packing / repointing of open joints;

Ironwork:
- Blasting SA2½ of exposed iron beams and tie rods to remove corrosion and application of protective coatings;
- Manual prep ST3 of iron column coatings followed by application of new protective coatings;

Enabling Works:
Required within and beyond the main mill footprint to permit the placement of scaffolding and create safe access for Phase 01 works to take place.

The diagram to the right indicates the scope of works.

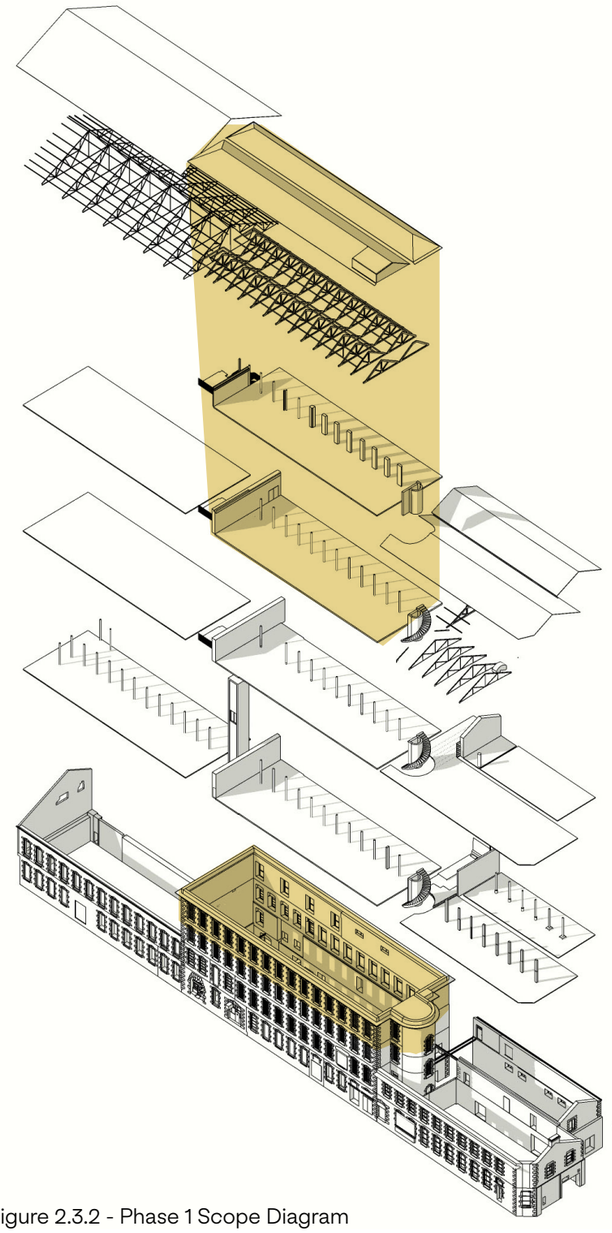


Figure 2.3.2 - Phase 1 Scope Diagram

2.3 MASTERPLAN & URBAN DESIGN APPROACH

2.4 Design Development for The Current Application (phase II)

The masterplan was tested in the market to understand its feasibility. As a result of feedback a number of changes to the masterplan were proposed and have been incorporated within the Phase II Application.

Development in the Quarry now provides 270 student residential beds in Purpose Built Student Accommodation (PBSA) bedrooms with associated facilities. The introduction of student residential is needed across the city, and will provide a rich variety of uses across Phase II while situating students in close proximity to public transport and future academic uses in later phases.

To allow flexibility for future development partners a number of other requirements were added to the residential brief:

- Where possible an additional 10sqm should be added to each apartment
- Tenure blind approach across all sites
- Each plot should be able to be delivered independently, once site-wide infrastructure is completed.

There were also a number of other regulatory and guidance changes to incorporate since the masterplan was completed, including:

- Revised TGD B
- Updated Flooding Guidance on the tidal flood levels of the River Shannon
- Cycle Design Manual 2023
- Compact Settlement Guidelines 2024
- Apartment Guidelines 2025

The sizes we have been working to are from the Sustainable Urban Housing: Design Standards for New Apartments (2023). We note in July 2025 that these guidelines have been updated, resulting in some changes to unit sizes, such as the minimum size of studios to comply with the most recent design standards.

The diagram to the right indicates the main areas of development since the 2023 Masterplan on the Phase II plots.

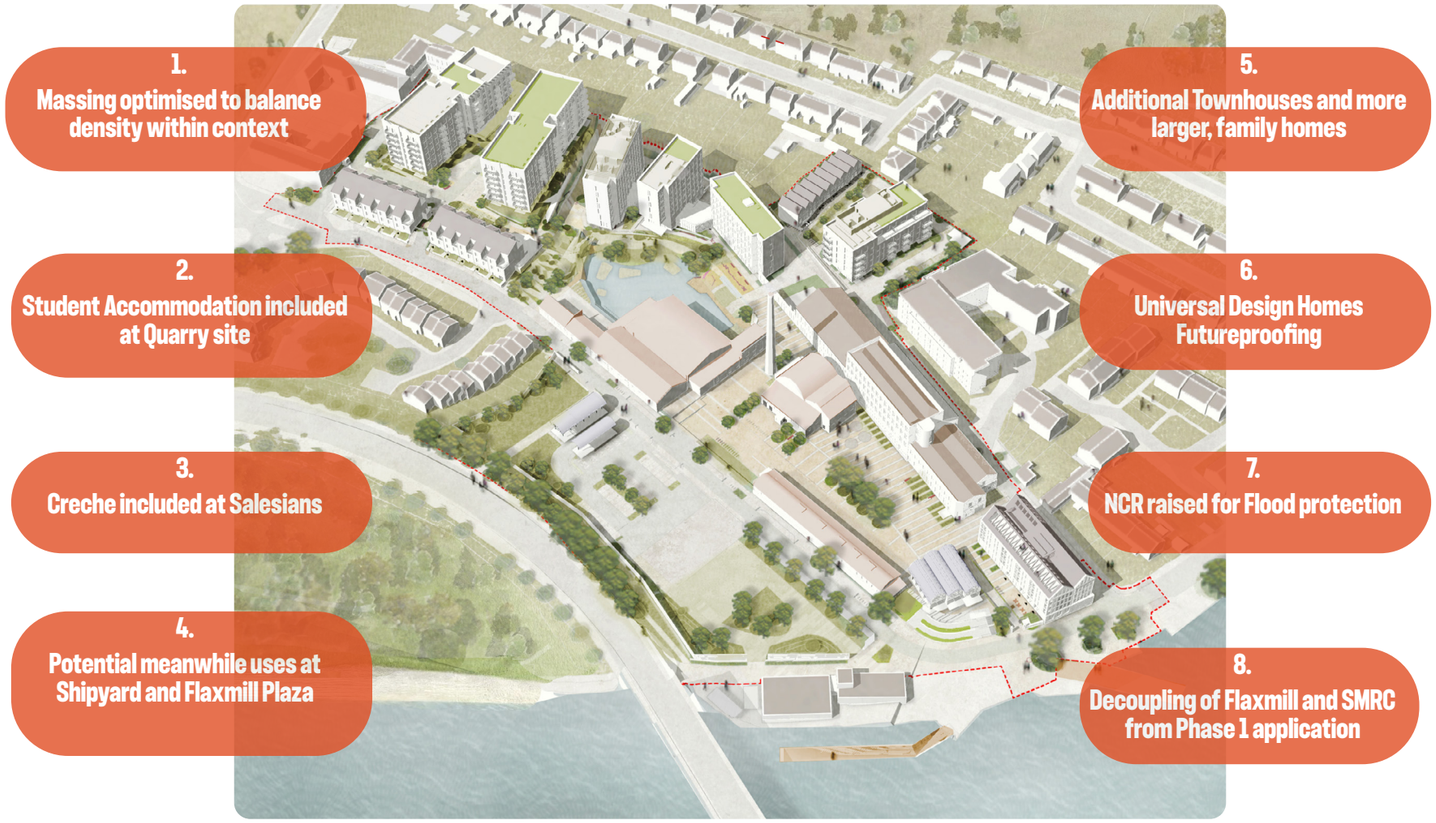


Figure 2.4.1 - Phase II Design Development from 2023 Masterplan Diagram

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Overview of Masterplan Principles

The Cleeves site has evolved and adapted over the history of its industrial past. The proposal for the initial phase of the masterplan seeks to form a cohesive response to the Masterplan principles, as part of a contemporary urban design approach to bring coherence and legibility to the new quarter. In this phase of the sites history it is proposed to open up the site to the City and Riverside with a vibrant public realm, harnessing the value of its unique heritage and natural assets, creating the setting for new residential developments in line with and reinforcing the Masterplan strategies.

The proposed residential development is organised around distinct spaces in the character areas identified (the Riverside & Flaxmill space, the Quarry Reservoir and the upper Salesians & Stonetown Terrace sites). Responding to and enhancing the specificity of each character area, with an emphasis on the industrial heritage fabric and topographical characteristics, the aim is to reinforce a sense of place, benefitting from the unique history and geology of the site.



2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 1: Enhancing Engagement with the City and Celebrating the River's Edge

This phase of development initiates the transformation of the quayside in front of the Cleeves site as envisaged by the masterplan, offering an enhanced Riverside promenade and vantage point overlooking the River and the City quays opposite.

Opening up the Cleeves eastern boundary wall to engage with the Rivers edge, the Flaxmill is revealed to the public and a new landscaped urban space of civic scale is created for the City. A space offering both a venue for City scale events, water related or otherwise and amenity value for the daily life of residents. Retaining the base of the old wall, an integrated seating edge is formed overlooking the riverside and promenade walk, to maintain legibility and an outline of the former Cleeves complex site boundary.

St. Michaels Rowing Club remains in situ in this phase, with its ongoing waterside activities, activating the riverside realm. Reopening of old openings in the existing walls behind St Michaels Rowing Club offer improved permeability and connectivity towards the riverside.

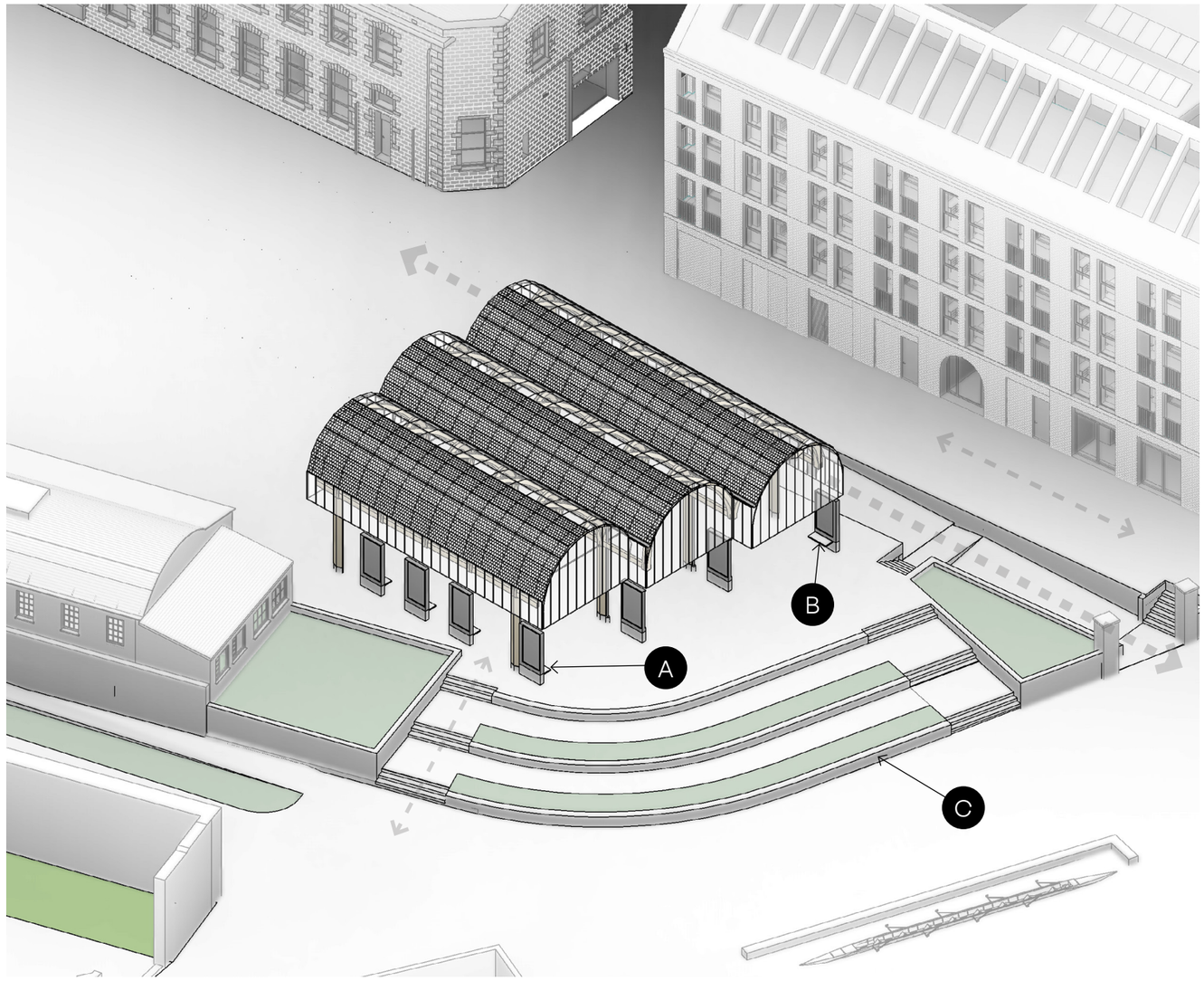


Figure 2.5.1.1 - Diagrammatic Axonometric view at Riverside Canopy

- A — Interpretive signage sharing site history incorporated into wind baffle panels
- B — Seating incorporated into panels under the shelter of the canopy
- C — Integrated seating edge at base of heritage wall overlooking riverside

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 1: Enhancing Engagement with the City and Celebrating the River's Edge

A welcoming canopy between the Riverside and the Flaxmill plaza offers a sheltered space between the rivers edge and promenade walk, and the new plaza created in front of the impressive Flaxmill façade. The canopy acts as an urban transition between these two settings whilst acting as a gateway and invitation to the new quarter, a place to pause or a place to meet.

Wind baffle standing elements beneath it offer a location for interpretative signage as part of a site-wide strategy – passing through the threshold framed by these elements people are introduced to the story of the Cleeves site in the history of Limerick. Made of Corten weathered steel echoing the industrial heritage of Cleeves they integrate cabling for power and lighting, and a place to sit.

As a multifunctional sheltered space it offers a viewing point overlooking the river to the east and the Flaxmill plaza to the west, a place for impromptu performances, informal communal exercise, pop-up spin offs from annual city events etc or a venue for more formal events. The light structure of glass, timber and steel with integrated solar energy collection, echoes the structure of industrial market halls, whilst deriving its form and scale from the diverse forms of the roofscape of Cleeves roofscape .

Refer to Appendix 9C for studies on potential for meanwhile uses within this space.

A Interpretive signage sharing site history incorporated into wind baffle panels

B Seating incorporated into panels under the shelter of the canopy

C Integrated seating edge at base of heritage wall overlooking riverside

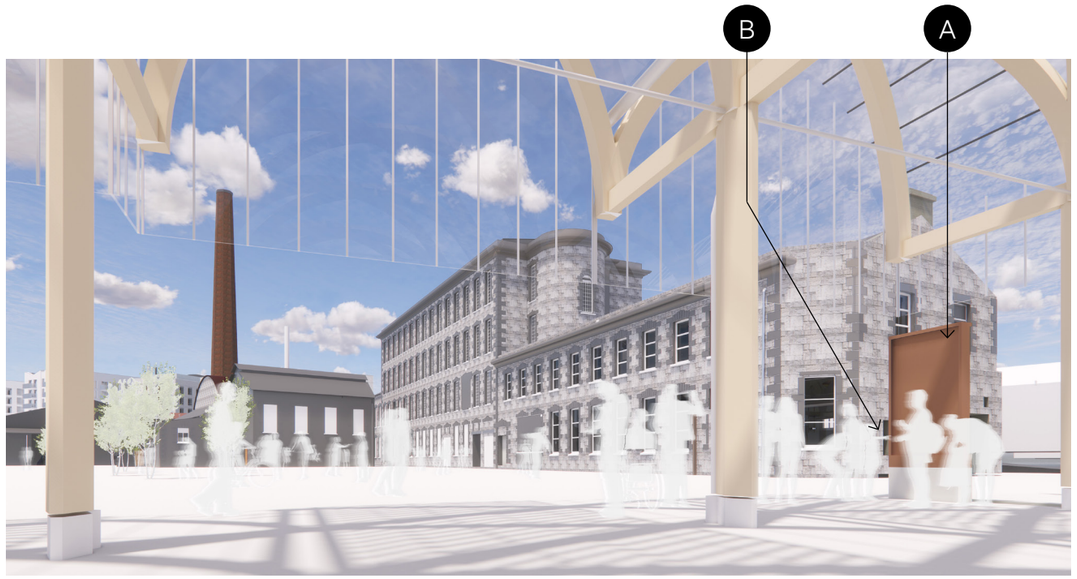


Figure 2.5.1.3 - Sketch view under Riverside Canopy

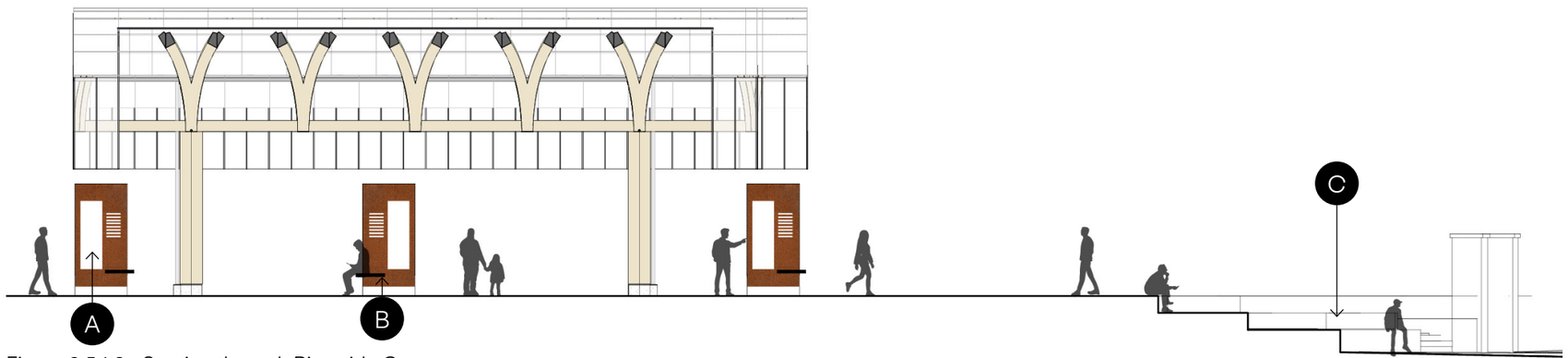


Figure 2.5.1.2 - Section through Riverside Canopy

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 2: Harnessing the Value of Unique Heritage Fabric, offering a specific identity

Industrial Heritage at the heart of the Masterplan

The Cleeves factory buildings provide an industrial 'axis' that will support a new transformative programme of mixed uses linking the river with the Quarry / Reservoir site beyond.

Capturing and revealing the memory of the site as an important place of production within Limerick City. This will bring a unique meaning to the public and community environments in the interfaces between new and old, promoting opportunities for activation of both the existing building environment as well as the new public realm.

Heritage & Conservation Strategy

Conservation led approach

The masterplan for the site is based on a conservation led approach. This embraces the benefits of positive change. Within this is the recognition that the loss of some fabric holding heritage significance will occur and that this is to be minimised. Change is to be focused in areas of greatest tolerance for change. Typically this change will focus on areas where where the fabric and character of the complex can benefit from interventions that remove elements that erode the legibility of significance. Where change is proposed it must be done in a way that causes minimal impact on significance and must seek to enhance significance. This is the order of change that is necessary to permit the long-term sustainable reuse of the complex.

Phase I - Consolidation and Repair

Phase I is underway, accelerated due to the urgency of works needed to stabilise the Main Mill. The ambition is for the repair works to be progressed in phases prioritised according to the urgent needs of the mill buildings.

Managing Change

The legibility of the site as an early industrial complex is obscured by phases of change. The Statement of Significance provides a clear assessment of interest and significance which is substantially based in a period of development and use spanning approx. 74 years from 1850 when it was an 'early industrial building complex' as stated in the description within the National Inventory of Architectural Heritage (NIAH). The assessment observes that most changes since 1927 entailed the demolition of the earlier phase structures (that held special interest), and / or the addition of new buildings and extensions (that do not hold special interest) obscuring the legibility of the site in its earlier form.

Obscured by Additions

Later phase additions and insensitive changes have added layers that do not always enhance the heritage value of the site. The masterplan seeks the removal of structures that have intervened in the earlier building forms in a manner that has limited legibility. This typically arises where ancillary structures have been built up against earlier buildings and where wholly new buildings have been added. This is most notable to the Main Mill with the long C20th lean-to and the Weaving Mill which is subsumed beneath a mid C20th portal frame.

Eroded by Removal

Changes that have given rise to a loss of historic fabric though replacement of elements or whole buildings have eroded significance. This is most evident in the former Weaving Mill (now titled the Cold Store) which is incomplete and the Infiltration Gallery where the upper story was entirely replaced in the 1950s resulting in the loss of the original iron and glass structure.

Eroded by Decay

Many of the past changes to the complex are the result of necessary renewal. Buildings have become worn out, decayed and dilapidated. Past phases of the 1930s, 50s and 70s implemented measures of renewal and replacement. The complex is again at a moment of change with many of the structures in a perilous condition and in urgent need of new use to catalyse positive change guided by clear conservation principles.

Demolition, Removal and Reuse Strategy

The careful identification of structures for removal will allow for a balanced approach for reuse. This does not infer an intent to demolish all structures or layers after a specific date but does guide further investigation and design to ensure the reuse of the site carefully considered the retention of character and plans for appropriate reuse though measures that ensure sensitive integration of new fabric.

As such the selective removal of later phase structures will serve to revel the earlier buildings as part of a process to enable sustainable reuse, first of the site, and in a future development phase, of the mill buildings themselves.



Figure 2.5.1 - Photo of C20th rear lean-to obscuring the Main mill facade

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 2: Harnessing the Value of Unique Heritage Fabric, offering a specific identity

MASTERPLAN CONSERVATION STRATEGY

The following principles have been developed to guide the proposals for the redevelopment of the site. They have been informed by the Phase I works and will be carried though to inform proposals for reuse.

A. Conserve and Repair

The repair of historic fabric to conserve heritage significance. Carrying on from the repair of the Flaxmill (Phase I) and undertaken under the provisions of Section 179(6)(a) of the Planning & Development Act 2000 as amended, works will focus on the maximum retention of historic fabric and apply conservation philosophy for repair. This applies to all elements with high significance. Where structures are noted for demolition the intention will be to reuse materials in the consolidation and repair of the historic structures in the complex where possible.

B. Retain and Reuse

The adaptive reuse of buildings, structures, components and features that hold special interest. Subject to further planning consents proposed as part of Phase III development, adaptive reuse can take a variety of forms. Where structures have been substantially impacted by changes, the intention will be to conserve those elements that best embody significance and character while seeking positive reuse.

In these instances, the intention is to conserve those elements that hold greatest heritage significance while seeking enhancement though the renewal and replacement of the less significant elements and those elements with negative significance.

C. Peel Back and Redevelop

Structures that have been the subject to substantial change. Past changes that have eroded heritage significance will be removed so that the character of the host can be better appreciated.

This is of relevance to the Cleeves site which includes many layers that have emerged since 1924 and that obscure the character of the early industrial site. Late phase structures and modern interventions that hold negative significance are to be peeled back to enable adaptive reuse of the structures and redevelopment of the site. The scope and nature of peeling back will respond to the sensitivity of the site and balance opportunity afforded by redevelopment. Peeling back must not erode special interest and should ensure enhancement though reuse and improve access to heritage.

D. Remove

Elements of the site that are either C20th additions that do not inform the special significance of the site or earlier elements that are likely to compromise the future viability and have lesser significance than that of the key listed structures.

E. Remove with Mitigation

Refer to the following sections of this report for specific studies in relation to:

- The Victorian Houses (3.1)
- Flaxmill Lean-To (3.2)
- Reservoir Piers (3.3)
- The Weaving Mill (3.4)
- Cheese Plant Office and NCR Warehouse (3.5)
- Shipyard Walls (3.6)
- Upper Reservoir (3.7)
- Fernbank House (5.4)
- Salvaged Materials (5.5)
- Linen Store and Office Building (7.9)

The diagram below is an extract from the Masterplan Conservation Strategy drawing - CRQMP-FCBS-ZZ-XX-DR-AA-1901- see appendix for full version.

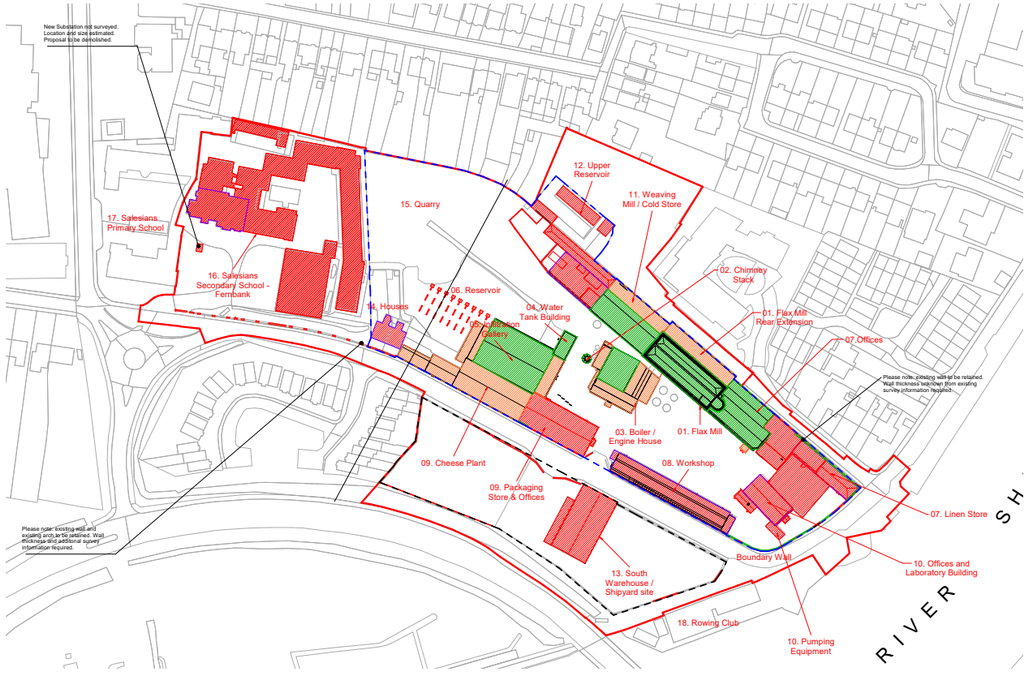


Figure 2.5.2 - Masterplan Conservation Strategy Diagram

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 2: Harnessing the Value of Unique Heritage Fabric, offering a specific identity

DEMOLITION STRATEGY

The demolition works are proposed to permit the redevelopment of the Cleeves site adopting a phased approach.

Phase I is concerned with the consolidation and repair of the Main Mill adopting conservation standards and methods.

Phase II is for the masterplan redevelopment of the site. This entails some degree of demolition to enable redevelopment and a phased re-occupation of the site.

Phase III is for reuse of the historic buildings as an educational campus. It is within Phase III that the wider scope of repair, reuse, peel back and demolition will be described.

Demolition Principles for Works Affecting Historic Fabric
Within Phase II the removal of selected buildings is necessary to permit the reuse of the site. This will result in change to historic fabric. This is required so that the wider site can be brought back into positive use and to facilitate the repair of the historic buildings as part of their adaptive reuse.
An assessment of the historic fabric has guided the Phase II proposals to ensure the special interest, cultural significance and character of the Flaxmill Complex is retained and conserved.

The removal of Salesians Secondary School buildings and selected C20th structures on the Flaxmill Site will permit the redevelopment of the site. In addition there are two structures of positive significance that have been identified for removal to support reuse. The former Linen Store (within the Dairy Buildings range) and the Semi-detached houses are early structures. They are each considered under discreet design studies.

The diagram to the right indicates the proposed demolition of buildings across the site to realise a new, world class riverside quarter development of buildings in Phase II, while capitalising on the site's unique heritage value.

Refer to the following sections of this report for specific studies in relation to:

- The Victorian Houses (3.1)
- Flaxmill Lean-To (3.2)
- Reservoir Piers (3.3)
- The Weaving Mill (3.4)
- Cheese Plant Office and NCR Warehouse (3.5)
- Shipyard Walls (3.6)
- Fernbank House (5.4)
- Salvaged Materials (5.5)
- Linen Store and Office Building (7.9)

As part of the repair, restoration, reuse and refurbishment of the buildings, it is necessary for areas of the buildings' fabric to be opened up and altered. Proposals for the opening up works have been tailored to ensure the new designs for the buildings are sympathetic to their special character. The following headings have been prepared to due the further development of proposals and to inform a statement of principles that will be used to guide works during the delivery phase.

Demolish
This is a process that is typically applied to fabric of no significance. Demolition entails the substantial destruction of a building. Demolition is not the preferred method for the removal of a building but is necessary where structures of little or even negative significance and are inhibiting the successful reuse of the wider site. Demolition should not be a method applied to buildings of cultural significance except in exceptional circumstances.

Dismantle / Disassemble
The careful and planned deconstruction of a structure or part of a structure to enable its repair and where appropriate reassembly / reconstruction. This is a process suitable to heritage structures that are to be the subject of extensive and essential work necessary to permit their retention and reuse. This will be applied to protected structures and parts of structures in need to repair and as part of a carefully resolved package of measures to minimise fabric loss and in pursuit of positive reuse of the structure without loss of character and cultural integrity.

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 2: Harnessing the Value of Unique Heritage Fabric, offering a specific identity

Remove

The removal of fabric is limited to those areas that must change to enable the successful conversion of the site and buildings. While changes will occur there is no intent to obscure or erase the history of the building which would be the result of 'demolition'.

The opening up of the existing fabric is to be undertaken in a manner that ensures the maximum retention of the historic fabric.

Further to these principles, an outline specification for works to historic fabric offers more detail on acceptable materials and working methods. See section 7.9.

The diagram to the right is an extract from submission drawing CRQMP-FCBS-ZZ-XX-DR-AA-1900, showing the proposed Phase II removal extent.

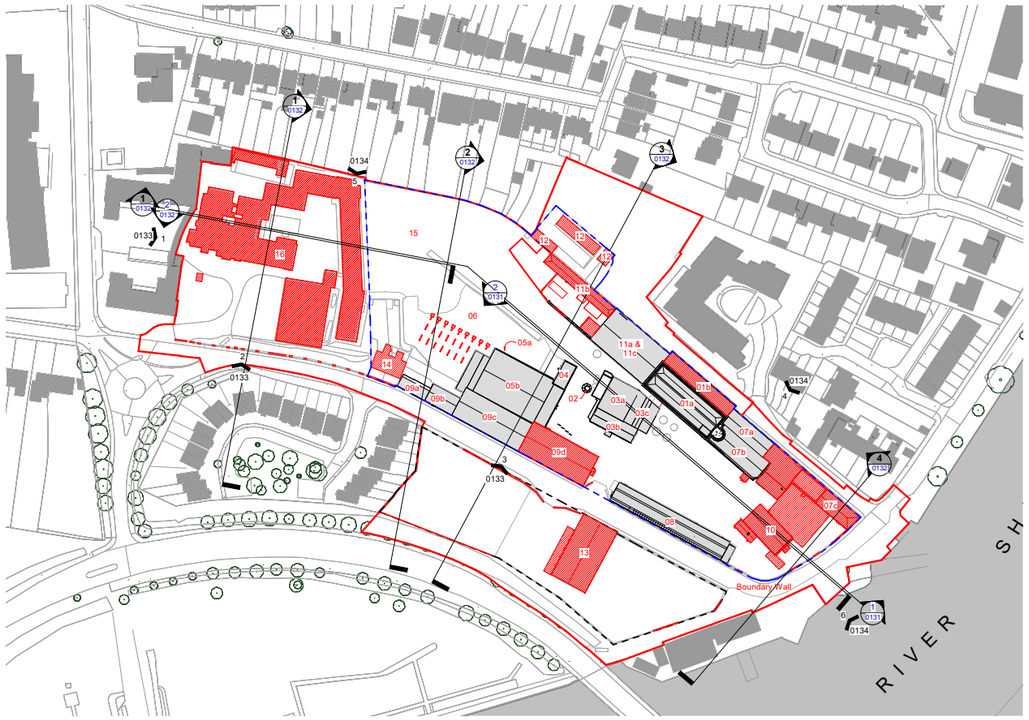


Figure 2.5.3 - Phase II Removal Strategy Diagram

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 2: Harnessing the Value of Unique Heritage Fabric, offering a specific identity

BOUNDARY WALLS

The Boundary Wall is described in section 13 of the Statement of Significance. Some parts are original while much has been changed with facades of earlier buildings retained and new structures added behind.

The wall is aligned with the North Circular Road to the south, O'Callaghan Strand to the east and Stonetown Terrace to the north. This reflected the curtilage of the land by the roads that pre-dated the advent of the Flaxmill.

The boundary wall bridges between buildings that currently and historically skirt the edge of the site. The original wall is built of Limerick limestone taken from the site quarry. There is common detailing across the original Flaxmill structures and where the building facades form a boundary of the site care has been taken to reflect this in the outward facing architecture.

Managing Change

The proposals are seeking to alter the wall in a manner that allow it to remain legible while also enable the site to be opened-up to the public. Elements of low significance are proposed for removal and those of low and medium significance identified for repair and adaption.

Measures to mitigate impact:

- former cart entrance reinstated
- walls lowered but not removed, to form edge of landscaped terraces
- repairs to be undertaken in sympathetic materials
- new openings to be formed in sympathetic materials

The notes on the images of the boundary wall offer a summary of change. Further detail is described in the drawings.

Historical Significance
- High
- Medium
- Low
- Negative

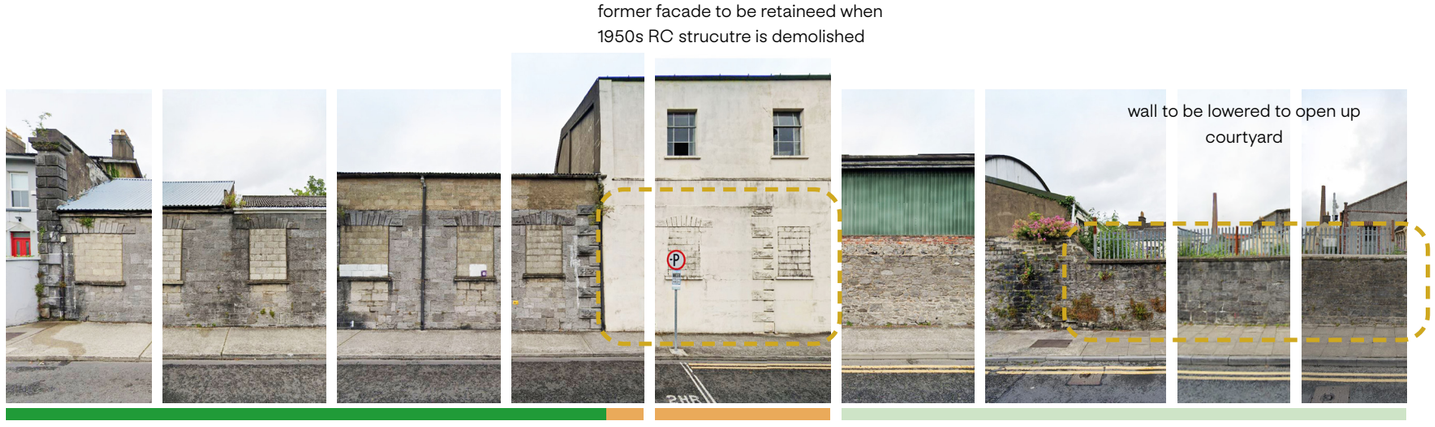


Figure 2.5.4 - North Circular - Flaxmill Site Boundary

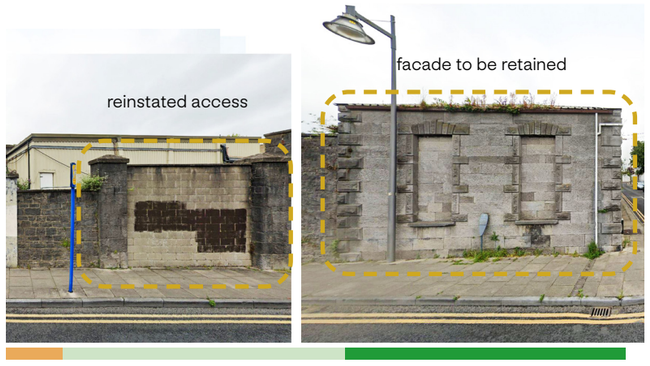


Figure 2.5.5 - O'Callaghan Strand - Flaxmill Site Boundary



Figure 2.5.6 - Stonetown Terrace Approach - Flaxmill Site Boundary



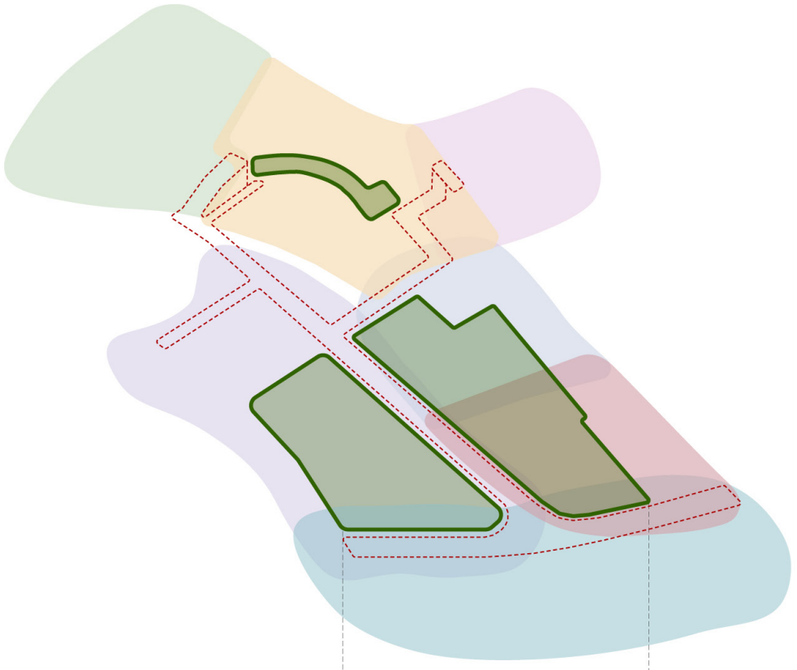
Figure 2.5.7 - North Circular - Shipyard Site Boundary

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 3: Creating a Strong Public Realm around Accessible Urban Spaces and Connecting Public Open Spaces of the Character Areas

Forming a necklace of linked public open spaces to support the new residential communities in the Quarter is a key element of this phase of development. The new public spaces will offer distinctive characteristics, reinforcing a sense of place and legibility:

- the riverside,
- the civic scaled Flaxmill space with the iconic chimney and remnants of Cleeves industrial past,
- the Quarry space at the reservoir edge,
- the upper level promontory / vantage points from Salesians and Stonetown Terrace
- the Shipyard, temporary public realm meanwhile uses



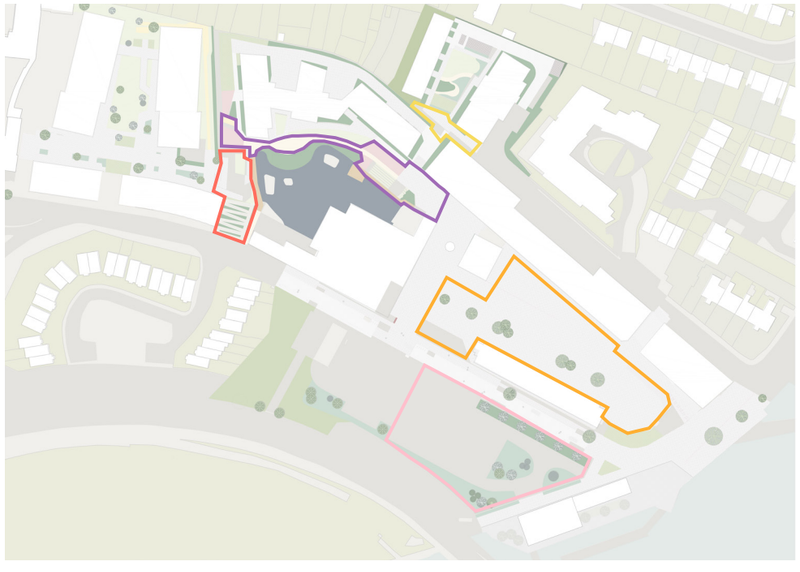


Figure 2.5.3.1 Public Space Plan Diagram

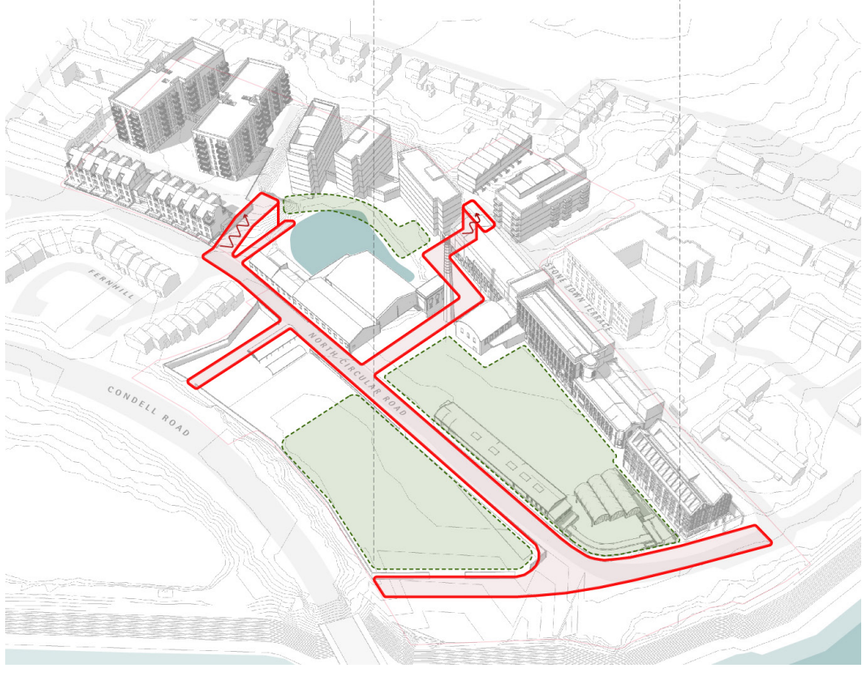


Figure 2.5.3.2 Public Open Space Network Diagrams, with site character areas

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 3: Creating a Strong Public Realm around Accessible Urban Spaces and Connecting Public Open Spaces of the Character Areas

Flaxmill Plaza:
The new Flaxmill civic plaza will be a key public space to be implemented as part of this phase of development, anchored by the presence of the existing Flaxmill and adjacent heritage buildings, opening up to the waterfront and revealing the Cleeves Riverside Quarter site to the City and the community.
The potential for continued meanwhile mixed uses in the existing building along the North Circular Road along with uses under the adjacent riverside canopy activates the public realm.
Initial phases of the green infrastructure strategy will be implemented in the Flaxmill plaza, to be adapted as the new quarter expands in later phases. The sustainable public realm design approach is to be revealed and made visible to the public; sustainable water drainage can be used to create water features that are brought to life during and after rain events within the plaza space;
The landscape design palette is aligned with the industrial heritage character of the space.

The Shipyard Area public realm
Across the west end of the Shipyard site adjacent to Fernhill housing, a ramped shared path with landscape buffer creates a link from Condell Rd through the new mobility hub, offering an invitation into the riverside quarter across the North Circular Rd proximate to the reservoirs edge. At the East end of the Shipyard site, a temporary flood resiliency garden offers public access to the Riverside through carefully located openings at already disturbed pieces of the boundary wall. This provides an opportunity to generate public open space uses, aligned with the green infrastructure strategy.
Potential for temporary meanwhile uses on the platform where the existing Shipyard shed is to be removed provides further opportunities for activating the public spaces.

North Circular Road public streetscape:
The new NCR streetscape parallel to the Shipyard is not only a circulation space, but is intended to be a traffic calmed civic space, combining the amenity, natural heritage and water management linking to the Quarry, Flaxmill and Riverside public spaces.



Figure 2.5.3.3 - Flaxmill Public Space Area Diagram

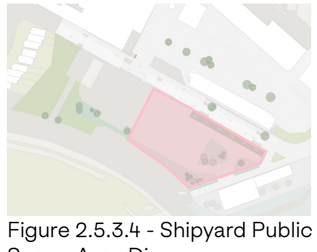


Figure 2.5.3.4 - Shipyard Public Space Area Diagram



Figure 2.5.3.5 - Flaxmill & Shipyard Open Space Area

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 3: Creating a Strong Public Realm around Accessible Urban Spaces and Connecting Public Open Spaces of the Character Areas

Quarry / Reservoir public realm:
Around the Quarry side of the reservoir, a new public realm space will open onto a south facing stepped edge and boardwalks along the waterside, with visual and physical connections to upper residential sites. The Quarry space, with its dramatic walls and reservoir forms a unique space in the city, revealing the geology and topography of the city, and is expressive of the development of the cultural heritage of the site.

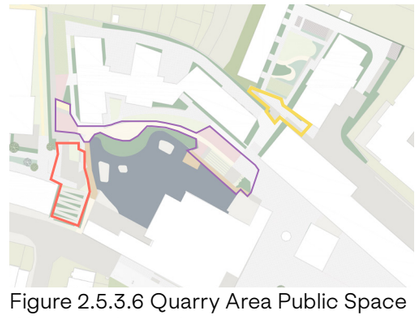


Figure 2.5.3.6 Quarry Area Public Space Diagram with linking spaces to upper sites



Figure 2.5.3.7 Quarry Area Diagram - Public Spaces

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 4: Connecting to the City: Supporting a Sustainable Movement Infrastructure and Enhancing Pedestrian and Cycle Connectivity

The proposal seeks to improve connectivity to the city and neighborhood by linking to pedestrian and cycle routes along O'Callaghan Strand Promenade, Condell Rd and North Circular Rd, and creating an attractive pedestrian and cycle friendly environment.

The link between the Promenade walk along O' Callaghan Strand and the Westfields Marsh is enhanced in this first phase by the creation of a landscaped shared surface, improving the amenity value of this connection, whilst also anticipating the proposed pedestrian /cycle bridge which will connect the riverside public realm to the city quayside opposite.

A sustainable mobility infrastructure promotes sustainable modes of movement and use of public transport. Shared surfaces are proposed to facilitate safe movement by all users, along North Circular Road, O'Callaghan Strand and Stonetown Terrace.

A Mobility Hub for public use, on the Shipyard site, offers covered bike parking and a location for a bike repair point and e-charging.

Pedestrian and cycle friendly approaches to the residential sites, and the provision of secure enclosed bike parking, promote the use of more sustainable modes of movement.

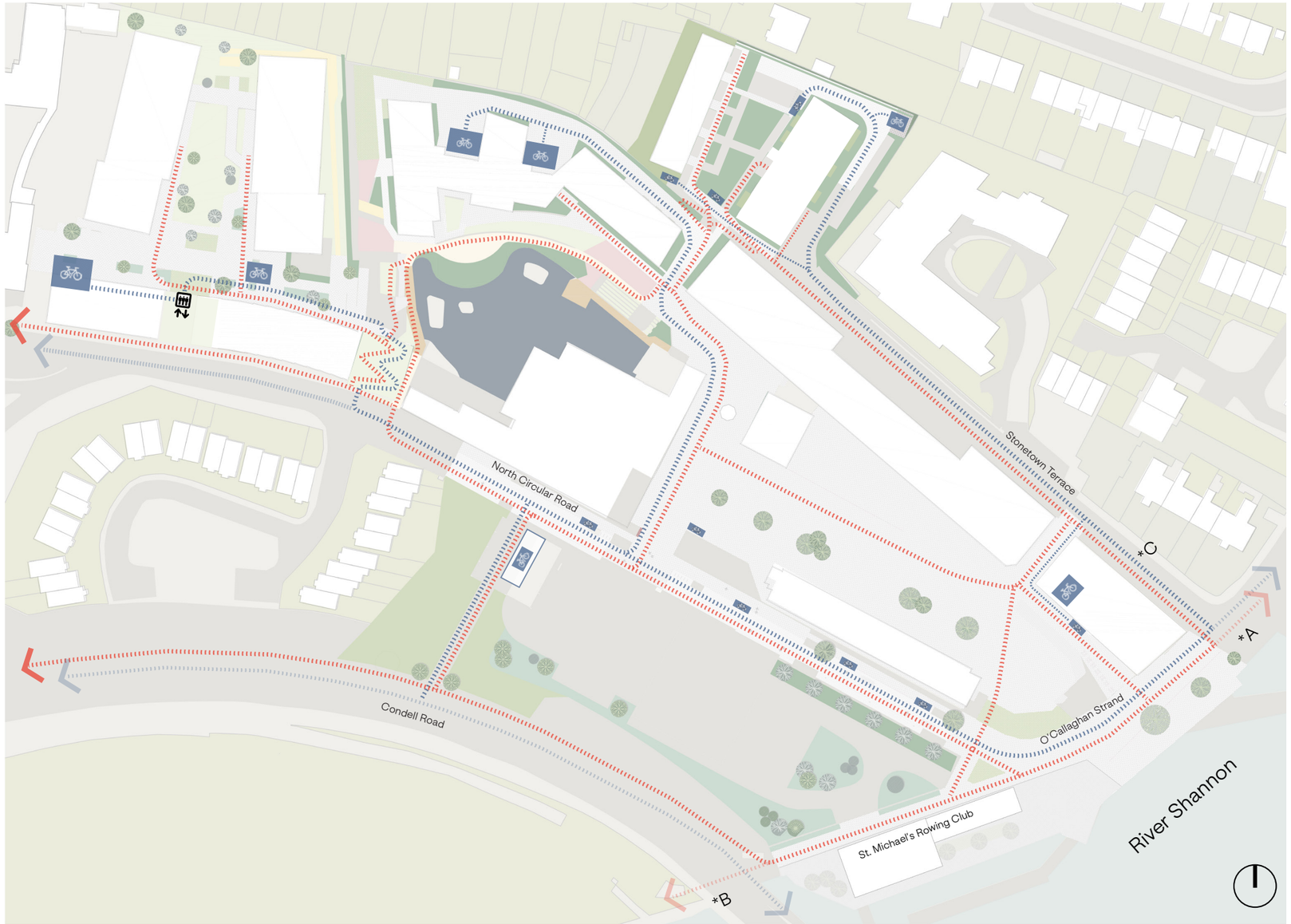


Figure 2.5.4.1- Pedestrian and Cycle Network Diagram

Key

- Mobility Hub Cycle Parking
- Residential Cycle Store
- Cycle Route
- Pedestrian Route
- Public Lift

*A - Links to future pedestrian / cycle bridge
*B - Pedestrian connection to Westfields wetlands
*C- Existing car parking spaces on Stonetown Terrace retained

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 5: Offering Permeability and Enhancing Urban Connectivity

As part of this phase of development, key strategies to implement masterplan permeability include:

- Activating the Site: east /west links across the North Circular Road prioritised as part of the initial phase of masterplan delivery to create a cohesive quarter, encouraging pedestrian and cycle access to all facilities, inclusive of new pedestrian and cycle link across the edge of the Shipyard site to enhance connectivity from the Condell Road into the new quarter.. The permeability strategy considers the future masterplan intent of new buildings along North Circular Road, with priority for the alignment with the chimney.
- Creating connectivity between site areas with significant level changes, as an enhanced experience and extension of the public realm (Stonetown Terrace and Salesians residential developments with the Quarry site; Stonetown Terrace and the Flaxmill Site)
- Developing connections through distinct spaces that do not replicate the amenities and character of other urban spaces in the city, but complement them.

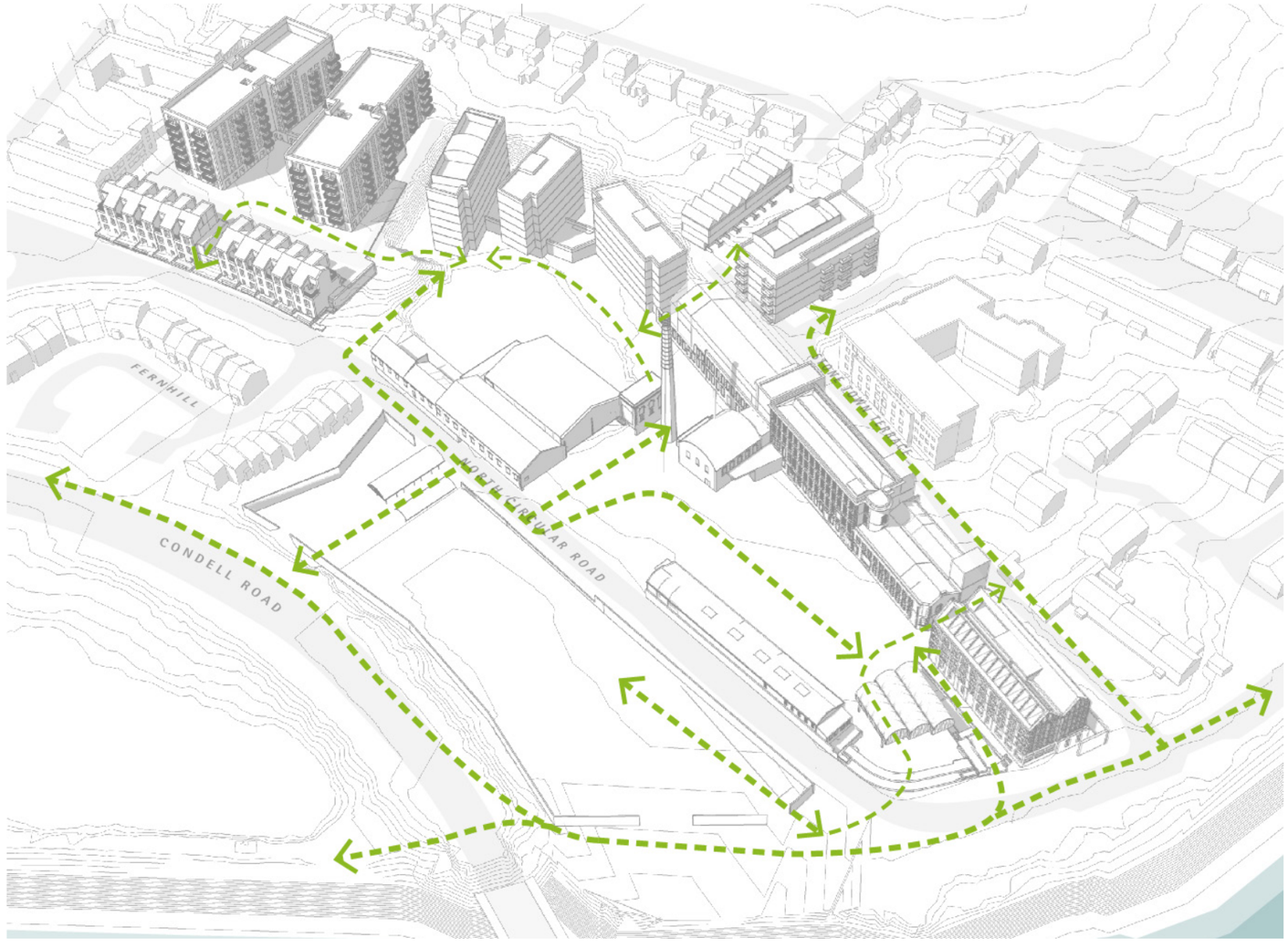


Figure 2.5.5.1 - Permeability and Connectivty Diagram

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 6: Optimising compact development whilst respecting Historic Context with Complementary Contemporary Massing

The Urban Development and Building Height Guidelines 2018 note that there is "significant scope to accommodate anticipated population growth and development needs, whether for housing, employment or other purposes, by building up and consolidating the development of our existing urban areas", and that "increased building height is a significant component in making optimal use of the capacity of sites in urban locations where transport, employment, services or retail development can achieve a requisite level of intensity for sustainability"

A diverse and complimentary mix of uses has been established at the masterplan level, this application is primarily focussed on delivering the residential and public realm areas, which are the most urgently required. The scale of development must therefore meet the needs of a growing population within Limerick, while being cognisant of the impact on neighbouring residents and amenity within areas of public realm. At Cleeves Riverside Quarter there is a huge opportunity on a 'brownfield' site, with a rich history, great relationship with the River Shannon and proximity to Limerick City Centre, to deliver a significant quantum of accommodation while capitalising on the site's unique historic context and placemaking potential.

Scale and Massing Strategy

The massing strategy focuses on optimising compact development whilst respecting the historic context with complementing massing. This primarily means a sensitivity afforded to the protected structures on the site and the attendant grounds of the Curtilage of the Historic Mill Site, while also being mindful of the impact on neighbouring buildings.

Key views from and towards the site have been considered in the arrangement of low and mid-rise buildings across the development, including:

1. The view from the Flaxmill offer sweeping views of Limerick City Centre. These views will be offered as part of the new public space from the Engine House to the Shannon quay wall.
2. Views from the Flaxmill to the Special Area of Conservation (SAC) and the estuary to the south, these views are also available from the Stonetown Terrace site and the Salesians Site.
3. Views from the Shipyard site to the Docklands will strengthen the relationship to the Docklands
4. Views to the Cleeves Site from the City, focusing on the views of the Flaxmill, the mill yard and the Chimney

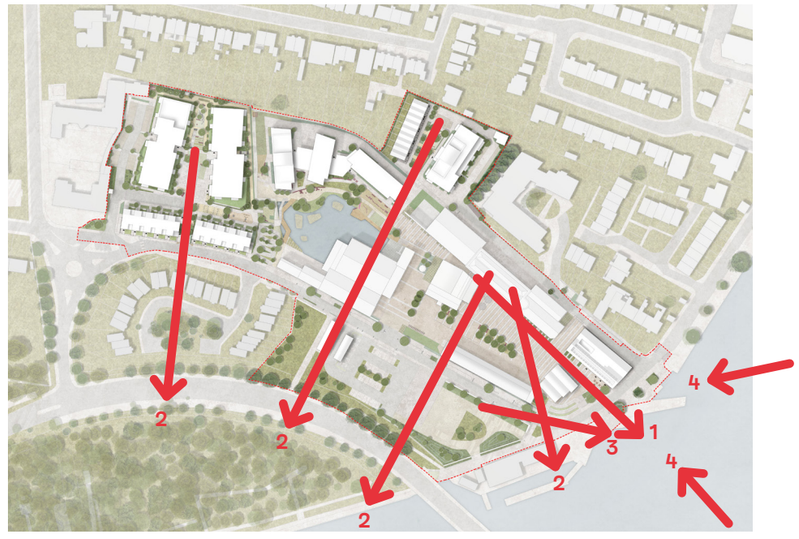


Figure 2.5.14 - Key Views Plan

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 6: Optimising compact development whilst respecting Historic Context with Complementary Contemporary Massing

The scale and massing strategy is strongly informed by acknowledging views of the iconic Cleeves Chimney and Flaxmill façade from the city between Sarsfield bridge and Shannon Bridge. The massing strategy is informed by offering a contemporary 'gateway' to the City in the approach from Shannon airport and along the River by stepping to the south west allowing views along the Condell Road approach to Limerick City to feature the Flaxmill Chimney marking the entrance to the River precinct of Limerick City.

The scale strategy prioritises orientation of living and working spaces along the north-south axis to maximise sunlight access into the site and protect from prevailing winds from the west. This allows for inviting, comfortable amenity spaces and an active public realm that benefits from daylight access and wind protection.

Buildings are generally proposed to step up in scale as they radiate out from the Chimney and Flaxmill, with the tallest buildings in Phase II being the Quarry PBSA and Salesians apartment buildings at 6 and 7 storeys. The dramatic changes in level across the site, such as the two storey step down at the reservoir, have also been used to lessen the overall impact of scale and massing while maximising development opportunities.

Massing of buildings within Phase II has been informed by the characterful gables and silhouettes of buildings already on site, with a contemporary interpretation of modern pitched roofs, barrel vaulted plant enclosures and expressed gables on the city skyline proposed.

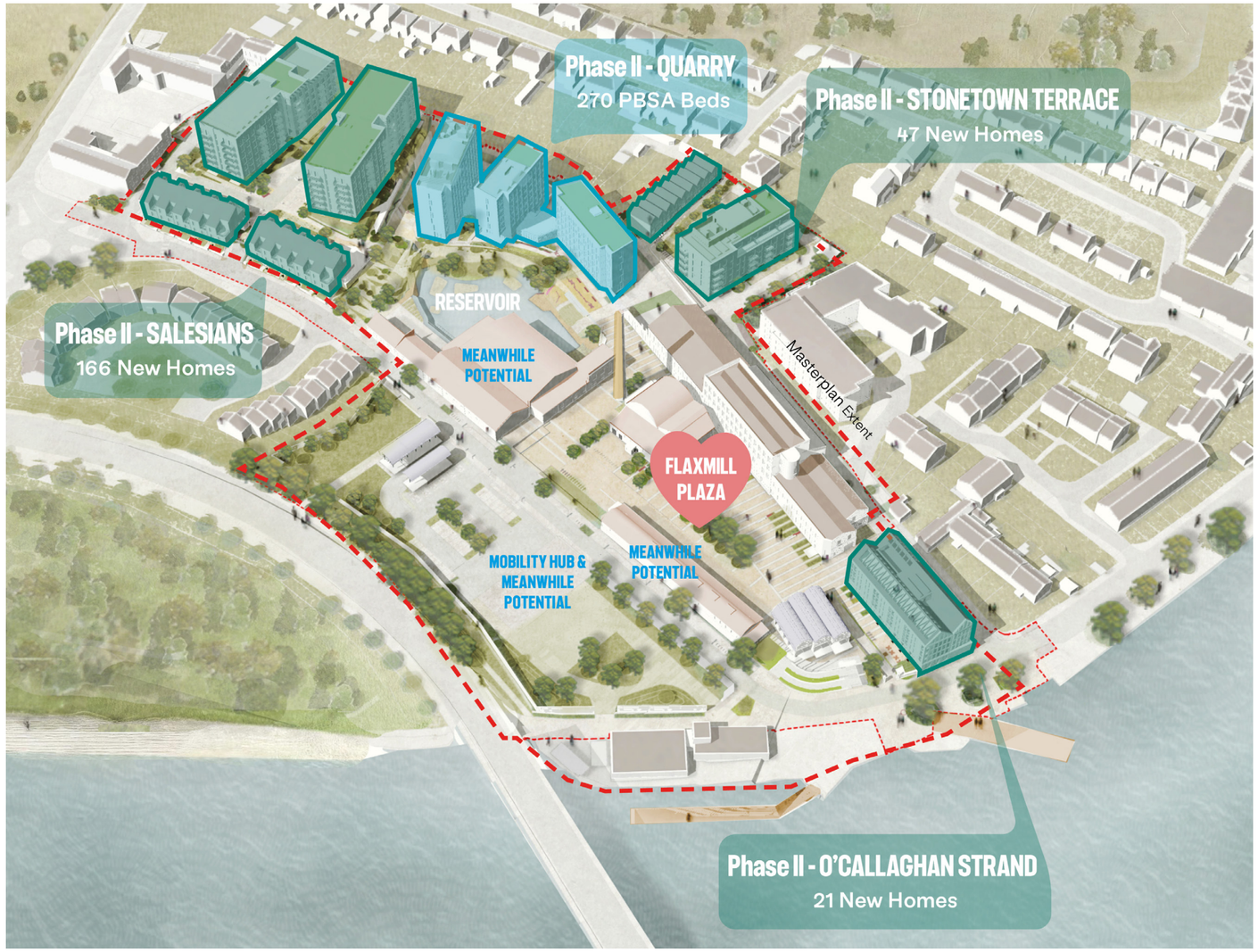


Figure 2.5.15 - Phase II scale and massing diagram

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 6: Optimising compact development whilst respecting Historic Context with Complementary Contemporary Massing

Neighbours and amenity impacts:
Where buildings are in closer proximity to existing neighbours, the scale and massing of buildings has responded by stepping down at these edges. The southern end of Salesians proposes triplex units with pitched roofs facing North Circular Road, more in keeping with the scale and massing of development on Fernhill. Stonetown terrace proposes three storey townhouses along the western edge of the site while to the east, facing Landsdowne Hall, proposes a 4-5 storey stepped apartment building. The proposed O'Callaghan Strand building proposes a 4 storey building with pitched enclosure housing communal amenity space on the roof that faces to the south-east, maintaining privacy along Stown Town Terrace.

The orientation of buildings and their scale has been considered to promote sunlight and daylight into amenity spaces and minimise impact on neighbouring buildings and their amenity spaces. Furthermore, buildings around the Quarry have been considered to minimise impact on the bat corridor that runs along the Quarry wall. More detail on the proposed scale and massing is provided in each of the development sections within this report and within the Daylight and Sunlight assessments that accompany this application, which use the Building Research Establishment's 'Site Layout Planning for Daylight and Sunlight (2nd edition)' methodology to assess the impact of the development on existing and new residents and end-users.



Figure 2.5.16 - Phase II Aerial CGI from the south looking north



Figure 2.5.17 - Illustrative view of Phase II from other side of River Shannon

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 7: Integrating a Diverse and Complementary Mix of Uses with Mutual Synergies to Create a Vibrant Quarter, Offering Flexible Venues for Public Uses to Activate the Public Realm

As part of this phase of development, key strategies to implement diversity of vibrant public uses will be focused within the public realm. :

- A commercial unit (potentially as a cafe) at ground floor level within the O'Callaghan Strand block at the edge of the Flaxmill character area activates the public realm space
- The new creche incorporated into the Salesians development
- Reinforcing social cohesion: regenerative public amenity spaces and multi-generational play spaces located in the Quarry and Flaxmill character areas offer inviting venues for the new residential and existing residential communities to meet, along with other adjacent users such as the Salesians school
- Continued use of existing temporary uses adjacent to the Flaxmill space
- The riverside canopy will offer shelter to support potential public activities, allowing for vibrancy of use throughout the day and night, and the seasons, with potential to interface with the adjacent civic plaza and other open spaces
- Spaces to support potential temporary, meanwhile uses to bring vibrancy to the quarter have been assessed. An initial assessment identified the diversity and needs of Limerick festivals / events, with potential to activate the public realm, engaging a broad spectrum of the community.
  - Daily / more regular uses
  - Events
  - Refer to appendix for indicative testing of potential uses that could be accommodated on the site, bringing energy to the Flaxmill site in the early phases of development.

As noted with the masterplan overview, further diversity of use will be delivered as part of Phase III, comprising educational and employment uses across three buildings.

A: Meanwhile Use Zone Within Flaxmill Public Space

B: Meanwhile Use Zone Within Shipyard Public Space

C: Reservoir / Quarry area amenity spac

*1: Commercial
*2: Creche

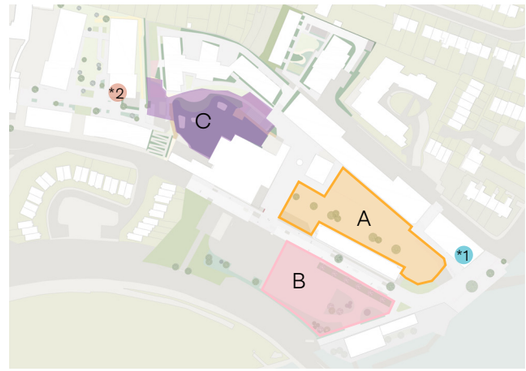
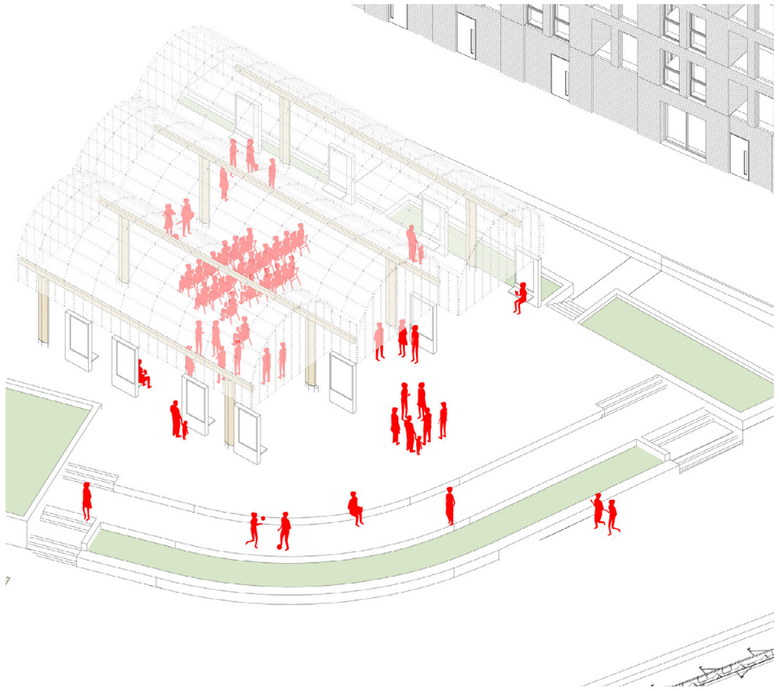


Figure 2.5.7.1 - Amenity & Potential Meanwhile Use Zone Diagram supporting diverse public mixed uses in the quarter





Chent Christmas Market



Community Events



Outdoor Livingroom

Figure 2.5.7.2 Potential Riverside Canopy Uses

Riverside Canopy Potential Use Scenario: Accommodating Community Events

- Venue for spin-offs from Annual Events
- Place for impromtu performances
- location for communal gatherings
- venue for organised exercise activities

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 8: Connecting with Natural Eco-Systems and Enhancing Biodiversity

As part of this phase of development, key strategies to create a framework for coordinating amenity, natural heritage and sustainable water management include:

Sustainable Water Management:
SuDS, Rain Gardens, Green Roofs, leveraging site topography, and industrial fabric to incorporate water into public realm as a sustainable amenity. Refer to landscape architect's design report as well as relevant drainage report and EIAR chapters prepared by the project engineers for further details on the proposals.

Minimise impact on the existing natural ecosystems:
Measures have been reviewed with the project ecologist to include the provision of bat houses and swift boxes, along with light fitting heights and locations. Refer to diagram for strategy notes. Refer to landscape architect's design report as well as relevant EIAR chapters prepared by the project ecologist for further details on the related proposals.

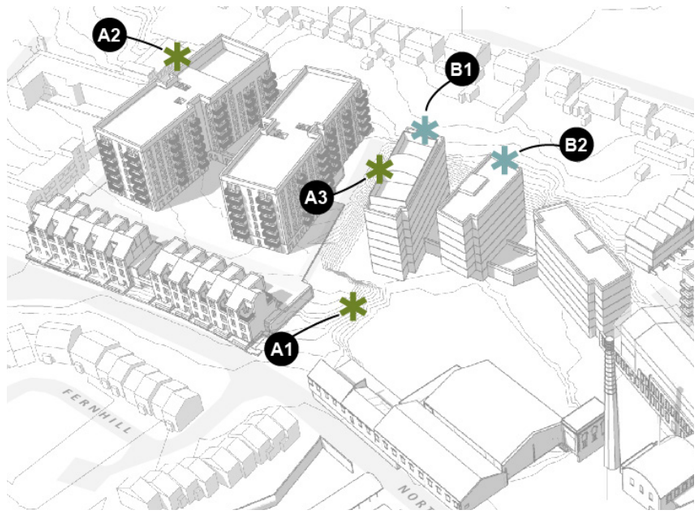


Figure 2.5.8.2 - Ecology Strategy diagram: Indicative Locations of (A) Bat Houses and (B) Bird Boxes.
Refer to plan and elevation drawings for further details

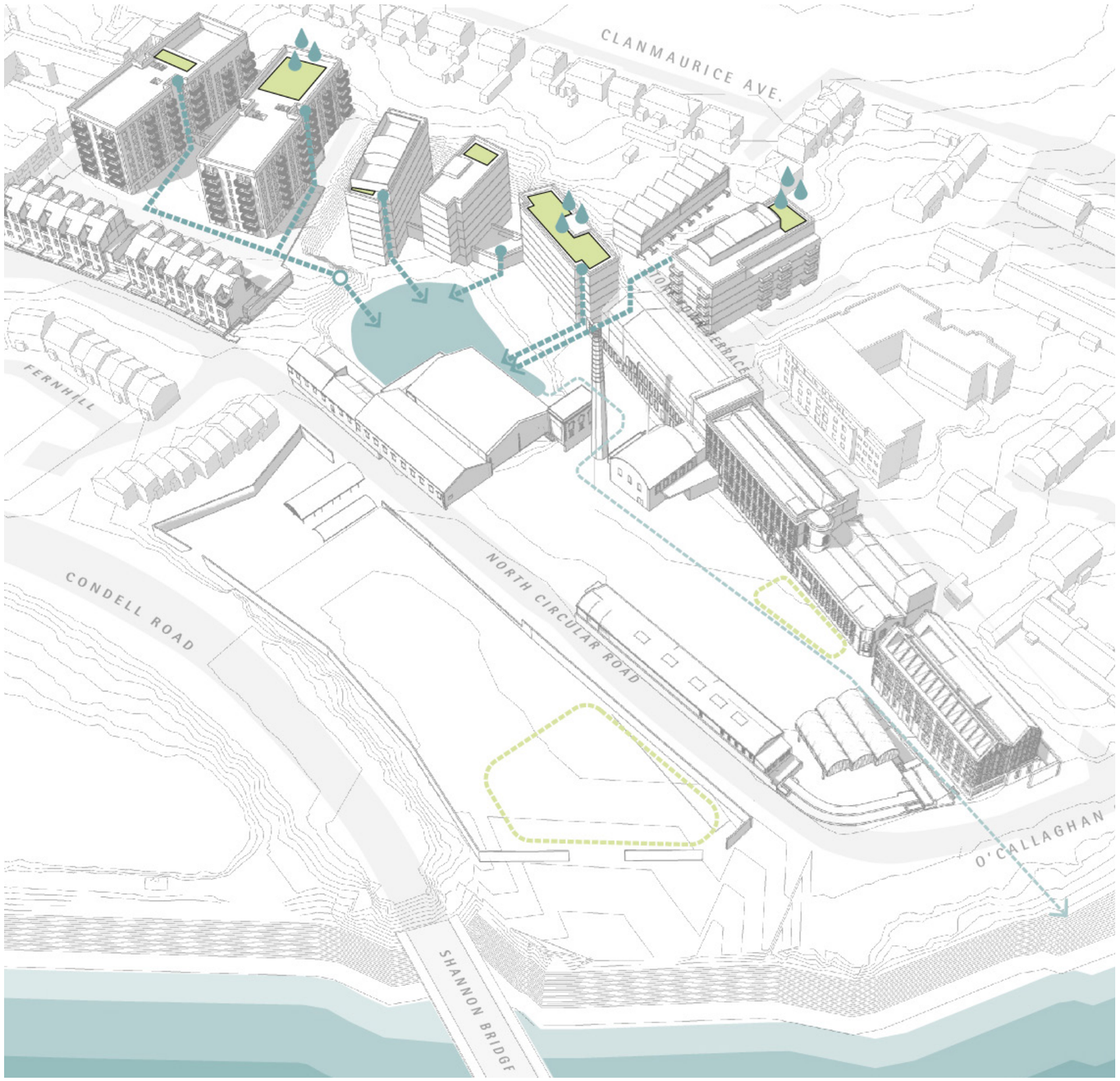


Figure 2.5.8.1 - Blue-Green infrastructure strategy diagram. Refer to plan drawings and engineering reports for further details

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 9: Providing a Resilient Response to the Environmental Setting, Harnessing Naturally Available Energies within a Framework of Exemplar Sustainability Targets

Context and Flood Risk
The main risk of flooding to the site is tidal (high tides and tidal surges) from the River Shannon. Part of the site lies in areas of high to moderate risk of flooding (Flood Zones A or B). The Shipyard site and part of the Flaxmill site (Infiltration Galleries) are at high risk of tidal flooding (0.5% Annual Exceedance Probability AEP), parts of the Quarry site are at moderate risk of flooding (0.1% AEP) and the rest (majority) of the site is at low risk (<0.1% AEP). These areas correspond to Flood Zones A, B and C respectively.

Flood Protection Level
Development is to be protected against the 1 in 200-year tidal event with allowance for climate change and a suitable freeboard. Minimum recommended finished floor levels and safe access and egress levels are to be set at 5.7m AOD, which allows for Climate Change and Freeboard. This will tie into LCCC's plans to provide flood defences outside of the site along the River Shannon, providing continuity in protection against flood events along the River.

Sequential Approach and Masterplan Principles
Due to the location of the Site and its designation as a key regeneration site within Limerick, it is envisaged that designs should maximise the ability to manage flood risk to an acceptable level. Key principles of the wider scheme therefore include the following:

- Highly vulnerable uses such as residential development will be located in areas at lower risk (Flood Zone C) or raised to higher levels (above 5.7 AOD).
- Finished floor levels shall be raised above the flood protection level with an allowance for climate change and freeboard
- Safe access and egress for emergency vehicles shall be provided to all buildings
- Raising of levels should be considered in conjunction with compliance with the Building Regulations for access for all, development economics and practical design
- If floor levels of less vulnerable uses- such as offices, community and cultural buildings- cannot be raised due to the above considerations, flood resilient and resistant design should be implemented.

Raising Phase II Development Levels
The Phase II scheme proposes adopting the approach to raise the North Circular Road level and development ground floors to 5.7m AOD. The proposed routes within the Quarry site are also raised to 5.7m AOD to allow for emergency access. All residential units are proposed to be raised above 5.7m AOD.

Raising the levels of North Circular Road allows the majority of the site to be accessed by the emergency services during the 1 in 200 year flood event, as well as protect the Quarry and Flaxmill Plaza sites from tidal flooding as the North Circular Road will act as a barrier between the rising water from the River Shannon and the site. This strategy also provides for additional vehicular access to Stone Town Terrace above the flood level with an emergency route through the Flaxmill Plaza, as the existing access road from O'Callaghan Strand is below the proposed 5.7m AOD 1:200 year flood level (current level is 4.20m AOD).

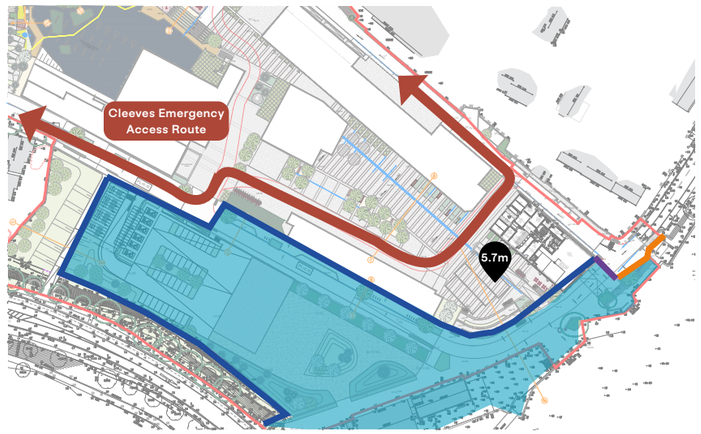


Figure 2.5.22 - 5.7m AOD Flood Level and Emergency Access Route

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 9: Providing a Resilient Response to the Environmental Setting, Harnessing Naturally Available Energies within a Framework of Exemplar Sustainability Targets

Around O'Callaghan Strand, levels will also be raised slightly to a point that enables access for all users and a temporary flood gate will be located between the retained Linen Store south-east elevation and the other side of O'Callaghan Strand, where the Cleeves Riverside Quarter flood alleviation design ties into the Limerick (River Shannon) Flood Relief Scheme.

Lower levels and basements
Phase II proposes a small amount of plant accommodation within basements and a semi-basement car park on the Salesians site, all accessed from ground floors above the 5.7m AOD 1:200 year floor level.

Phase IV proposes future car parking at the lower level of the Shipyard site as part of the future delivery of commercial workspaces as outlined in the masterplan. In future phases, special attention should be given to openings to the basement levels. Entrances to the basement shall be set as high as possible and above the flood protection level (5.7m AOD), or with bunds/ temporary flood protection measures that can be erected in the event of a flood.

Sustainability Strategy:
In alignment with the requirements of the Limerick City & County Council Development Plan 2022–2028 and its emphasis on energy efficiency, the design has been progressed incorporating a number of sustainability and innovative low carbon strategies within the development.

Sustainability and innovation are at the heart of the development, using the One Planet Living Framework to promote sustainable choices across a holistic range of themes – from health and happiness, to carbon, to culture and community. This has pushed innovative solutions to nature-based SUDS, whole life carbon considerations and circular economy principles – from reusing existing materials on site within the landscape design, to designing for material disassembly at the end of the buildings life's. The measures being integrated into the scheme will expedite the delivery of not only high-quality homes, but also sustainable homes on this strategically important site.

The design originates from fabric first principles, simplifying the building envelope, reducing the overall form factor, minimising heat losses and gains, and constructing fabric with good thermal performance and airtightness.

Energy Reduction:
In reducing operational energy for buildings, the following measures are incorporated into Phase II buildings:

- **Passive Solar** – balance between glazing reducing the reliance on artificial light while also managing risks of overheating
- **Building Fabric & Air permeability** – Limiting heat losses with thermally efficient, airtight buildings
- **Thermal bridging** – Adoption of Acceptable Construction Details and/ or certified bespoke junctions
- **Light fittings** - All light fittings are to be specified as low-energy lights
- **Heating controls** - Heating systems will be effectively

2.5 Principle 9: Providing a Resilient Response to the Environmental Setting, Harnessing Naturally Available Energies within a Framework of Exemplar Sustainability Targets

controlled to ensure the efficient use of energy.

- **Insulated pipework** - All hot water storage vessels and pipes will be fully insulated to reduce heat losses and gains along pipe routes.

Renewable Energy Sources:
The following technologies are integrated into the Phase II buildings as low carbon building technologies:

Photo-Voltaic (PV) Panels – PV panels are to be installed on apartment buildings to supply electricity to the residential blocks collectively, reducing the energy demand and service costs of communal areas of the buildings. Townhouses and triplexes have individual unit PVs on south facing pitched roofs, contributing to energy reduction of these specific units. Within the public realm, PVs are integrated into external canopies, creating a visible demonstration of the project's energy aspirations.

Air Source Heat Pumps (ASHPs) – ASHPs will be installed on a de-centralised basis for the apartment buildings, with townhouses and triplexes having individual units. These will provide primary space heating within living spaces, bathrooms and bedrooms. A water-to-water pump will also generate hot water to a suitable temperature for the homes' Domestic Hot Water

Mechanical Ventilation with Heat Recovery (MVHR) - Dedicated MVHR systems will be utilised in each apartment to provide mechanical ventilation. The toilets and kitchens will also have separate dedicated extract fans. The MVHRs will provide outdoor filtered air into a dwelling whilst retaining most of the energy that has already been used in heating the building. It works on the principle of extracting air from the wet rooms (WCs, kitchens, etc) and supplying air into the occupied rooms (living area, bedrooms, etc) via heat exchange.

The strategies outlined above have been used to inform the Dwelling Energy Assessment Procedure (DEAP) assessment that accompany this planning application. It concludes that residential apartment units are expected to achieve A2 Building Energy Ratings (BERs), and the townhouses are projected to achieve A1 BERs.

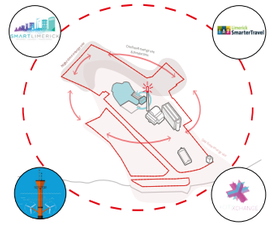
Further measures:
Further principles have been incorporated into designs that improve the overall sustainability impact of the development. These include:

Home Performance Index (HPI) Standard – All homes are being assessed against the HPI standard, with early assessment showing that the scheme has the potential to reach Gold across the majority if not all homes.

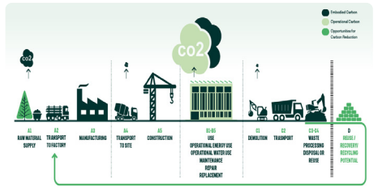
Circular Economy – The re-use of uncontaminated construction waste within cut and fill calculations of the scheme is expected to reduce the need to import material by c.50%. Existing cobbles, stone and concrete slabs are being integrated into the surface finish of the landscape design. The re-use of existing fabric will reduce embodied carbon associated with extracting raw materials and new materials are being selected for their long-term durability and their ability to be installed with mechanical, reversible fixings and disassembled at the end of the new buildings' design life – e.g., brick, fibre cement panels and sheet metal.

SuDS & Urban Greening – Green roofs, permeable paving, rain gardens and the existing reservoir are all being used as part of the nature-based sustainable urban drainage strategy and water management across the site. Floating islands within the reservoir will clean water with accumulated nutrients and create biodiverse habitats for fauna. Green Infrastructure across the site will create attractive environments and sustain existing biodiversity corridors in the area.

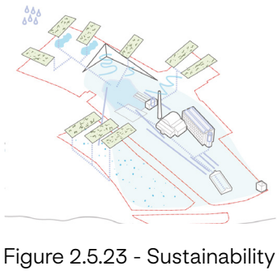
Smart Energy



Whole Life Carbon



Water Strategy



Circular Economy



Figure 2.5.23 - Sustainability features diagram

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 9: Providing a Resilient Response to the Environmental Setting, Harnessing Naturally Available Energies within a Framework of Exemplar Sustainability Targets

Overheating – Overheating is becoming an increasing risk in new buildings. Buildings need to manage heat gains from internal and external sources at the season peaks. In the design of buildings the following measures have been used to reduce overheating risk – LED lighting and insulated hot water pipework, balancing daylight with heat gains in solid to glass ratios, whole brick reveals for windows, stacked balconies/ recessed balconies, fully openable windows and doors, internal blinds, maximising dual aspect dwellings and low g-value (solar energy transmittance) glazing.

Sustainable transport – The parking strategy acknowledges that this is a city centre site, and promotes the use of active modes of travel. Of the parking spaces provided, 20% are EV Charging Spaces, with infrastructure enabled to increase this to 100% in the future.

Residential and PBSA buildings have been provided with secure, covered long stay cycle parking well in excess of the minimums required within the Limerick Development Plan 2022 – 2028 and the Sustainable Urban Housing Design Standards for New Apartments 2023 and 2025. In addition to this, there are 110 visitor spaces located throughout the proposed development, including 36 cargo cycle parking spaces and 84 double stacker cycle parking spaces in the mobility hub (Shipyard Zone).

Wiredscore - Neighbourhood Wiredscore is being targeted to ensure future resilience for communications networks across the site for residents, educational users and future workers.



Figure 2.5.24 - Sustainability targets and influences diagram

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.5 Principle 10: Supporting Sustainable, Integrated Development

This phase of development will allow for Incremental, Sustainable Site Sequencing, with potential for concurrent development across the site over short to medium term, aligned with masterplan approach.

This phase of development is structured into nine distinct but overlapping stages. Depending on market conditions and delivery mechanisms, some stages may progress more quickly or slightly ahead of others. For instance, Stage 8 is a priority for early delivery, as it will significantly enhance the site's appearance and help establish Cleeves as an attractive place to live, work, and enjoy leisure activities. Therefore, Stage 8 may begin earlier than planned, depending on the progress of Stages 6 and 7. Maintaining flexibility in the delivery sequence is essential to ensure the development can adapt to changing market conditions.

The anticipated sequence of stages is outlined below. Refer to CEMP and planning report for further details.

- Stage 1 - Construction of Bat Houses
- Stage 2 - Site Demolition & Enabling Works
- Stage 3: Flood Protection Works
- Stage 4: Salesians Zone Development
- Stage 5: Stonetown Terrace Zone Development
- Stage 6: O'Callaghan Strand Zone Development
- Stage 7: Quarry Zone PBSA and Public Realm
- Stage 8: Flaxmill Plaza and Riverside Public Realm
- Stage 9: Shipyard Mobility Hub

2.0 MASTERPLAN & URBAN DESIGN APPROACH

2.6 Phase II Scheme Summary

Total Summary

Plot	1B1P	1B2P	2B3P	2B4P	3B5P	3B5P (House)	Total
Salesians		**76**		**70**	**20**		**166**
		45.8%		42.2%	12.0%		
Stonetown Terrace	**6**	**12**	**4**	**16**		**9**	**47**
	12.8%	25.5%	8.5%	34.0%		19.1%	
O'Callaghan Strand		**9**		**12**			**21**
		42.9%		57.1%			
Total	**6**	**97**	**4**	**98**	**20**	**9**	**234**
%	2.6%	41.5%	1.7%	41.9%	8.5%	3.8%	

Plot	Standard	Acc	Studios		Total
Quarry PBSA	**245**	**7**	**18**		**270**
	90.7%	2.6%	6.7%		

Communal Amenity Space

Plot	1B1P	1B2P	2B3P	2B4P	3B5P	3B5P (House)	Total
Salesians		76		70	20		
Communal Amenity Space Required (sqm)		380		490	180		1,050
Communal Amenity Space Provided (sqm)							**1,073**
Stonetown Terrace	6	12	4	16		9	
Communal Amenity Space Required (sqm)	24	60	24	112		157	377
Communal Amenity Space Provided (sqm)							**380**
O'Callaghan Strand		9		12			
Communal Amenity Space Required (sqm)		45		84			129
Communal Amenity Space Provided (sqm)							**236**
Total Required (sqm)							1,556
Total Provided (sqm)							**1,689**

3.0 HISTORIC FABRIC ASSESSMENTS FOR THE DELIVERY OF PROPOSED DEVELOPMENT & WIDER MASTERPLAN



3.0 HISTORIC FABRIC ASSESSMENTS FOR THE DELIVERY OF PROPOSED DEVELOPMENT & WIDER MASTERPLAN

3.1 Victorian Terraces

VICTORIAN SEMI-DETACHED HOUSES:
Significance:
The Victorian Houses are not named within the description of the Landsdowne Mill on the national survey but are of interest for their possible connection to the mill's operation. They hold 'Historic', 'Artistic' and 'Social interest' for their use as homes to managers at the mill. They hold 'Architectural interest' for the plan form and moderately decorative interior of the right hand house. They are of 'low to medium significance' for their contemporary function and likely connection to the mill's operation.

Current Condition:
The houses are currently vacant and unliveable, in a poor state of repair.

Options explored for re-use:
Sustainable re-use as living accommodation requires extensive renovation and adaptation to meet modern standards of living, both in terms of managing the outer fabric and creating accessible and navigable spaces internally.

Their ground floor level, raised 1-1.3m above the pavement, makes accessing them difficult, and their rear gardens excavated down c.2.5m from the surrounding quarry wall makes for extremely difficult and suitable resident amenity.

The diagram and images to the right indicate the level changes from road to front door, and the difficult amenity offered in relation to the sites topography, while the accompanying photos show the poor state of repair of the existing fabric.



Figure 3.1.1 - External View of Houses



Figure 3.1.2 - First floor room of the left house

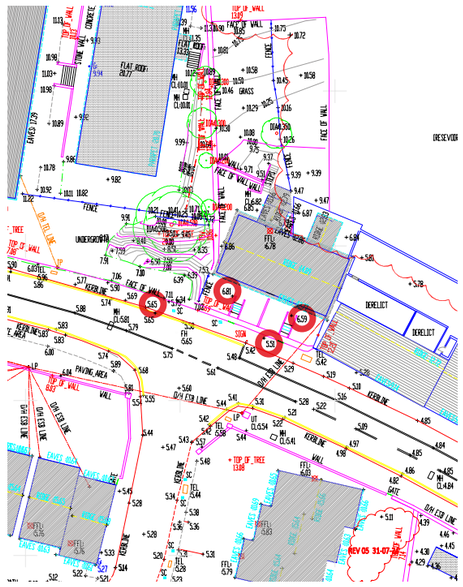


Figure 3.1.3 - Topo levels outside Houses



Figure 3.1.4 - House Rear Elevation

3.0 HISTORIC FABRIC ASSESSMENTS FOR THE DELIVERY OF PROPOSED DEVELOPMENT & WIDER MASTERPLAN

3.1 Victorian Terraces

VICTORIAN TERRACES:
Alignment with the aims of the masterplan:
A key principle of the masterplan is the site's permeability and urban connectivity. Moreover, provision of access into the deepest areas of the site is a principle embedded in Limerick's Development Plan 2022-2028. The scale of the houses and their poor amenity space also does not align with the masterplan's ambition to deliver high quality, optimised and compact housing.

This part of the site presents the only opportunity to gain pedestrian access directly into the Quary at a key junction opposite the connection into Fernhill, it's at this point the site connects into the wider community to the south.

Construction access to the Quarry site has also been considered. Access through this point of the masterplan is required to provide level access to the Quarry site and lessen the amount of construction traffic that needs to move through the c.7m gap between the Water Tank and Protected Chimney. Construction traffic between these two structures would introduce a greater frequency and size of vehicles moving through this area during construction than general parking or and emergency vehicles once the scheme is completed, with more risk of collision/ abnormal movements.

It also allows the Quarry site to be delivered simultaneously with other development zones that might require access through the Faxmill Plaza.

The diagrams to the right indicate the proposed level access into the Quarry site, and construction access required to build the Quarry plot.

Mitigation:
Creation of new points of access enable the positive reuse of the site. Bringing people into the site is a principle for improving heritage engagement. The proposed access will exploit the existing terracing of the former quarry wall that the houses are built over. This will allow ramped walkways to stretch into the site and create a pedestrian link to the upper site and down to the reservoir and student residential blocks.

Whilst the demolition of the houses will result in loss of some special interest the preservation by record in the form of Building Recording will offer mitigation. The removal of the houses will benefit the scheme through much-improved access deep into the site and reservoir. In keeping with the Development Plan objectives and design principles, opening-up the site is essential to improve connectivity and quality of spaces.

EIAR Heritage Chapter References
Semi-Detached Houses
Description - Table 23
9.5.2.2 - Group 6 Description - Likelihood of Significant Effects
9.8.2 - Operational Phase Residual Impacts
Appending 9.3 - Building Recording
Table 26 - Likely Effects and Residual Impacts

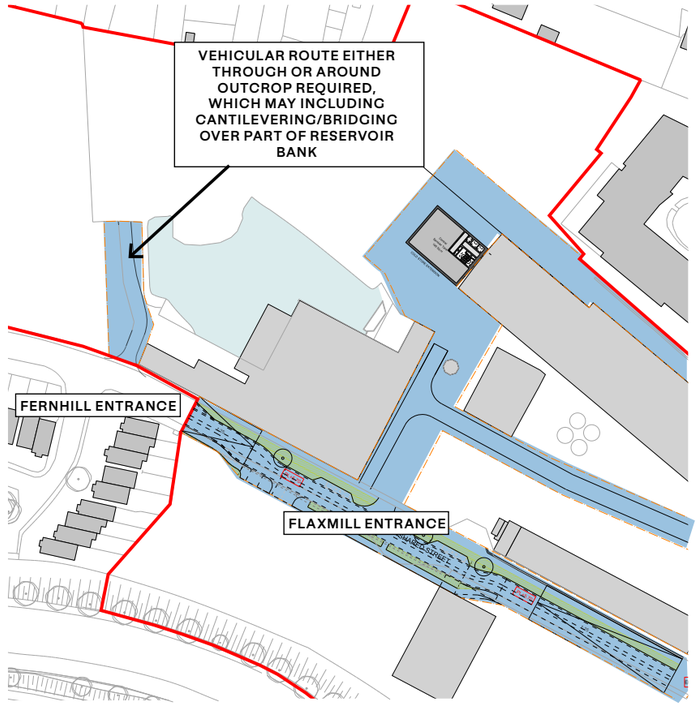


Figure 3.1.5 - Construction Access

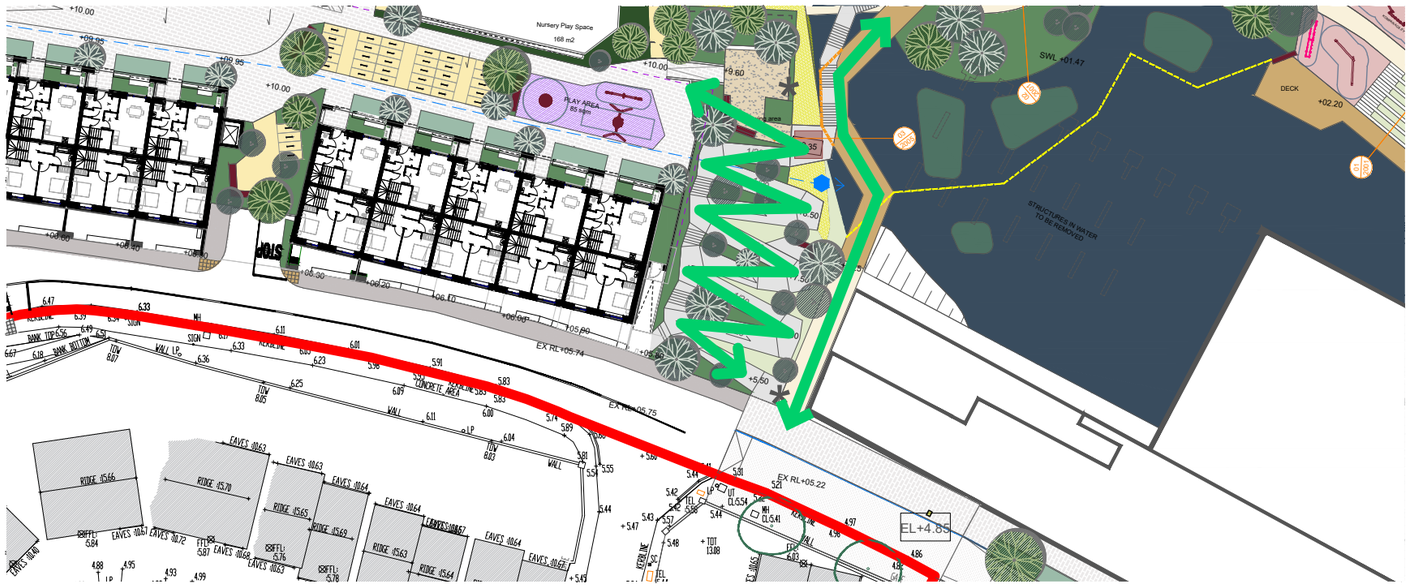


Figure 3.1.6 - Proposed Future Level Access

3.0 HISTORIC FABRIC ASSESSMENTS FOR THE DELIVERY OF PROPOSED DEVELOPMENT & WIDER MASTERPLAN

3.2 Flaxmill Lean-To

FLAXMILL LEAN-TO:
Significance:
The 1940s lean-to to the north of the Flaxmill is a late adaption during the Dairy and Disposal Phase of the main mill. It is not in-keeping with the character and quality of the main mill and is of 'negative' significance.

Current Condition:
As part of Phase I works to repair and stabilise the top floor of the main mill, this building is proposed to have its roof removed and be taken down a level to enable the erection of scaffolding to perform the works. Once these works have taken place, the building will be left in a state of partial removal.

Options explored for re-use:
Feasibility of using this area as part of a future education campus has been tested, but it results in deep plan spaces within the Flaxmill separated by the original northern elevation and that are not conducive to creating a high quality future learning environment. As a C20th addition that does not inform the special significance of the site, no other options for its reuse have been explored, other than construction waste material re-use as part of the project's Circular Economy principles.

Its removal will reveal the currently closed off north elevation of the main mill, which will be a heritage benefit.



Figure 3.2.1 - Flaxmill Lean-To

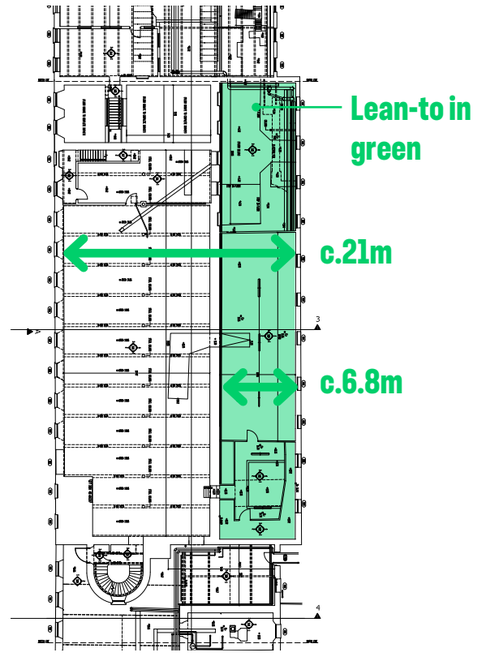


Figure 3.2.2 - Existing Plan with overall widths shown and interface between leant-to and original north elevation





Figure 3.2.3 - Flaxmill Lean-to interiors showing the rear wall of the main mill

3.0 HISTORIC FABRIC ASSESSMENTS FOR THE DELIVERY OF PROPOSED DEVELOPMENT & WIDER MASTERPLAN

3.2 Flaxmill Lean-To

FLAXMILL LEAN-TO:
Alignment with the aims of the masterplan:
At the this point on the site, the width from the edge of this building to the other side of Stonetown Terrace is c.7m. To remove this building in the future, after residents have moved in to Stonetown Terrace, would require a narrowing of the road to safely remove fabric within Stonetown Terrace. Due to the phasing of the masterplan, removal of this fabric after the development of Stonetown Terrace is deemed to impact on general access to and from the site for future residents, and critically the space needed for blue light vehicles to access the site in the event of an emergency. This would pause the delivery of residential homes until after the Flaxmill has been refurbished for future educational use.

Mitigation:
Removal of structures of negative significance mitigates the impact upon the protected structures. The lean-to's removal will take away negative fabric that will be left in a state of disrepair following Phase I works, while the overall site will benefit from lessened construction activity impacts on future residents while enabling the quicker delivery of new homes.

EIAR Heritage Chapter References
Flaxmill lean-to extension
Description - Table 8
9.5.2.1 - Likelihood of Significant Effects
9.7.2 - Mitigation
Table 25 - Likely Effects and Residual Impacts

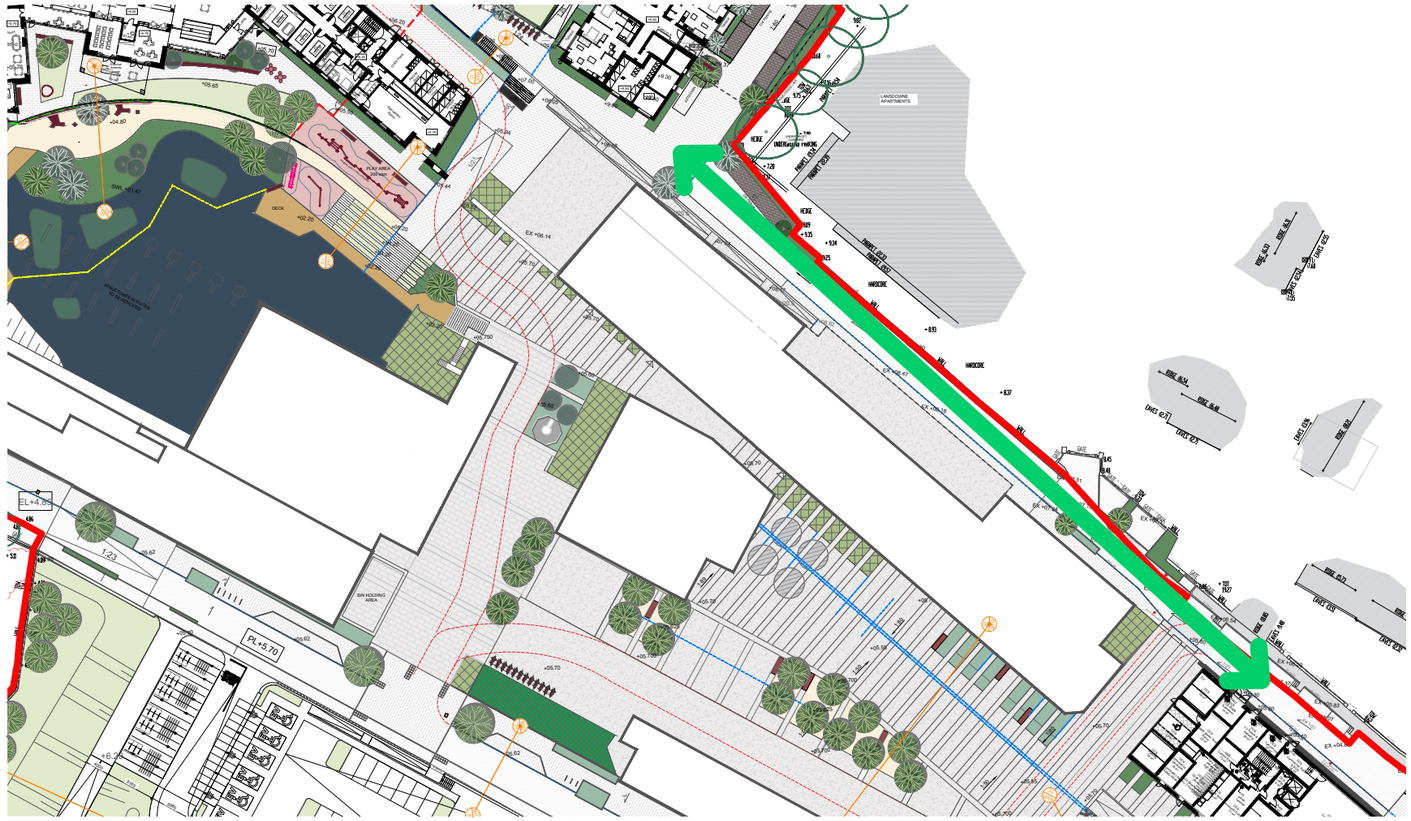


Figure 3.2.5 - Proposed Future Access to Stonetown Terrace

3.0 HISTORIC FABRIC ASSESSMENTS FOR THE DELIVERY OF PROPOSED DEVELOPMENT & WIDER MASTERPLAN

3.3 The Weaving Mill

THE WEAVING MILL

Significance:

The Weaving Mill's role in the original operation of the site is key and as such it has 'Historic', 'Artistic', 'Architectural' and 'Technical interest'. The weaving buildings were built in quick succession. The first of 13 bays in 1854 and the second of 10 bays in 1855. The first is built in the same materials and form as the Main Mill, complete with iron columns, beams and jack arches, as if in readiness to be extended upward. The second is of stone with more brick present in the inner part of the wall.

Where the structure and envelope remain largely as built in 1855 the buildings retain 'high significance'. Where the building is little more than a masonry façade it retains significance only in respect of its value to the wider complex. The later alterations which date to after 1927 are deemed to impose 'negative significance'.

Current Condition:

The weaving building is largely derelict and has been the subject of substantial change after 1927. Under the management of the Dairy Disposal Company (1927-1970) the complex was subject to adaptation and modernisation with most changes appearing to occur in the 1950s. Aerial images from 1947 show the latter 10 bay building with a second storey and flat roof. Today the first building sits under a C20th metal sheet roof, while only the front façade survives of the second building.

Options explored for re-use:

Future academic uses have been tested within the first Weaving Mill Building and partially behind the existing façade of the second building, as part of later phases of development on the Cleeves Riverside Quarter site. The successful adaptation potential of this space for future academic accommodation can be seen on the sketch diagram to the right.



Figure 3.2.1 - Junction between Weaving Mill phases with 1950s first floor over

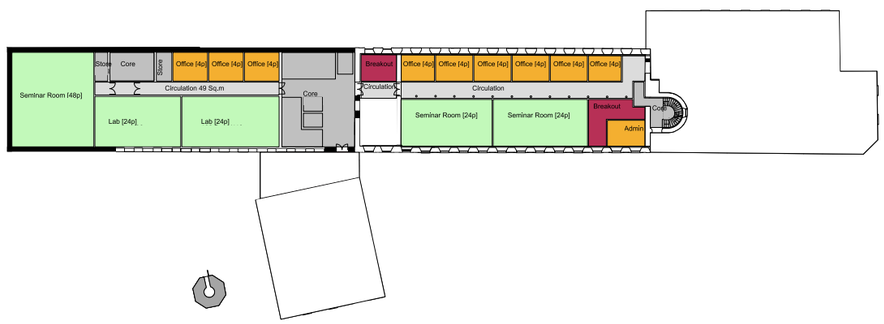


Figure 3.2.2 - Sketch plan of academic uses in Weaving and Main Mill volumes within and behind retained fabric

3.0 HISTORIC FABRIC ASSESSMENTS FOR THE DELIVERY OF PROPOSED DEVELOPMENT & WIDER MASTERPLAN

3.3 The Weaving Mill

Alignment with the aims of the masterplan:
As part of the permeability and urban connectivity strategy the scheme proposes to open up part of the second building façade to create a pedestrian link, offering connectivity between Stonetown Terrace and the Flaxmill Plaza.

This route also allows for emergency vehicle access to the proposed PBSA buildings on the Quarry site, and will allow a second construction access to Stowntown Terrace, reducing construction activity on Stone Town Terrace.

The diagram to the right indicates these routes through the façade.

Mitigation:
The small area of façade removal will improve connections and permeability across the site, lessen construction activity impacts on residents and allow for emergency vehicle access to all areas of development. The remaining area of wall will provide a representative samples of surviving elevation.

EIAR Heritage Chapter References
Weaving Mill
Description - Table 9
9.5.2.2 - Group 6 Description - Likelihood of Significant Effects
9.8.2 - Operational Phase Residual Impacts
Appending 9.3 - Building Recording
Table 26 - Likely Effects and Residual Impacts

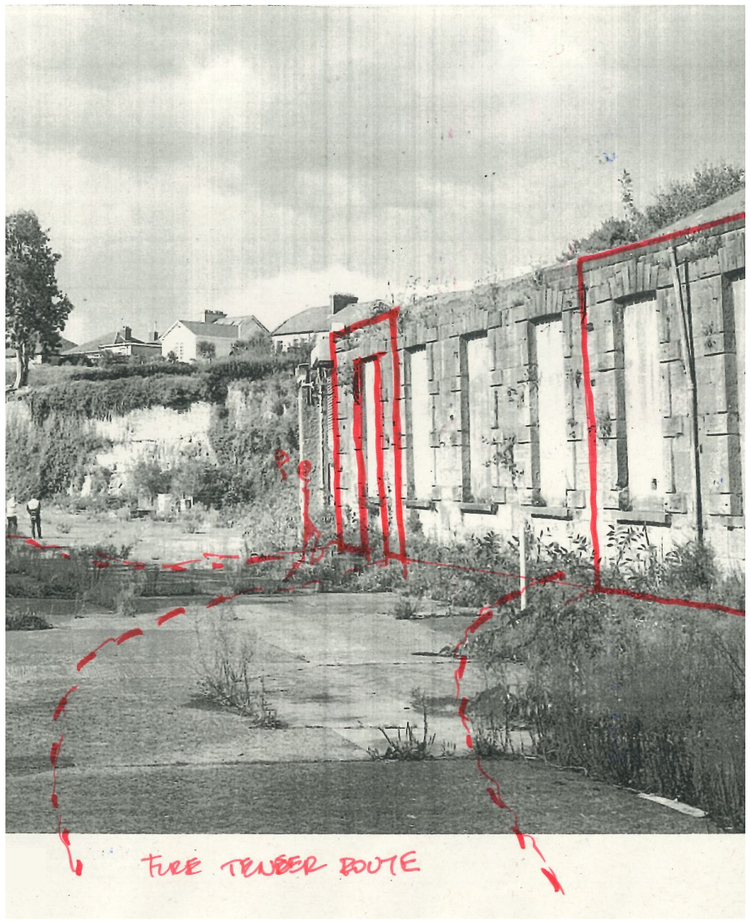


Figure 3.3.2 - Identification of openings to be made



Figure 3.3.3 - Indication of proposed routes through wall

3.0 HISTORIC FABRIC ASSESSMENTS FOR THE DELIVERY OF PROPOSED DEVELOPMENT & WIDER MASTERPLAN

3.4 Reservoir Piers

RESERVOIR PIERS:
Significance:
A grouping of piers within the reservoir that are believe to have been intended to sit beneath a structure but were not built on follow the same alignment of the Infiltration Gallery Engine House piers to their south. The arrangement and photographic evidence suggest these are contemporary with the Infiltration Gallery Engine House arches. They are deemed to be of 'medium significance'.

Current Condition:
Submerged beneath the reservoir water they appear to be the same construction as the Engine House piers, large dressed limestone built to courses.

Options explored for re-use:
Masterplan buildings are not proposed to extend into this part of the reservoir, so the piers have not been looked at to support new buildings.

Their use within other areas of the scheme, as salvaged material within the landscape finishes, is proposed.



Figure 3.4.1 - Drone image of Reservoir Piers

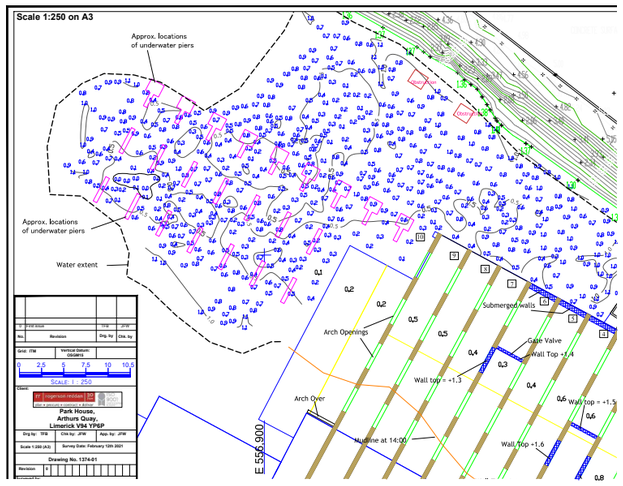


Figure 3.4.2 - Measured Survey of Reservoir Piers

3.0 HISTORIC FABRIC ASSESSMENTS FOR THE DELIVERY OF PROPOSED DEVELOPMENT & WIDER MASTERPLAN

3.4 Reservoir Piers

RESERVOIR PIERS:

Alignment with the aims of the masterplan:

The intent within the masterplan is to allow access to the reservoir as part of the overall amenity and leisure offer across the site, to integrate a diverse mix of uses and activate the public realm. It is anticipated that water sports are carried out and enjoyed here and in their current form, mostly submerged beneath the water, the piers present a significant health and safety risk as part of the reservoir leisure offer. Keeping them in place and restricting access to this part of the reservoir would reduce the usable amenity space by c55%. To maximise the leisure and public realm opportunity they are proposed to be removed

Mitigation:

Improved leisure amenity and public realm offer is afforded by their removal. The piers will be recorded prior to their removal, when access allows for recording in the reservoir. Those beneath the Engine House provide a representative samples of surviving piers. Landscape proposals will incorporate reclaimed stonework into the finishes and features around the reservoir.

EIAR Heritage Chapter References
Reservoir

Description - Table 13
9.5.2.2 - Group 4 Description - Likelihood of Significant Effects
Table 26 - Likely Effects and Residual Impacts

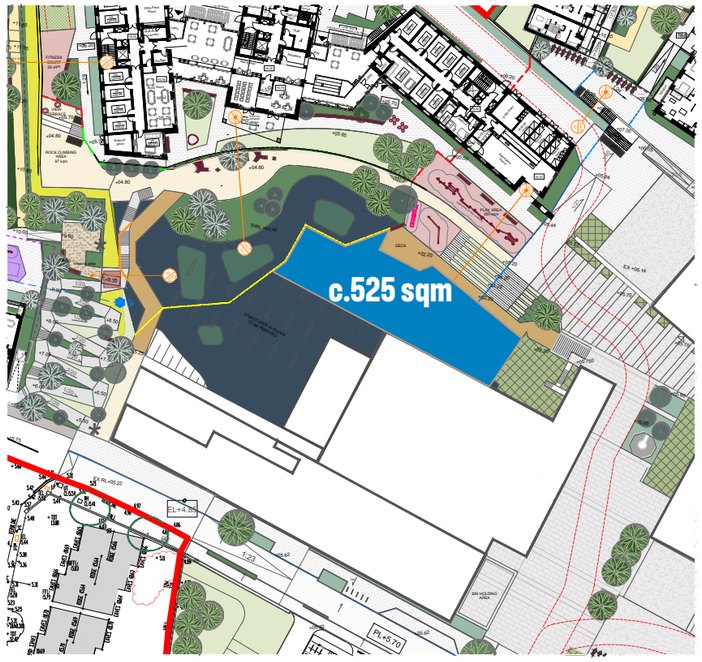


Figure 3.4.3 - Diagram showing amenity extent with Pier area restricted

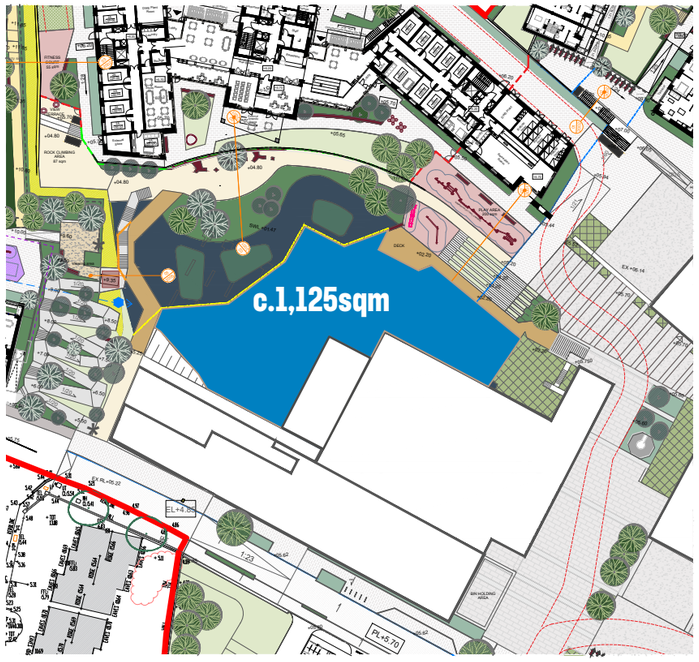


Figure 3.4.4 - Diagram showing amenity extent with Piers removed

3.0 HISTORIC FABRIC ASSESSMENTS FOR THE DELIVERY OF PROPOSED DEVELOPMENT & WIDER MASTERPLAN

3.5 Cheese Plant Office and Shipyard Warehouse

CHEESE PLANT OFFICE AND SHIPYARD WAREHOUSE
Significance and Current Condition:
At the Infiltration Gallery, buildings are noted to have existed along this boundary since the flax period. The ground appears to have been made up in part by vaults that step across the edge of the reservoir offering a base over which a series of single storey sheds were built.

The Cheese Plant buildings sit along the North Circular Road edge and have been substantially altered in later phases of the complex. The majority of the long building was re-built and the adjacent buildings where demolished and replaced by a reinforced concrete frame building around 1960. Changes to the structures of the C20th have resulted in the loss of original fabric and as such have 'negative significance'.

The Shipyard Warehouse is within the Curtilage of the Historic Shipyard Site and is a post 1986 building deemed to be of 'negative significance'.

Options explored for re-use:
The Cheese Plant Office is on a key axis and masterplan route into the Flaxmill Plaza and is of negative significance. Its location impacts development potential further south for future academic uses on the site of the North Circular Road Workshop building.

The proposed raising of North Circular Road for flood mitigation poses construction challenges to retain the façade of the Shipyard Warehouse for a temporary use, with the site ultimately proposed to deliver commercial uses in Phase IV of the masterplan.



Figure 3.5.1 - Location of Cheese Plant Office and Shipyard Warehouse off NCR

3.0 HISTORIC FABRIC ASSESSMENTS FOR THE DELIVERY OF PROPOSED DEVELOPMENT & WIDER MASTERPLAN

3.5 Cheese Plant Office and Shipyard Warehouse

CHEESE PLANT OFFICE AND SHIPYARD WAREHOUSE OFF NCR

Alignment with the aims of the masterplan:

The removal of the Cheese Plant Office enables a new connection into the Flaxmill Plaza along the axis of the protected Chimney, and creates an academic building development plot along North Circular Rd to come forward in a later phase.

The removal of the Shipyard Warehouse will aid constructability, enable more flexible meanwhile and temporary uses on this plot and allow space for construction waste and materials to be stored ahead of their re-use and use on the wider site.

Mitigation:

Removal of structures of negative significance mitigates the impact upon the protected structures. Removal of C20th buildings of low significance allow for improved access into site and enabling of future development plots.

EIAR Heritage Chapter References
Cheese Plant

Description - Table 23
9.5.2.2 - Group 5 Description - Likelihood of Significant Effects
9.7.2 - Mitigation
Appendix 9.3 - Building Recording
Table 26 - Likely Effects and Residual Impacts

Opposite page:

EIAR Heritage Chapter References
Shipyard Site - Warehouse and Walls

Description - Table 24
9.5.2.3.2 - Group 9 Description - Likelihood of Significant Effects
9.7.1 and 9.7.2 - Mitigation
Table 27 - Likely Effects and Residual Impacts

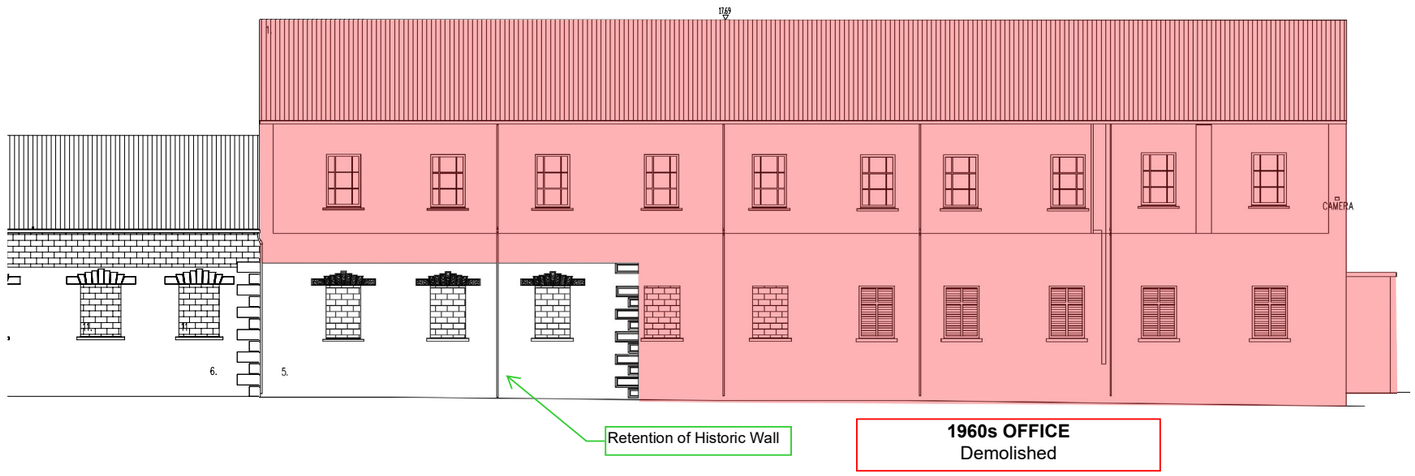


Figure 3.5.2 - Element of Cheese Plant Office Wall being retained - North Circular Road Elevation

3.0 HISTORIC FABRIC ASSESSMENTS FOR THE DELIVERY OF PROPOSED DEVELOPMENT & WIDER MASTERPLAN

3.6 Shipyard Curtilage Walls

SHIPYARD CURTILAGE WALLS

Description and Significance
The Shipyard site is likely to have been walled in a similar form to that of the Flaxmill site. The 1870s map shows a busy site. The southeast is enclosed by a wall with a gated entrance that led to a slip way. The remnants of the early wall and gate posts are still present today. The site is not within the grounds of the protected structures.
The Shipyard site walls are fragments of demolished buildings that establish the corridor of the North Circular Road which runs between the two sites. The surviving fragments of wall record the history of the buildings that once stood behind and as such are of 'Archaeological interest'. The wall holds minimal significance to the Flaxmill's operation and has been identified as of low significance. The concrete elements and modern changes fall under the description of fabric dating to the C20th and described in the Statement of Significance as being of negative significance.

Current Condition:
The wall of the shipyard site is largely the residual facades of former buildings that occupied the site from the 1800s up until the 1990s. Where they survive most retain scars of former openings some of which were later insertions to the original wall. Most former openings have been infilled with concrete blocks. Long sections of the historic wall have been raised with concrete. The wall is in poor repair but stable. To the north the historic wall bordering Fernhill has collapsed and is in need or repair and reconstruction.

Options explored for re-use:
There are two key objectives that affect the site and the enclosing walls:
- flood mitigation measures which require the north circular road to be raised
- reuse of the shipyard site as a mobility hub and publicly accessible landscape

The approach has sought to retain as much of the historic wall as possible. This has meant minimising changes and where necessary focusing change on aspects of the wall that are modern. New openings are either located where previous openings existing or aligned with part of the wall already heavily impacted by past change. In addition, and to improve legibility of the site, the upper section of the wall formed in concrete has been identified for removal. This is thought to be a heritage gain that reinstates the wall to its earlier form and removes the hard and inflexibly capping applied sometime in the late C20th.
In addition, the proposed reinforcement measures needed to allow the road level to be raised have been designed to be built below ground, out of sight and built adjacent to the wall. These simple measures will ensure the fabric of the historic wall is retained.
The wall is to be recapped with copings formed of stone salvaged from the dismantling of other buildings on the Flaxmill and Salesians site. The walls will be re-pointed with lime mortar where required.
New and reinstated openings will be described in new Corten portals that will be clearly legible as new interventions set within the historic walls.



Figure 3.6.1 - Shipyard north walls - currenty condition poor requiring repair and rebuilding in parts


Figure 3.6.2 - Shipyard walls onto North Circular Road - section in red to be lowered in line with raised level of the road.

3.0 HISTORIC FABRIC ASSESSMENTS FOR THE DELIVERY OF PROPOSED DEVELOPMENT & WIDER MASTERPLAN

3.7 Upper Reservoir

UPPER RESERVOIR
Significance:
The land above the Flaxmill does not appear to have been used for industrial operation in the Flaxmill's first 100 years. The structures to the north of the Main Mill were built in the C20th during phases of modernisation. Aerial photos from 1947 and 1951 show a series of concrete reservoirs partially set into the ground. By 1952 a pump house had been added. Significance is based on the use and operation of the site in the processing of flax, production of linen and later the processing of milk. These structures post-date these periods and hold 'negative significance'.

Current Condition:
The buildings are in a derelict state of repair.

Options explored for re-use:
As a collection of small, separated single storey structures these buildings hold little opportunity to be refurbished to house future accommodation as part of proposals. Their location between Stonetown Terrace and the Flaxmill Plaza severs connectivity through the site and their derelict state would require significant and extensive renovation and adaptation to meet modern standards of accommodation.

Alignment with the aims of the masterplan:
A key principle of the masterplan is the site's permeability and urban connectivity. Moreover, provision of access into the deepest areas of the site is a principle embedded in Limerick's Development Plan 2022-2028.

This part of the site presents the only opportunity to gain pedestrian access directly from Stonetown Terrace into the wider site and can provide construction access to this plot at this location, minimising the impact on Stone Town Terrace itself.

Mitigation:
While there is no mitigation required relative to the removal of the concrete structures, the proposals to result in positive outcomes for the Flaxmill Complex overall. The reation of new points of access enable the positive reuse of the site. Bringing people into the site is a principle for improving heritage engagement and will link the residential accommodation proposed in Stonetown Terrace to the wider site and its landscape amenity.

The removal of the structures will benefit the scheme through much-improved access deep into the site. In keeping with the Development Plan objectives and design principles, opening-up the site is essential to improve connectivity and quality of spaces.

EIAR Heritage Chapter References
Upper Reservoir
Description - Table 19
9.5.2.2.6 - Group 7 Description - Likelihood of Significant Effects
9.7.1 and 9.7.2 - Mitigation
Table 26 - Likely Effects and Residual Impacts

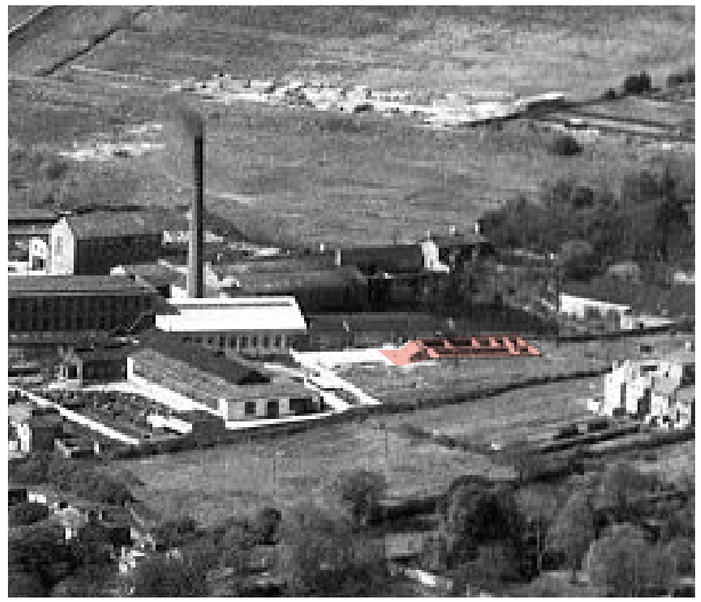


Fig 3.7.1 Photo of the site looking south over the upper reservoir c.1951



Fig 3.7.2 Current day aerial photo of the site looking south over the upper reservoir

4.0 DESIGN PHILOSOPHY

4.0 DESIGN PHILOSOPHY

4.1 Overview of Design Approach

The Cleeves site presents a palimpsest which reveals layers of its history in building forms of diverse orientation and forms, some with incongruous positioning reflective of their industrial function. The site has evolved and adapted over the decades of its industrial past. In this phase of the sites history, the urban design approach proposes to open up the new quarter to the City and Riverside with an accessible, permeable and vibrant public realm as the setting for new residential developments, in line with and reinforcing the Masterplan principles. The organisation of the architectural ensemble seeks to establish distinct places in and between the character areas, focussed on the industrial heritage of the site, reinforcing a sense of place. Places that bring amenity value, delight and shelter in the public realm, offering to the city exciting new urban spaces at the Riverside, Flaxmill plaza and Quarry.

The configuration and organisation of building massing is designed to engage with the River and City, with views of both from the public realm and from the residential communal amenity spaces linked to same. From the residential buildings, views of the River & City are optimised, in particular from the O'Callaghan Strand building adjacent to the Riverside.

The arrangement of buildings and massing on the residential sites is designed to create a network of connected public spaces that celebrate and enhance the site's industrial heritage. By linking distinct character areas into a cohesive whole, the design highlights and integrates key heritage landmarks—such as the Flaxmill, the iconic chimney, the reservoir, and the quarry edge—strengthening the site's unique identity and sense of place. Building massing is organised to frame residential amenity gardens with optimised access to sunlight, whilst optimising daylight access to dwellings with east / west facades prioritised.

The character areas of the Quarry, the Flaxmill at the centre are linked to the character areas of the Salesians and Stonetown terrace through the pivoting geometry of the student accommodation blocks, rotating from the easternmost block's alignment with the Flaxmill to the westernmost blocks alignment with Salesians. Together, the three wings of the student accommodation sit on top of a plinth that frames the northern edge of the reservoir.

The organisation of the public realm on the upper Salesians and Stonetown Terrace residential sites is arranged to offer permeability in a network of universally accessible routes linking these sites down to the public realm around the reservoir, which continues past the chimney, linking through the Flaxmill plaza to the riverside, stitching together the diverse character areas, and connecting them to the heart of the Cleeves Riverside Quarter identified by the iconic chimney.

The design approach to materiality responds to and takes cues from the rich palette of materials and colours found in the existing Cleeves site and context, applying it to a contemporary residential context. A suite of robust, durable materials offer a shared language across the quarter, complimenting the limestone and brick of the Flaxmill buildings. This is further distinguished on each site with variations of materiality & colour within that palette, accompanied by common threads of colour / materiality linking all buildings within the ensemble. With a focus on brick of varying colours creating a richly textured backdrop, each site proposal uses brick in combination with a secondary material (metal cladding on Salesians and fibre cement cladding on the Student Accommodation). A colour palette of blue / greens and terracotta for these secondary materials offers a common thread, with colours echoing those found in industrial heritage elements at Cleeves (corrugated metal cladding, weathered steel), and in the surrounding residential context.
The existing roofscape at Cleeves incorporates various pitched roof configurations, barrel vaulted roofs of different scales etc reflecting different phases of development. Responding to this palimpsest the proposal for this phase is for similarly diverse roof profiles (pitches and barrel vaults) to be integrated into the existing roofscape in a new contemporary layer.

The patterning and configuration of facades express the new layer of residential uses across the site, while taking cues from the rigorous industrial aesthetic of the Flaxmill and adjacent buildings, as do the treatment of gables as distinctive features.



4.0 DESIGN PHILOSOPHY

4.2 Elevation & Material Strategy

Materials
The material palette throughout the proposed development takes its cues from the rich variety of traditional and industrial materials and tones found on the Cleeves site and in the wider context.

The material character of the site is dominated by the traditional dressed grey limestone used for the walls of the Flaxmill, surrounding buildings and curtilage wall. This is a robust, durable masonry material, with decorative details around windows, entrances and openings.

Red brick and the red rusted sheet roofs are a secondary material and tonal reference, with the protected Chimney presenting a contrasting tone, form and scale of architectural detail to the limestone buildings.

Across the remainder of the site buildings of different forms and orientation instil the site with a more playful array of tertiary materials and tone – from green sheet metals to buff render, and dusty pink and brown painted concrete. These reflect the periodic layers of the new, at times making the site appear confusing, but each offering a reference point to inform a design for positive change.

The scheme proposes a palette of robust and durable materials that will clad the buildings for many years to come, and have the ability to be disassembled at the end of the buildings' lives for re-use. The primary material across the scheme is brick, used in different colours to echo the tonal quality of the existing site. Creys, reds and buff bricks will talk to both the heritage buildings of the mill complex on the site and the wider residential context in which buildings sit. These are paired with secondary materials and varying colours of tertiary materials, creating a textured backdrop to the heritage buildings. At Salesians, red brick will be combined with green metal cladding across the back half of the apartment buildings, and on the Quarry fibre cement cladding in greens and blues alongside grey brick will pick up on the variety of colours currently present across the site.

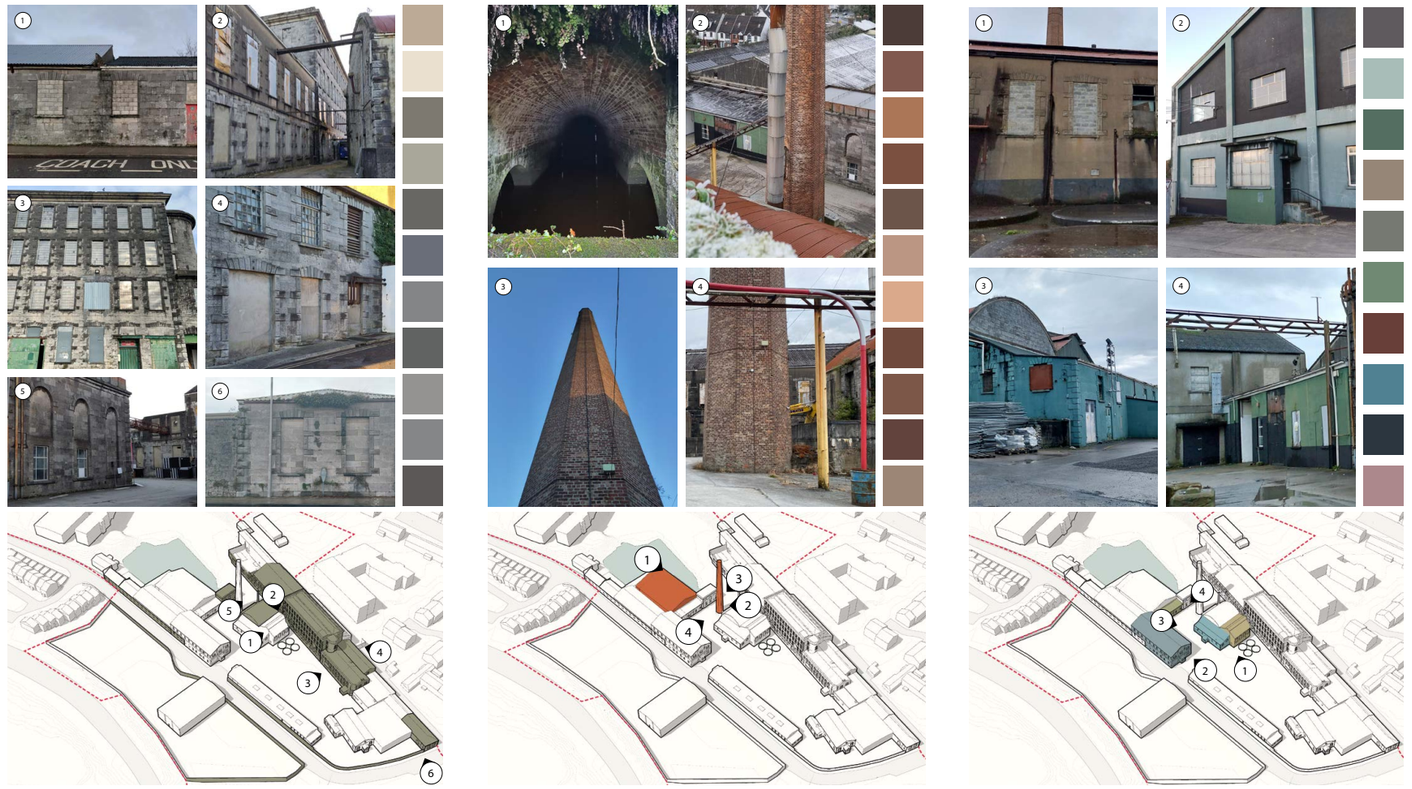


Figure 4.2.1 - Site Material and Tone Mapping Study



Figure 4.2.2 - Limerick Materiality

4.0 DESIGN PHILOSOPHY

4.3 Industrial Rigour & Rhythm

Industrial rhythm and rigour
A key characteristic of the site is the rhythm and rigour of the Flaxmill façade, with its large repeating openings of a vertical proportion. The rhythm of the mill's façade has informed the designs for the new residential buildings, with stacked vertical apertures set to a repeating module horizontally. This gives the new residential buildings a mill-like quality, both within the site and when see across the city.



4.0 DESIGN PHILOSOPHY

4.4 Special Gables & roofscape

Expressive roof forms and special gables
Historically the mill complex was characterised by the different roof from and gables across both the Flaxmill Site and Shipyard Site. Many of these buildings were removed or replaced with less interesting forms in the course of the twentieth century. A-symmetric pitched roofs of different configurations, barrel vaulted roofs of varying scale and the slender, expressive gables characterise the site historically, with a few surviving in the more interesting and significant buildings on the Flaxmill site today.

Proposed new buildings will provide a similar diversity of roofscape, with new pitches, barrel vaults and inverted pitches creating a contemporary layer and articulated skyline, bringing back to the site a richness in roofscapes.



Figure 4.4.1 - Limerick Industrial Gables - from left to right - Robert St Corn Store and Shannon St Corn Stores

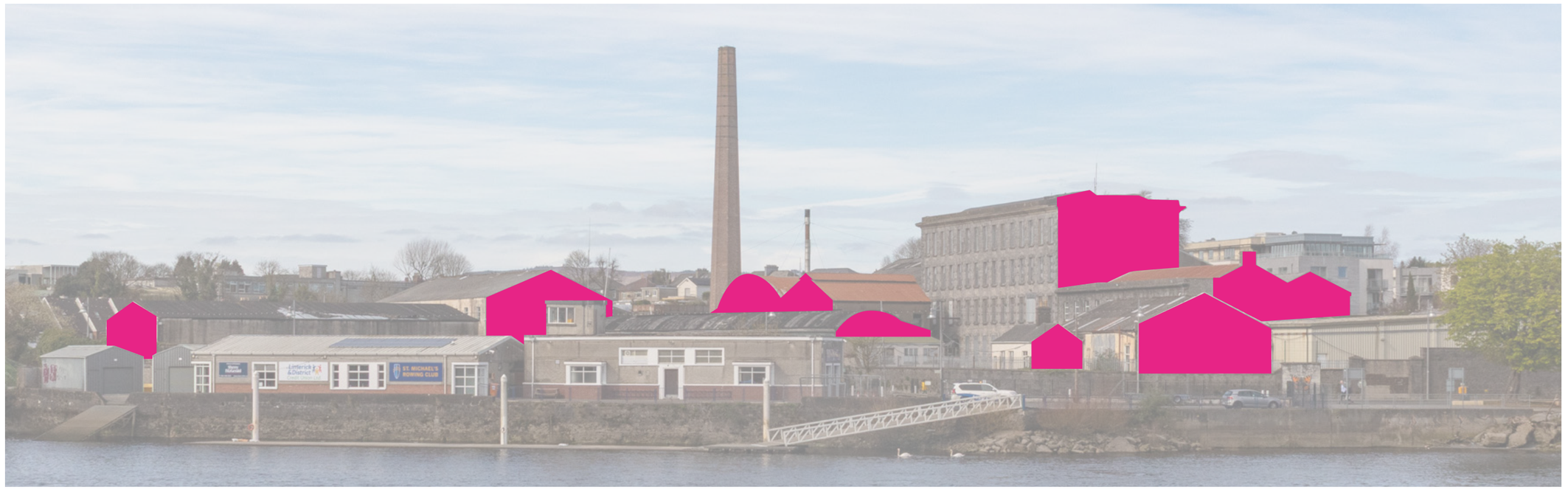


Figure 4.4.2 - Exisiting site gables with pitched, double pitched and vaulted roofs

4.0 DESIGN PHILOSOPHY

4.5 Articulated & Activated Ground

Articulated and activated ground floor
The site is characterised at a human scale by the single storey curtilage walls that run around both the Flaxmill and Shipyard sites. The integration of the Linen Store façade into the O'Callaghan Strand building sets up a dialogue of expressed bases that carries through the site, grounding the buildings within the dramatic topography and public realm. Expressed bases also provides a common thread at ground floor between the different plots, creating commonality and cohesion within a family of new buildings that also have their own distinct characters.

Further to this, expressive arched openings at ground floor into the site (Fernbank Gateway) and Flaxmill (main entrance) provide cues for celebrating entrances into new buildings across the site.



Figure 4.5.1 - Main Mill Curtilage Wall, looking up North Circular Road



Figure 4.5.2 - Flaxmill main entrance



Figure 4.5.3 - Fernbank Gateway

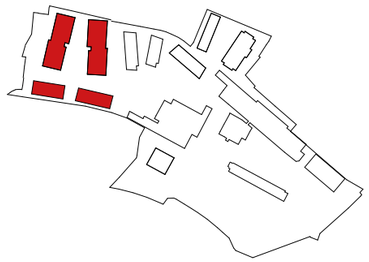
5.0 SALESIANS DESIGN STRATEGY

5.0 SALESIANS DESIGN STRATEGY

5.1 Overview and Site Layout

New residential accommodation is provided in two apartment buildings within the body of the plot and back-to-back triplexes that front North Circular Road, responding to the changing scale of the neighbouring residential context. A new 34 place creche is located at the centre of the plot, with dedicated cycle, parking and drop-off spaces.

Buildings splay open around a new communal open space to optimise daylight and are accessed centrally via communal entrances. The massing is broken down with steps in plan and changes in parapet height, and orientated to ensure views through the site are maintained, both for the enjoyment of those using the spaces within the new development, and for neighbouring properties adjacent to it.



Key Plan
Plot Location within Masterplan



Figure 5.1.1 - View from outside Triplexes looking north towards aparments

5.0 SALESIANS DESIGN STRATEGY

5.1 Overview and Site Layout

The proposals consist of four residential buildings 4A, 4B, 4C & 4D, a creche (01), a lower ground residential car park (02), new public realm, and the reprovision of parking spaces for staff at Salesians Primary School (03).

Two rows of three-bedroom triplexes are proposed along North Circular Road (4C & 4D) activating the street with new entrances and front gardens, while also creating a more familiar and residential street-based environment. In-between these buildings is a new vehicular entrance into the lower ground residential car park, accessed directly off of North Circular Road and built into the slope.

The two rows of three-storey triplexes are a 'back-to-back' typology, with the rear half elevated by one-storey above the lower ground residential car park. So on the upper-ground level new front doors are created onto the new public realm, which looks east towards the Flaxmill and Reservoir.

Two larger apartment buildings (4A & 4B) are orientated north-south, set back from North Circular Road to mitigate the sense of mass from the street. Outside of the historic curtilage of the Mill, these buildings offer the opportunity to provide increased density and more homes for Limerick. The long gardens of the homes in Clanmaurice Avenue ensure a significant distance between the new and existing buildings.

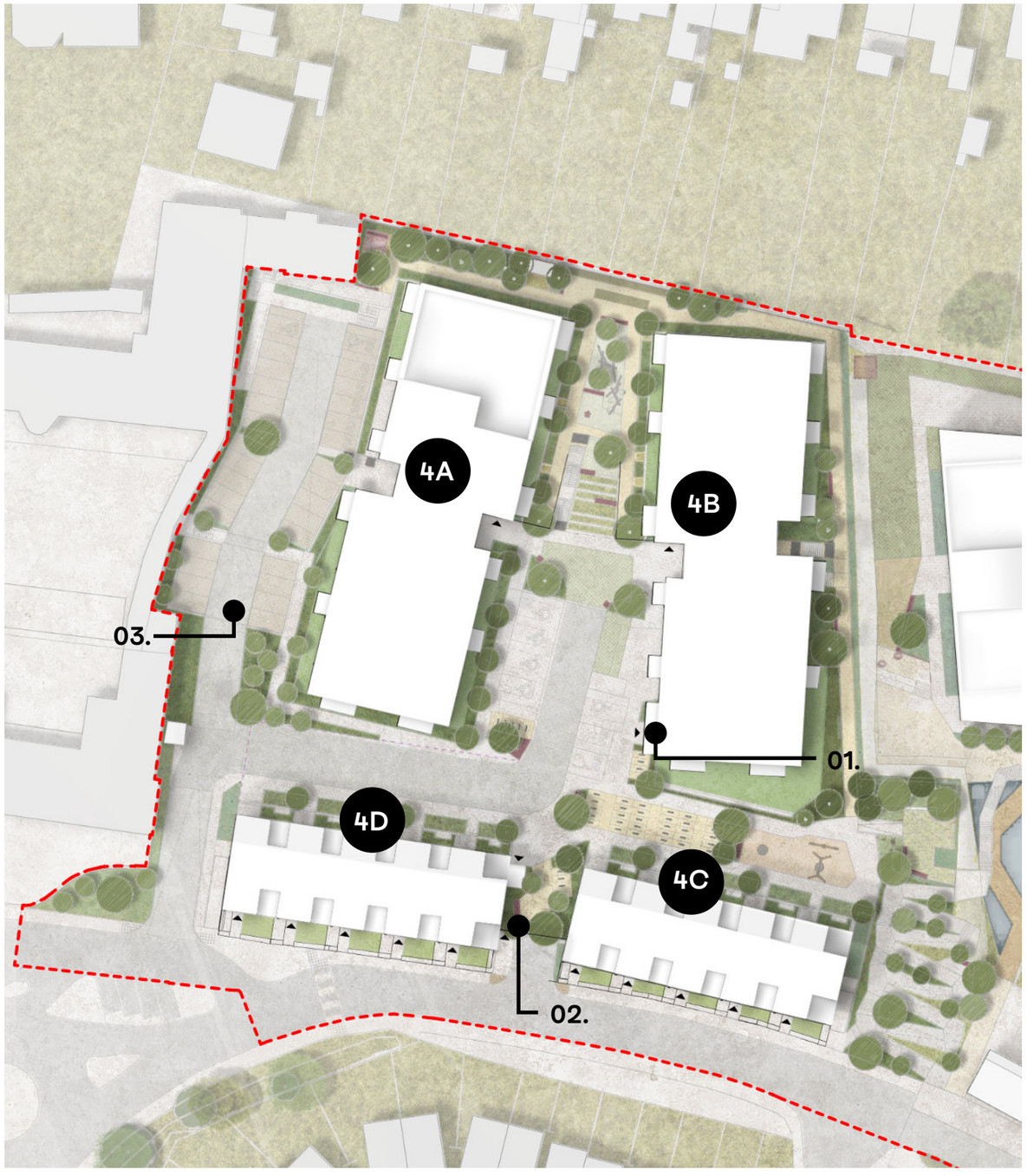
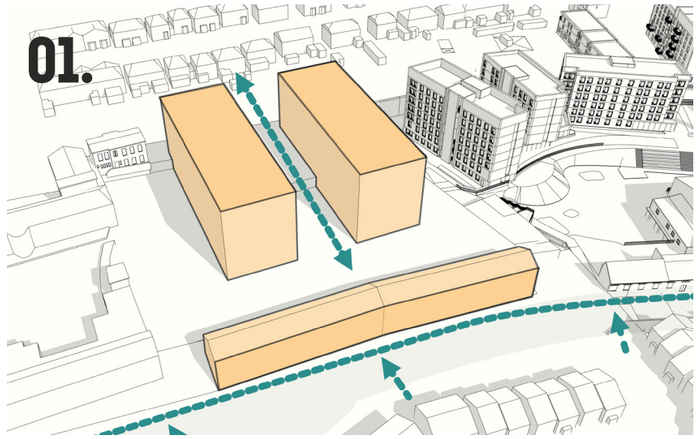


Figure 5.1.2 - Salesians plot site layout diagram

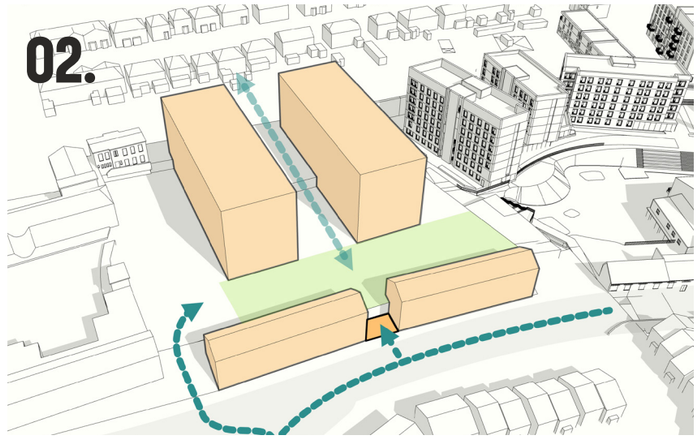
5.0 SALESIANS DESIGN STRATEGY

5.2 Design Evolution



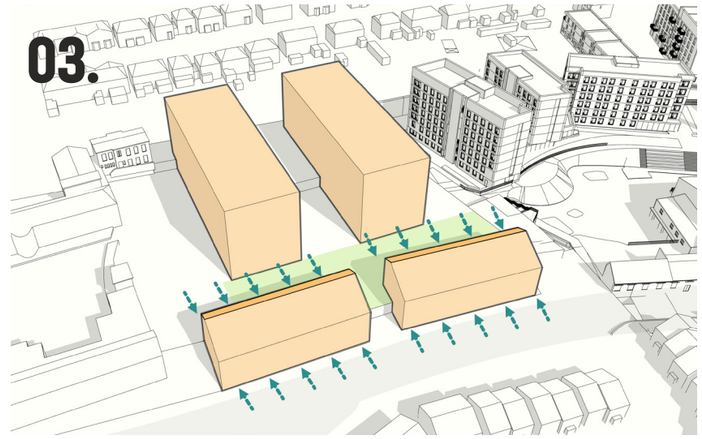
01. Aligned Massing

The is an opportunity to reinforce the residnetial streetscape along North Circular Road, whilst providing two taller apartment blocks to the rear, aligned north/south to optimise daylight and views through.



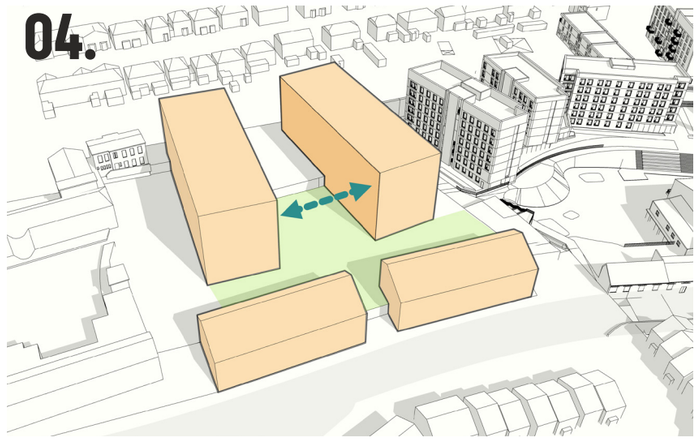
02. Improve Public Realm

Residential car parking spaces are proposed in a lwoer gorund car park off of North Circular Road. This reduces vehicular traffic into the heart of the scheme and improves the potential for a positive public realm.



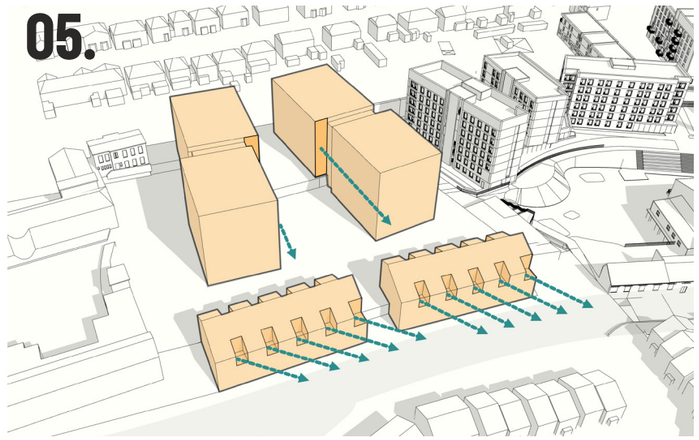
03. Increase density and active frontages

Introduce back-to-back triplexes delivering more homes but also providing front doors and passive surveillance onto both North Circular Road but also the new Public Realm created at the centre of the plot.



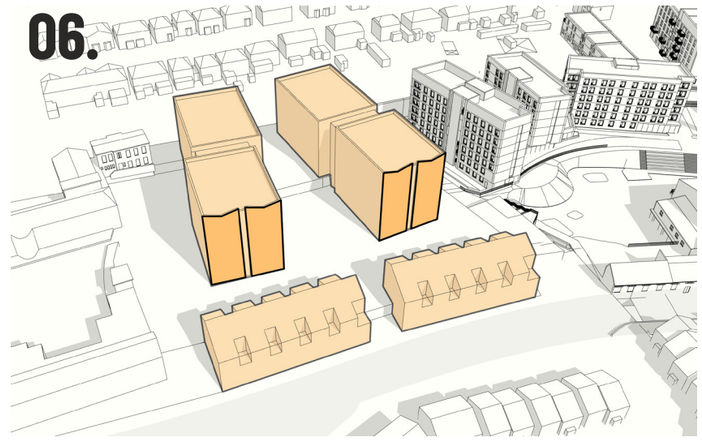
04. Enhance the Communal Open Space

Splay open the blocks to improve sunlight and daylight penetration from the south as well as maximising the amount of amenity space available.



05. Improve dual aspect

Break down the perceived length of the buildings by offsetting around the core. This also breaks down the perceived length of the building into two. The core is recessed and the two buildings have different materials to break mass down further.



06. Celebrate the gables

Narrow gables break down mass and celebrate the ends of buildings. Expressed form speaks to the history of the site with its industrial roofscape.

Figure 5.2.1 - Salesians Design Evolution Diagrams

5.0 SALESIANS DESIGN STRATEGY

5.3 Massing & Height

In order to achieve a high quality scheme while maximising development opportunity in this city centre location, Salesians proposes buildings of a different scale and type to those of the surrounding houses and school, but not out of proportion with similar riverfront and city-centre developments.

The massing integrates this transition in scale by first creating a familiar terrace house-inspired apartment typology to North Circular Road. Orientated east west to reestablish the continuity of the street frontage, these buildings create a 3/4 storey edge to the site. The steeply pitched roofs that deal with the level change establish a connection to the homes opposite.

The taller apartment buildings bring a more mill-like typology to the site, drawing on the legacy of the Cleeves Mill. These are located within the site, set away from the street front to mitigate the impact of height from the road. The switch in orientation to north-south prevents an impenetrable wall of housing being created, only presenting the thinner gable ends to the street. The ground level then changes again across the length of these buildings, which allows them to appear smaller to the rear of the site, at only 6 storeys rather than 7 storeys. Locating some roof plant to the north, rather than additional apartments, further mitigates scale and the sense of overlooking from the northern boundary.

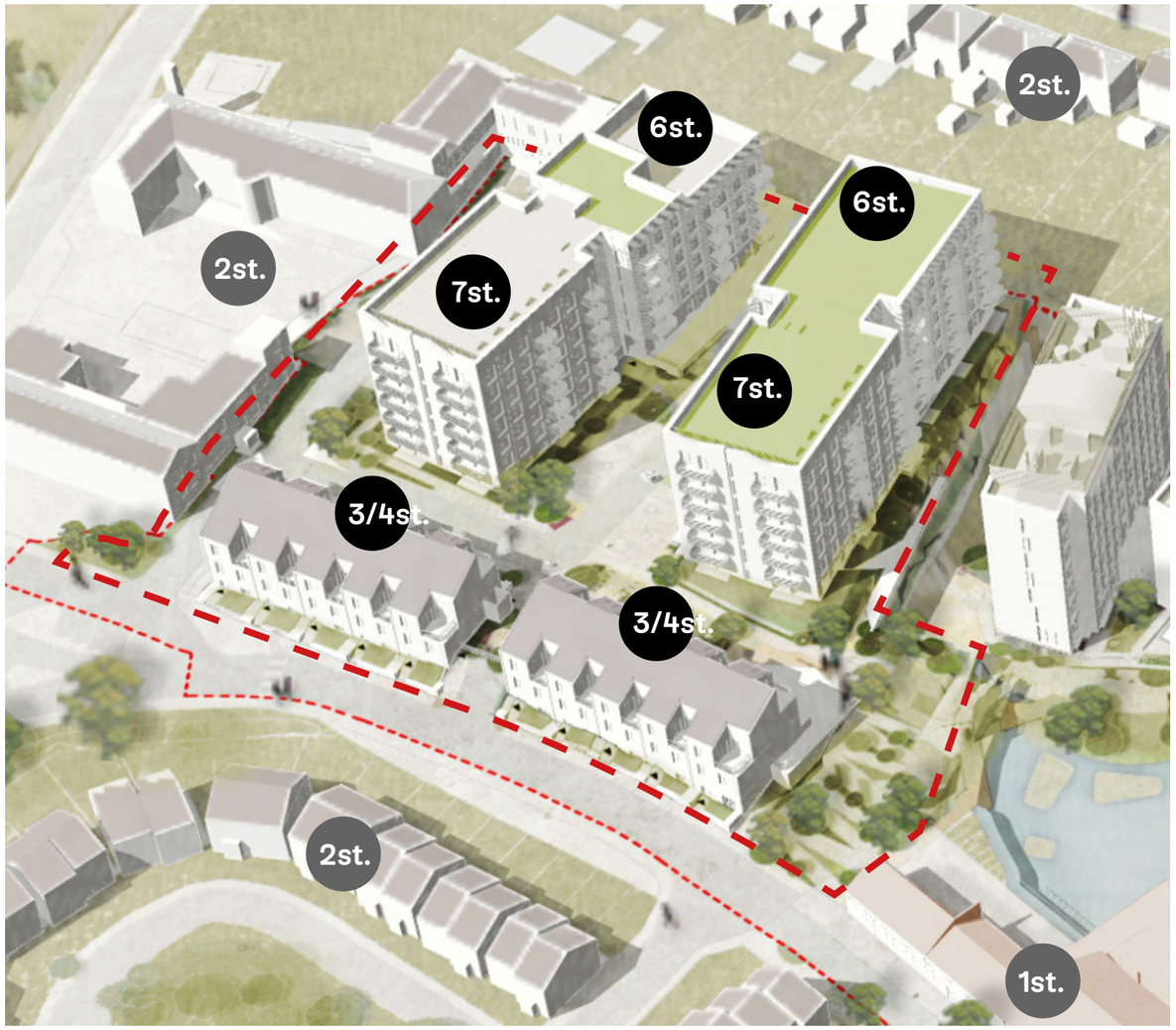


Figure 5.3.1 - Aerial view of Salesians plot

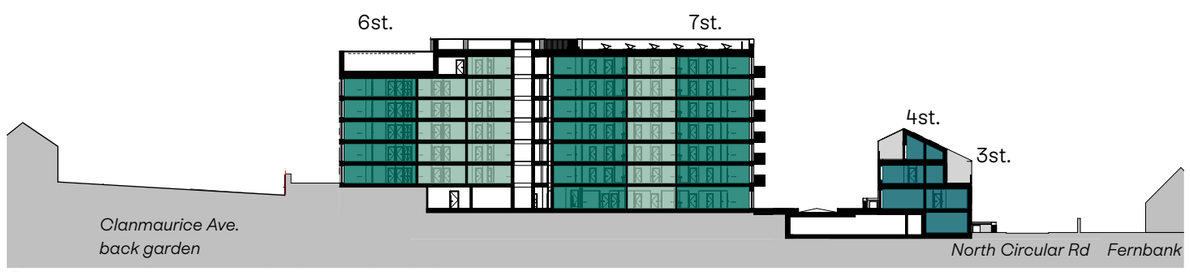


Figure 5.3.2 - Context section illustrating heights

5.0 SALESIANS DESIGN STRATEGY

5.4 Fernbank House

FERNBANK HOUSE:
Significance:
The former private dwelling is much altered having been adapted and extended to meet the needs of the school. The building is familiar to many former pupils and parents of Salesian School. For some, the historic parts hold particular interest.

The house is not a part of the Flax Mill and is not within the curtilge of the protected structures. It does not hold heritage significance. Public consultation in 2023 highlighted the interest that exists in Fernbank House, the structure that the school occupied when it moved to the site. The consultation included reference to the connection between the Cleeves family who lived in the house between the mid or late 1890s up until its sale to the Salesian Sisters in 1924.

In 2024, an 'Architectural Heritage Assessment' was undertaken by the Conservation Officer. The assessment determined that Fernbank House did not pass the high bar for designation as a protected structure.

Current Condition:
The use of Fernbank House as a school has resulted in changes that have altered the historic building form and appearance. The building is much altered from its original design and aesthetic. In their current state the exteriors are quite unlike those of the earlier building. Some of the interiors retain surviving fragments, typically built in features like the main stair of the house and window shutters. Much of the fabric has been adapted. The building overall has not been legible as a dwelling for many decades.

Options explored for re-use:
The more modern elements of Salesians Secondary School have recently been partially modified to temporarily house refugees. This demonstrates spaces suitable for alternative use, but is not suitable for long-term accommodation without retrofitting to modern building regulations. Recent recording of the fabric identified issues of dry rot, a reminder of the buildings deteriorated state of repair. The footprint to the north-west is deep in plan and results in lots of corridors needed to access residential accommodation.

Re-use studies have indicated that approximately 72 homes could be accommodated within the existing fabric once alterations have been made. The existing building occupies a large proportion of the Salesians site as a long, low-rise building. Its reuse would allow approximately ¼ of the site to come forward with new accommodation while still providing the existing 30 Primary School parking spaces on the site. This would result in a c.4 storey new-build residential building of c.8 units to a core also on the site.



Figure 5.4.1 - Fernbank House c.1910.



Figure 5.4.2 - Fernbank House current day



Figure 5.4.3 - Aerial view of Salesians plot showing Fernbank House

5.0 SALESIANS DESIGN STRATEGY

5.4 Fernbank House

FERNBANK HOUSE:

Alignment with the aims of the masterplan:

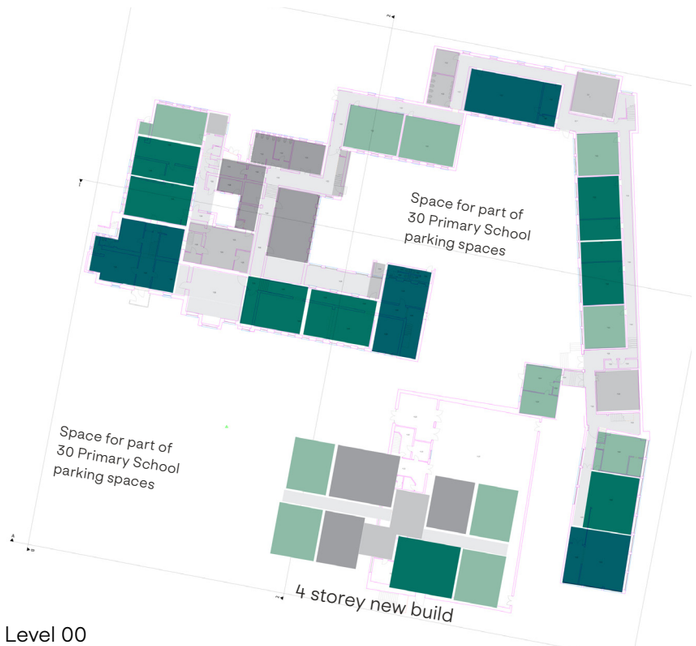
The masterplan aims to optimise compact development and the delivery of much needed new homes. The strategy to do this sensitively is to locate larger buildings further away from protected structures, namely within the Quarry and Salesians sites. The Salesians site presents the best opportunity to deliver a high quantum of housing while being cognisant of neighbouring buildings and the impact of scale and massing on these. Retaining Fernbank House would result in the delivery of approximately 72 new homes. Removing the building for redevelopment enables the delivery of 166 new homes and a crèche in the proposed design.

Mitigation:

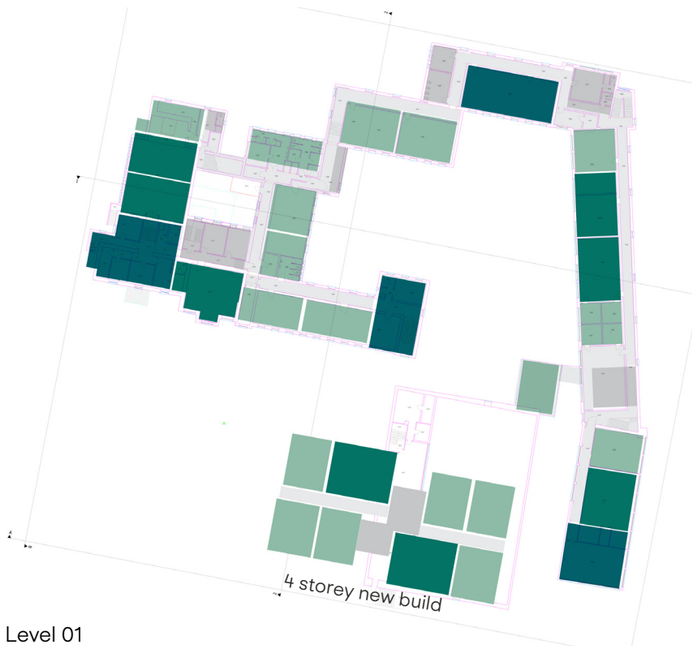
Heritage mitigation is not required for the removal of structures of negative significance and those that do not hold cultural interest.

Notwithstanding the above, Fernbank House holds a special place in the collective consciousness of Limerick. The loss of Salesians School post 1924 will not result in impact upon a protected structure. The loss of the residual fragments of the former Fernbank House deemed to hold interest could result in an impact. This can be mitigated though preservation by record achieved with building recording and by the salvage of key components of the fabric that are deemed to embody artistic interest in their own right.

The construction of a significant proportion of the overall masterplan housing (71% on the Salesians site) will expedite and sensitively maximise the delivery of homes across this opportunity area.



Level 00



Level 01



Level 02

Plan Key

- 1B2P
- 2B4P
- 3B5P
- Corridor
- Core
- Plant

Fernbank & School - 43 units over 3 floors

New build - 29 units over 4 floors

Total 72 units

Figure 5.4.4 - Fernbank & School Retention Residential Capacity Sketch

5.0 SALESIANS DESIGN STRATEGY

5.5 Salvaged Materials

Demolition, Recording, Salvage and Reuse
The demolition of the non-designated structures holds some potential to impact the heritage interest of the site. The conservation approach has been resolved to first 'avoid' loss of fabric of interest and where this is not possible to 'minimise' loss. Where demolition activity will result in fabric of interest being affected, the proposal is to undertake building recording and then to salvage and reuse materials of interest.

Salvage schedules have been prepared for the following vacant buildings both of which are identified for demolition:

- **Fernbank House** - non-designated structure and not within the curtilage of the protected structures
- **Victorian Semi-Detached Houses** – building within the curtilage of the protected structures

Within Fernbank House, some fragmentary features are present. These include:

- Entrance porch
- Main Staircase
- Wainscot panelling – ground floor entrance
- Fireplace surrounds and chimney piece
- Iron security bars

For the semi-detached houses, the original features of interest include:

- Features:
  - Staircase
  - Stone fire surround with iron insert
  - Sash windows (where original)
- Fabric:
  - Stone and Brick of walls (largely unseen)
  - Timber roof trusses

Where possible reuse of the fabric will afford it a future it does not have in its current situation.

Building Materials
Retention and reuse of robust building materials, such as stone, is proposed for the landscape and the repair of the walls. These types of salvaged materials are to be a feature of the landscape. The landscape treatment will take a lead from the historic finishes. Recovered materials like cobbles will be reused in the new surfaces and dressed stone used in walls. The designs have set out an intention to utilise salvaged masonry and other materials to enhance the richness of the Flaxmill Plaza by rescuing materials taken from the demolition of the older elements of the site.

Details will need to be developed once the progression of demolition activity permits the preparation of a detailed schedule of material, which will serve as a resource for the contractor and landscape architect to work from. Building Surveyors will progress their work to record the materials in the course of the demolition and build upon the record contained in the Building Recording reports.

Assemblies and Components – Features such as the staircase.
Conservation Philosophy – While salvage of materials is an accepted practice where they have a pre-existing significance to a site or protected structure; the appropriation of historic materials from one source for use elsewhere needs to be managed with care and conservation consideration. In this instance, the recommendation is not to transpose the fabric of Fernbank House onto the Flaxmill complex or within the redevelopment. It is recommended that components of interest are fully recorded, catalogued and placed in store for reuse in a setting where a building of the same period is the subject of repair. This is to be achieved through the engagement of a conservation accredited supply chain e.g. sash windows to be passed to specialist sash window restorers, fireplaces with specialist fireplace installers and iron railings with iron working blacksmiths.


Figure 5.5.1 - Fernbank House main staircase


Figure 5.5.2 - Fernbank House Entrance Porch


Figure 5.5.3 - Fernbank House Fire Place


Figure 5.5.4 - Semi-Detached Houses Fireplace front room 1st LHS

5.0 SALESIANS DESIGN STRATEGY

5.6 Residential Accommodation & Mix

Mix

Salesians will create 166no. new homes for Limerick. The apartments are made up of one-bedroom two-person apartments (46%), two-bedroom four-person apartments (42%) and three-bedroom five-person back-to-back triplexes (12%).

The apartment blocks have a maximum 12 units to a level.

A creche is located within the Salesians site to serve the whole development.

Tenure

These are all allocated as tenure blind.

Universal Design

The 2B4P and larger 1B2P apartments are oversized to allow them to be delivered as UD home compliant in the future. This equates to 71% of the dwellings at Salesians.

A publicly accessible lift at the entrance to the basement car park provides UD access to the upper level of the site.

Salesians Summary

Building	1B2P	2B4P	3B5P	Total
4A	**39**	**35**		**74**
	52.7%	47.3%		
4B	**37**	**35**		**72**
	51.4%	48.6%		
4C			**10**	**10**
			100.0%	
4D			**10**	**10**
			100.0%	
Total	**76**	**70**	**20**	**166**
%	45.8%	42.2%	12.0%	

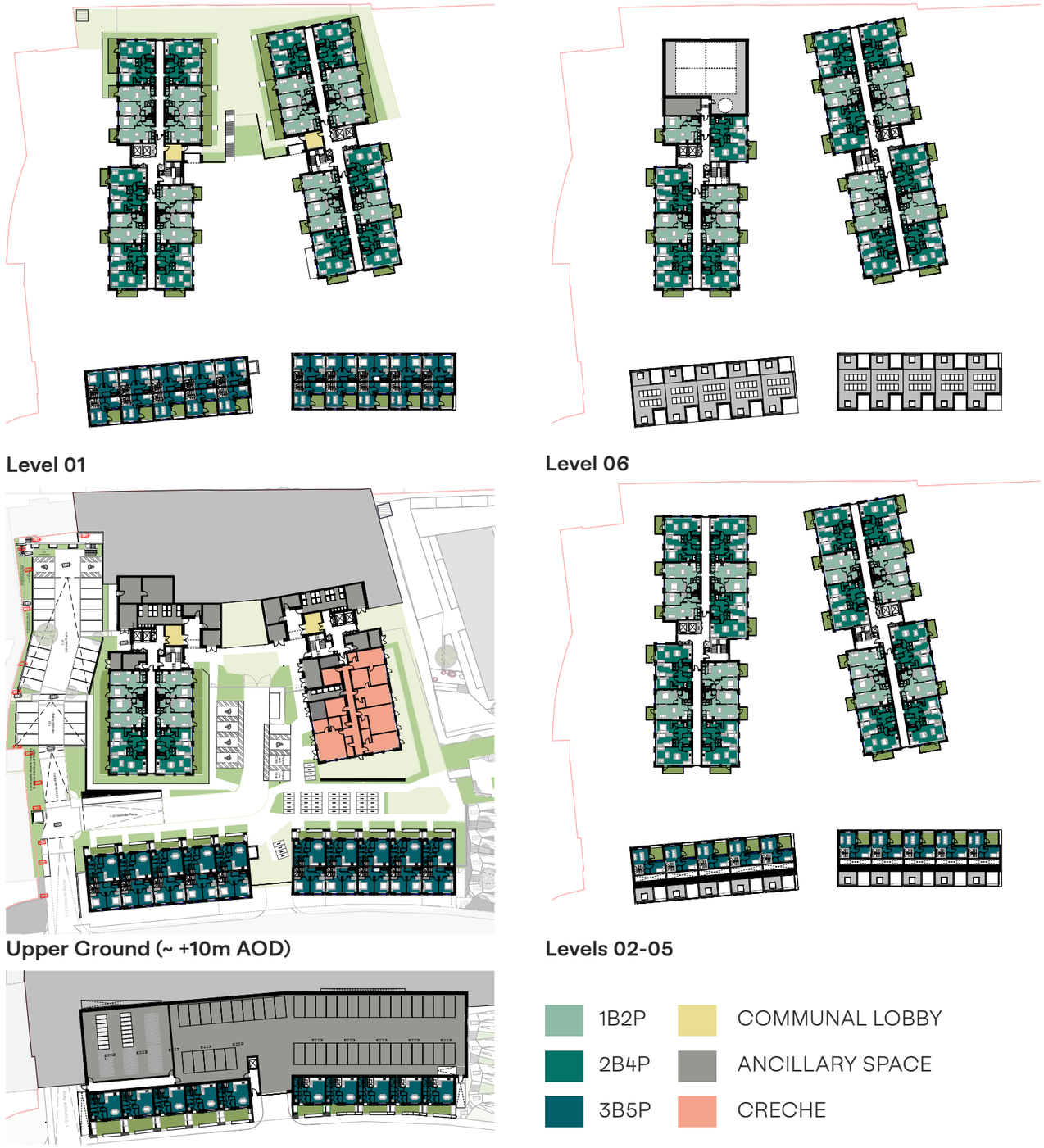


Figure 5.6.1 - Salesians Layout Summary Diagrams

5.0 SALESIANS DESIGN STRATEGY

5.7 Amenity Provision

The site strategy has been carefully considered to create attractive and accessible amenity spaces within a high-quality landscape setting.

The eastern end of the Salesians site is considered the main pedestrian entrance to this part of the development. Here access from North Circular Road converges with access from the Reservoir site, connecting to the new public route through the masterplan. Cars are segregated away from pedestrians, primarily directed underground, and any necessary vehicle access is established via the western end of the site.

New public open space is concentrated around that eastern end, activated by the Triplex frontages to the south and the Creche to the north, creating a vibrant and family-friendly neighbourhood at the gateway to the Salesians site.

Further into the site, the more sheltered and protected areas are given over to secure communal open space. The level change creates an elevated terrace, away from any of the vehicle spaces, resulting in a quiet and secluded amenity space. Raised up and open to the south, this space receives good sunlight and has an excellent visual connection out over the site to the long views of the river, wetlands, and city in the distance.

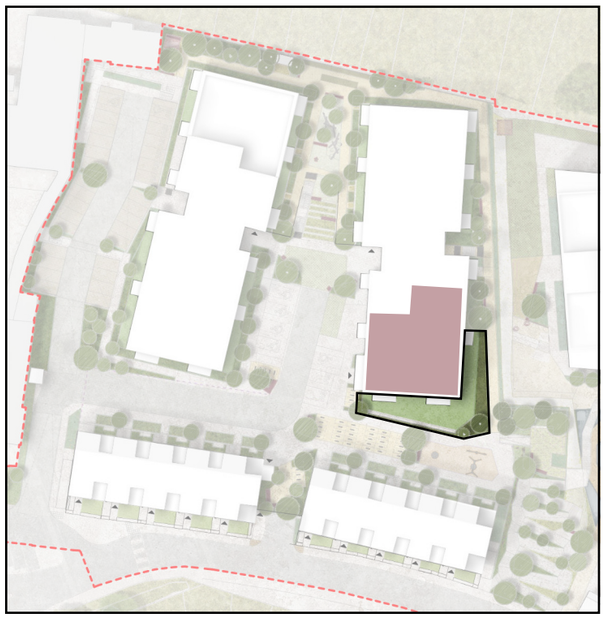
In terms of other uses, the creche has its own dedicated, secure external space adjacent to the public open space, which itself contains a play space that children can make use of. The Salesians Primary School also has use of their own dedicated parking spaces, securely accessed from the western end of the site.



Public Open Space



Communal Open Space



Creche & Associated Play Space



Salesians School Dedicated Parking

Figure 5.7.1 - Salesians Amenity Summary Diagrams

5.0 SALESIANS DESIGN STRATEGY

5.7 Amenity Provision



Figure 5.7.2 - Illustrative view of the public open space, looking to the north with amenity space in the distance

5.0 SALESIANS DESIGN STRATEGY

5.8 Mobility & Servicing

Parking Strategy:

- Vehicle access to the main site is from the south-west corner. This provides access to the dedicated parking for the Primary School, the creche parking, the accessible parking for the apartments, and the delivery drop off.
- Additional parking for the apartments is provided in a semi-basement car park accessed from North Circular Road, between the two sets of back-to-back Triplexes.

Access Strategy:

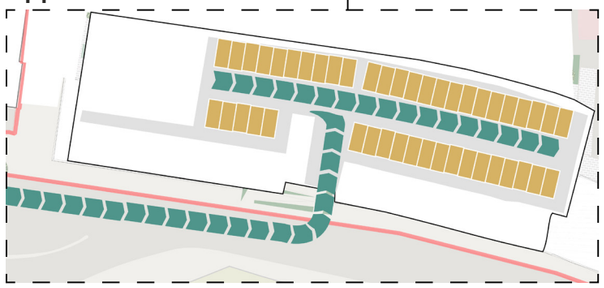
- A lift provides access up from the shared basement car park, and there is stepped and ramped access up from the south-east corner of the site. This is publicly accessible for UD access or parents with prams accessing the creche.
- Apartment access is via two communal lobbies, each leading to a stair and two lifts. Triplexes and the Creche are accessed direct from outside. The school on the adjacent site can be accessed from its parking spaces.
- Emergency fire tender access to the stair cores is achieved by providing space for a turning head outside of apartments buildings

Cycle and Refuse Strategy:

- A single communal bike store for the site is located in the semi-basement, accessed from either end of the site or through the middle, next to the car park entrance. Visitor cycle parking is provided in the landscape.
- Communal bin stores for the apartment blocks are accessed externally, adjacent to the communal lobby entrances. Triplexes have bins integrated into their front garden walls.



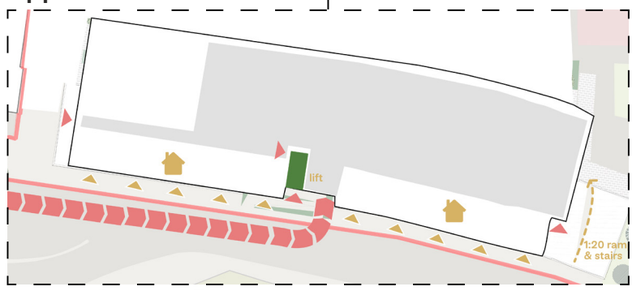
Upper-Ground Floor Plan



Lower-Ground Plan



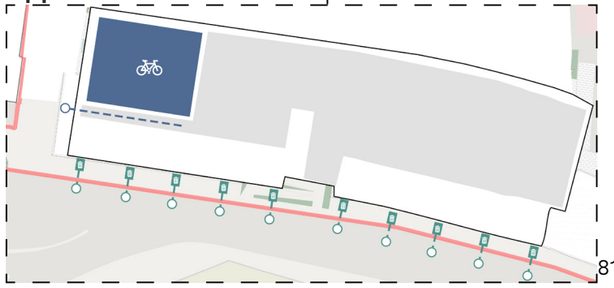
Upper-Ground Floor Plan



Lower-Ground Plan



Upper-Ground Floor Plan



Lower-Ground Plan

Figure 5.8.1 - Salesians Mobility and Servicing Diagrams

5.0 SALESIANS DESIGN STRATEGY

5.9 Creche

The creche is located at the heart of the scheme, with a strong relationship to the public open space yet set back from any vehicle access and away from the main road.

It has its own secure outside playspace, which the rooms for all age groups open out onto. It benefits from its own front door, lots of storage, and adjacent bike and car parking.

It can be reached accessibly by the hillside steps, which includes a ramp, or by a publicly-accessible lift next to the basement car park entrance.

The design accommodates 36 creche spaces, over the minimum 35 required by the number of units with 2bedrooms or more across the whole masterplan scheme in line with Planning Guidelines for Childcare Facilities (2001). Universal Design Guidelines for Early Learning and Care Settings Sample Creche has been used to identify the appropriate split of ages for these children, which is 7no. 0-1yrs, 8no. 1-2yrs. 9no. 2-3yrs and 12no. 3-5yrs. The number of children per room and their age range can be seen on the diagram to the right. Staff levels have been assumed to align with Schedule 6 of the Child Care Act 1991 Regulations Amended 2016, resulting in c.7 staff. Sanitary and ancillary provisions have been provided following Universal Design Guidelines for Early Learning and Care Settings. All food catering equipment that generate fat, oil and grease (FOG) will discharge through grease traps located external to the building.

The creche has 168 sqm of external space, 4 parking spaces and 4 cycle spaces, providing more spaces than those recommended in Table DM 9(a) of the Limerick Development Plan.



Figure 5.9.1 - View towards the creche entrance



Figure 5.8.2 - Upper-Ground Plan, showing creche layout

5.0 SALESIANS DESIGN STRATEGY

5.10 Character & Materials

The steeply sloping site rises up from the street front to overlook the historic Mill, with the River and City Centre beyond. Its height and location will give it a mediatory role, stitching the new masterplan into the neighbouring context to the west and affording it the opportunity to engage with the developing skyline of Limerick along the Shannon.

Therefore, Salesians has developed an architectural language that establishes a strong connection to the industrial character of the original Mill site, while still preserving its own individuality and remaining cognisant of its visibility in the city.

Brick remains the primary material across the residential buildings, providing coherence with the other plots and neighbouring buildings. Earlier analysis has shown how Limerick as a whole and the Cleeves site specifically have successfully combined red brick accents with limestone, and here, outside of the original Mill curtilage, red brick becomes prominent and starts to define the new buildings. Buildings will interface with existing and reused stone in the landscape, and an alternative brick colour at the base of apartment buildings will define the bases.

A light green, ribbed metal cladding has been introduced to add variety to the longer buildings and continue the rich history of lighter industrial sheds on the historic Mill site. All metal window frames and railings will be the same green tone, tying both the brick and metal elements together.

The precedents opposite look to convey these combinations of materials and tones in buildings of similar scale and typology.



K1 Canada Water, Morris + Company



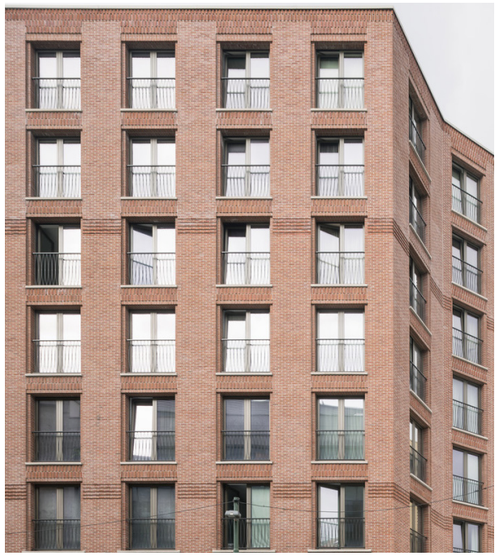
Chowdhury Walk, Al-Jawad Pike



Marston Way, Stitch Architects



Villa Residu, V8 Architects



Tour & Taxis, Sergison Bates

Figure 5.10.1 - Salesians Character and Material Precedents

5.0 SALESIANS DESIGN STRATEGY

5.11 Elevation Principles

The twin apartment blocks are the major new addition to the site, maximising the opportunity to deliver quality, high-density housing.

The buildings are split in half, with red brick to the more visible fronts, and green metal to the backs, where the building nestles into the depth of the plot. The change in material articulates the natural break in the massing, creating the effect of two smaller, more vertically-proportioned blocks. On Block 4A grey brick is used to create a consistent datum that unifies the ground level and expresses the level change that occurs at the transition between the two halves. On Block 4B the creche is expressed in a darker red brick.

The front gables are particularly prominent: from within the site, from the street front, and from the river. The visual weight of these gables is reduced by dividing them into two elegant vertical bays that echo the slender gables of other prominent industrial buildings in Limerick.

Given the less sensitive location outside the curtilage of the historic Mill site, there is the opportunity to have a more playful roofscape and these gables offer a modern interpretation of the pitched-roof industrial forms that characterise many similarly-scaled mill and warehouse buildings in the city.



Figure 5.11.1 - Salesians Block A Elevation Principles View, from the south



Figure 5.11.2 - Salesians Gable Expression View

5.0 SALESIANS DESIGN STRATEGY

5.11 Elevation Principles

The play of material and texture introduces variety to these buildings, whose massing and articulation is otherwise rigorous and repetitive. An elegant proportion of solid and void creates a calm and rhythmic facade, making a clear reference to the architectural language of the Cleeves mill and the industrial typology more generally.



Figure 5.11.3 - Material, colour, and texture references from the Cleeves site



Figure 5.11.4 - Typical Brick Bay



Figure 5.11.5 - ypical Metal Bay

5.0 SALESIANS DESIGN STRATEGY

5.12 Back-to-Back Triplexes

A new back-to-back split-level typology resolves the difficult level change between the street and the Salesians site. These homes create large amounts of active frontage, with front doors and living spaces on both sides of the block.

This typology echoes the principles of rhythm, proportion, verticality, and playful roofscape evident on the apartment blocks. Inset terraces break up the massing of the pitched roof, introducing additional easterly aspect and opening up oblique views to the historic mill or riverfront, depending on orientation. These terraces, besides offering fantastic amenity, articulate each home within the block and reinforce a sense of verticality mirrored by the window proportions.

Grey tones are limited to the slate roof and the front garden walls. An existing stone wall, which extends the perceived boundary of the curtilage wall, will be retained, with new openings created for the front doors along North Circular Road.

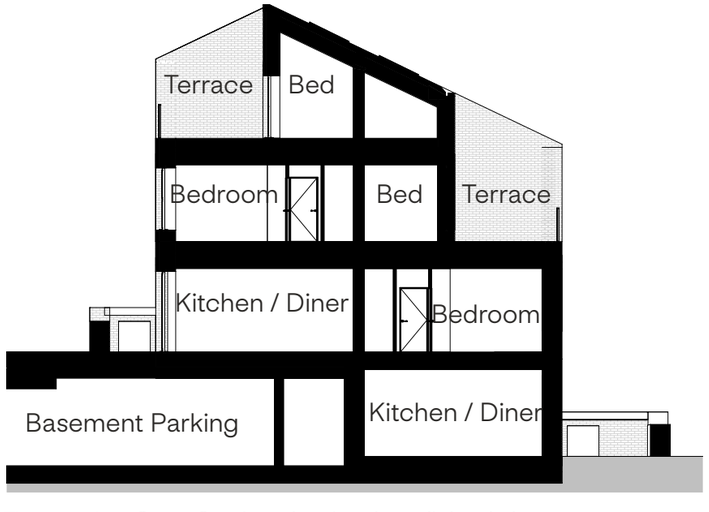


Figure 5.12.1 - Cross Section, showing the split level plan



Figure 5.12.2 - Typical Triplex Bay, as seen from the street side

5.0 SALESIANS DESIGN STRATEGY

5.12 Back-to-Back Triplexes



Figure 5.12.3 - Illustrative view of the Triplex units facing North Circular Road at the Fernhill Intersection, looking north

5.0 SALESIANS DESIGN STRATEGY

5.13 Communal Entrances

Drawing inspiration from the way the Cleeves Mill breaks its own rhythm to mark its entrances, the consistent rhythm of the apartment blocks' facade shifts to introduce a special moment that articulates the communal entrances.

A generous double-height covered space creates an appropriately-scaled threshold for these significant buildings, clearly expressing the point of entry to the main lobby. This moment mediates between the change in datum across the facade, but also provides the means for accessible access to the communal amenity on the level above, via a bridge across at level 01 accessed from the internal lift and stairs.



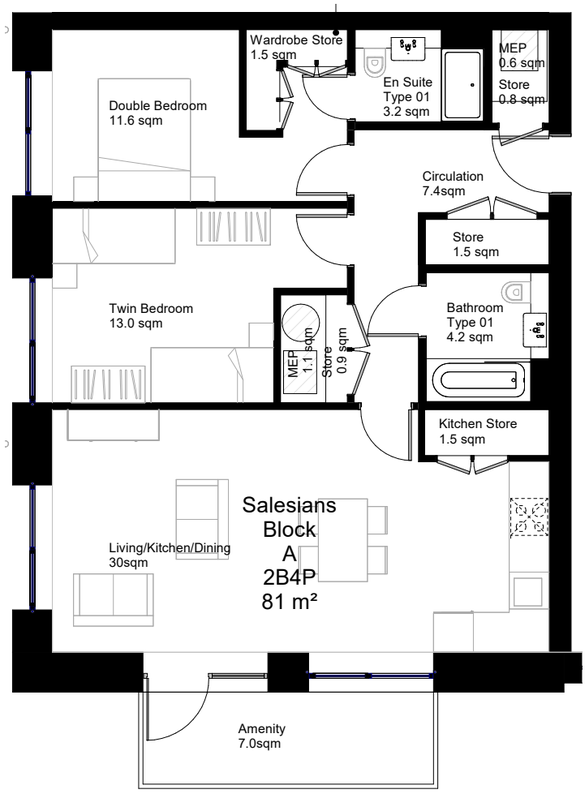
Figure 5.13.1 - Ground Floor Plan, showing entrances



Figure 5.13.2 - View of Block A Entrance

5.0 SALESIANS DESIGN STRATEGY

5.14 Salesians Apartment Types (1 of 3)

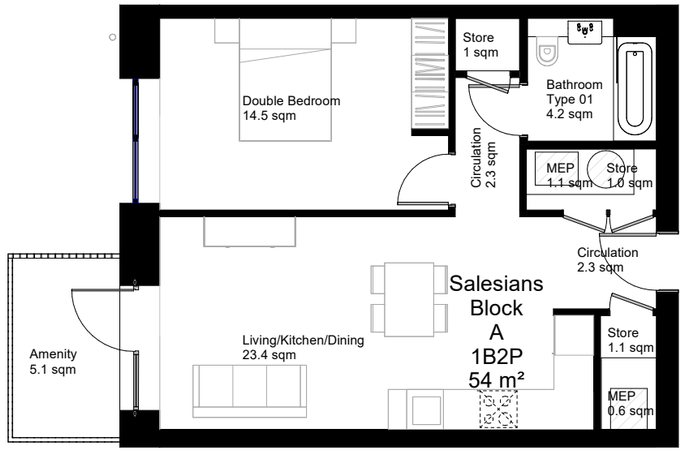


Layout Type 4_2B49_F01

2 Bed 4 persons
81sqm

7sqm of Private Amenity

Refer also to HQA for further details on unit sizing and dual aspect.
Daylight - refer to IES report



Layout Type 4_1B2P_F01

1 Bed 2 persons
54sqm

5sqm of Private Amenity

Refer also to HQA for further details on unit sizing and dual aspect.
Daylight - refer to IES report

5.0 SALESIANS DESIGN STRATEGY

5.14 Salesians Apartment Types (2 of 3)



Layout Type 4_1B2P_F02

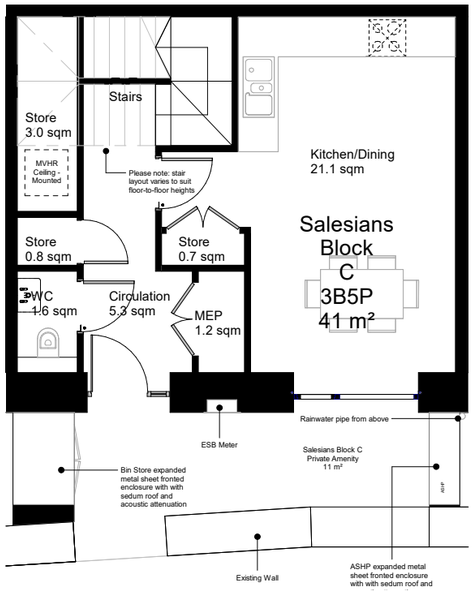
1 Bed 2 persons
49sqm

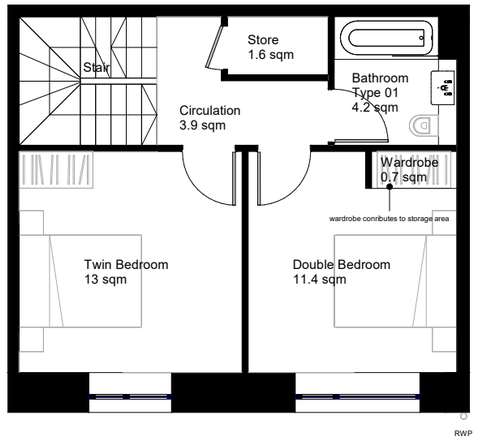
5sqm of Private Amenity

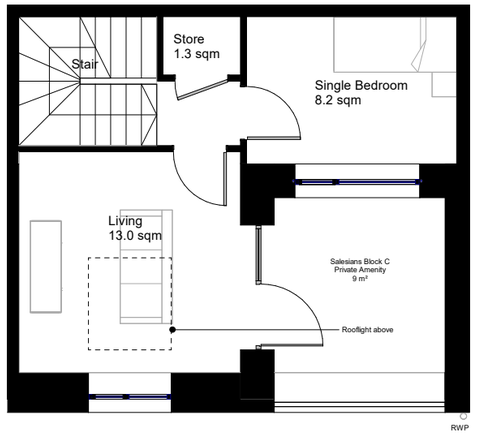
Refer also to HQA for further details on unit sizing and dual aspect.
Daylight - refer to IES report

5.0 SALESIANS DESIGN STRATEGY

5.14 Salesians Apartment Types (3 of 3)







Layout Type 4_3B5P_F01

3 Bed 5 persons
110.4sqm

9sqm of Private Amenity + Front garden of varying size

Refer also to HQA for further details on unit sizing and dual aspect.
Daylight - refer to IES report

6.0 STONETOWN TERRACE

6.0 STONETOWN TERRACE RESIDENTIAL DESIGN APPROACH

6.1 Overview / Site Layout

The proposed residential development at the top of Stonetown Terrace for high quality new homes, is set in the context of an existing residential area of varying densities (apartments to the east in Landsdowne Hall development, 2 storey homes to the north and west on Clanmaurice Avenue). It sits in an elevated position offering a unique vantage point overlooking the reservoir and quarry area, with the industrial heritage remnants of the Flaxmill working areas including the chimney and infiltration gallery.

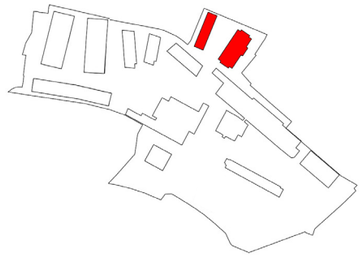
The design approach has been to arrange a mix of new home typologies around a shared amenity garden, from which all residents can benefit from its south facing aspect overlooking the industrial heritage remnants of the Flaxmill working areas below, with views of the chimney, arches of the infiltration gallery and reservoir beyond. Public open space along the southern edge offers pedestrian approach via Stonetown Terrace and to/from the public realm along the reservoir edge below via steps and an accessible ramp, offering permeability through to the heart of the new Riverside quarter.

The garden is framed by an apartment block to the East and a terrace of townhouses to the West, all with entrances from the garden side, fostering a sense of community.

Locating the townhouses to West and the apartment block to the East responds to the relative scale of the respective neighbouring properties (lower scale residential to the west and higher scale apartment development to the east). The site slopes down towards the south, from the boundary wall of the Clanmaurice Avenue residential gardens to the North down to the edge of the drop towards the reservoir.

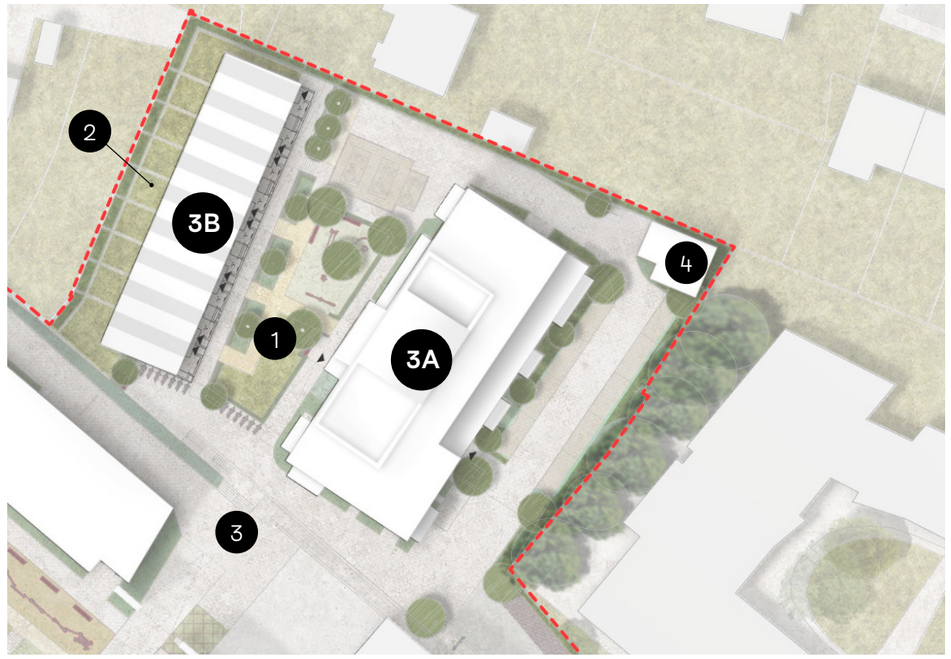
A pedestrian friendly approach is prioritised in line with the sustainable mobility strategy, along the South side of Stonetown Terrace and from the reservoir / quarry area link arriving at the shared garden. Vehicular access is segregated at the entry to the site leading to the car parking to the east and north. An accessible route links universally designed parking spaces to the apartment entrance lobby.

Refer also to Conservation and Heritage strategy for demolition and site context approach.



Key Plan
Plot Location within Masterplan

1. External Communal Amenity space for residents
2. Private terraces / gardens for townhouses
3. Pedestrian connectivity from Stonetown Terrace to Quarry, Flaxmill and lower sites via new ramp and steps integrated into the quarry edge
4. Secure Bike Shelter for Residents



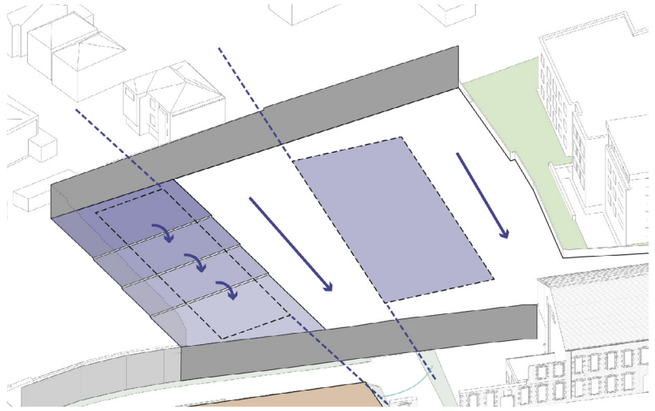
3A 5 Storey Apartment Block

3B 3 Storey Townhouses

Figure 6.1.1 - Stonetown Terrace Site Layout Diagram

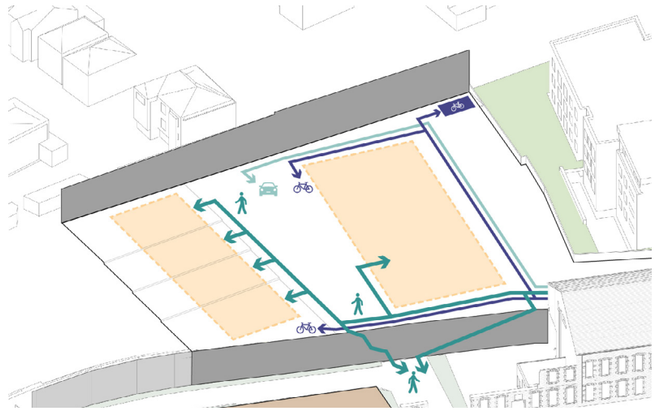
6.0 STONETOWN TERRACE RESIDENTIAL DESIGN APPROACH

6.1 Design Evolution



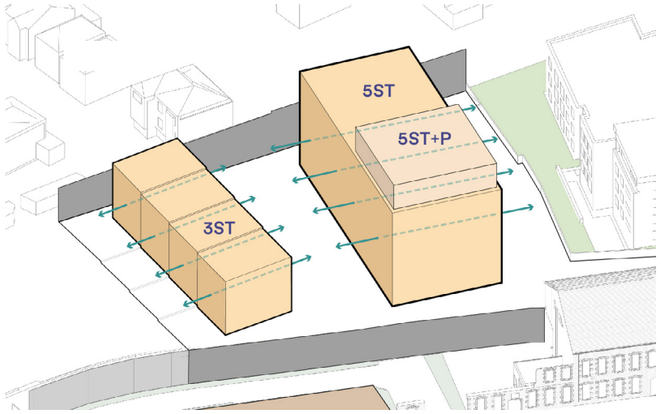
01. Stepped Site Levels

In response to the existing gradients (higher to the NW, lower at the SE at the entrance from Stonetown Terrace, all sloping down towards the reservoir), new site levels are set closer to the lower existing levels to the east, removing previous fill material in the centre of site, and stepping up to the NW along the western boundary. Thus orienting the new development to the south overlooking the reservoir, whilst reducing impacts on neighbours.



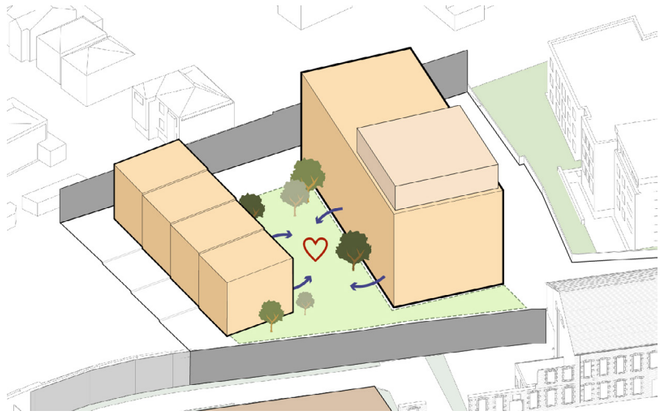
02. Pedestrian Oriented Approach

Prioritizing a pedestrian friendly approach to the new residences, a pedestrian entrance sequence through a communal garden is facilitated from the quarry/reservoir side, with vehicular and cycle approach via a shared surface from Stonetown Terrace arriving at parking to the north of the site. Steps and a universally accessible ramp to/from the reservoir. Service vehicles (refuse & deliveries) are limited to the entrance area of the site to avoid a vehicular dominated landscape elsewhere.



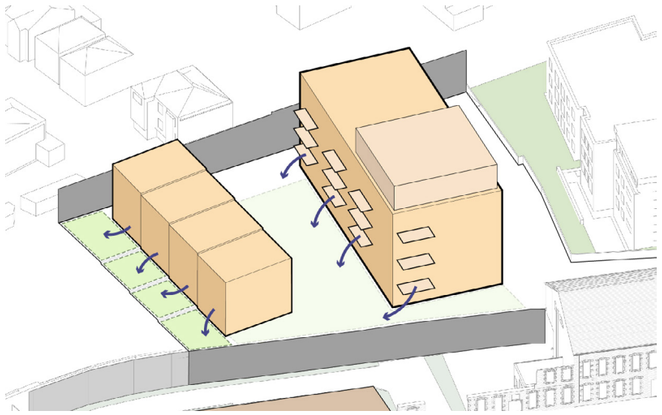
03. Massing & Orientation

The proposed massing of the mixed residential typologies (townhouses and apartments) responds to the neighbouring massing, with the apartment block located to the east adjacent to the Landsdowne Hall apartments and a terrace of townhouses to the west adjacent to the neighbouring Clanmaurice Ave houses. Both are arranged along the N-S axis to optimize daylight access to dwellings, with rooftop plant massing located to the south away from neighbours.



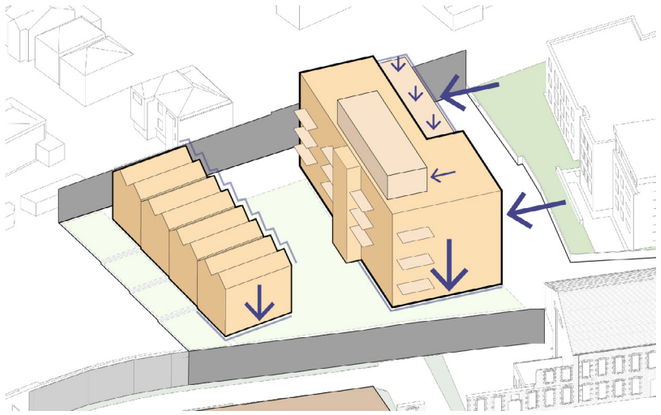
04. Communal External Amenity

The blocks are arranged around a communal amenity garden for all ages, with play spaces for young children, promoting a sense of community. Oriented to the south this shared garden allows all to benefit from sunlit amenity space with views over the reservoir and industrial heritage elements unique to the site. Townhouses benefit from front yards with easy access to the communal garden.



05. Private Amenity Space

Apartments are provided with private terraces facing west overlooking the communal garden, east, or south. Dual aspect dwellings at the south benefit from terrace views overlooking the reservoir or looking down Stonetown Terrace towards the riverside. Townhouses benefit from private rear gardens and front yards with easy access to the communal garden.



06. Enhancing Daylight & Sunlight

In order to minimize daylight impacts on neighbouring properties and to optimize sunlight to external amenity space, the blocks are dropped by 1.5m. The apartment block massing at the north east steps down to reduce impacts on Landsdowne Hall, whilst the higher massing of rooftop plant is located to the south west. Townhouses roof configuration is pitched, optimizing sunlight access in external amenity space.

Figure 6.1.2 - Stonetown Terrace Design Evolution Strategy Diagrams

6.0 STONETOWN TERRACE RESIDENTIAL DESIGN APPROACH

6.1 Massing & Height

The proposed massing and height of the Stonetown homes responds to the character and scale of the existing residential context (2 storey houses to the north at a higher level on Clanmaurice Avenue, 5 storey Landsdowne Hall apartment block to the east). A combination of townhouses and apartments are proposed - 3 storey townhouses are positioned to the west of the site, with a 5 storey apartment block located to the east.

The blocks are configured on the North-South axis to optimize daylight access to homes and sunlight to amenity space, and with consideration for mitigating impacts on Landsdowne Hall and Clanmaurice Avenue residences to the east and north in this regard. Further to testing of a number of options the apartment block is pulled away from the eastern boundary and neighbouring Landsdowne Hall apartments. The top floor of the apartment block steps down to the north and east to reduce daylight impacts on the adjacent apartments.
An open roof top plant area housing air source heat pumps (ASHPs) enclosed with acoustic screening is located towards the west and south following the stepped massing. A barrel vault roof form covers an internal plant room. The townhouse roofs are pitched in response to the character of surrounding residential streets to the north, and with gables facing the garden bring a sense of identity to individual homes.

In order to further reduce impacts on neighbouring properties, whilst achieving an optimum density of new homes on the site, the proposed floor levels of the apartment block and the southern townhouses have been set closer to the lower levels of the site (also with consideration for the necessary removal of previous infill material at the centre of the site). Along the western boundary the remaining townhouses step up in pairs towards the north where the levels of the adjacent properties are highest.

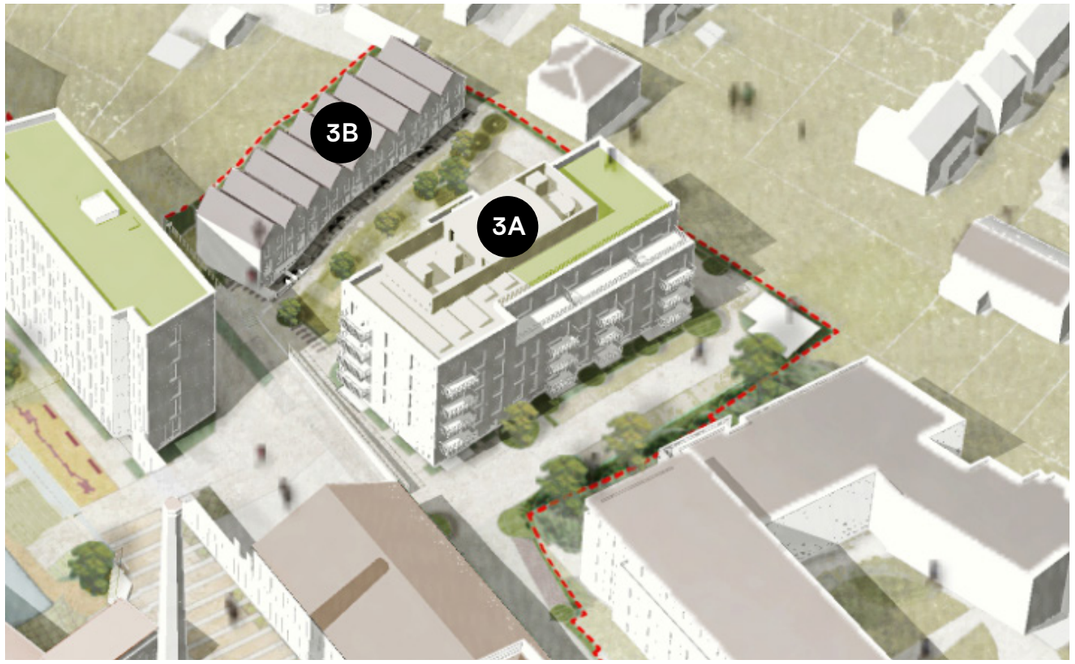


Figure 6.1.3 - Aerial Sketch View of Stonetown Terrace

3A 5 Storey Apartment Block

3B 3 Storey Townhouses



Figure 6.1.4- Contextual Section, with West elevation of Block 3A

6.0 STONETOWN TERRACE RESIDENTIAL DESIGN APPROACH

6.2 Approach to Residential Accommodation & Mix

A Diversity of dwelling types is offered within the plot incorporating a mix of 38no. apartments and 9no. townhouse typologies

- The apartment block contains a mix of studios, 1 bedroom /1 person, 1 bedroom /2 person and 2 bedroom /3-4 person dwellings on the typical upper floor levels equating to 8 units /per core. They are organised on either side of corridors benefitting from natural daylight. On the topmost floor to the East where the massing is set back, studios (1 bedroom /1 person) with terraces are provided.
- The townhouses offer 3 bedroom /5 person homes organised in pairs promoting social interactions, as does the provision of first floor living rooms overlooking the shared garden
- The external approach to the apartment building and internal shared circulation areas are designed to meet the guidance of Universal Design Homes, enabling the provision of a number of UD Home apartment units close to the circulation core. There is potential to provide a minimum of 20% UD Home compliant units within the apartment block. (Refer to Appendix 9A for further details)..

- Studio
- 1 Bedroom
- 2 Bedroom 3 Person
- 2 Bedroom 4 Person
- 3 Bedroom 5 Person

Figure 6.2.4 - Dwelling Type Key

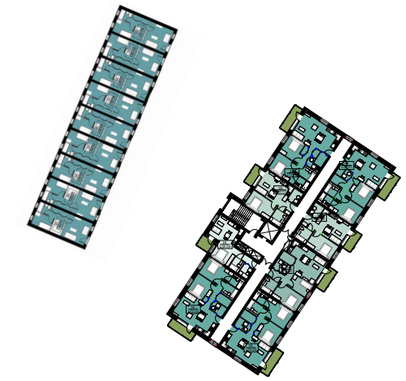


Figure 6.2.2 - Typical Floor (1st/2nd/3rd floor of apt block)

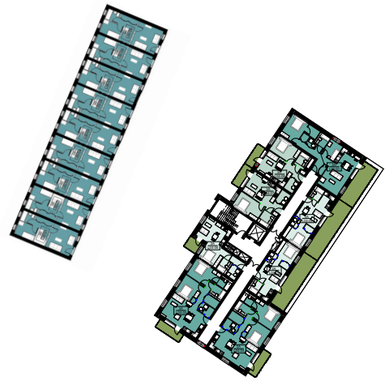


Figure 6.2.3 - Top Floor Plans (4th Floor plan of Apartment Block / 2nd floor of townhouses)

Stonetown Terrace Summary						
Building	1B1P	1B2P	2B3P	2B4P	3B5P	Total
3A	6	12	4	16		38
	12.8%	25.5%	8.5%	34.0%		
3B					9	9
					19.1%	
Total	6	12	4	16	9	47
%	12.8%	25.5%	8.5%	34.0%	19.1%	

Refer to Schedule of Accommodation and Housing Quality Assessment for further details.



Figure 6.2.1 - Ground Floor Plan in context

6.0 STONETOWN TERRACE RESIDENTIAL DESIGN APPROACH

6.3 Entrance Strategy

All homes have entrances from the communal garden side, beyond a landscape buffer between the public realm and the semi-private realm of the amenity garden, enabling passive surveillance of the approach. Locating all entrances in this manner creates a focus for the new development whilst fostering a sense of community.

A Universal Design (UD) accessible route from the UD parking offers an approach from the North for mobility impaired residents and access for cyclists (approaching along the shared surface to the east) from the bike parking area. A seat outside the entrance facing the garden offers a place for pause, promoting social interactions.

All entrances (both apartments and townhouses) incorporate canopies above them, offering protection from inclement weather whilst articulating entry locations, bringing ease of legibility. The apartment block garden entrance opens into an inviting daylit space with an area for mailboxes and parcel deliveries, and access to the lift and ambulant disabled stairway. A secondary entrance door on the east side offers entry from the car parking and a covered porch for private courier deliveries adjacent to a setdown space.

An accessible sloped route on the west side of the shared garden offers access to pairs of own door access townhouses, each with covered entrance canopies, bringing a sense of individuality whilst offering protection from inclement weather.

The townhouses are designed with a private buffer space at the front framed by a brick wall with integrated refuse / bike storage enclosure beneath a location for planters.

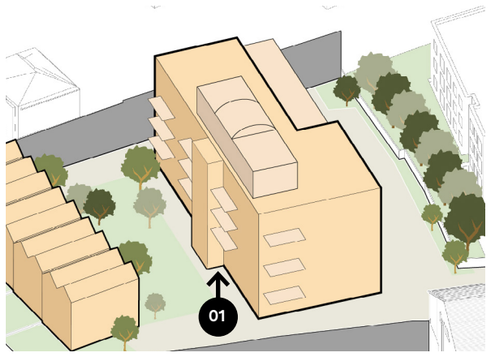


Figure 6.3.3- Axonometric key to apartment block entrance view location from communal garden



Figure 6.3.1 - Entrance Strategy & Pedestrian Access Diagram



Figure 6.3.2 - Sketch View 01 of Stonetown Terrace Apartments Main Entrance

6.0 STONETOWN TERRACE RESIDENTIAL DESIGN APPROACH

6.4 Open Spaces Strategy



Figure 6.4.1 - Public Open Space Strategy Diagram



Figure 6.4.2 - Communal Open Space Strategy Diagram



Figure 6.4.3- Private Amenity Space Strategy Diagram

Public Realm

Public open space is incorporated along the south side of the plot, a natural vantage point overlooking the Reservoir / Quarry area below. Connectivity to the lower sites and the public realm around the Reservoir / Quarry and Flaxmill space, enable activation of the public areas of Stonetown. A universally accessible ramp in this location facilitates easy movements down to the play space available for older children adjacent to the reservoir, and also to the various amenity spaces for all ages around the reservoir /quarry and beyond to the Flaxmill plaza and Riverside

Communal Open space

A central landscaped garden forms a focus for the residents, providing shared open space for multi-generational amenity, accessible from apartments and townhouses alike. It incorporates a play space for younger children, along with places for pause and seating areas. A nature-based approach to site drainage is integrated into the landscape strategy offering amenity and bio-diversity benefits.

Refer to Landscape Architects drawings and report for further details.

Suitable sunlight availability and microclimate have been assessed for the communal amenity spaces. Refer to separate IES reports

Private Amenity Space

Each new apartment has associated private open space in the form of a private balcony or ground floor terrace accessed off the living area (with a minimum depth of 1.5m). Top floor apartments to the north east have larger terraces where the set-back occurs. Balustrading extends to form privacy screening where private amenity spaces are adjacent. Ground foor terraces are screened with a landscaped buffer from the semi-private areas adjacent.

A private garden is provided to the rear of each townhouse, in addition to a front entrance yard. First Floor living rooms benefit from juliet balconies overlooking the communal garden. A proportion of amenity space recommended for the townhouses (not more than 50%) is accommodated within the communal open space /garden.

Refer to Housing Quality Assessment for provision related to each dwelling.

6.0 STONETOWN TERRACE RESIDENTIAL DESIGN APPROACH

6.5 Mobility & Servicing Strategies



Figure 6.5.1 - Cycle Access & Storage Strategy

Cycle Access & Storage Strategy

Pedestrian, cycle and vehicular access to Stonetown homes arrives via a shared surface from Stonetown Terrace and is segregated at the entry to the site.

Reduced car parking provision is balanced by generous cycle parking provision. Both standard and universally accessible EV car parking spaces are provided. Covered and secured cycle storage is provided in an external facility accommodating double stacked cycle parking and in individual cycle storage enclosures in front of each townhouse. Supplementary cargo cycle storage spaces are also provided along with visitor cycle parking.



Figure 6.5.2 - Car Parking Strategy

Car Parking Strategy

Car parking is provided to the east and north of the site., with a combination of standard and universally accessible EV charging enabled parking spaces. A setdown space is provided for visitor set down and small van deliveries adjacent to the secondary entrance from the car parking side of the apartment block.



Figure 6.5.3 - Servicing Strategy

Servicing Strategy

Refuse collection vehicles access is at the entrance to the site adjacent to the refuse storage room at the south side of the apartment block that incorporates facilities for segregated refuse. The townhouses have individual screened refuse storage enclosures adjacent to their entrances. Fire tender manoeuvring uses same location as refuse truck, while blue light van access to the townhouses is accommodated along the northern edge. Externally accessed plant and utilities rooms are located at ground and basement levels to the north and south east of the apartment block.

Refer to Landscape Architects report for further details

6.0 STONETOWN TERRACE RESIDENTIAL DESIGN APPROACH

6.6 Facades & Materiality

The design approach to materiality on the Stonetown Terrace site aligns with the approach taken across the quarter in response to the rich palette of materials and colours found in the existing Cleeves site and context. Common threads of materiality & colour link Stonetown to the other plots.

A key element is brick, with two colour blends, creating a textured backdrop. Lighter colours on this plot take a cue both from the light colours of Landsdowne Hall and the light pastel shades to be found on Clanmaurice Avenue residences. The darker grey brick matches that on the student accommodation and creates a base with a lighter colour used on the upper massing. Metal balconies, window/door surrounds, louvred doors and infill façade panels on both apartments and townhouses are similar in colour to the lighter brick colour.



Figure 6.6.1 Stonetown Terrace Apartments West Elevation

6.0 STONETOWN TERRACE RESIDENTIAL DESIGN APPROACH

6.6 Facades & Materiality

Apartment Block Materiality

The dark warm grey brick blend creates an articulated base around the apartment block plant areas, with a lighter buff /grey colour on the upper massing. Accents of infill fibre cement panels below windows share matching colour and vertical ribbing with the student accommodation, offering a common thread between both.

Metal in balcony balustrades and privacy screening, window/door surrounds complement the brick in a colour matching the light buff grey coloured brick. An accent colour is used on metal panel elements that frame and articulate the entrance and canopy soffits, and offer a location for entrance intercom and wayfinding etc. Terracotta colour is used here echoing the colour of weathered steel, a memory of the industrial history of Cleeves, also used on the PBSA facades and elements of the public realm.

Visual screening of vertically corrugated metal to the roof plant area enclosing the ASHPs, at the south west, incorporates acoustic attenuation. The covered plant room with a barrel vault form is clad in matching corrugated metal cladding both in anodised aluminium and referencing the forms found in the existing industrial heritage elements of the Cleeves site.



Figure 6.6.2 Stonetown Terrace Apartments Bay Study



Figure 6.6.3 Stonetown Terrace Apartments - Entrance Plan Diagram

Figure 6.1.1 Stonetown Terrace Townhouses - Entrance Plan Diagram

6.0 STONETOWN TERRACE RESIDENTIAL DESIGN APPROACH

6.6 Facades & Materiality

Townhouse Materiality

A darker warm grey colour brick blend matching the apartment block creates an articulated base around the townhouses and the walls enclosing the front entrance spaces, with a lighter buff /grey colour blend above.

Metal articulating the entrance canopies, juliet balcony balustrades, and window/door surrounds complement the brick in a warm grey colour matching the light buff coloured brick blend.

Pitched slate roofs with PV panels on southern side, incorporate a thin edge detail on the gable fronts.

The front yard enclosures incorporating bike, refuse storage, and those screening individual Air Source Heat Pumps are sedum covered and timber screened.



Figure 6.6.4 Stonetown Terrace Townhouses East Elevation



Figure 6.6.5 Stonetown Terrace Townhouses Bay Study



Brick - 'Blend A' Brick - 'Blend B'

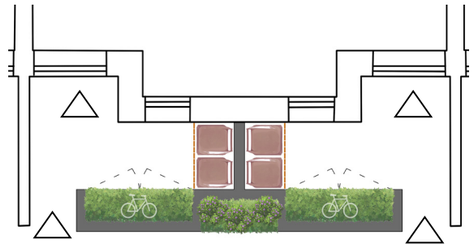


Figure 6.6.6 Stonetown Terrace Townhouses - Entrance Plan Diagram

6.0 STONETOWN TERRACE RESIDENTIAL DESIGN APPROACH

6.6 Facades & Materiality

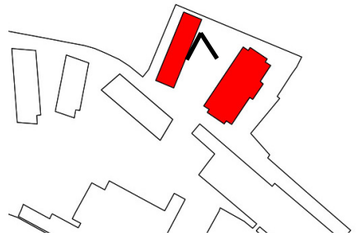


Figure 6.6.8 - Key - View Location



Figure 6.6.7- View of Communal Amenity Space from Northwest

6.0 STONETOWN TERRACE RESIDENTIAL DESIGN APPROACH

6.7 Proposed Dwelling Layouts

All dwelling layouts are designed to meet the relevant design guidance with respect to room areas, minimum dimensional allowances, storage provision etc as demonstrated within the Housing Quality Assessment. Refer to HQA for further details on unit sizing, dual aspect etc.

The apartment block and townhouse terrace have been developed to suit the site layout constraints and to achieve well-proportioned homes with good daylight access, efficient space planning, and minimum areas exceeded in accordance with the client brief.

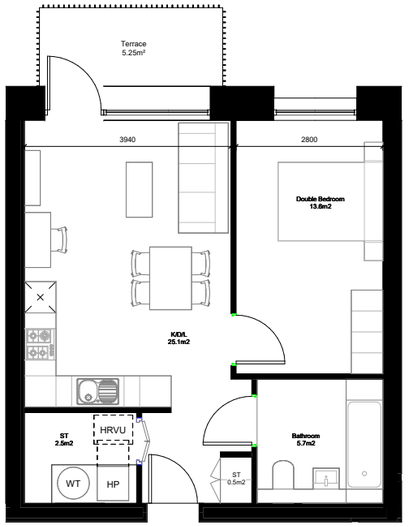


Figure 6.7.1 - Example of 1B 2P Apartment

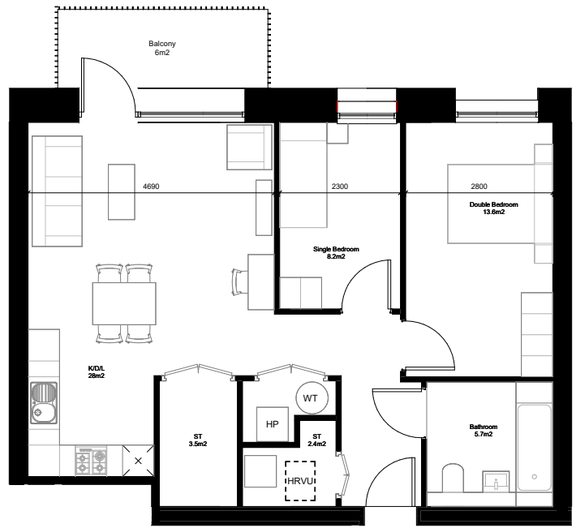


Figure 6.7.2 - Example of 2B 3P Apartment

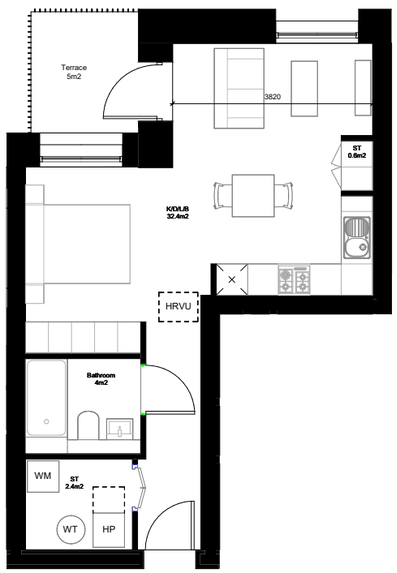


Figure 6.7.3 - Example of Studio Apartment



Figure 6.7.4 - Example of 2B 4P Apartment

6.0 STONETOWN TERRACE RESIDENTIAL DESIGN APPROACH

6.7 Proposed Dwelling Layouts

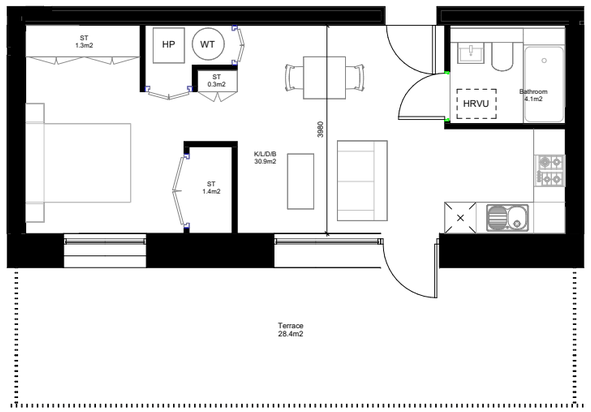


Figure 6.7.5 - Example of Studio Apartment



Figure 6.7.6 - Example of 2B 3P Apartment



Figure 6.7.7 - 3B 5P Townhouse, over 3 levels

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

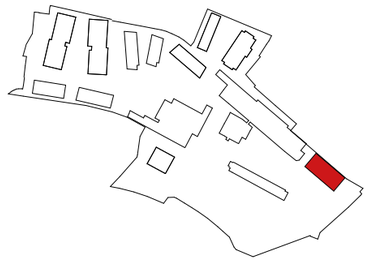


7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.1 Overview and Site Layout

New residential accommodation is provided overlooking the River Shannon and the Flaxmill Plaza at this prominent gateway into the site. The base integrates with the Linen Store wall, creating a lower level datum enclosing a commercial unit and building entrances. The roof provides private communal amenity for residents, with views out over the River and towards the city.

The compact form of the building means it avoids intruding beyond the southern facade line of the existing Flaxmill. By continuing that existing facade line for the new building and reinforcing that edge condition, a clearly-defined new public space is created. There is then ample space for an accessible gateway to the new Flaxmill Plaza to be created, with ramps, steps and seating integrated into the landscape and remnants of the curtilage wall.



Key Plan
Plot Location within Masterplan



Figure 7.1.1 - View from River Shannon Looking towards Site

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.1 Overview and Site Layout

O'Callaghan Strand consists of one building, 6A, incorporating commercial use at ground (01), residential uses on the upper levels, and a rooftop communal amenity space for the new residents. The new building integrates part of the existing Linen Store wall from the historic Mill site, along the north-eastern and south-eastern facades (02). Car parking is integrated into the ground floor to the rear, accessible from Stone Town Terrace via a new vehicle route between the new building and the retained Dairy Building extension to the Flaxmill (03).

The new plaza is raised above the level of O'Callaghan Strand and North Circular Road, matching the +5.7m AOD of the Flaxmill. The new building is raised to the same level, to ensure adequate protection in the event of a flood. Limited maintenance access along the north-east facade is required from the lower Stone Town Terrace, but all other access into the new building will be directly from the new plaza on foot.

The location of amenity space and public uses within the scheme have been concentrated on the south and east, towards the new Flaxmill Plaza and the River Shannon. Later drawings will show how balconies, terraces, and commercial spaces have been placed to maximise activation of the public realm and minimise overlooking to the residents of Stone Town Terrace.

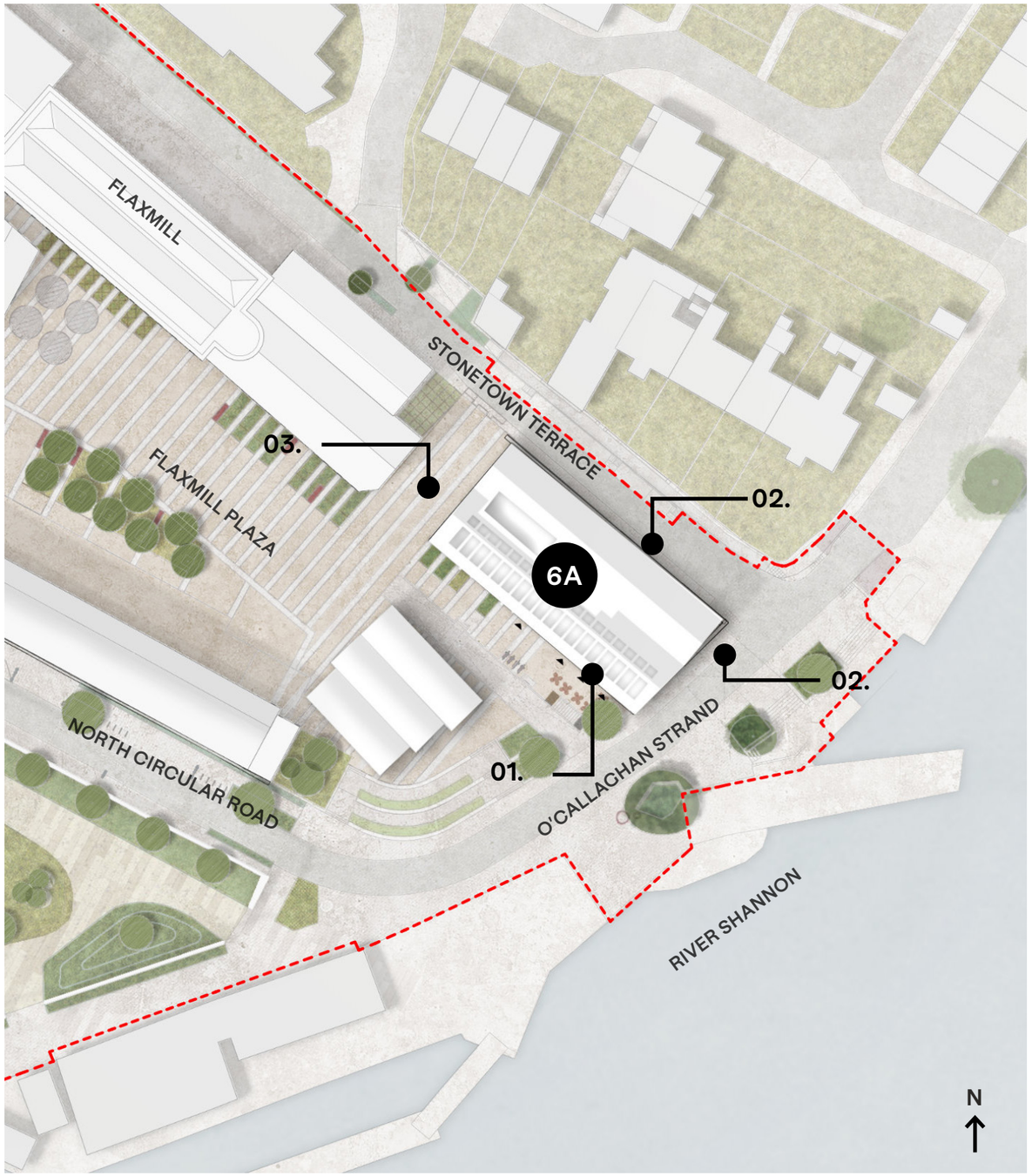
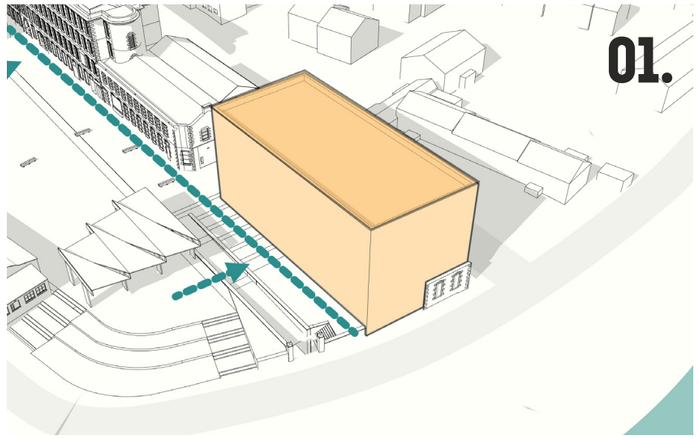


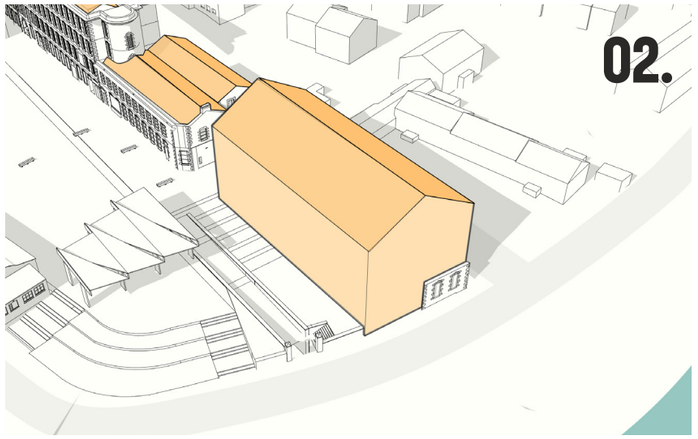
Figure 7.1.2 - O'Callaghan Strand plot site layout diagram

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

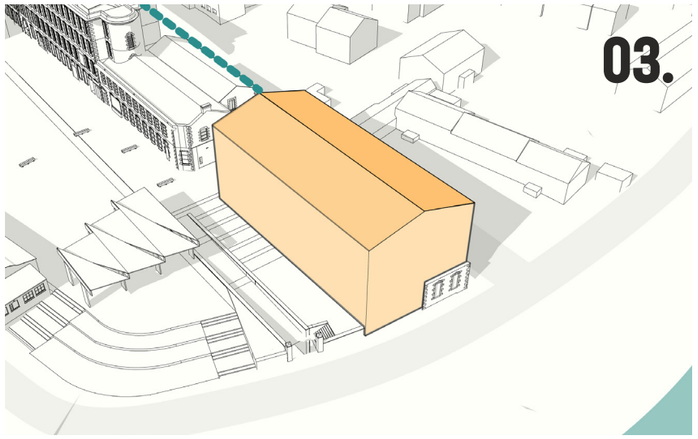
7.2 Design Evolution



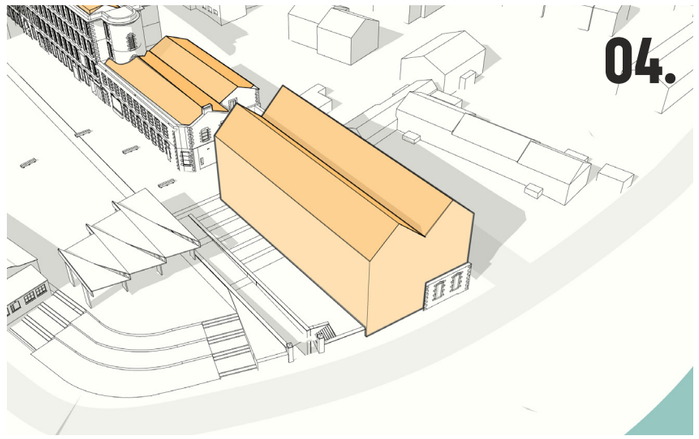
01. Aligned massing
Single four-storey apartment block aligning both the height and the south-west elevation with the flaxmill and integrated with the historic curtilage wall.



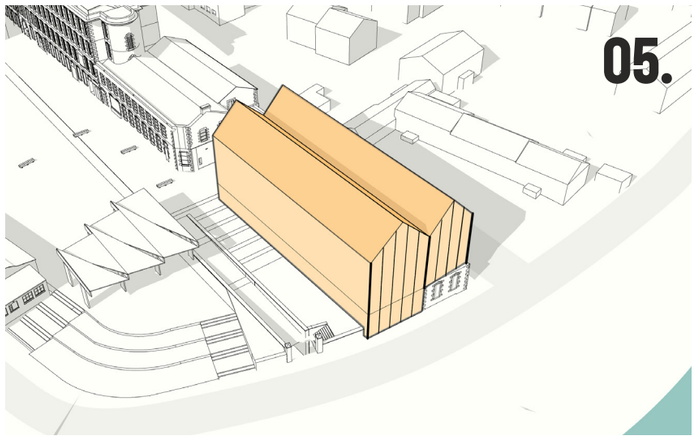
02. Pitched Roof Form
Echo the surrounding roofscapes and industrial sheds by introducing a pitched roof with a strong gable elvation to the city.



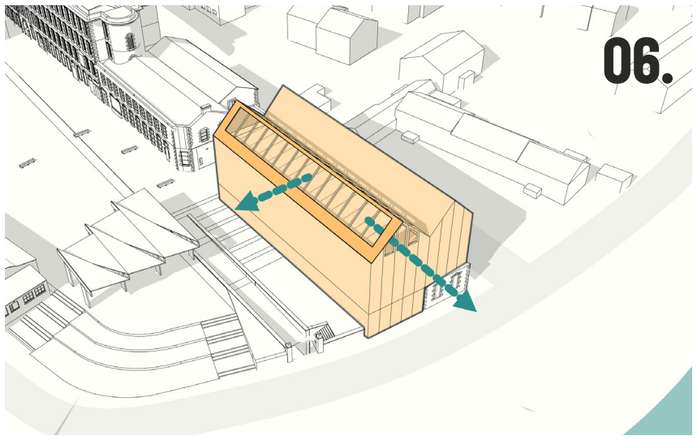
03. Keeping the height below the Flaxmill
The pitch is reduced to sit under the ridgeline of the Flaxmill, whilst trying to retain the industrial aesthetic and rooform.



04. Double Pitch
Splitting the roof into two gables reduces its visual weight, and creates a stronger formal relationship to the Dairy Building's double gable.



05. Proportion and Impact
Subtle changes lower the northern roof slightly and the double gable end now aligns with the end of the historic curtilage wall and integrates the building within the existing context.



06. The Southern Range
The southern range is opened up to create a communal terrace with views of the city and river, while shielding the neighbours to the north from overlooking and noise.

Figure 7.2.1 - O'Callaghan Strand Design Evolution Diagrams

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.3 Massing & Height

The O'Callaghan Strand site must balance a unique set of conditions, which could be considered conflicting. On the one hand, the site's immediate context is exceptionally sensitive. Its proximity to the Flaxmill and the presence of an associated curtilage wall demands a new building that is subservient to the significant heritage assets around it. On the other hand, this corner plot will mark the principle entrance to a new public space that requires a gateway building, one that offers an adequate gesture to the city, acknowledging its prominence on the River and announcing this new riverside quarter as a vibrant and open place, welcoming in the whole of Limerick to enjoy the restored heritage and the many events this new public space can host.

The new 4/5-storey building strikes that balance. It accommodates the mix of uses this gateway site needs and maximises the number of new homes within a massing that is responsive to the sensitive location. The double pitches, and strong gables it creates, are the defining feature of the new building's massing. The roof form works hard, discretely concealing a significant amount of plant that would otherwise be visibly obtrusive, and creates shelter for the required communal amenity space.

Visually, the pitched roof and gables establish a strong connection the heritage context of the Cleeves site, and the wider industrial context of Limerick, where there are several examples of similarly slender gables. The double pitched roof also has the benefit of reducing the overall sense of mass, reducing visual impact and improving sunlight/daylight to the surrounding neighbours. The height of the ridges remains below the Flaxmill parapet line, maintaining the primacy of this major heritage asset.

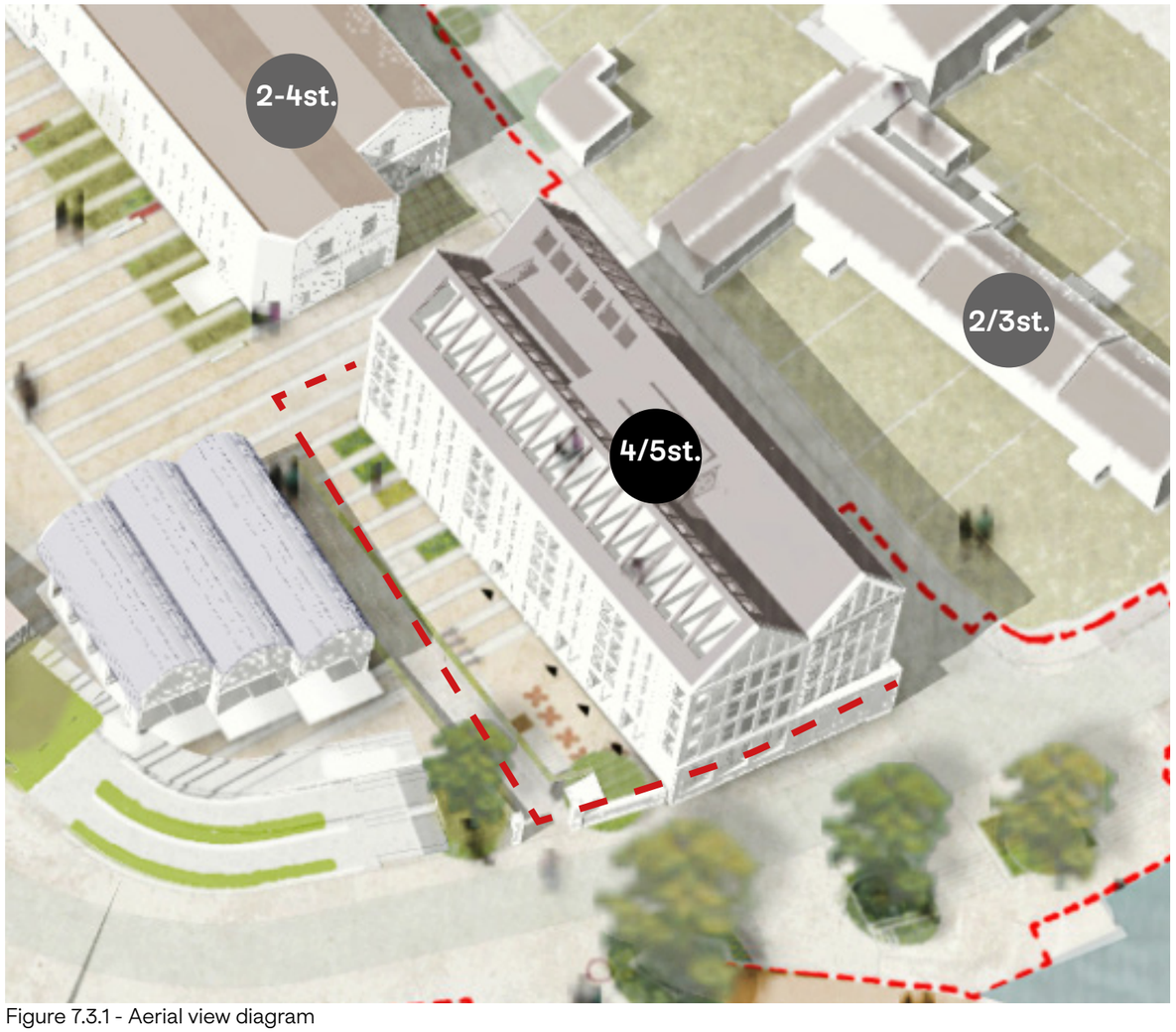


Figure 7.3.1 - Aerial view diagram



Figure 7.2.2 - Context Elevation, showing scale against the Flaxmill

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.4 Accommodation Schedule & Mix

Mix

O'Callaghan Strand will create 21no. homes for Limerick. The apartments are made up of one-bedroom two-person apartments (43%) and two-bedroom four-person apartments (57%).

There are seven apartments per floor with the larger two-bedroom four-person dwellings located on the corners providing dual aspect.

Tenure

These are all allocated as tenure blind.

Universal Design

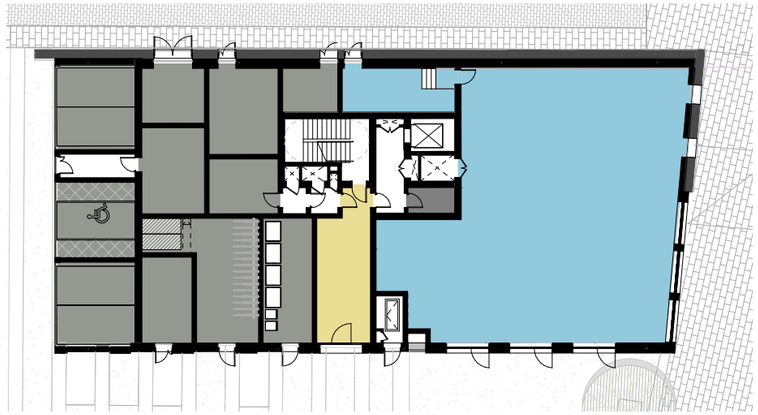
The communal areas are designed to UD guidance, creating a highly accessible apartment block that could accommodate UD compliant homes in the future.

OCS Summary

Building	1B2P	2B4P	Total
6A	**9**	**12**	**21**
	42.9%	57.1%	
Total	**9**	**12**	**21**
%	42.9%	57.1%	

PLAN KEY

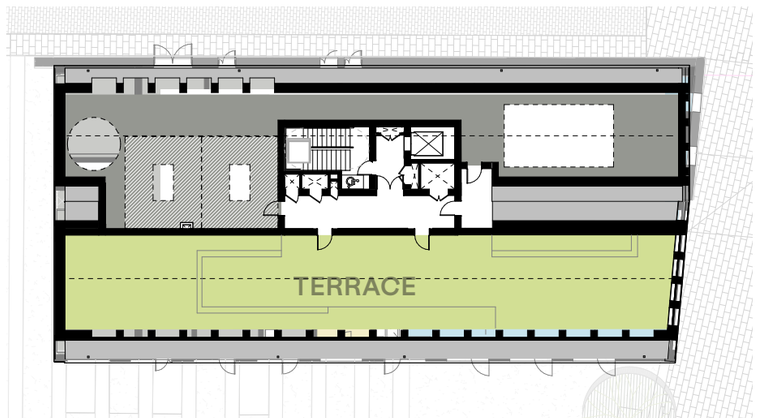
- COMMUNAL LOBBY
- ANCILLARY SPACE
- TERRACE AMENITY
- 1B2P
- 2B4P
- COMMERCIAL



Ground Level



Level 01-03



Level 04

Figure 7.4.1 - O'Callaghan Strand Layout Diagrams

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.5 Mobility & Servicing



Parking Strategy:

- 5No. car parking bays provided in total (including 1No. Accessible car parking say.)
- These bays are secured with perforated metal shutters.
- 1No. car parking bay has electric vehicle charging provision, with infrastructure for the remaining 80% to be installed at a later date.
- The parking is accessed via Stone Town Terrace.

Access Strategy:

- Step free access from O'Callaghan Strand is provided via accessible ramps in the landscape just in front of the residential entrance and commercial unit.
- Emergency vehicle access is achieved via the new opening in the curtilage wall, allowing for a route between the new building and the existing Dairy Building. It provides access to Stonetown Terrace during a flood event, and in the event of a fire in the new building allows the Fire tender to pull up and access the main entrance from the flaxmill plaza.
- The main communal entrance door is also the final exit door for escape in the event of a fire, allowing residents to safely evacuate in the situation where there is both a fire and a flood. A single stair and lift serve all levels.
- The commercial space can only be accessed directly from the raised Flaxmill Plaza, in order to maintain the +5.7m AOD datum for flood protection. Multiple doors achieve escape distances required from that space.

Cycle and Refuse Strategy:

- Visitor cycle spaces are accommodated within the public realm landscape.
- Cycle and Refuse stores are accessed externally from the Flaxmill Plaza, adjacent to the main communal entrance.
- Refuse collection will be via Stone Town Terrace, with bins wheeled round from the Refuse Store to the opening in the curtilage wall.
- The commercial space includes provision for a Refuse Room, with external access from Stone Town Terrace.

Figure 7.5.1 - O'Callaghan Strand Mobility and Servicing Diagrams

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.6 Amenity Provision

The O'Callaghan Strand site delivers many public benefits. The building creates space for and contributes towards the high-quality and well-activated public realm, while also achieving a generous amount of communal amenity without compromising on the amount of public open space.

The ground floor is given over to a commercial unit that opens directly onto the new Flaxmill Plaza and activates a prominent gateway corner of the the site. The Linen Store wall's blocked openings are restored and can be appreciated as part of that new space.

The rest of the site forms part of the new Flaxmill Plaza. Besides the integrated seating and a spill-out zone for the commercial offer, space is created for a generous external canopy structure: providing shelter, generating clean energy, and enabling the public realm to host a number of large scale events.

The communal space requirements for the new residents has been located on the roof of the new building. This move frees up the ground plane for public uses and takes advantage of the plot's prime riverside setting. The pitched roof subtly transforms into a pergola structure to provide some shelter from the wind, while still maximising views of the River Shannon and the city centre beyond.

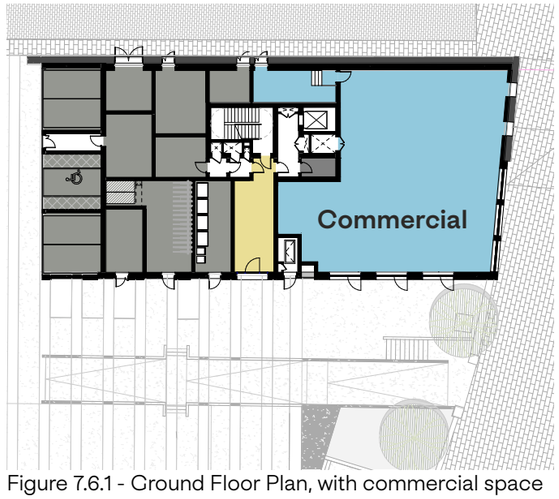


Figure 7.6.1 - Ground Floor Plan, with commercial space

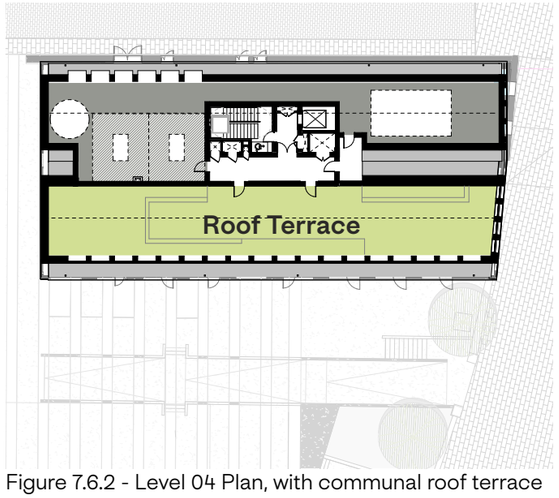


Figure 7.6.2 - Level 04 Plan, with communal roof terrace



Figure 7.6.3 - View of the roof terrace

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.6 Amenity Provision



Figure 7.6.4 - Illustrative view of O'Callaghan Strand and Flaxmill Plaza from riverside

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.7 Character & Materials

The massing is carefully articulated to integrate the building into its context and address the different conditions the heritage and riverfront contexts create. The primary aim is to create a coherent architectural language that can sit comfortably next to the heritage assets and appropriately frame the historic site, and still generate a suitable civic presence on the riverfront.

At this key location onto the Shannon, brick will define the building's materiality: a quality material that speaks to the coherent masonry materiality common to this area of the historic Mill site. A darker grey brick has been chosen for the ground floor, with a lighter brick above. Predominantly grey tones have been chosen to tie in with the Flaxmill and curtilage wall. The material choice enables a clear contrast between the old and new, stone and brick, but tones have been selected to ensure the wider composition is consistent and unified.

Metal elements take on a secondary role, as framing elements that differentiate the roof volume. The pitched roofs are grey, and are inset from the facade lines. The metal window frames and railings will be a rich olive-green/grey tone, providing a warmth to the building in the colour of its detailing and referring back to some of the green metal tones evident in the historic mill site and within the proposed Salesians development.

The precedents opposite look to convey these combinations of brick tones and explore ways to integrate civic elements into a building of a similar scale.



Vejen Town Hall, Transform Arkitekter



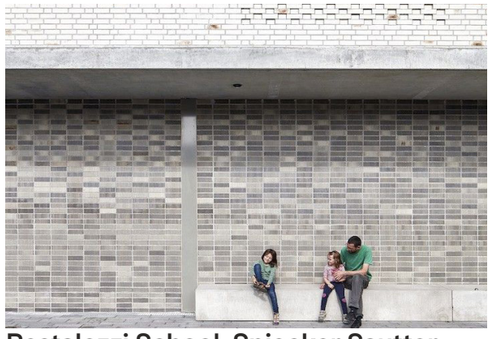
Corner House, DSDHA



Foley Road House, Alexander Martin



Citizens' House, Archio



Pestalozzi School, Spiecker Sautter Lauer

Figure 7.7.1 - O'Callaghan Strand character and material precedents

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.8 Elevation Principles

The approach focuses on creating two slightly different yet related elevation treatments. The long elevations look more to the Flaxmill for their expression, but as the building turns the corner the riverside elevation opens up. The solid elements are recessed to express a slender brick frame with a greater number of openings. The facade takes on a stronger civic presence; the two gables are celebrated as a special moment, acknowledging their prominence on the river within the context of Limerick. Both elevation types are tied together by their shared proportions and brick details, including a continuous coping at the eaves to reference the cornice detail of the Flaxmill.

The other major move is the decision to differentiate the ground floor with a different material: a darker grey brick closer in tone to the stone of the Flaxmill and curtilage wall. This change ties the new building to the existing wall, and helps to draw the eye down to the ground plane to highlight the public uses within the building. It also allows you to still read a visible step down from the 4-storey Flaxmill, to the 2-storey Dairy Building, and then to the expressed single-storey of the new building.

The residential uses sit above, clad in their lighter grey brick. The desire to echo the uninterrupted nature of the Flaxmill facade rhythm and not to disrupt the clear form of the new building led to the decision to accommodate the private residential amenity through inset balconies, recessed behind openings in the brick piers. The communal amenity terrace is likewise subtly incorporated within the form and language of the building.



Figure 7.8.1 - View from the riverfront

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.8 Elevation Principles

The long elevation looks to emulate the simple rhythm and special moments of the neighbouring Flaxmill. It picks up the width of the Flaxmill windows and interprets the repetition in pairs of openings. The result is a facade that doesn't mimic the historic building but does feel akin to it, respectfully taking its place among the family of buildings that will front the new public space.

The paired openings are combined into a single larger bay rhythm for the ground floor. These become large glazed openings for the commercial space, and become inset brick panels with metal doors where required for the back-of-house residential spaces. The communal residential entrance announces itself within the facade in the same manner as the Flaxmill: an arched opening breaks the rhythm of rectangular openings.

The gable facade uses the same rhythm of openings, but translates it into a lighter and more frame-like language. The gables are subtly different to each other, in order to align with the geometry of the existing wall and mirroring the asymmetric pitches of the Dairy Building and Flaxmiil roofs. A shift from a 6-bay to a 5-bay rhythm is able to accommodate the difference in width. The other notable visual difference between the two gables is a result of the different uses within the pitched roofs. The northernmost pitch houses plantrooms and maintains a solid presence, while the southernmost gable forms the communal amenity terrace, so it opens up to the city and riverfront opposite.



Figure 7.8.2 - Flaxmill Plaza Elevation



Figure 7.8.3 - Riverside Elevation

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.8 Elevation Principles

The dark base brick and light upper brick share a language of slender piers, emphasised by their stack bonded coursing. The same detail of stack-bonded soldier courses above openings forms the basis for the frame-like architectural language of the gables. This details creates a seamless transition between areas of more open and framed, and more solid areas of elevation as the design changes around different sides of the building.

Variety is captured on different elevations to suit contextual responses, while maintaining the rigour of a repetitive façade rhythm. Multiple flat types with different balconies and window locations have been arranged within the façade in a way that uses a single sized opening on a regular grid to accommodate the various balconies, windows, and solid panels of different units.



Figure 7.8.4 - Material Palette



Figure 7.8.5 - Flaxmill Plaza Elevation

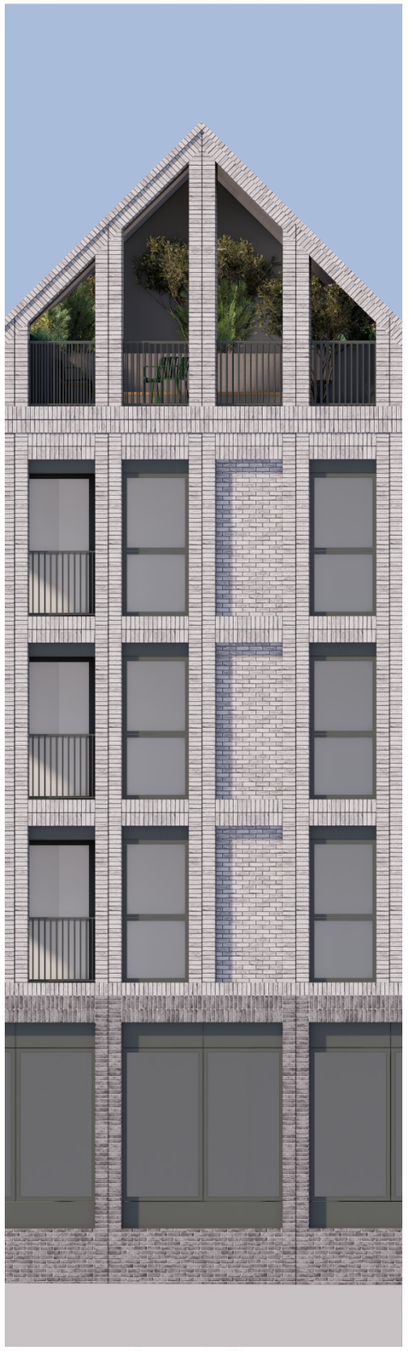


Figure 7.8.6 - Riverside Elevation

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.9 Integration with Heritage Wall

As well as forming new windows in the blind opening, some new openings are required into the historic wall along the northern elevation to allow for plant and emergency access. These have been reduced as far as possible to retain the integrity of the Linen Store wall.

The ambition is to retain the structural and visual integrity of the existing wall as a standalone element, while still ensuring old and new feel integrated and part of a coherent whole.

A respectful distance is maintained between the existing wall and the new build elements above and adjacent to it: the plane of the new elements always sits behind the existing facade line, allowing the depth of the existing wall to be appreciated. Particular care has been taken not to swamp the existing wall's riverside facade. The new gable adjacent to the historic wall follows the existing facade line and reinforces the original street frontage. The strong horizontal created by the new coping is picked up in the brick detailing of the new building to further emphasise the strong relationship between the two. The new gable above the existing wall cuts back, away from the line of the existing wall. This gives the single storey wall space to breathe, emphasising its profile as you approach from the north-east.



Figure 7.9.1 - View of the north-east corner of the heritage wall

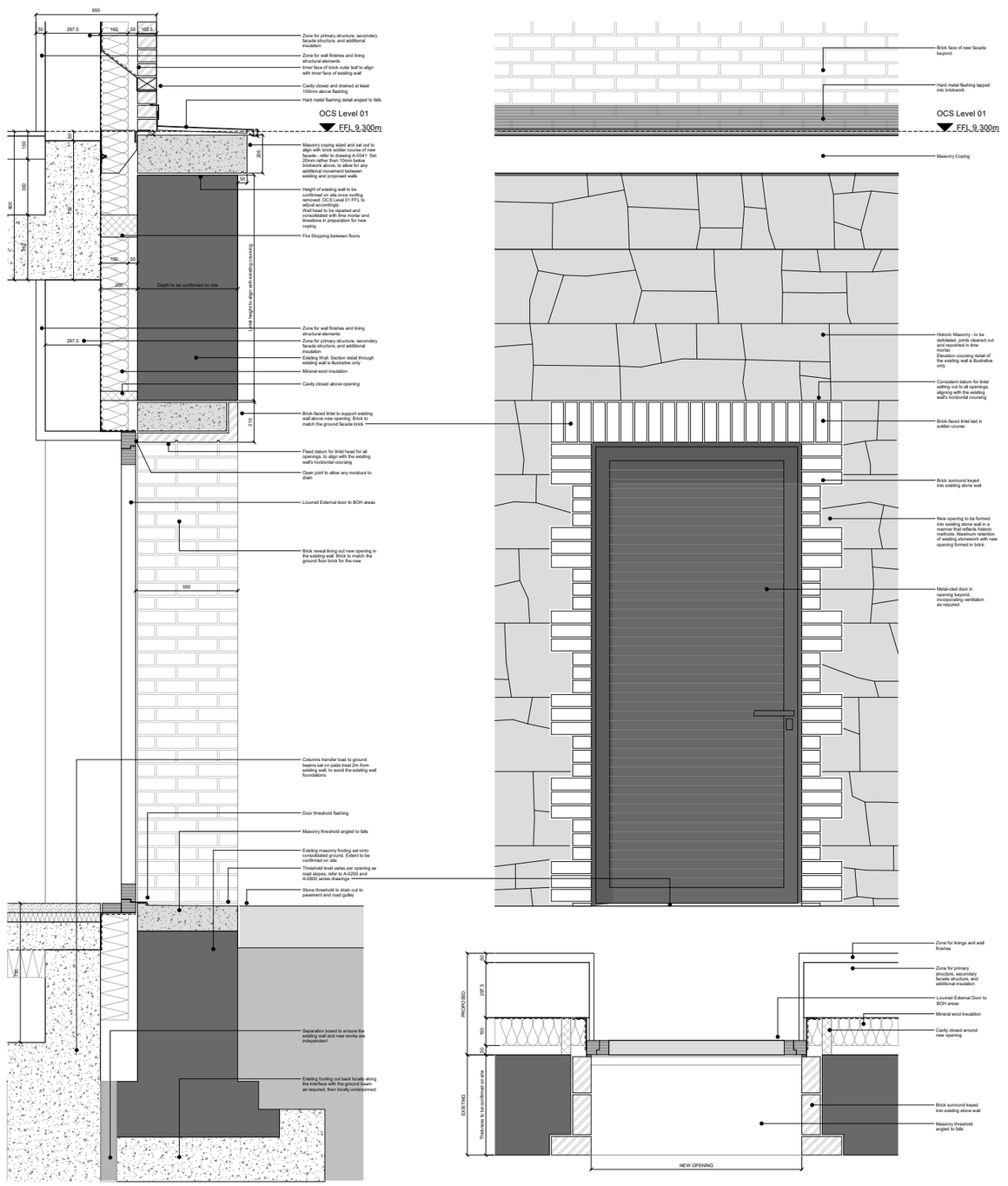


Figure 7.9.2 - Detail of a typical door opening in the existing wall. Refer to A-300 series for further details

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.9 Integration with Heritage Wall

Structural Strategy - Foundations
Existing walls are anticipated to extend approximately 1m below the existing ground level with a spread stone footing bearing onto natural granular geology (angular and subangular course gravel) capable of bearing load. Rock is noted to be approx. 3.6m below ground level.

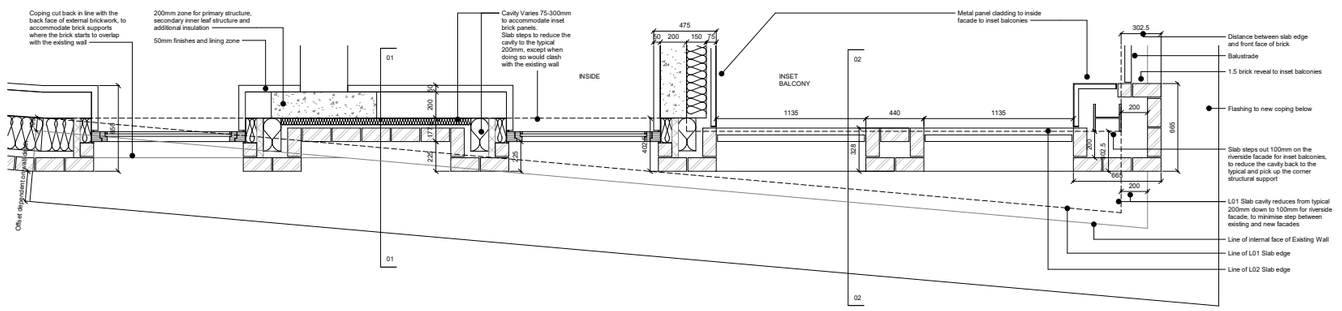
The new structure and the historic wall will be structurally independent. New foundations will be formed as pad footings set back 2m from the line of the historic wall. A ground beam will cantilever to pick up the superstructure columns. The new building frame will be erected over the ground beam.

New footings are to be set back 2.0m from the existing wall to ensure proposed works/excavation will be outside the zone of influence of the existing footing. Where the foundation of the historic wall is found to be above the level of the underside of the ground beam local underpinning will be necessary. This will create a localised condition with the extent of underpinning will reflect the width of the ground beams that extend out toward the existing walls.

Design Development
The designs will be further developed informed buy site investigations and observations as the come forward. The principles to retain, protect, conserve and reuse the wall will remain constant within the design for the new building foundations and super structure.

Construction Phase
Protection measures will be implemented to guard against accidental damage to the wall and to allow for monitoring of vibration during construction.

Ground excavations will require the removal of built layers of concrete and paving. These will continue into the existing natural ground but not into rock.
The excavations will not result in high vibration.
The excavations will not result in the destabilisation of the historic wall.



3 **OCS - Bay Study 04 Plan Detail L01**
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1 **OCS - Bay Study 04 Elevation**
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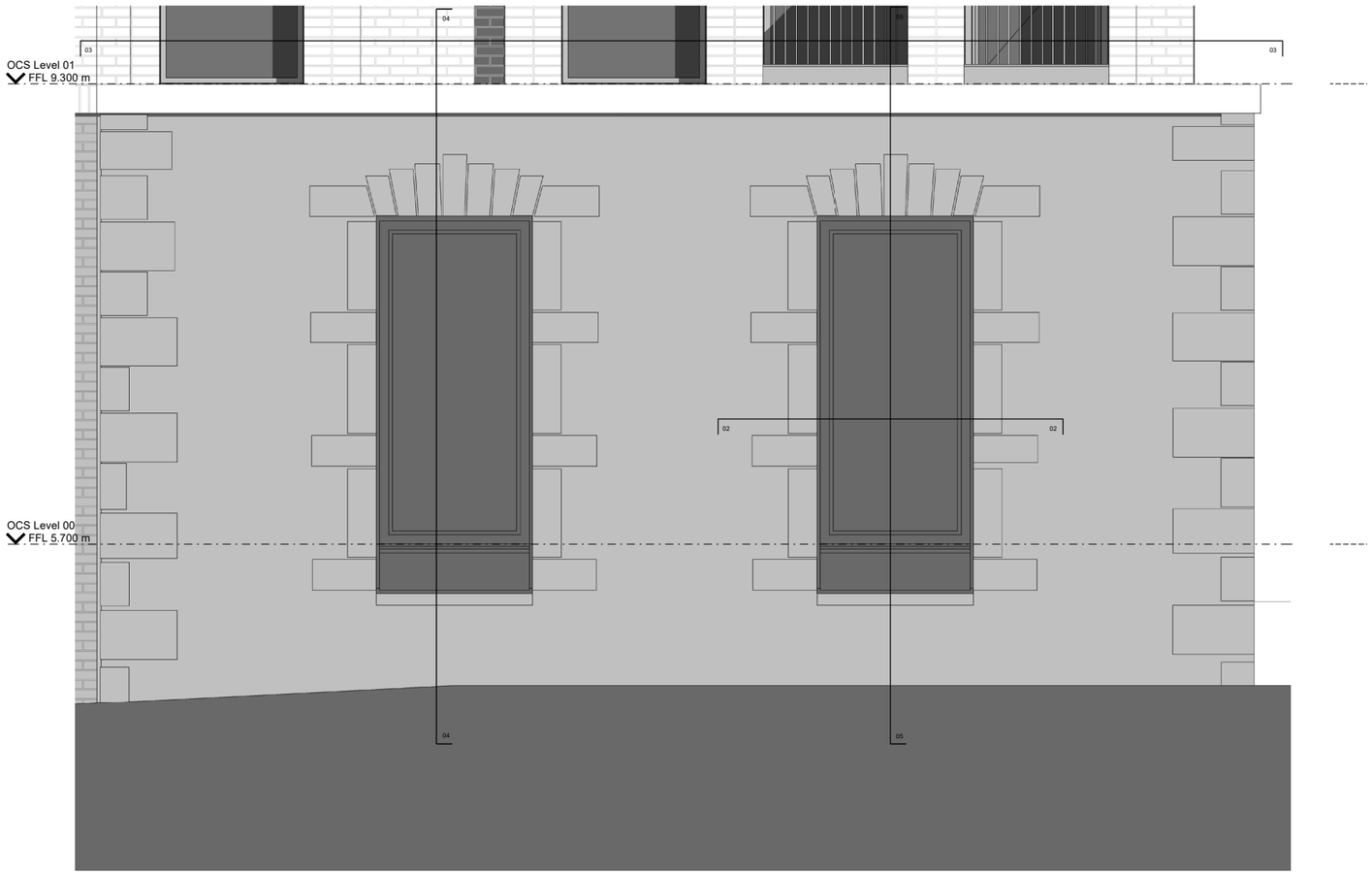


Figure 7.9.3 - Detail of the riverside elevation, including typical opening in the existing wall. Refer to A-300 series for further details

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.9 Integration with Heritage Wall

LINEN STORE AND OFFICE BUILDING & LABORATORY BUILDING

Significance:

The building extending to the end of the boundary was built as the Linen Store. It is of stone construction with a concrete floor and once had 16no queen post trusses of timber and iron of which 5 are visible. These carried a slate roof which has been replaced by profiled metal sheet. The north and east walls form the boundary of the site. The external appearance matches that of the Main Mill and Weaving Mills. Two blind windows onto O'Callaghan Strand are not reflected in the internal masonry confirming their architectural device as part of the complex's aspiration as a civic venture. The wall along Stone Town Terrace is of coursed rubble with tight joints, presenting the secondary quality of this largely unseen wall. There is one small blocked doorway though this wall. The Linen Store and its wall on to Stone Town Terrace is of 'medium significance'.

The Office and Laboratory Building were not present on this part of the site during the flax phase. The Office holds significance as a part of the operation of the Cleeve's business. The form and construction of the building is unremarkable and has no architectural or technical merit. For its purpose as part of the Cleeve's operation it has 'Technical interest' and is of 'low significance'.

The 1906 Extension and Post 1927 changes in this part of the site are of 'low and negative significance'

Current Condition:

The original buildings of the Linen Store and Office & Laboratory building been adapted for use in later phases of occupation. The Linen Store nearest to the office has had the eaves raised to form a mono-pitch. The interior of most of the store is concealed by later linings. The late C20th extensions have hidden this building within the site.

The Office & Laboratory Building has been adapted and larger, industrial elements were introduced to the north and south east. These do not appear to relate to the operation of the former office building.

Options explored for re-use:

These single storey buildings do not enable re-use for residential accommodation. For other uses, education or commercial, they could house accommodation but are not of sufficient scale to offer value for the upgrade and retrofit works needed to bring them up to modern standards for occupation.

The single storey Linen Store wall is proposed to be integrated into new building proposals through localised underpinning and a new structurally independent foundation for the building behind the wall. New foundations will be formed as pad footings set back 2m from the line of the historic wall. A ground beam will cantilever to pick up the superstructure columns. The new building frame will be erected over the ground beam.



Figure 7.9.4 - Extension to office c.1950



Figure 7.9.5 - Linen Store south-east elevation - on O'Callaghan Strand



Figure 7.9.6 - Linen Store north-east elevation - On Stone Town Terrace

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.9 Integration with Heritage Wall

Alignment with the aims of the masterplan:
The existing buildings in their current location sever connections between the main mill, future areas of public realm and the wider city and waterfront, impacting permeability and urban connectivity and missing the opportunity to animate and create a wold class waterfront development.

The single storey Linen Store wall is proposed to be integrated into the O'Callaghan Strand building, capitalising on the site's unique heritage to create an architectural response that is routed in the character of the place, and particular to Limerick.

Part of the passive flood mitigation strategy across the development is to raise levels around the site in order to open up and engage positively with the river at the edge of the site. This results in the need to create access for emergency vehicles across the Flaxmill Plaza in the event of a 1:200 year flood event to access Stonetown Terrace and Landsdowne Hall. This strategy requires the removal of a short section of the Linen Store wall onto Stone Town Terrace to create access.

Mitigation:
Integration of the Linen Store wall establishes a design character and architectural order that is a unique and site specific response. Emergency vehicle access during a flood event will enable the safe inhabitation of residential accommodation on Stonetown Terrace and outside the site in Landsdowne Hall. Opening up the site to the river and city will aid interaction with the retained heritage assets. Whilst the demolition of the Office & Laboratory building will result in loss of some technical interest the preservation by record in the form of Building Recording will offer mitigation.

The opening up of access into the site from the southeast will be achieved by reopening of the former cart entrance. This will reinstate a former access route into the mill yard.

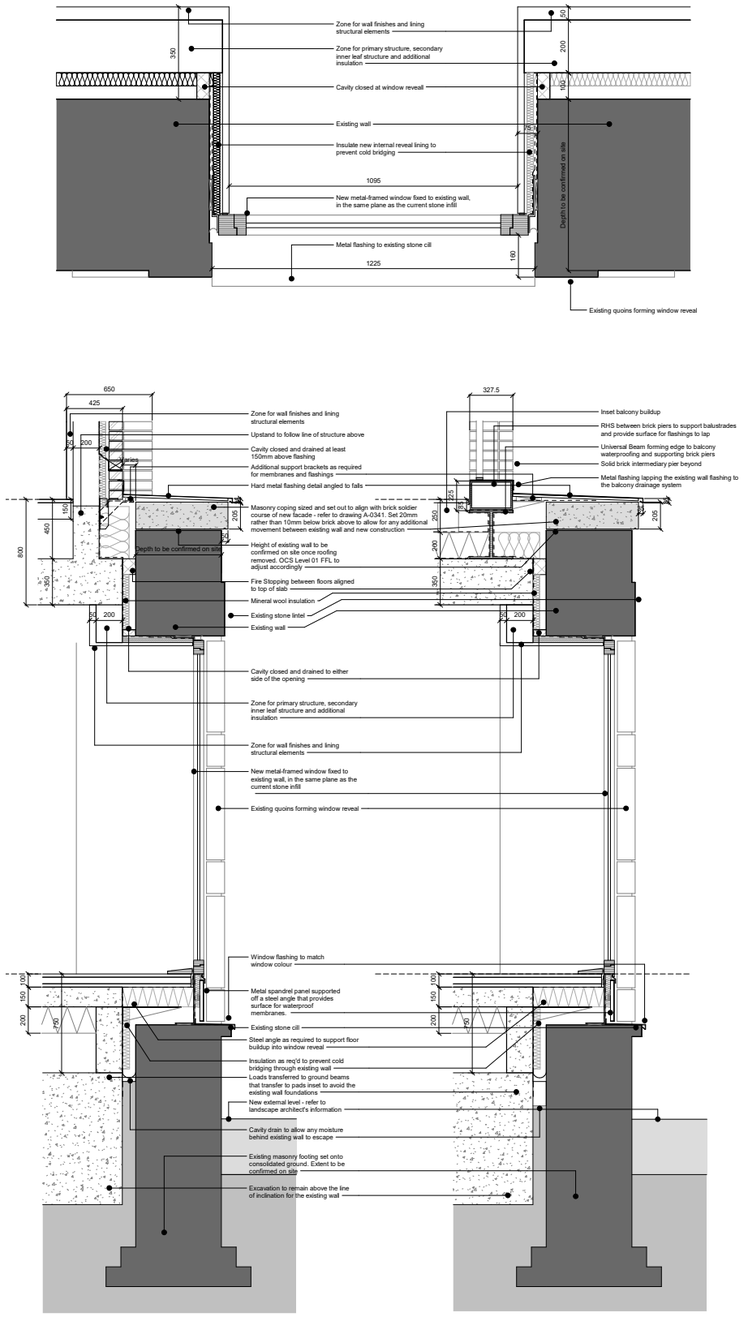


Figure 7.9.7 - Detail of the riverside elevation, including typical opening in the existing wall. Refer to A-300 series for further details

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.10 Outline Repair Specifications

OUTLINE REPAIR SPECIFICATIONS
Repairs are to be carried out on a like for like basis.

The following standards have been written to capture the principles for the repair, adaptation and renovation of the buildings' and walls fabric as is necessary to facilitate their reuse. While within the O'Callaghan Strand section of the report, they apply to all areas of repair, adaptation and renovation within the Phase II application. While the notes offer guidance they are not exhaustive.

Masonry Preparation and Cleaning
Cleaning
The existing above ground limestone masonry is understood to be in reasonable condition. The levels of environmental staining vary depending on the visible location of the wall.

Robust cleaning is required to remove historic dirt, stains and modern glues / sealants. Given the current condition of the masonry it is proposed that a DOFF steam clean will be most suitable for managing the variation of environmental staining as it is a recognised means of cleaning masonry without causing damage to the historic fabric. More encrusted build-ups may require a more aggressive approach which should be finalised once cleaning trials have been undertaken.

Stone Repair – Indent / Descaling / Redress
Repairs are to be appraised and resolved once demolition activity has progressed and the extent of repair need can be recorded in detail. Limerick limestone is very hard and unlike many other building stones. Its minimal porosity means that when it fails it is usually due to irregular loading causing the stone to facture. The stone does not readily degrade due to weathering. As such, defects in the stone are indicative of changes in the wider wall which may invite closer investigation and a broader scope or repair. There is no advantage to clean the dense limestone masonry until the surface has been consolidated following the removal of loose material and remediation of defects that may be destabilising the wall.

Cleaning, Repair and Repointing
Historic walls are to be cleared of cement pointing (where loosely adhered) and the joints packed and repointed with lime mortar mixed to match the original determined from the analysis of samples. Failed stone units are to be stitched and reinstated if of sufficient dimension or renewed on a like for like basis. Wall heads are to be assessed for renewal of copings and dressings.

Pockets, Voids and Holes in the Masonry Walls
Pockets identified in the face of the wall are to be cleared out and the masonry reinstated. Where the masonry is sound new cut stone / cut bricks (repair material to match adjacent fabric) are to be buttered up and inserted into the wall ensuring the perpends and bed are full and packed. Where the masonry is loose it is to be taken down and rebuilt to ensure the wall is adequately consolidated and all new work fully bonded in.

Closing of Existing Openings
Where existing openings are to be closed up the work to internal walls is to be undertaken in new conservation clay bricks and in external walls the wall is to be consolidated with site reclaimed masonry all bedded in lime mortar mixed to match the original.

Where the existing opening is to remain legible, i.e. the masonry units are not bonded into the existing wall, the inserted masonry is to be tied with stainless steel starter ties fixed into the mortar joint of the adjacent / abutment wall. The face of the new infill brickwork is to be set approx. 30mm back from that of the wall into which it is inserted. The precise depth of the setback will be defined by the immediate context. Where masonry is inserted to fill a void in preparation for the lining out of the wall (e.g. in lime plaster and Insulation) the brickwork is to be flush with the adjacent wall.

Opening Up of Bricked Up Openings
Where historic openings are to be reopened the works are to be undertaken with care. Hand tools are to be used to aid the dismantling of the existing masonry which, for the most part, will be of soft materials such as lime mortar, pennant stone and possibly in clay bricks. Care is required to ensure the materials arising from the opening up are available for re-use in the repair and renovation of the buildings.

In a few locations, post 1920s work has entailed the use of cement mortar and concrete. In these areas it will be necessary to cut the masonry out. Where loss of fabric is inevitable the principle is for the more modern elements of the fabric to be sacrificed to enable opening up and alterations.

Where the 1950s and 60s rebuilding works have entailed the use of Portland cement and concrete it will be necessary to assess the extent of fabric that can reasonably be preserved for re-use.

The reveals (cill, jamb and head) of the opening are to be assessed to identify if further work is necessary to repair and reinstate them as door or window openings.

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.10 Outline Repair Specifications

New Openings in External Walls
Doorways - New entrances have been designed to be clearly legible as a new phase of change. Where windows are to be converted into doorways the spandrels below the windows are to be taken down and the masonry reveals adapted to match the jamb detail of the window above. The reveal is to be re-constructed with whole masonry units toothed in.

Where doorways are wholly new, the limestone wall is to be opened up and reveals made good with brickwork in a regular pattern reflecting the pattern of stone quoins used historically. This will require some remaking of the stonework to ensure uniformity of the wall.

Service Penetrations - Where service penetrations are required the preference is for existing openings to be used. Where this is not possible new openings are to be formed with minimal damage to the existing fabric. The external leaf is to be taken back by hand so that the masonry can be reinstated to form an opening that is sympathetic to the historic fabric. Any holes that are bored or cut through the core of the wall are to be done in a manner that ensures the facing masonry does not burst.

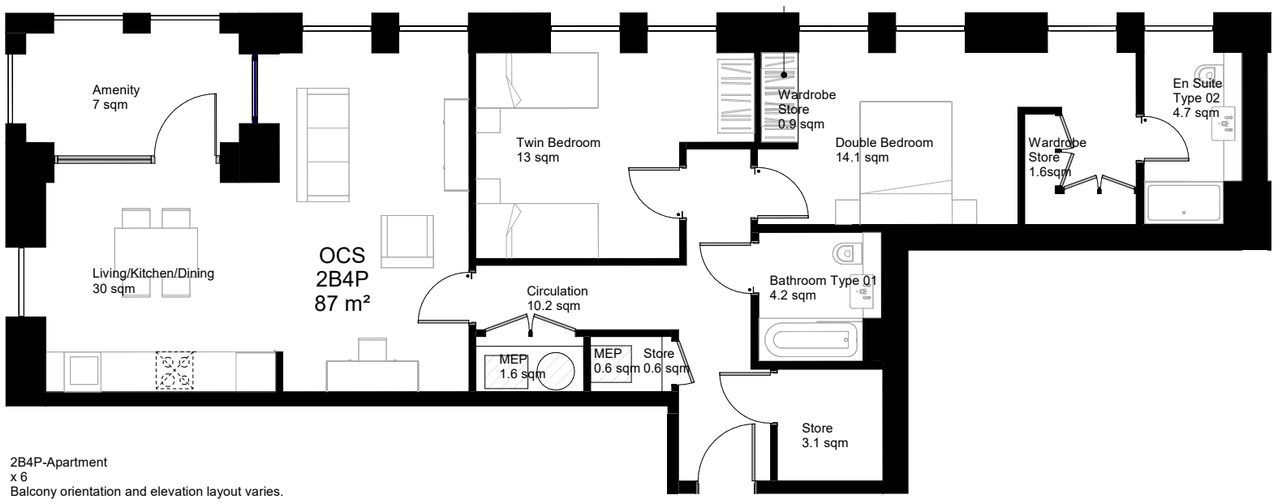
Windows – The intention is for all new windows to sit within the aperture of the existing openings. In a few locations the existing fabric has been eroded. To ensure an appropriately regular surface is provided the windows' reveals, cill and / or lintel will require repair to achieve a regular face. This is essential to enable the appropriate and robust fitting of the window within the existing fabric.

Such instances are to be identified on site during the works with the extent of repair detailed with due consideration for the historic fabric.

Metalwork
Iron Work – Non Structural
Retain, Prepare, Decorate, Protect.
Elements of historic ironwork that remain within the fabric of the building are to be retained and protected. All ironwork located internally and externally, is to receive new decoration, the extent of which is to be governed by its current condition. Where the ironwork is found to be coated in rust it is to be appropriately prepared prior to the application of the specified paint system. Where retained ironwork is to be concealed behind a new wall or covered by the lining out of the wall it must be fully decorated prior to the progression of the works that will result in the item becoming concealed or obscured.

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.11 O'Callaghan Strand Apartment Types (1 of 2)



Layout Type 6_2B4P_F01

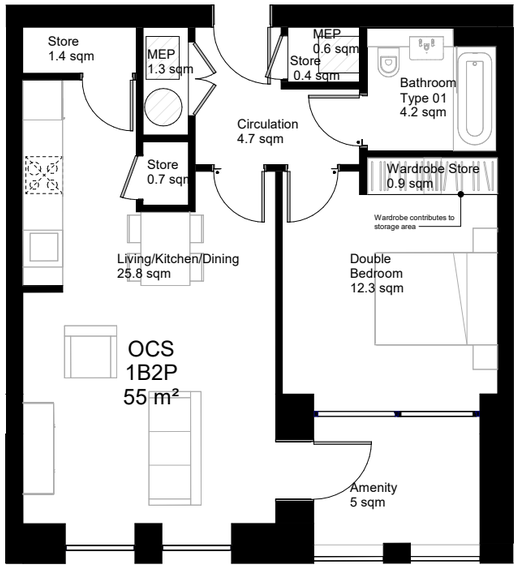
2 Bed 4 persons
87sqm

7sqm of Private Amenity

Refer also to HQA for further details on unit sizing and dual aspect.
Daylight - refer to IES report

7.0 O'CALLAGHAN STRAND DESIGN STRATEGY

7.11 O'Callaghan Strand Apartment Types (2 of 2)

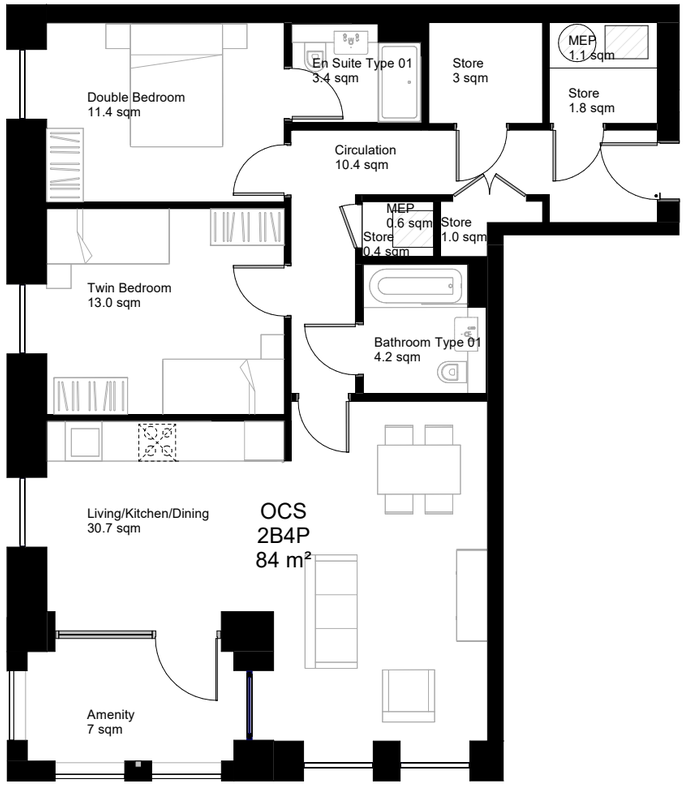


Layout Type 6_1B2P_F01

1 Bed 2 persons
55sqm

5sqm of Private Amenity

Refer also to HQA for further details on unit sizing and dual aspect.
Daylight - refer to IES report



Layout Type 6_2B4P_F02

2 Bed 4 persons
84sqm

7sqm of Private Amenity

Refer also to HQA for further details on unit sizing and dual aspect.
Daylight - refer to IES report

8.0 QUARRY



8.0 QUARRY PBSA DESIGN APPROACH

8.1 Overview & Site Layout

Student Accommodation is provided at the location of the old quarry on the site adjacent to the reservoir, at a key location within the Cleeves Riverside Quarter. Integrated into this unique setting, it is organized around a south facing communal garden overlooking the reservoir. Configured in three thin building wings, it is focussed around a linking ground level that accommodates the communal entrance, reception area and shared facilities opening to the shared garden, fostering a sense of cohesion and community.

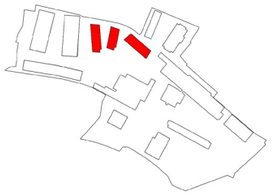
The garden space steps down towards the reservoir whilst above at first floor an amenity space and terrace also overlook the garden and reservoir. The building wings with thin floorplates for good daylight provision to all student rooms fan out from the central entrance. The western and central wings are arranged on the north-south axis to reduce impacts on neighbouring properties to the north, whilst the Eastern wing aligns with the linear form of the Flaxmill massing, echoing its configuration and relating the main Flaxmill façade through to the reservoir.

The disposition of the student accommodation on the site balances the provision of 270 student rooms with adequate daylight and related amenity space with adequate sunlight, with the provision of a continuous public realm along the reservoir. The latter is located at a lower level in line with the existing levels along the reservoir edge, enabling the provision of a landscape integrated secure interface between the student amenity garden and the public path, allowing both to benefit from their location adjacent to the reservoir.

With consideration for flood risk mitigation student sleeping accommodation at ground level has been located above 6.2m AOD. Student internal and external amenity spaces at ground level are located at 5.7m AOD. (Refer to the consulting engineers Flood Risk Assessment for further details).

A split level entrance area with access from the north and south reconciles the level difference and allows this important communal space to open up spatially towards the reservoir. This main entrance/central reception area arranged around the shared amenity garden creates a focus for the student community fostering a sense of collegiality.

A landscaped threshold between the student garden reconciles the level difference between this and the lower public route around the reservoir offering a discrete security line.



Key Plan, Plot Location

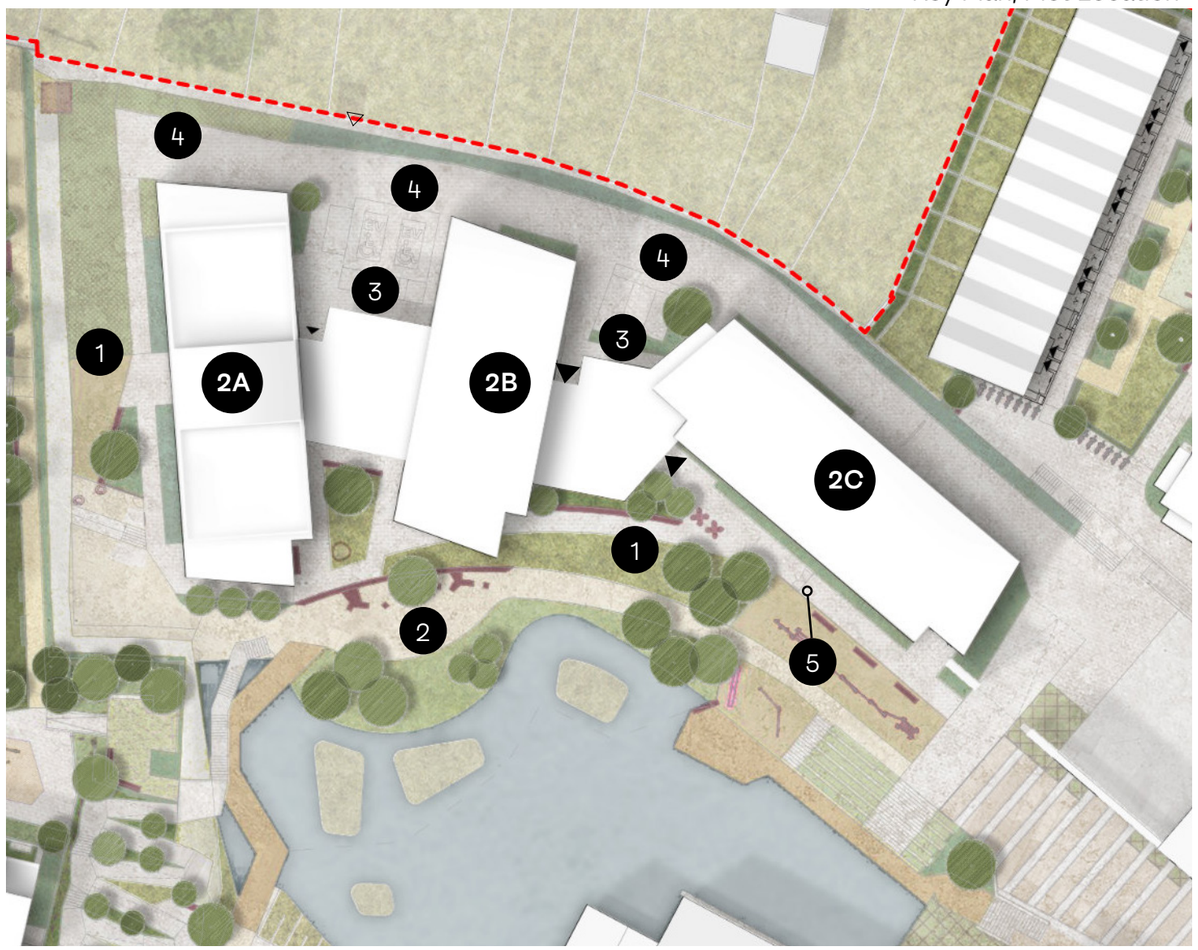


Figure 8.1.1 - Quarry Site Layout Diagram

- Primary Entrance
- Secondary Entrance

2A West Wing, 7 storey with roof plant

2B Central Wing, 7 storey

2C East Wing, 6 storey

1 External Communal Amenity Space

2 Public Realm

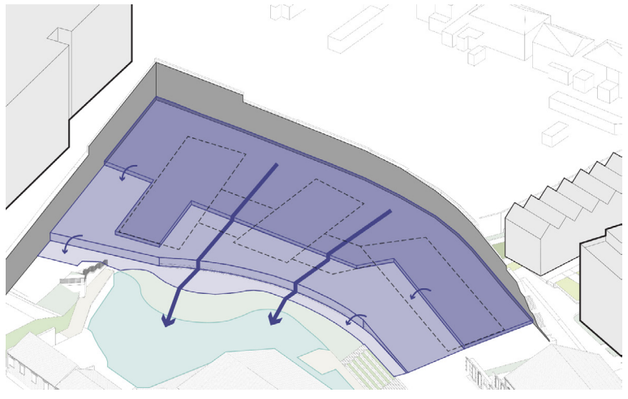
3 Secure Bike Parking

4 Car Parking Spaces

5 External Access Gate / Secure Line

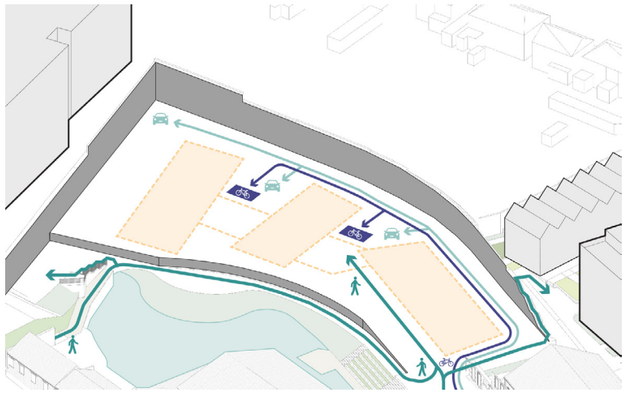
8.0 QUARRY PBSA DESIGN APPROACH

8.1 Design Evolution



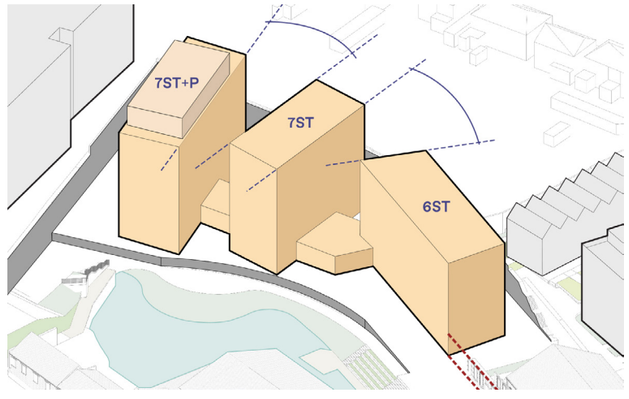
01. Stepped Site Levels

Echoing the stepped topography from the quarry wall down to the reservoir, and in order to locate student sleeping accommodation above the flood protection level (at 6.2 AOD), new site levels are set stepping down from north to south towards the reservoir edge. Student internal and external amenity spaces are located at 5.7m, with a landscaped threshold between these and the lower public route around the reservoir that connects to main Flaxmill space, NCR and upper residential sites..



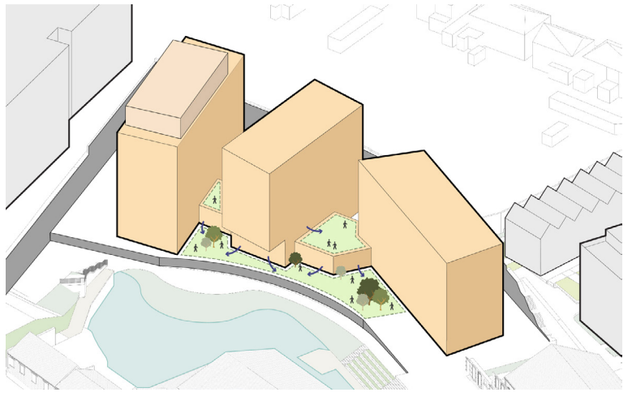
02. Pedestrian Oriented Approach

Prioritizing a pedestrian friendly approach to the student accommodation, an entrance sequence through the student garden is facilitated from a number of directions along the reservoir side, with separate vehicular and cycle approach via a shared surface from NCR. The latter arrives at the north side, adjacent to parking, with through access to the centralised entrance, accessed by pedestrians from the south side.



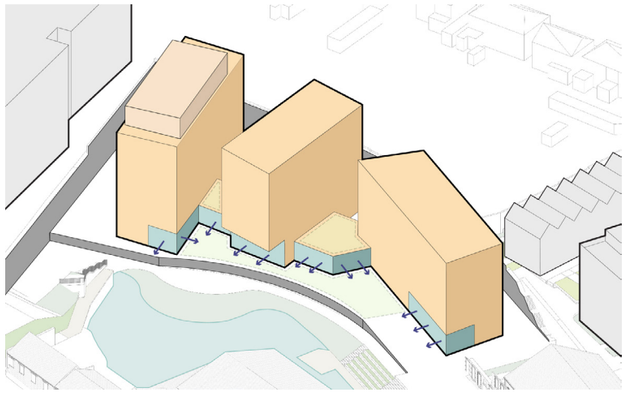
03. Massing & Orientation

The proposed massing steps up from east to west in response to the scale of the adjacent Flaxmill buildings to the east, and the higher new apartment buildings on the upper Salesians site to the west. Wings of the building are arranged in a fan-like manner, the eastern most block aligning with the Flaxmill, whilst the other wings are arranged close to the N-S axis to optimize daylight access to student rooms.



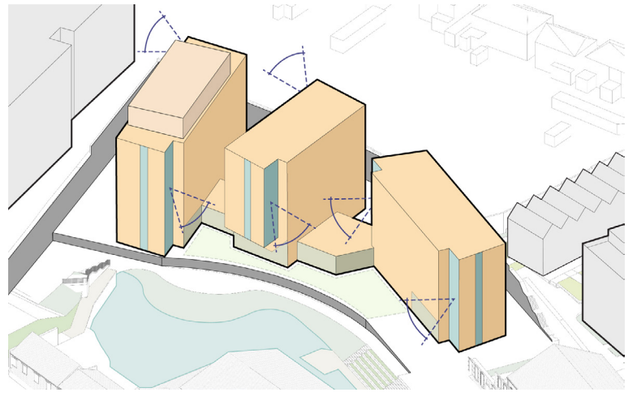
04. External Student Amenity

Communal external amenity gardens and activity spaces are located to the south and west, benefitting from views over the reservoir and access to sunlight. Arranged to be accessed from the centralised entrance and internal amenity spaces, facilitating spill out from these spaces into the garden. A first floor terrace with similar orientation and views offers further setting for interaction and engagement.



05. Internal Student Amenity

Student amenity spaces are arranged around the south facing garden façade, where activities can spill out weather permitting, promoting a sense of collegiality. Communal gathering and collaboration settings are located in the central student support area, with quieter study and recreation rooms located in the wings, also interfacing with the garden and benefitting from views over the reservoir.



06. Shared Living Spaces

The shared living spaces at the end of each student accommodation cluster are located to benefit from views of distinctive natural and/ or industrial heritage features of this unique site (quarry, chimney, reservoir), enhancing a sense of identity and sense of place.

Figure 8.1.2 - Quarry PBSA Design Evolution Diagrams

8.0 QUARRY PBSA DESIGN APPROACH

8.1 Massing & Height

The proposed massing and height of the student accommodation (PBSA) responds to the varied character and scale of the existing context, comprising the impressive civic scale of the historic Flaxmill buildings to the east, and 2 storey houses to the north at a higher level on Clanmaurice Avenue, with a level change presented by the quarry of 6-9 metres. The building massing has been configured to respond to the Flaxmill scale and linear alignment to the East, whilst visually stepping up towards the upper Salesians blocks on the top of the quarry edge. The massing is broken up by creating North/South openings between the buildings wings, reducing impacts on the neighbours to the North.

Three wings step up from the Flaxmill complex towards the Salesians massing to the west, from 6 storey to 7 storey to 7 storey plus rooftop plant, with a connecting 1 storey element accommodating the communal entrance / reception etc at garden level.

Atuned to the path of the sun and wind, the western and central wings are configured close to the north-south axis to optimise daylight provision to the optimum number of student rooms. Where reduced distances occur between western and central angled facades privacy is addressed by provision of translucent side panels to windows.

Refer to IES report for an overview of Sunlight and Daylight Considerations.

An open roof top plant area housing air source heat pumps (ASHPs) enclosed with acoustic screening, is located on the western wing (Block 2A), towards the south to reduce impact on adjacent residents. In the centre of the block a barrel vault roof form covers an internal plant room and reflects previous roof forms found on the Cleeves site.

Telecommunication antennae are incorporated onto the screen enclosure with proposed micro-siting of telecommunication antennae by approximately 3 metres. The adjustment is intended to optimize signal coverage and network performance without altering the overall design or height of the installation. Refer to Telecommunications report for further details.



Figure 8.1.3 - Aerial Sketch View of Quarry PBSA in context

2A West Wing, 7 storey with roof plant

2B Central Wing, 7 storey

2C East Wing, 6 storey

1 External Communal Amenity Space

2 Public Realm

3 Reservoir



Figure 8.1.4 -South Elevation of Quarry PBSA in context

8.0 QUARRY PBSA DESIGN APPROACH

8.2 Entrance Strategy

A pedestrian friendly approach to the student accommodation is prioritized, both from North Circular Road and the Flaxmill plaza past the chimney, and from the public path around the reservoir, in line with the sustainable mobility strategy.

Pedestrian access into the communal student entrance / reception is via an access controlled gate on the reservoir side through the student amenity garden into the main entrance / reception area.

Vehicular and cycle access is segregated at the approach to the building with both approaching via the shared surface past the chimney, turning by the end of the Flaxmill buildings at the connection up to Stonetown Terrace, to continue along the quarry edge arriving at the student accommodation entrance / reception from the north. Access to the designated car parking and bike parking adjacent to the main entrance lobby is controlled at a gate on this route along the quarry edge.

An inviting split level reception area links all the wings at ground level. with informal seating areas offers access into the south facing garden with views over the reservoir and infiltration galleries beyond.

Accommodation for a managers office and facility management, central plant and utilities rooms, are located adjacent to the main reception area. Externally a setdown space for small van deliveries is located, whilst internally a student mail area is located. The layout enables passive surveillance of entrances and approach, reducing potential for anti-social behaviour.

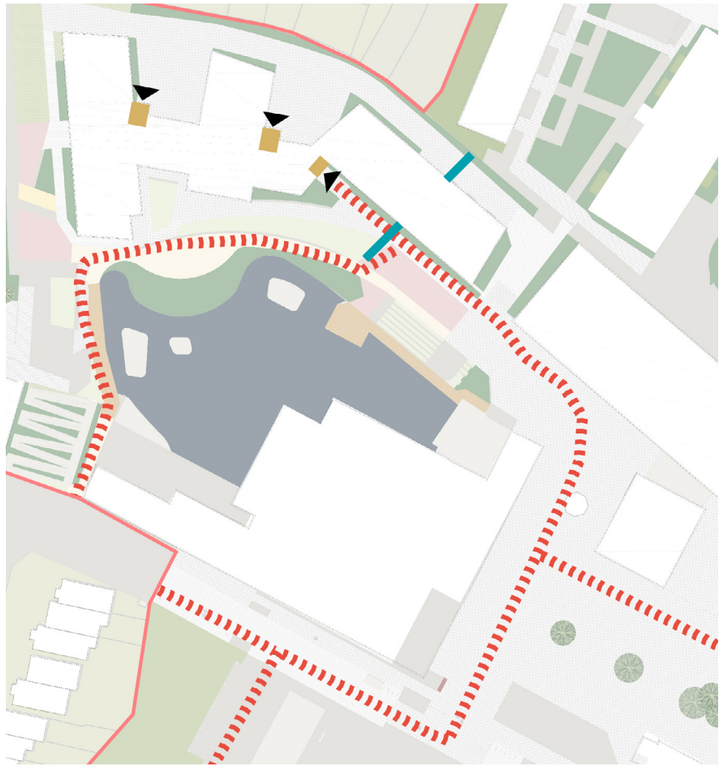


Figure 8.2.1 - Entrance Strategy Diagram

- Secure line for PBSA only access



Figure 8.2.2 - Illustrative section through entry area.

8.0 QUARRY PBSA DESIGN APPROACH

8.3 Open Spaces & Amenity Strategy

Public Realm

The space between the purpose built student accommodation and the reservoir forms part of the landscaped public realm spine extending through the quarter from the reservoir /quarry past the Chimney and Flaxmill civic plaza through to the Riverside. The South facing path along the reservoir edge offers seating and lounging opportunities, with visual and physical connectivity to the upper residential sites along with a new link to the North Circular Road from which the reservoir is newly revealed. This area within the Quarry/Reservoir offers public amenity space, and supplements the public open space provision for the residential communities at Salesians, Stonetown Terrace and O'Callaghan Strand.

It incorporates a rock climbing area at the quarry wall face, access to the waters edge and a play area for older children, allowing those living in different parts of the Cleeves masterplan area and neighbours to socialise together, helping to build new communities. Refer to the Landscape Architects drawings & report for further details.



Figure 8.3.1 - Quarry Public Open Space Strategy Diagram



Figure 8.3.2- PBSA Communal Open Space Strategy Diagram

External Communal Open space for PBSA:

Landscaped open amenity space for students is provided in the South facing garden overlooking the reservoir, with opportunities for student interactions and recreation, and shelter from weather offered by an overhanging canopy.

An external amenity terrace on the first floor above the main entrance / reception is available for independent student use, or in concert with the internal study room adjacent. Planters with integrated seating line the terrace.

Adjacent to the quarry at the west a recreational space provides a location for student fitness activities, overlooking the public rock climbing wall to the south.

A nature based SUDs approach is prioritised in line with an integrated green infrastructure approach, supporting biodiversity whilst creating a backdrop for healthy student living.

Refer to Landscape Architects drawings and report for further details, and ecologist report in the EIAR.



Figure 8.3.3 - Sketch view of external communal amenity space, with view to chimney and reservoir.

8.0 QUARRY PBSA DESIGN APPROACH

8.3 Open Spaces & Amenity Strategy

Internal Communal Amenity space for PBSA

Communal student amenity facilities are provided internally on ground and first floor in the central linking element. They offer inviting spaces encouraging social integration and benefiting from daylight and views.

These facilities include a welcoming reception area, settings for informal social interactions and meetings, touchdown spaces, spaces for individual and shared study, multipurpose space for small seminars and gatherings. A multipurpose room at the Flaxmill end of the Eastern wing on ground floor adjacent to the public realm offers a potential space for yoga and /or community meetings.



Figure 8.3.4 - Sketch view from internal to external communal amenity space at ground floor, with view to chimney

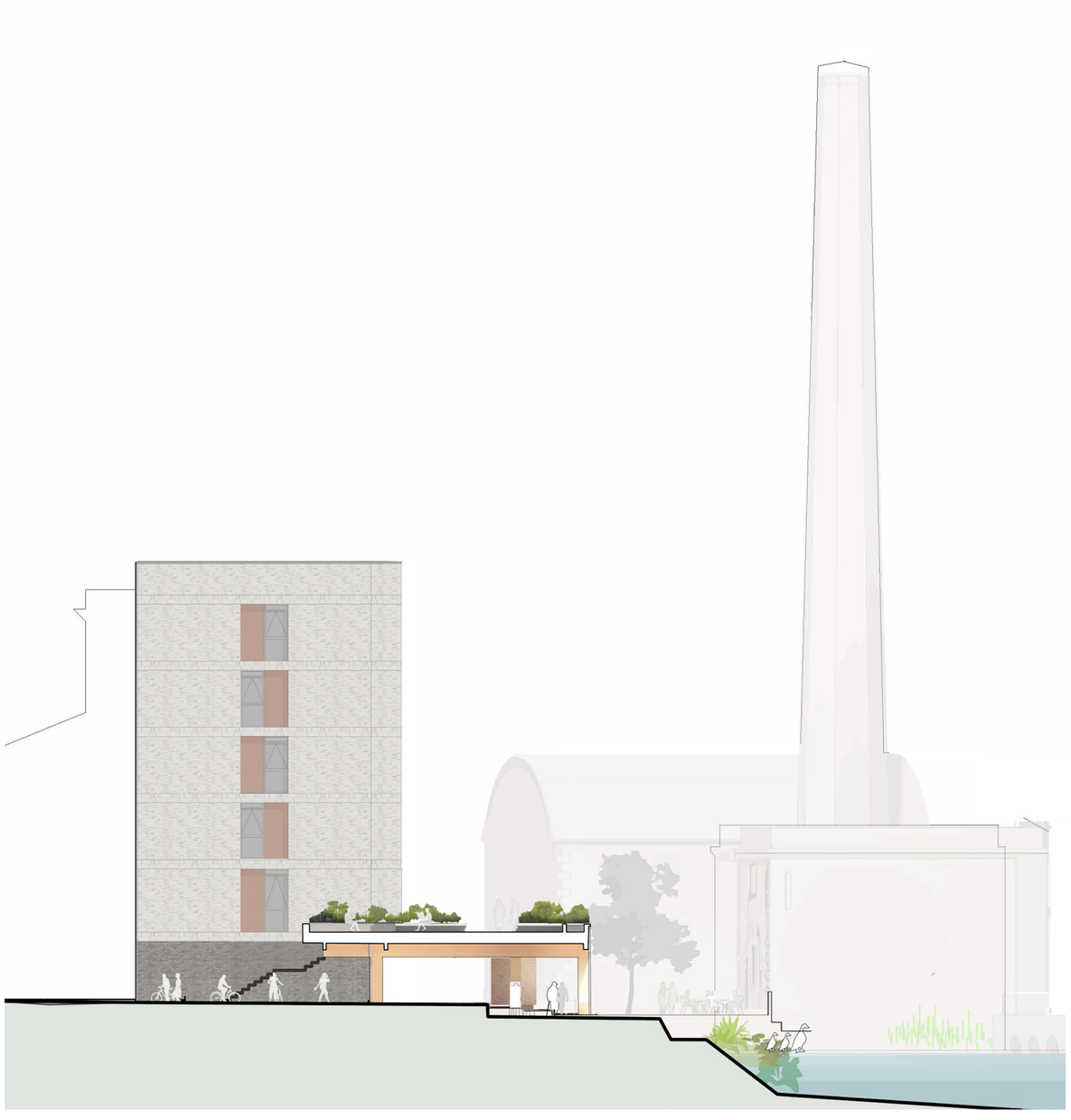


Figure 8.3.3 - Diagrammatic Section through amenity spaces for students, in context of the site

8.0 QUARRY PBSA DESIGN APPROACH

8.4 Approach to Student Residential Accommodation

Accommodation for students

- Student living areas are organised in a 'cluster model' arrangement promoting a sense of community. Study bedrooms in clusters of 5, 6, and 8 bedrooms share a living / kitchen / dining space providing space for communal living and social interactions.
- These shared living spaces for the individual clusters are located at the extremities of the building wings each offering views towards unique elements of the quarter (remnants of industrial heritage, chimney, reservoir and quarry), reinforcing a sense of place and identity. Student bedrooms within the clusters each include ensuites, storage and desk space.
- Studio apartments for PhD students and summer rentals are located centrally in each wing, adjacent to the cores at upper floor levels and offer a diversity of accommodation provision.
- Universally accessible study bedrooms with ensuite showers for mobility impaired students are provided in the western wing (with universally accessible parking bays in close proximity).
- Student living spaces within clusters are visitable by the mobility impaired. Universally accessible toilet facilities are provided adjacent to the communal amenity facilities at ground and first floor level

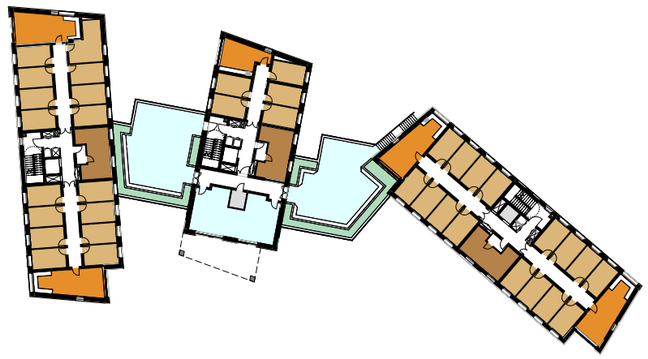


Figure 8.4.3 - First Floor

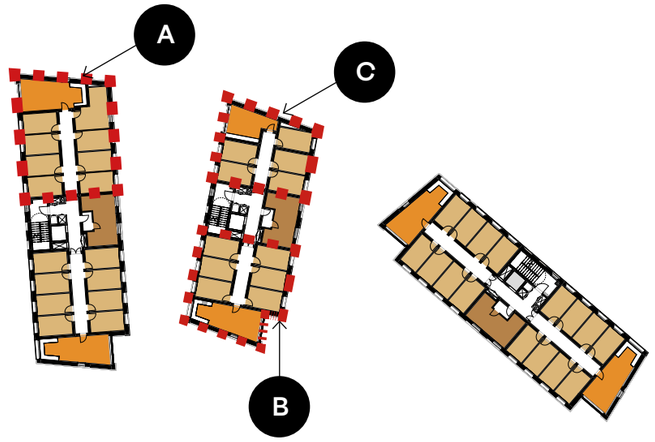


Figure 8.4.4 - Typical Upper Floor

A Typical 8 bedroom Cluster

B Typical 6 bedroom Cluster

C Typical 5 bedroom Cluster

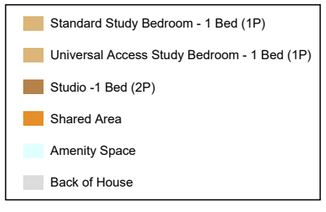


Figure 8.4.1 - PBSA Room Key



Figure 8.4.2- Ground Floor

Quarry Purpose Built Student Accommodation Summary

Total Bedspaces: 270

- 245 standard bedspaces
- 7 universally accessible rooms
- 18 studios

Communal Amenity space

Refer to Schedule of Accommodation for further details.

Quarry Summary - Breakdown of Clusters

Building	4 bedroom clusters	5 bedroom clusters	6 bedroom clusters	7 bedroom clusters	8 bedroom clusters
2A (West)	1 no.	1 no.			12 no.
2B (Central)		6 no.	5 no.		
2C (East)				1 no.	10 no.
Total	1 no.	7 no.	5 no.	1 no.	22 no.

8.0 QUARRY PBSA DESIGN APPROACH

8.5 Mobility & Servicing Strategies



Figure 8.5.1 - Cycle Access and Storage Strategy



Figure 8.5.2 - Car Parking Strategy

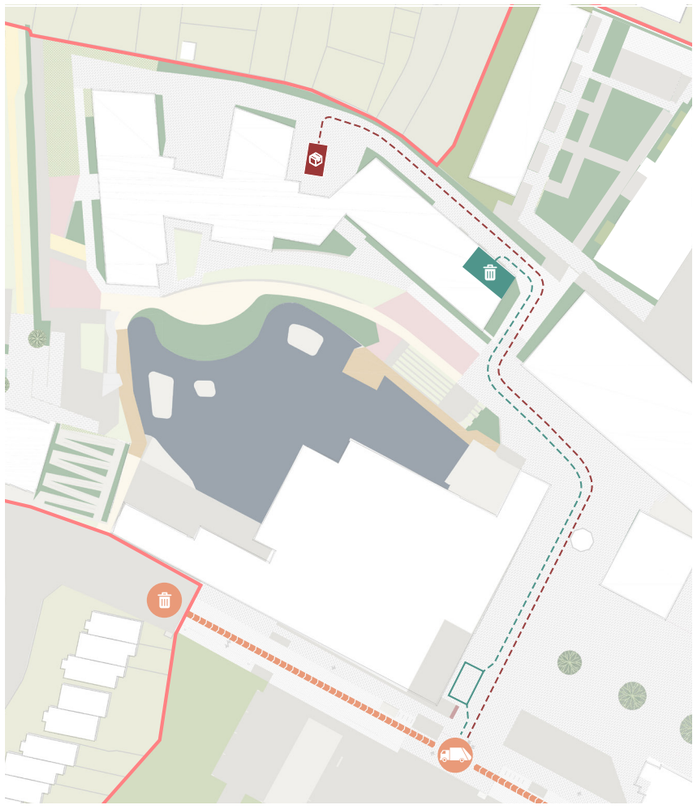


Figure 8.5.3 - Servicing Strategy

- Vehicular and cycle routes across the shared surfaces along the quarry edge arrive at the car and bike parking areas adjacent to the north side of the central entrance. Reduced car parking provision is balanced by generous cycle parking provision. Both standard and universally accessible EV car parking spaces are provided, alongside covered double stacked cycle parking and cargo cycle spaces.
- Access to the student accommodation car parking and cycle parking is controlled at a gate on this route along the quarry edge. Setdown space is provided for small van deliveries adjacent to the entrance /reception area.
- Communal services facilities include a managers / security office adjacent to the reception point, central plant and utilities rooms. Spaces for laundry facilities along with communal storage are located in the east and west wings. An external store in the west wing adjacent to the external student amenity area provides space for storage of amenity /fitness equipment etc
- Facilities for the storage of segregated refuse are located in the north side of the East wing (Block 2C) from where it is transferred via mechanical means to a screened holding area adjacent to the NCR for collection.

8.0 QUARRY PBSA DESIGN APPROACH

8.6 Facades & Materiality

The configuration of the student accommodation facades echoes the rigorous organization, civic scale and order of the Flaxmill façade, with which the east wing of the student accommodation is aligned. A regular rhythm of window openings reflects the regularity of the window grid of the Flaxmill and adjoining buildings. The windows are inset in recessed vertical panels emulating the proportions of the existing buildings whilst bringing depth and modulation to the façade. Deep window reveals and under window panels of brick or fibre cement depending on orientation reinforce this approach.

The articulation of the base, stepping from 1 storey to 2 storey, expressed in a different colour and texture, makes reference to the scale of the original walls lining the site, rising to the scale of the quarry wall. This reflects the stepped massing rising to the West towards the quarry wall and the higher mass of the Salesians apartment blocks on the upper level. The rooftop plant enclosure on the West wing (Block 2A) is receded from the South allowing the gable facade to be expressed independently.

At the central reception and shared amenity spaces on ground and first floor, the facade is activated with full height glazing, exposing potential timber interior, its framing integrated with the railing edge of the amenity terrace above.



Figure 8.6.1 - South Elevation

8.0 QUARRY PBSA DESIGN APPROACH

8.6 Facades & Materiality

Materiality strategy: In line with the overall masterplan approach to materiality responding to the context of the existing Cleeves buildings, solid brick predominates on the primary facades, with variations in colour, tone and texture. A darker grey brick at the base anchors the building and echoes the grey limestone of the Flaxmill façade. A complimentary slightly lighter grey brick blend above reduces the visual weight of the upper levels.

The façade of the study bedroom wing aligned with the Flaxmill, and the façades of the central and west wings facing the Flaxmill are clad in solid brick, wrapping around to form 'bookend' gables that extend to offer larger windows to the students' shared living rooms. On the opposite facades, fibre cement cladding in similar colour makes reference to the mineral character of the stone quarry face.

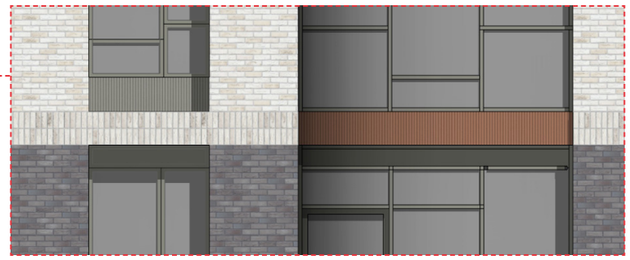
Texture is introduced in the brick façade with rotated bonding patterns at storey datum levels and below window panels. Slightly protruding bricks on end are used to provide some texture in the base at the central block. Vertically ribbed fibre cement panels bring variation to the façade, modulation of scale, interplay of light and shadow. Corrugated metal cladding aligned vertically on the rooftop plant enclosure makes reference to the corrugated metal roofs and cladding of the industrial heritage remnants of Cleeves.

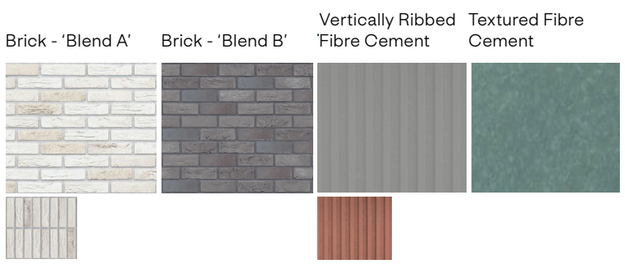


Figure 8.6.2 - South Elevation Bay Study



Responding to existing materiality/colour palette at Cleeves





8.0 QUARRY PBSA DESIGN APPROACH

8.6 Facades & Materiality

The roofs have a combination of hard and soft finishes. Extensive (sedum) green roofs offer rainwater attenuation, whilst remaining roof open areas accommodate PV solar panels, screened visually by parapets.

Clay swift boxes matching brick colour are incorporated into the upper northern facades of the west and central wings supporting the bio-biversity / ecological strategy. Refer to ecologists report for further detail.

The colour palette of brick includes two colours ranging from grey to light grey responding to the context of the range of colours in the existing context (grey limestone, bricks of varying colours, lighter shades of the neighbouring residential areas).

Fibre cement cladding in matching light grey reflects light down into the quarry base. Colour accents in fibre cement offer an opportunity to echo some of the colours of the industrial and maritime heritage of the context eg rust colour (weathered steel in corrugated roofing/industrial remnants/ moorings along the quayside/ etc), shades of blue /green (corrugated cladding).

Window /door framing, sills and jambs at fibre cement cladding, balustrading and coping, are proposed to be of selected warm grey colour to match brick colour.



Figure 8.6.3 - North Elevation Bay Study



Responding to existing materiality/colour palette at Cleeves





8.0 QUARRY PBSA DESIGN APPROACH

8.6 Facades & Materiality

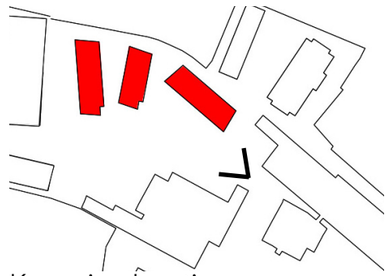




Figure 8.6.4 - View of PBSA

8.0 QUARRY PBSA DESIGN APPROACH

8.7 Proposed Layouts

Study Bedroom Clusters

Study bedrooms are arranged in cluster units sharing a common entrance hall and kitchen/living room/ dining room space at the end of each wing. All bedrooms accommodate a student desk space, and storage, and are provided with ensuite facilities.

Single universally accessible study bedrooms, with ensuites are provided in the west wing proximate to accessible parking bays. Six are provided, equating to a minimum of 1 per 50 bedspaces.

All rooms have good access to daylight and are provided with an opening window.

Refer to IES report for daylight availability and analysis.

As per Guidelines on Residential Developments for 3rd Level Students (Section 50 Finance Act 1999) & Update 2005, the shared kitchen/ dining/living room spaces within each cluster provide a minimum of 4 sq. m per bedspace in the unit.

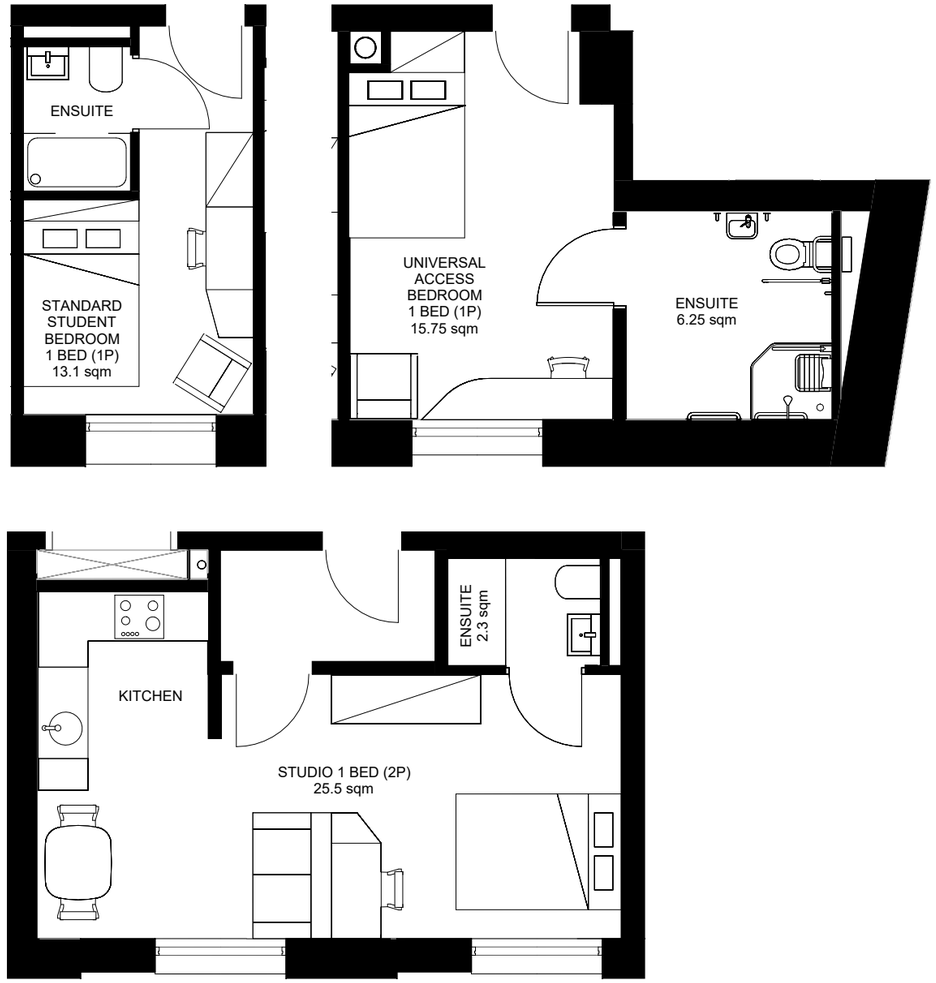


Figure 8.7.1 - PBSA Layouts

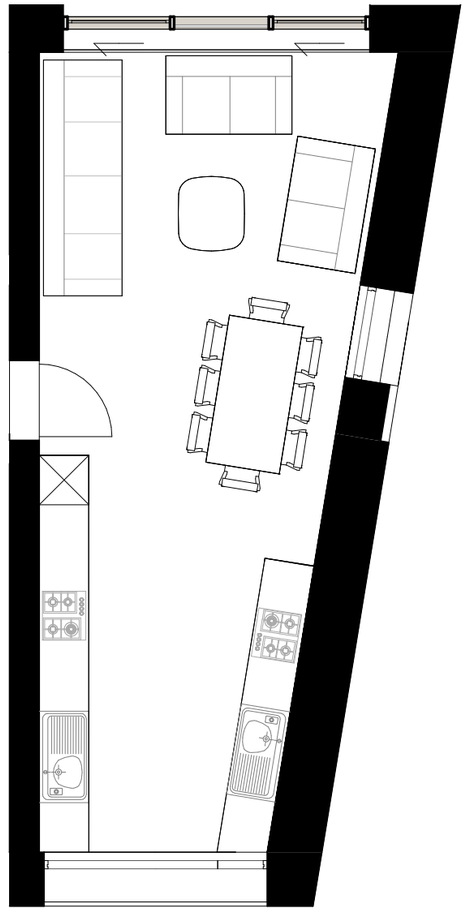


Figure 8.7.2 - Shared space for 8 bedroom cluster

9.0 APPENDICES

A UNIVERSAL DESIGN STATEMENT

A UNIVERSAL DESIGN STATEMENT

Masterplan Strategies

The Masterplan principles underpin the design as proposed, creating environments that can be enjoyed equally by users of all ages, genders and abilities. The design of this phase of this phase of the Cleeves Riverside Quarter is guided by the seven principles of universal design, as defined in the Disability Act 2005, including: Equitable Use, Flexibility in Use, Simple and Intuitive Use, Perceptible Information, Tolerance for Error, Low Physical Effort, Size and Space for Approach and Use.

The scheme has been designed with reference to:

- DoHLGH Building Regulations —Technical Guidance Document Part M 2022,Access and Use
- Universal Design Guidelines for Homes in Ireland (2015) (National Disability Authority), where noted

- Integration within the neighbourhood: strong permeability with pedestrian prioritised links to the existing neighborhood is a key part of the masterplan principles and urban design strategy for the riverside quarter. New accessible pedestrian links to improve access between significant existing level changes are accommodated within this phase of development, across the Shipyard site from Condell Road to the North Circular Road, between the North Circular Road and Salesians residential site, and from Stonetown Terrace to the Quarry site. The existing ramp from Condell Road to the riverside promenade is retained in this phase.



- Ease of Navigation through public realm: Shared surfaces are incorporated reducing vehicular speed, whilst reinforcing a sense of character and prioritising safe pedestrian movement for all ages and abilities. The use of gently sloped or level access gradients is prioritised where possible, and clearly defined by distinct materials with good lighting. Steeper gradients are provided to access some areas of the Salesians site due to existing interfaces with the public road, with a public lift provided to faciltate universal access.

- The mobility hub on the Shipyard site includes accessible EV car parking and accessible bike parking spaces

- The North Circular Road raised road and street design accomodates new accessible set-down areas for visitors to the public realm, along with shared surface with pedestrian priority path and 1:25 gently sloped gradients.

- The landcape design approach across the masterplan considers inclusivity and universal design including in the diversity of play space types and playful landscapes or users of all ages and ability. Refer to landscape architects report for further details.

Refer also to the Quality Audit for further details on accessibility in the public realm / external areas.

A UNIVERSAL DESIGN STATEMENT

Inclusive Building Design Strategies

Residential:

With regard to all new dwellings, the approach, access to, circulation, and sanitary facilities within, are designed to comply with Technical Guidance Document Part M (2022). Universal design principles are integrated within all aspects of the Salesians, Stonetown Terrace and O'Callaghan Strand residential area design to promote inclusivity and accessibility for residents and visitors of all age groups and levels of ability / mobility. In addition to these principles, 20% of the residential units within the development have been designed to comply with the guidelines for "UD Homes" Standard in accordance with the "Universal Design Guidelines for Homes in Ireland" (published by the National Disability Authority, Centre for Excellence in Universal Design).

Related aspects of the residential design include:

Ease of Approach:

- Residential entrances are accessed by gently sloped or level access gradients in most areas of site in accordance with Technical Guidance Document Part M, Access and Use (2022), and clearly defined by distinct materials with good lighting to benefit ease of navigation by al users. On the Stonetown terrace site, gradients are provided at 1:25 to the apartment block with UD Homes units. On the Salesians site where existing steep gradients exist between the site and the public road interfaces, a public lift is provided for universal access from the public street into the residential site area in addition to some ramped gradients varying from 1:12 to 1:20.
- Entrances to all residential blocks / dwellings are clearly signified for ease of wayfinding. The main entrance to the blocks with UD Homes units at Salesians and Stonetown Terrace are located in close proximity to accessible parking bays or set-down areas.

Ease of navigation:

- Lifts, staircores and common circulation areas are designed in accordance with TGD Part M (2022), including generous entrance hallways.
- The design in each of the apartment blocks also allows for larger lift car sizes in accordance with UD Homes guidance. Lifts are located in close proximity to the entrance of each block. Clear widths of stair cores and adjacent common circulation areas are designed in accordance with "UD Homes".

Environmental Quality of internal spaces: Passive sustainable design measures are embedded within the residential design to optimise energy efficiency, including good quality daylighting and natural ventilation within the residential dwellings. The provision of natural daylight within the common circulation areas is provided where possible.

Mobility: 5% of bicycle parking for residents comprises cargo bike or larger accessible bike parking spaces.

Dwelling design:

- All residential blocks and units are designed in accordance with Technical Guidance Document Part M, Access and Use (2022), including visitable wc provisions.
- A selected mix of typologies including 1 bed and 2 bed apartments, along with 3 bedroom triplexes will be designed to meet the "UD Homes" provision within dwellings at both Stonetown Terrace and Salesians.

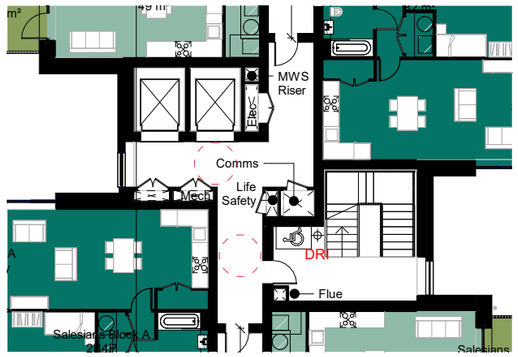
Student Accommodation:

Universal design principles are integrated within the design of the PBSA blocks at the Quarry site in accordance with Technical Guidance Document Part M, Access and Use (2022), for site access, circulation and general means of access. Accessible WC provisions are included adjacent to the communal amenity spaces at each level.

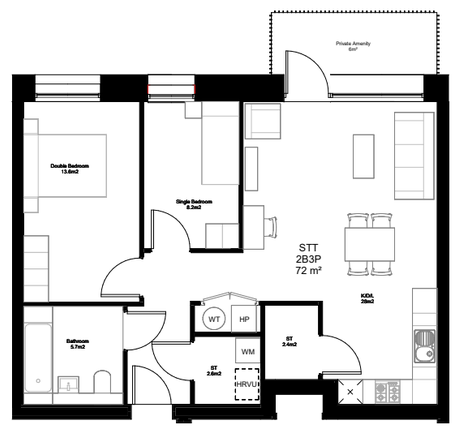
Additionally, as per the national Guidelines on Residential Developments for 3rd Level Students (Section 50 Finance Act 1999) & Update 2005, accessible bedrooms are provided in accordance with the guidelines, with fully wheelchair accessible bedrooms, aligned with the required proportion 1 per 50 bedspaces. Refer to examples of accessible layouts included in the Quarry PBSA section.

Buildings other than dwellings:

Access to, circulation, and sanitary facilities within the creche and commercial unit are designed to comply with Technical Guidance Document Part M, (2022).



Example of residential block entrance and core area with lift sizing as UD Homes standard



Example of Apartment to allow for "UD Homes" standard

B SUSTAINABLE AND COMPACT SETTLEMENTS APPENDIX D CHECKLIST

APPENDIX B - SUSTAINABLE AND COMPACT SETTLEMENTS APPENDIX D CHECKLIST

SUSTAINABLE AND EFFICIENT MOVEMENT

Will the plan or development proposal establish a highly permeable and legible network of streets and spaces within the site that optimises movement for sustainable modes of transport (walking, cycling and public transport)?

A key principle of the scheme is improved permeability and movement across this part of Limerick. The site is mostly impermeable, with physical and visual barriers around it. The scheme opens these up and creates accessible routes across and through the whole site. Sustainable modes of transport are prioritised, with new pedestrian and cycle connections established between the site and wider city.

Have opportunities to improve connections with and between established communities been identified and responded to with particular regard to strategic connections between homes, shops, employment opportunities, public transport, local services and amenities?

Key axes and links between the site and its edges provide access through the site for established local communities, from Fernhill, Lansdowne Hall and Stone Town Terrace. These existing communities will benefit from improved access to leisure, commercial, meanwhile and public realm amenity across the site.

Are streets designed (including the retrofitting of existing streets adjacent to or on-route to the site, where appropriate) in accordance with DMURS to calm traffic and enable the safe and comfortable movement of vulnerable users?

The main roads around the site for traffic movement, North Circular Road and O'Callaghan Strand, have been reprofiled and resurfaced to reduce speeds, calm traffic and promote safe pedestrian and cycle movements around the site.

Has the quantum of parking been minimised (in accordance with SPPR4 where relevant) and designed and located in a way that seeks to reduce the demand for private car use, promote sustainable modes of transport and ensure that the public realm is not dominated by parked vehicles?

Parking ratios have been considered to balance demand, the city centre location and access to public transport. The removal of existing parking on the site and providing an overall reduction will bring down demand and see an overall decrease in traffic on the road network surrounding the site during peak times. Refer to Traffic and Transport Assessment for further information.

MIX OF LAND USES (VIBRANT CENTRES AND COMMUNITIES)

Is the mix and intensity of land uses appropriate to the site and its location and have land uses been distributed in a complementary manner that optimises access to public transport, amenities and local services via walking or cycling?

The mix of uses across the site aligns with the Limerick Development Plan 2022-2028 and need for delivery of residential accommodation and Purpose-Built Student Accommodation in Limerick. A crèche is located adjacent to the largest area of residential accommodation and the nearby Salesians Primary School. Commercial space is located within O'Callaghan Strand, facing the river and Flaxmill plaza, and generous public realm amenity is distributed across the proposed scheme.

Have a diverse and varied range of housing types been provided to meet local and projected needs (having regard to the Housing Need Demand Assessment), supplemented by an innovative range of housing typologies that support greater housing affordability and choice?

Housing is provided in line with the Housing Need Demand Assessment and the Limerick Development Plan 2022-2028. All homes are designed to be tenure blind and a high proportion are able to be converted to Universal Design homes. A mixture of apartments, townhouses and triplexes are proposed, creating a wide variety of choice in housing typologies for a diverse community to be located together on the site.

Will the plan or development proposal supplement and/or support the regeneration and revitalisation of an existing centre or neighbourhood, including the adaption and re-use of the existing building stock in order to reduce vacancy and dereliction (where applicable) and promote town centre living (where applicable)?

The scheme will regenerate and revitalise the historic Cleeves site in Limerick, extending the sense of the City Centre to wider residential areas. Existing buildings have been carefully considered for re-use, with areas of heritage integrated in Phase II proposals. Phase III will see the greatest re-use of existing buildings, at which point the Protected Flaxmill is intended to be refurbished to accommodate future academic uses.

Is the regeneration and revitalisation of an existing centre or neighbourhood supported by the enhancement of the public realm so as to create a more liveable environment, attract investment and encourage a greater number of visitors (where applicable)?

The public realm across the site represents a significant investment in quality, and a desire to make the site, which has a variety of different levels across it, accessible to all. A range of different character areas - from riverside to residential - will create an animated and vibrant place for people to come, be entertained and enjoy a reinvigorated public realm.

APPENDIX B - SUSTAINABLE AND COMPACT SETTLEMENTS APPENDIX D CHECKLIST

GREEN AND BLUE INFRASTRUCTURE (OPEN SPACE, LANDSCAPE AND HERITAGE)

Has the plan or development proposal positively responded to natural features and landscape character, with particular regard to biodiversity, vistas and landmarks and the setting of protected structures, conservation areas and historic landscapes?

The scheme has been designed to harness the site's existing green, blue and biodiverse features. The Quarry wall and reservoir will create a green and blue oasis in the centre of the site, offering visual amenity as well as leisure activities. The site's heritage infrastructure is being responded to as the backdrop for a more civic, urban space outside the Flaxmill for events and future commercial spill out.

Have a complementary and interconnected range of open spaces, corridors and planted/ landscaped areas been provided, that create and conserve ecological links and promotes active travel and healthier lifestyles?

From the river, through the Flaxmill Plaza, to the Reservoir and out to residential sites, a variety of physical and visuals links connect the site together for people as well as natural habitats. Lighting, planting and landscape features have been tailored to create a green corridor through the site and support, in particular, the movement of bats across the landscape.

Are public open spaces universally accessible and designed to cater for a range of active and passive recreational uses (taking account of the function of other spaces within the network)?

Despite the difficult topography of the site, great efforts have been made to create a public realm where all areas of the site are accessible by all. Opportunities for rest and contemplation are integrated into landscape that manages these level changes, such as the viewing platform that overlooks the reservoir from the route up to Salesians from North Circular Road.

Does the plan or development proposal include integrated nature-based solutions for the management of urban drainage to promote biodiversity, urban greening, improved water quality and flood mitigation?

Green roofs, permeable paving, rain gardens and the existing reservoir are all being used as part of the nature-based sustainable urban drainage strategy and water management across the site. Floating islands within the reservoir will clean water with accumulated nutrients and create biodiverse habitats for fauna. Green Infrastructure across the site will create attractive environments and sustain existing biodiversity corridors in the area.

RESPONSIVE BUILT FORM

Does the layout, orientation and scale of development support the formation of a coherent and legible urban structure in terms of block layouts and building heights with particular regard to the location of gateways and landmarks, the hierarchy of streets and spaces and access to daylight and sunlight?

Buildings have been arranged around the site to maximise the opportunity to bring forward compact development while being cognisant of the heritage assets across the site and the existing residential neighbours around it. Buildings have also been located to maximise daylight and sunlight penetration into the development and to minimise the impact the development has on neighbouring daylight and sunlight amenity. Landmark/ gateway buildings, such as O'Callaghan Strand, mark their presence on the riverfront with architectural details that reference the history of the site.

Do buildings address streets and spaces in a manner that will ensure they clearly define public and private spaces, generate activity, maximise passive surveillance and provide an attractive and animated interface?

Ground floors of buildings and their layout have been carefully considered to provide activity and animation through uses (creche, commercial and student amenity space in Salesians, O'Callaghan Strand and the Quarry Site), front doors and communal entrances on to streets and main areas of the public realm. Passive surveillance is promoted through entrances and residential windows, which will create a safe environment for outdoor communal amenity and play spaces.

Does the layout, scale and design features of new development respond to prevailing development patterns (where relevant), integrate well within its context and provide appropriate transitions with adjacent buildings and established communities so as to safeguard their amenities to a reasonable extent?

The layout, scale and orientation of buildings and their features directly responds to the protected structures on the site and their setting. Buildings step up in scale as they move away from these features and then step down again at the interface with residential neighbours, where facing Fernhill and Clanmaurice Avenue, integrating new proposals with the existing context. Massing and scale have been considered in relation to neighbouring residents' amenity, and the application is supported by a daylight and sunlight assessment illustrating minimal impact on neighbouring areas.

Has a coherent architectural and urban design strategy been presented that will ensure the development is sustainable, distinctive, complements the urban structure and promotes a strong sense of identity

The urban design and architectural principles take their cue from the historic character of the site and the architectural order set up by the existing Flaxmill building, the single storey curtilage wall and the expressive gables that were on the site historically. Modern interpretation of these features ties all of the development plots together, while they also exhibit individuality. Where buildings step down in scale, they pick up on the more domestic architectural reference of the adjacent residential buildings. These moves create a unique and distinctive development, one which is routed in this particular place.

C MEANWHILE USES RESEARCH

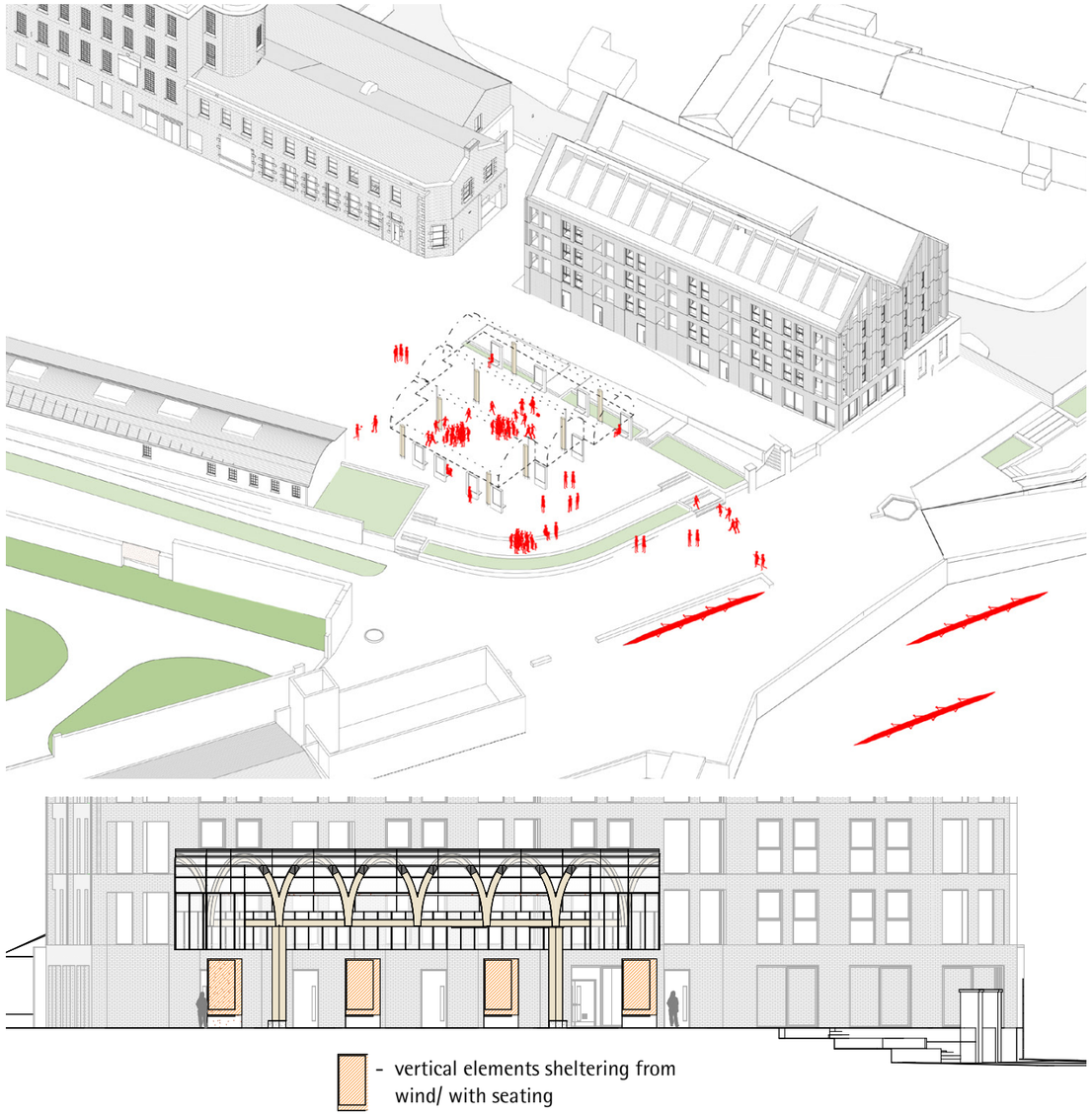
C MEANWHILE USES

Riverside Canopy: potential use scenarios

Scenario 1. Venue for Limerick Events

The Riverside Canopy offers potential as a support setting for some of the annual city wide events that take place in Limerick on an annual / bi-annual basis eg Riverfest, Head of the River, St. Patricks Day Festival, benefitting from:

- Raised Viewing Point overlooking river to the East
- Vantage point for activities within Flaxmill Plaza
- Protection from Weather (Rain, WInd, and Sun)
- plug-in power / data points (solar PV supported)





St. Patrick's Day Festival



Riverfest



Head of the River

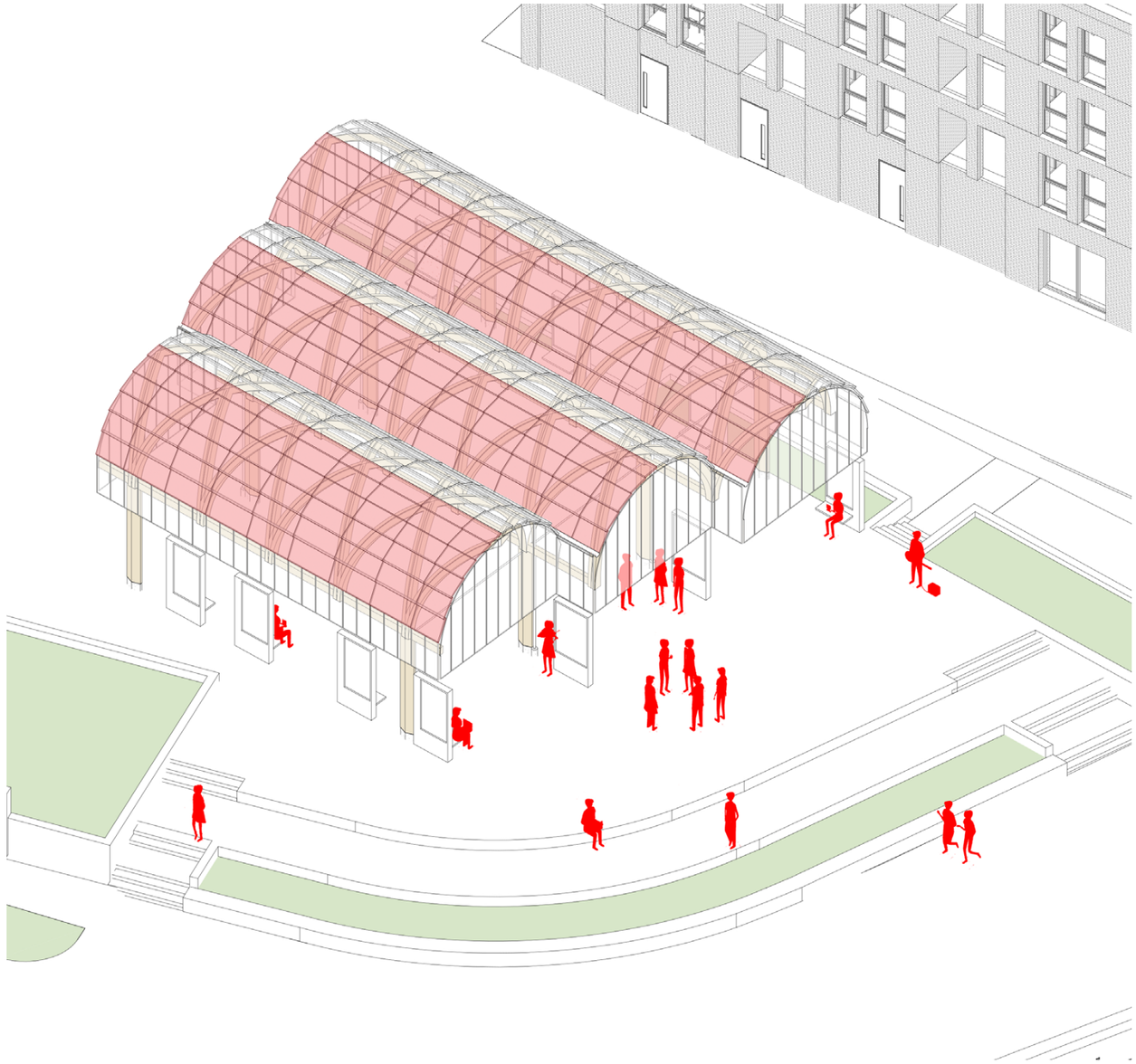
C MEANWHILE USES

Riverside Canopy: potential use scenarios

Scenario 2. Canopy Supporting Everyday Living

The Riverside Canopy will act as a potential setting for everyday activities, enhancing the Riverside public realm and the lived everyday experience of city residents, offering a place for:

- Informal Meeting Point / Lunchtime meets etc
- Impromtu street performances
- Informal communal exercise
- Pause point along the promenade link to Westfields wetlands with sheltered seating
- Weather protection on people's dayly routes
- plug-in power / data points (solar PV supported)





Supporting informal meetings/ cultural events



Plug-in charging at lunchtime



Exercise under the riverside canopy

C MEANWHILE USES

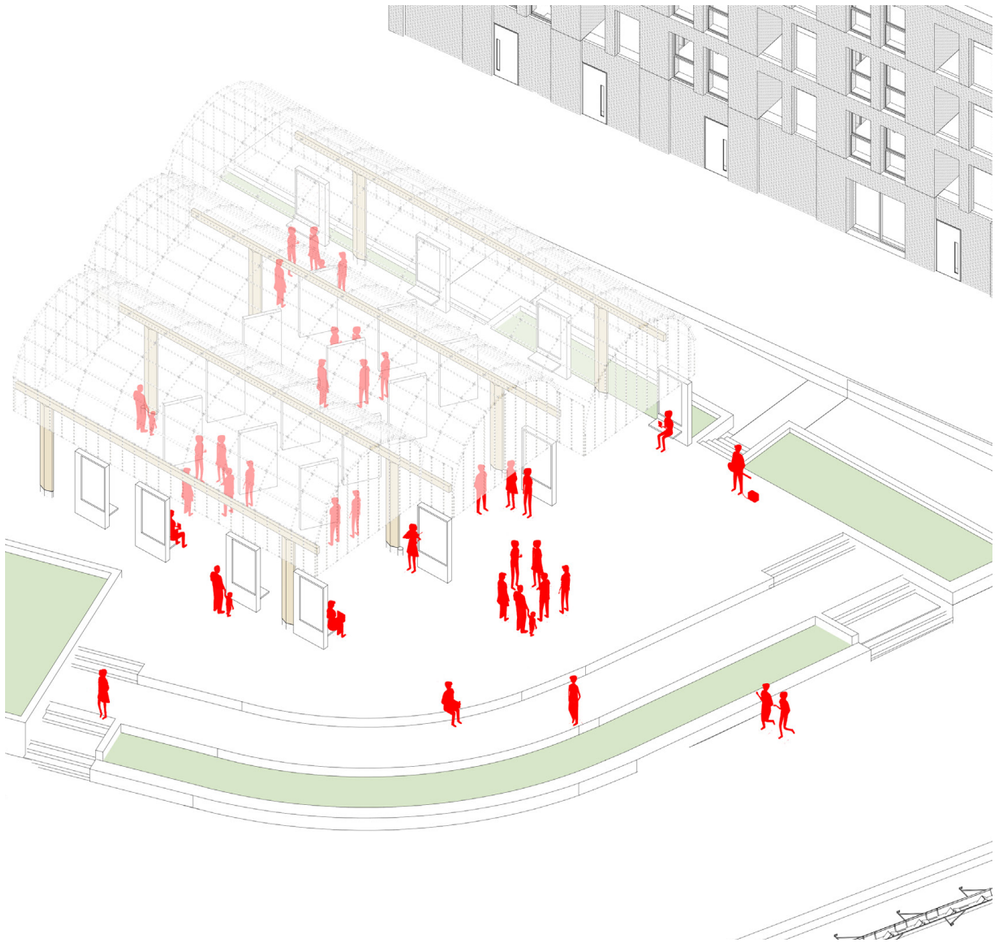
Riverside Canopy: potential use scenarios

Scenario 3. Canopy as Venue for Exhibition

The Riverside Canopy offers potential as a place for exhibitions in a sheltered external setting, a place visible to a large audience for various types of temporary display in differing formats for example:

- Outdoor Art Exhibits (free standing)
- Educational Exhibits (on vertical elements)
- Sheltered venue for temporary student displays
- Student work displays
- Industry led graduate fairs
- community group displays







Temporary Student Displays



Artwork displays (EVA etc.)

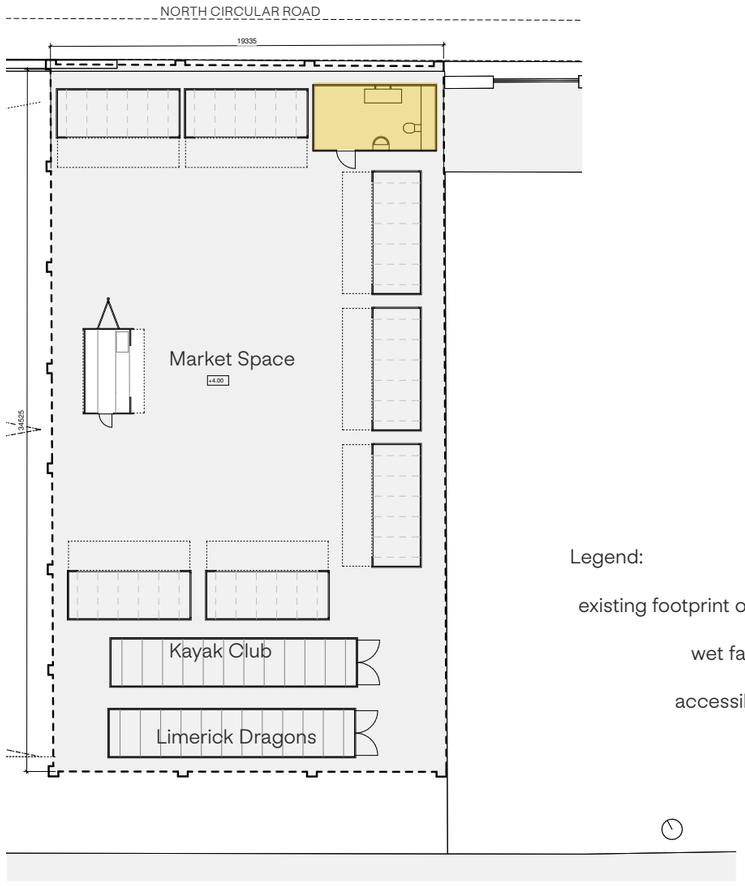
C MEANWHILE USES

Shipyard: potential use scenarios

Potential Pop-up and Community Uses

In this phase of development the Shipyard site, will accommodate the new mobility hub, reconfigured parking, along with a public garden.
At the location of the existing shed to be removed, the provision of plug-in services for temporary cabins, sanitary & storage facilities, offers potential for accommodating temporary use by different groups. Bringing activity to the public realm in this part of the city, this would include facilitating use by some user groups whose activities are already temporarily facilitated on the site on an informal basis, as well as other potential users for example:

- Community group boat storage
- Community club support space / meeting room
- Drive -in food & beverage trailers
- Pop-up offerings eg urban sauna





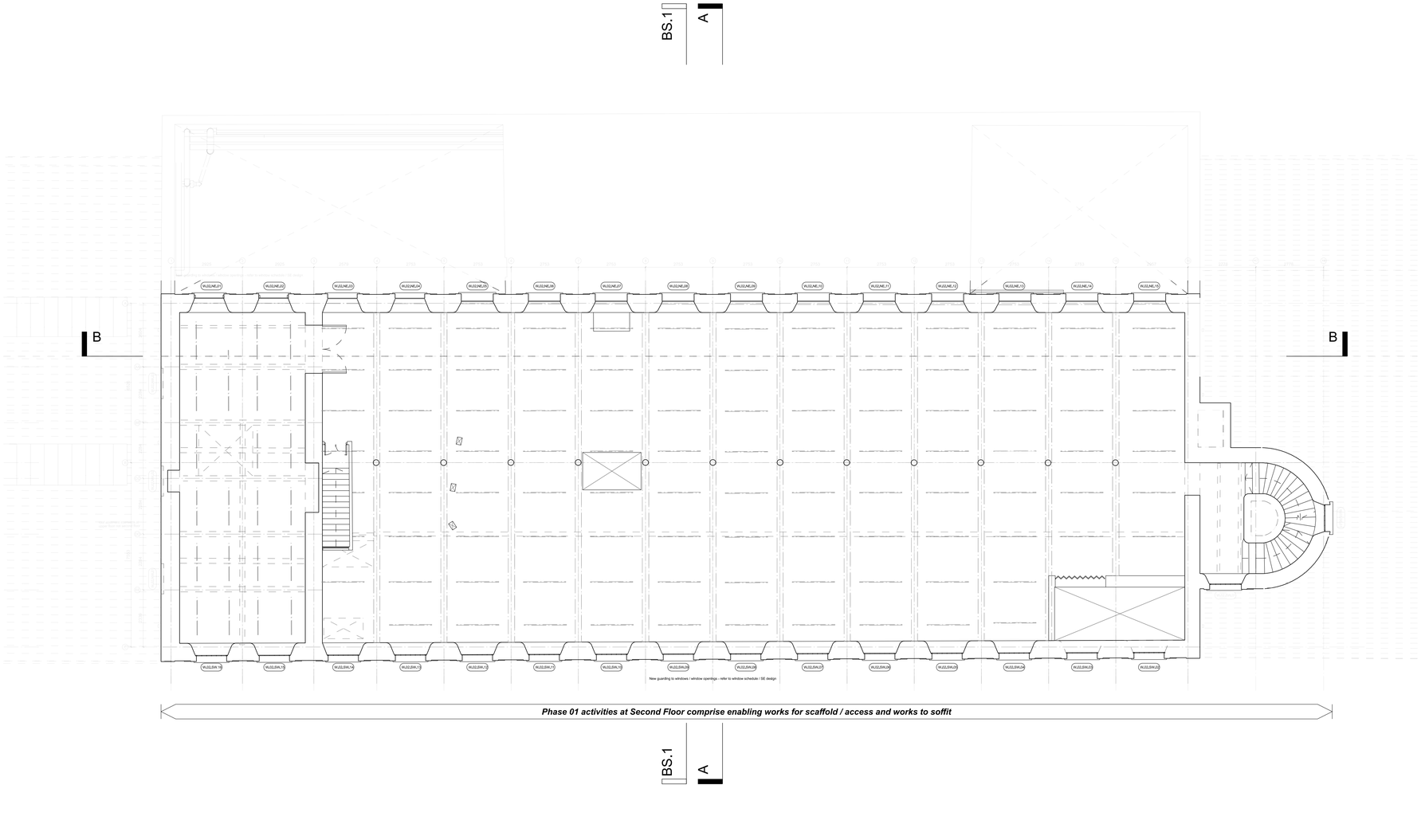








D PHASE I SAMPLE DRAWINGS



GENERAL ARRANGEMENT PROPOSALS

PHASE 01 OBJECTIVE
The stabilisation, consolidation and repair of the upper storey and roof of the main mill building.

Phase 01 is the first of multiple phases of repair. The proposed Phase 01 repairs are concerned with the historic fabric from the soffit of the Level 02 floor deck upward. The intention is to secure the structure and stabilise the building in a manner that minimises future scaffold requirements. The upper floors are to be left in a shell state ready for future servicing, fabric upgrade and fit out. The repairs are seeking to address inherent defects such as embedded corroding ironwork and the remediation of pathologies that have become apparent or are the result of unsuccessful later phase adaption. Rectification of failed fabric will include structural consolidation and remediation.

BUILDING PHASES

Phase 1 (1850-1877): Flax Mill
Phase 2 (1878-1883): Flour Mill
Phase 3 (1884-1890): Condensed Milk initial period
Phase 4 (1891-1923): Condensed Milk later period
Phase 5 (1927-1973): Dairy Disposal Company
Phase 6 (1974-2011): Golden Vale
Phase 7 (2011-present): Disuse (LTT site ownership: 2020)

SUMMARY OF PHASE 01 WORKS
The Phase 01 proposals comprise the following:

Roof

- Roof coverings replaced with thermal enhancements to form insulated warm roof;
- Repair / renewal of timber roof trusses, purlins and rafters;
- Removal of lift overrun to enable reforming of hipped roof profile;
- New roof access via central valley to serve building in its Phase 01- completed 'shell state';
- Repair / renewal of cast iron gutters;
- Upgrade of rainwater drainage system - new and additional downpipes and chutes;
- New secondary 'fail safe' gutter system;
- Water tank retained, overhauled, repaired and roofed.

External Walls

- Demounting of windows to allow for masonry repair works to progress;
- Partial take down and rebuild of masonry at building's north-west aspect to remediate displacement;
- Take down and reconstruction of parapet to address displacement - additional brick courses for edge protection, improved weathering, new rainwater outlets;
- Cornice reformed with weathering, repaired / rebuilt as required;
- Removal of horizontal wrought iron banding at Level 03 - NE and SW walls, NW gable;
- Removal of wall linings back to masonry at Level 03, grouting / repointing / packing;
- Original Level 03 window openings reformed through removal of wall linings / blockwork infill;
- Temporary linings installed to window openings to remain post-Phase 01 completion, with historic windows stored for future reuse;
- Take down and reassembly of below-cill spandrel at windows, voids closed;
- Bat roosts integrated into former below-cill voids.

Floors

- Repair / renewal of cut / failed beam supporting Level 03 floor deck;
- Removal of ceiling and modern partitions at Level 03;
- Modern Level 03 floor linings removed back to original floor finish;
- Consolidation of floor structure of level 03 entailing removal of soffit plaster linings back to masonry at Level 02, packing / repointing of open joints.

Ironwork

- Blasting of exposed iron beams and tie rods to remove corrosion and allow for protective coatings to be applied;
- Hand stripping of iron column coatings to allow for application of protective coatings.

Enabling Works – Required within and beyond the main mill footprint to permit the placement of scaffolding and create safe access for Phase 01 works to take place.

Existing measured building survey information taken from Geodata Chartered Land Surveyors survey drawings received 11/09/2020. Dimensions are not to be scaled from this drawing. Drawing to be used only for the purposes it was issued for.
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Drawings are to be used as an indication of the building as found and have been augmented to record observations from site visits for the explicit purpose of informing the repair of the structure and envelope. Site measurement will be critical for any construction activity.





0 1 2 3 4 5m

Drawing to be printed in colour
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Revision	Date	Description
P01	02.12.2024	Stage 2A2 issue
P02	18.02.2025	Issued for Stage 2A3 costing
P03	25.03.2025	Stage 2A3 issue for tender

Job/Drawing No
CRP01-FCBS-1A-02-DR-AA-2052

Revision
P03

CRQ - FLAX MILL PHASE 1 REPAIR
PROPOSED SECOND FLOOR PLAN

Status
A4

Scale : 1:100 @ A1 / 1:200 @ A3
Drawn: Bath Studio Checked: JS

FCBS Project No: 2027-1

C
7553
B
6526
A
2339
EE
2284
DD
2284
CC
2284
BB
2284
AA
2604

Detail
3201

softwood sarking
vapour barrier below insulation - VAP-101
roofing felt - FLT-101
counter batten - SLT-101 & BAT-101
warm roof insulation - INS-101
new slate covering - SLT-101
lightning conductor
ridge tiles as Ss_30_40_95_55 - 10.3
batten at ridged sized to suit slate
lead capping to rapets - LED-103
parapet heights raised
parapet and cornice re-rendered - RND-101
parapet repaired, rested and re-rendered
eaves battens to be chamfered
to allow membrane to drain
proprietary eaves
vent - VNT-101
conserved and repaired
cast iron gutter
waterproof membrane as INS-102 to form secondary gutter
treated batterns encapsulated in secondary gutter membrane
anchor plates embedded in insulation as aprt of system - INS-102
glass board insulation - INS-102
rafter noggins to fixed along vally to form falls
new sarking
existing cast iron columns to be cleaned and redecorated - prep to ST3 and decorate as PTS-102
purlin repairs and fixings to SE design - also refer to timber repair spec Cc_00_51_00
replacement of rafters as Cc_00_51_00 - 13.4.4
truss repairs as SE design and in line with timber repair spec Cc_00_51_00
all surviving ceilings to be removed and ceiling joists demounted - soffit to be left clean and free of nails
roof trusses to be cleaned as CLN-104 and left ready for future decoration
windows opened up and repaired
- 22mm strucutral ply sheet to be fitted into each window opening at 2nd and 3rd floor
- to be fitted at completion of the works
- design for board to be confirmed.
- each will require decoration or a graphical liner as part of the comms strategy
- each will require a ventilation grille

Detail
3202

existing windows to be carfully demounted and stored in pupose made boxes
window opening to be closed up with ply sheet
cill masonry to be rebuilt and void infilled
exposed fired clay tile floor - once exposed due to removal of C20th layers:
- floor to be consolidated with mortar repairs as an intermediate measure to make it safe
- floor to be cleaned as CLN-104
cill masonry to be rebuilt and void infilled
existing windows to be carfully demounted and stored in pupose made boxes
window opening to be closed up with ply sheet
exposedmasonr to be deep packed and repointed after blast cleaning
brick soffit - plaster and coatings to be removed - CLN-104
cast iron beams and wrought tie rods to be blast cleaned and decorated as PTS-101

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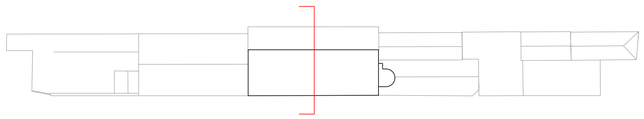

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Revision	Date	Description
P01	18.02.2025	Issued for Stage 2A3 costing
P02	25.03.2025	Stage 2A3 Issue

Job/Drawing No: CRP01-FCBS-1A-XX-DR-AA-2160
Revision: P02
CRQ - FLAX MILL PHASE 1 REPAIR
FLAX MILL PROPOSED BAY SECTION 1
ROOF & SW EXTERNAL WALL (THIRD FLOOR)
Status: A4
Scale : 1:20 @ A1
Drawn: Bath Studio Checked: JS
FCBS Project No: 2027-1

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Existing site information is subject to survey

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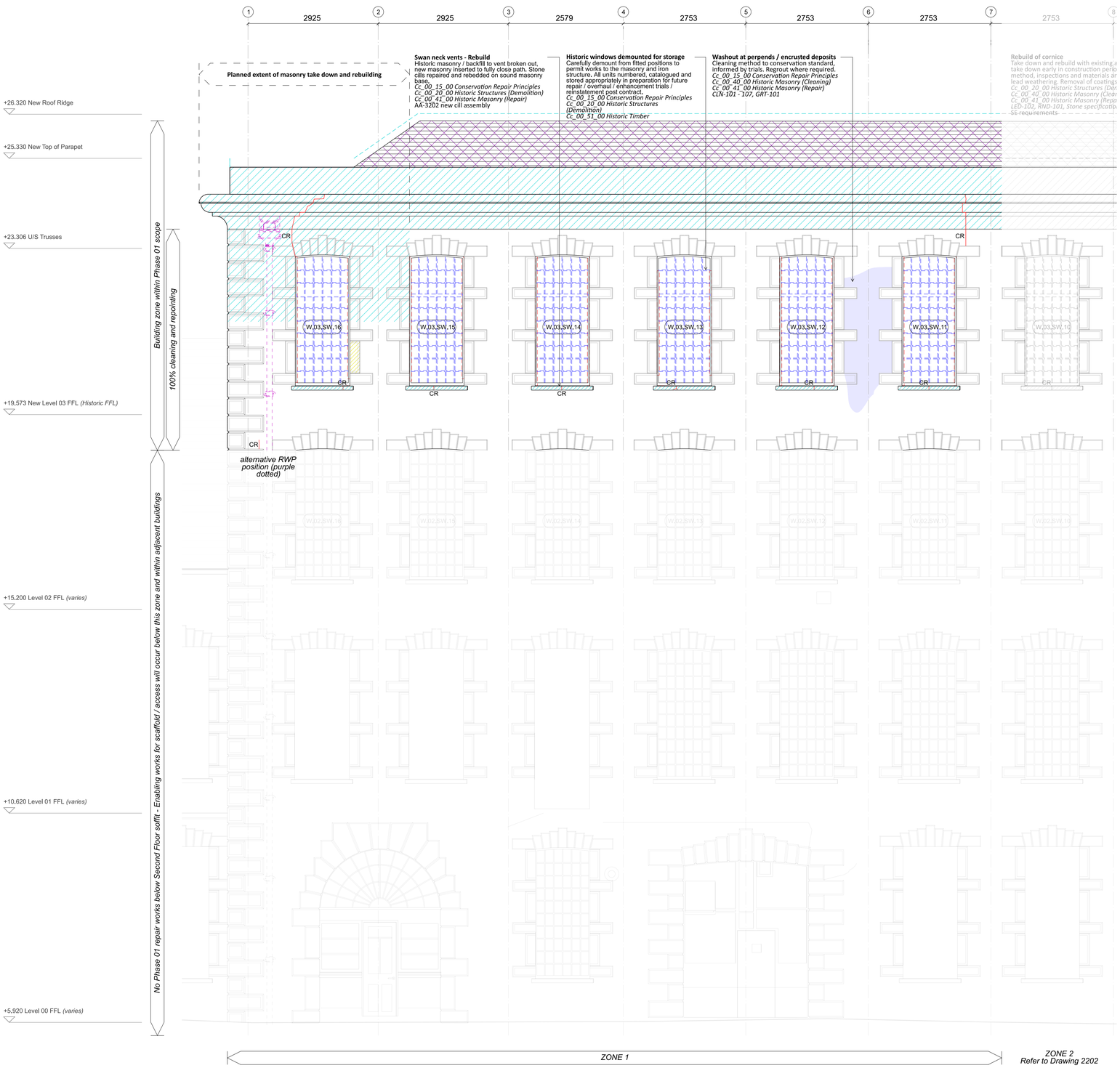

REPAIR STRATEGY PROPOSALS

Drawings and key to be read in conjunction with full 2A3 specification.

For description of elements identified for removal, refer to demolition strategy drawings / key.

KEY

- **FM** **Ferrous material** - remove
- **CR** **Crack / open joint** - remediate
- **Inv** **Area of opening up / investig** - renew / rebuild as described
- **C1** Historic local removal of masonry at soffit to be retained as historic feature, repointing as required
- **C2** Voids to soffit cleared. deep packed and repointed
- **Remove:** Careful removal of unsympathetic additions using methods ensuring no / minimal loss of retained fabric.
- **Rebuild:** Carefully dismantle material that is in place, rebuild with existing and new to form complete elements.
- **Renew:** Replace with new to form complete elements.
- **Redress:** Stone repairs - as repair types and specification.
- **New:** New fabric installed as upgrade to building fabric.
- **Store:** Building elements to be carefully removed and stored prior to reinstall as part of future phase of work
- **Masonry cleaning:** Carefully clean material surface as Cc_00_40_00. Note: Recommendation is for whole building clean - any reduced scope as minimum to include parapets, string courses and other weather-protecting features as shown on drawing.
- **Vegetation:** Extensive growth, locations marked where fabric is significantly obscured. Full removal required.Treat and remove as biocide spec CLN-105, plants rooted into masonry as Cc_00_41_00-5. Substantial growth will require localised dismantling and rebuilding of the masonry.
- **Wash out at masonry bed / perpends:** Mortar or other substance. Investigate, allow for 100% repointing.

ROOF STRUCTURE REPAIRS
Arrangement / Condition: Timber king post trusses with purlins and rafters. Original fabric with phases of historic repair, water ingress at eaves and valleys has given rise to rot with partial replacement of timber assemblies observed. *See existing detail and truss repair schedule.*
Objective: Remediate failing structural members through repair and selective replacement as required. Original fabric and historic repair elements to be retained where viable.
Works Description: Seek retention of trusses and purlins. Rafter renewal where required. Reinstatement of hipped roof profile through removal of lift overrun. Repair types as specification, inspections to inform repair approach. *See proposed detail and truss repair schedule.*
Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_52_00 Historic Timber
Cc_00_90_00 Historic Ironwork
SE requirements

PLANNED EXTENT OF MASONRY TAKE DOWN AND REBUILDING
Objective: To address masonry jacking caused by water ingress and corrosion of iron band.
Works Description: Masonry carefully disassembled through phased approach, iron band removed and masonry reinstated with existing / new units.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_41_00 Historic Masonry (Repair)
AA-3211 iron band removal at pier
SE requirements

SWAN NECK VENTS - REBUILD
Arrangement / Condition: Through-wall swan neck vents with route of flue traversing floor levels. Terminations below cill externally and above window heads on the internal face of masonry envelope via cast iron grilles. Vents informally filled historically with masonry / backfill. Grilles remain present. Spandrel historically reconstructed with new masonry and cement sloping cill on inner face. *See existing detail.*
Objective: Formal closure of flue to omit through-floor void.
Works Description: Historic masonry / backfill to vent broken out, new masonry inserted to fully close path. Stone cills repaired and rebedded on sound masonry base. *See proposed detail.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_41_00 Historic Masonry (Repair)

SWAN NECK VENTS - RESTORE IRON VENT GRILLES
Arrangement / Condition: Cast iron grille situated above window heads forming termination of through-wall swan neck vents. Informally filled historically with masonry / backfill / plaster. *See existing detail.*
Objective: Vents overhauled and reinstated as part of formal closure of flue.
Works Description: Overhaul by iron foundry, off-site in workshop where required. Allow for new castings where existing have failed. *See proposed detail.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_90_00 Historic Ironwork

HISTORIC WINDOWS DEMOUNTED FOR STORAGE
Arrangement / Condition: Typically 60-pane SG timber windows with upper portion centre-pivot opening light over fixed window below. Windows typically lost or fragments only remaining on NE walls - blockwork, SS reinforcement bars and / or timber linings inserted to close openings. Present on SW walls. Where extant, windows heavily weathered, original decoration lost, all closed over with a mix of acrylic or other material to secure them. No opening lights operational. *See window schedule.*
Objective: Historic windows demounted to permit Phase 01 repair. Stored in anticipation of reinstatement in future reuse scheme.
Works Description: Carefully demount from fitted positions to permit works to the masonry and iron structure. All units numbered, catalogued and stored appropriately in preparation for future repair / overhaul / enhancement trials / reinstatement post contract. *See window schedule.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_51_00 Historic Timber

NEW PROTECTIVE LINING TO WINDOW OPENINGS
Arrangement / Condition: Void to window openings will be present as a result of planned window demounting or failure of existing sheet linings.
Objective: Openings to be secured in advance of reuse proposals.
Works Description: New ventilated ply lining on timber frame.
Key Drawings / Specifications:
Cc_00_51_00-10 Plywood
AA-8002 window boarding options
SE requirements

REINSTATEMENT OF FLOOR AT PENETRATIONS
Arrangement / Condition: Through-floor penetrations for services distribution. Redundant.
Objective: Reinstatement of floor deck.
Works Description: Remove services, consolidate / reinstate brick jack arches / sub-floor as original floor build-up.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles)
Cc_00_41_00 Historic Masonry (Repair)
SE requirements

BEAM REPAIR (SE DESIGN)
Arrangement / Condition: Original cast iron beam - snapped or cut through web and flange.
Objective: Repair.
Works Description: Conservation repair to beam as SE design, plating and / or stitching by specialists. Reinstate jack arch and make good around site of repair.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_90_00 Historic Ironwork
Cc_00_41_00 Historic Masonry (Repair)
SE requirements

NEW ROOF ACCESS HATCH
Objective: Provide safe means of access to roof for building repair / maintenance.
Works Description: Glazed opening light installed in roof pitch for maintenance use accessed via roof space ladder and platform. Rafters locally removed to form new timber trimming for opening.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_51_00 Historic Timber
WIN-101, AA-4605 & AA-4606 new roof window
SE requirements

REBUILD OF PARAPET
Arrangement / Condition: Solid brick construction with Roman cement finish. Later cementitous coatings and bitumen linings applied in places to address water ingress have accelerated deterioration. Render cracked and missing, parapet saturated, plant growth well established, masonry disrupted and failing particularly at NW. *See existing detail and Materials Analysis.*
Objective: Rebuild of parapet to remediate defects.
Works Description: Take down and rebuild with existing and new masonry, extents to be informed by trial take down early in construction period to inform understanding and proposals / method, inspections to inform approach. New render and lead weathering. Additional masonry courses for edge protection. Removal of coatings. *See proposed detail and Materials Analysis.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_40_00 Historic Masonry (Cleaning)
Cc_00_41_00 Historic Masonry (Repair)
LED-103, BRK-101, RND-101, AA-3201 & AA-3204 parapet rebuild
SE requirements

REBUILD OF CORNICE
Arrangement / Condition: Presumed stone substrate with run in situ Roman cement / lime mortar in torus profile. Widespread cracking, delamination, some evidence of plastic repairs, vegetation growth, stonework displaced and failing at NW gable. *See existing detail.*
Objective: Rebuild of cornice to remediate defects.
Works Description: Take down and rebuild with existing and new stone, extents to be informed by trial take down early in construction period to inform understanding and proposals / method, inspections and materials analysis to inform approach. New render and lead weathering. Removal of coatings. *See proposed detail.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_40_00 Historic Masonry (Cleaning)
Cc_00_41_00 Historic Masonry (Repair)
LED-102, RND-101, Stone specification
SE requirements

RENEWAL / OVERHAUL OF RAINWATER DRAINAGE SYSTEM CONSERVATION AND UPGRADE OF COMPONENTS
Arrangement / Condition: Original system comprising individual cast iron valley and parapet gutters, discharging to 2no. cast iron chutes and downpipes at gables. Joints lapped and bolted with red lead putty. Some thinning, pitting and holes present. Some fractures at edges due to thermal stress and little opportunity for movement. Many timber bearers failed and replaced with masonry propping (some also failed). Connections to ground at NW failed with central RWP section missing. *See existing details, Infrastruct Report and gutter repair schedule.*
Objective: Overhaul existing units and upgrade capacity via back-up gutter to ensure system is watertight and futureproofed. Original fabric to be retained where viable.
Works Description: Conservation of gutter castings - Inspections to inform repair approach. Survey, catalogue and carefully demount units for overhaul in workshop. Blast, repair, restore, apply protective coatings and reinstate. Renewal of failed castings from new patterns. All works described by specialist ironwork conservator. New cast iron chutes and downpipes at gables - Renew 2no. downpipes and allow for for 5 new, all large RWPs with hoppers. Temporary connections to below-ground required in advance of future reuse to specialist design, details to be developed once access provided. *See proposed details, Infrastruct Report and gutter repair schedule.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_90_00 Historic Ironwork
AA-4604, AA3204 & SH-9334 – gutters outlet detail, layout and repair schedule

NEW SECONDARY GUTTER
Objective: Back-up secondary roof gutter to signpost maintenance / repair need in case of failure of main system.
Works Description: Bituminous waterproofing membrane formed at base of parapet above insulation
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
INS-102, AA-3201 & AA-4604 – gutter details at parapet

RENEWAL / UPGRADE OF ROOF COVERINGS
Arrangement / Condition: Asbestos roof slates. Lead and tin flashings deteriorated, missing or detatched. *See existing detail.*
Objective: Overhaul coverings include thermal upgrade and removal of hazardous materials.
Works Description: 100% replacement of coverings. No existing tiles to be retained. New secondary gutter system. Insulation installed to form warm roof. *See proposed detail.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
BAT-101, SLT-101, INS-101, INS-102, FLT-101, VAP-101, VNT-101

OVERHAUL OF WATER TANK
Arrangement / Condition: Cast iron tank at head of stair formed of riveted iron plates. Upper edge dressed by lead and later cement over reinforcement mesh likely to maintain a water-resistant flashing preventing water ingress to the stair below. Corroded, debris filled preventing inspection of the interior, likely to have a hole or crack in the tank.
Objective: Repair, overhaul with new roof.
Works Description: Repair and overhaul by specialist, removal of later linings, blasting and protective coatings, repairs to be determined following access and clearance of interior, cap or allow for drain, new lead roof. *See proposed details.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_90_00 Historic Ironwork
LED-101, LED-102, LED-103, PTS-101, AA-4602 water tank repair

STONE REPAIRS
Arrangement / Condition: External wall comprising solid wall with hard grey Limerick Limestone. Wall core of lime mortar, limestone rubble and red clay bricks. Limestone dressed six sides, carved units with drafted margin and rock-faced body to jambs and arches, coursed units of various sizes. Window surrounds formed of alternating tall and narrow stones each with iron dowels between units. Units fairly sound externally, some fracturing from either movement and or corrosion of iron dowel fixings. NW stone at Level 03 saturated. Loss of face from descaling / spalling evident in places.
Objective: Repairs to stone at locations in zone of Phase 01 works.
Works Description: Ensure clean, sound base. Repair types as specification, inspections to inform repair approach.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_40_00 Historic Masonry (Cleaning)
Cc_00_41_00 Historic Masonry (Repair)
Cc_00_90_00 Historic Ironwork
SE requirements

REMOVAL OF PLANT GROWTHS
Arrangement / Condition: Plant growth well established around openings, water tank and rainwater drainage paths.
Objective: Remove to address causes of envelope deterioration.
Works Description: Careful removal to conservation standard, informed by trials.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_40_00 Historic Masonry (Cleaning)
Cc_00_41_00 Historic Masonry (Repair)
CLN-105

STONE CLEANING AND REPOINTING
Works Description: 100% of envelope (Level 02 soffit to parapet). Methods to conservation standard, informed by trials. Repoint / regrout where required, informed by trials.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_40_00 Historic Masonry (Cleaning)
Cc_00_41_00 Historic Masonry (Repair)
CLN-101 - 107

WASHOUT AT PERPENDS / ENCRUSTED DEPOSITS
Objective: Remediate mortar wash out comprising mineral deposits.
Works Description: Cleaning method to conservation standard, informed by trials. Regrout where required.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_40_00 Historic Masonry (Cleaning)
Cc_00_41_00 Historic Masonry (Repair)
CLN-101 - 107, GRT-101

REVISION	NOTE
P05	alternaitve gutter outlet and down pipe position identified.

Asbestos containing materials present on site - Contractor to adopt suitable mitigation measures / precautions.

Existing measured building survey information taken from Geodata Chartered Land Surveyors survey drawings received 11/09/2020. Dimensions are not to be scaled from this drawing. Drawing to be used only for the purposes it was issued for.
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Drawings are to be used as an indication of the building as found and have been augmented to record observations from site visits for the explicit purpose of informing the repair of the structure and envelope. Site measurement will be critical for any construction activity.



Drawing to be printed in colour

Existing site information is subject to survey
Feilden Clegg Bradley Studios LLP accepts no liability for use of this drawing by parties other than the party for whom it was prepared or for purposes other than those for which it was prepared

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Revision	Date	Description
P01	18.10.2024	Stage 2A1 issue
P02	31.10.2024	Issued for co-ordination
P03	02.12.2024	Stage 2A2 issue
P04	18.02.2025	Issued for Stage 2A3 costing
P05	25.03.2025	Stage 2A3 issue for tender

Job/Drawing No: CRP01-FCBS-1A-XX-DR-AA-2201
Revision: P05

CRQ - FLAX MILL PHASE 1 REPAIR
REPAIR STRATEGY - SW ELEVATION ZONE 1

Status: A4

Scale : 1:50 @ A1 / 1:100 @ A3
Drawn: Bath Studio Checked: JS

FCBS Project No: 2027-1



REPAIR STRATEGY PROPOSALS

Drawings and key to be read in conjunction with full 2A3 specification.

For description of elements identified for removal, refer to demolition strategy drawings / key.

KEY

- **FM** **Ferrous material** - remove
- **CR** **Crack / open joint** - remediate
- **Inv** **Area of opening up / investig** - renew / rebuild as described
- **C1** Historic local removal of masonry at soffit to be retained as historic feature. repointing as required
- **C2** Voids to soffit cleared. deep packed and repointed
- **Remove:** Careful removal of unsympathetic additions using methods ensuring no / minimal loss of retained fabric.
- **Rebuild:** Carefully dismantle material that is in place, rebuild with existing and new to form complete elements.
- **Renew:** Replace with new to form complete elements.
- **Redress:** Stone repairs - as repair types and specification.
- **New:** New fabric installed as upgrade to building fabric.
- **Store:** Building elements to be carefully removed and stored prior to reinstall as part of future phase of work
- **Masonry cleaning:** Carefully clean material surface as Cc_00_40_00. Note: Recommendation is for whole building clean - any reduced scope as minimum to include parapets, string courses and other weather-protecting features as shown on drawing.
- **Vegetation:** Extensive growth, locations marked where fabric is significantly obscured. Full removal required.Treat and remove as biocide spec CLN-105, plants rooted into masonry as Cc_00_41_00-5. Substantial growth will require localised dismantling and rebuilding of the masonry.
- **Wash out at masonry bed / perpends:** Mortar or other substance. Investigate, allow for 100% repointing.

ROOF STRUCTURE REPAIRS
Arrangement / Condition: Timber king post trusses with purlins and rafters. Original fabric with phases of historic repair, water ingress at eaves and valleys has given rise to rot with partial replacement of timber assemblies observed. *See existing detail and truss repair schedule.*
Objective: Remediate failing structural members through repair and selective replacement as required. Original fabric and historic repair elements to be retained where viable.
Works Description: Seek retention of trusses and purlins. Rafter renewal where required. Reinstatement of hipped roof profile through removal of lift overrun. Repair types as specification, inspections to inform repair approach. *See proposed detail and truss repair schedule.*
Specifications:
Cc_00_15_00 Conservation Repair Principles
CC_00_52_00 Historic Timber
Cc_00_90_00 Historic Ironwork
SE requirements

PLANNED EXTENT OF MASONRY TAKE DOWN AND REBUILDING
Objective: To address masonry jacking caused by water ingress and corrosion of iron band.
Works Description: Masonry carefully disassembled through phased approach, iron band removed and masonry reinstated with existing / new units.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
CC_00_41_00 Historic Masonry (Repair)
AA-3211 iron band removal at pier
SE requirements

SWAN NECK VENTS - REBUILD
Arrangement / Condition: Through-wall swan neck vents with route of flue traversing floor levels. Terminations below cill externally and above window heads on the internal face of masonry envelope via cast iron grilles. Vents informally filled historically with masonry / backfill. Grilles remain present. Spandrel historically reconstructed with new masonry and cement sloping cill on inner face. *See existing detail.*
Objective: Formal closure of flue to omit through-floor void.
Works Description: Historic masonry / backfill to vent broken out, new masonry inserted to fully close path. Stone cills repaired and rebedded on sound masonry base. *See proposed detail.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_41_00 Historic Masonry (Repair)

SWAN NECK VENTS - RESTORE IRON VENT GRILLES
Arrangement / Condition: Cast iron grille situated above window heads forming termination of through-wall swan neck vents. Informally filled historically with masonry / backfill / plaster. *See existing detail.*
Objective: Vents overhauled and reinstated as part of formal closure of flue.
Works Description: Overhaul by iron foundry, off-site in workshop where required. Allow for new castings where existing have failed. *See proposed detail.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_90_00 Historic Ironwork

HISTORIC WINDOWS DEMOUNTED FOR STORAGE
Arrangement / Condition: Typically 60-pane SG timber windows with upper portion centre-pivot opening light over fixed window below. Windows typically lost or fragments only remaining on NE walls - blockwork, SS reinforcement bars and / or timber linings inserted to close openings. Present on SW walls. Where extant, windows heavily weathered, original decoration lost, all closed over with a mix of acrylic or other material to secure them. No opening lights operational. *See window schedule.*
Objective: Historic windows demounted to permit Phase 01 repair. Stored in anticipation of reinstatement in future reuse scheme.
Works Description: Carefully demount from fitted positions to permit works to the masonry and iron structure. All units numbered, catalogued and stored appropriately in preparation for future repair / overhaul / enhancement trials / reinstatement post contract. *See window schedule.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_51_00 Historic Timber

NEW PROTECTIVE LINING TO WINDOW OPENINGS
Arrangement / Condition: Void to window openings will be present as a result of planned window demounting or failure of existing sheet linings.
Objective: Openings to be secured in advance of reuse proposals.
Works Description: New ventilated ply lining on timber frame.
Key Drawings / Specifications:
Cc_00_51_00-10 Plywood
AA-8002 window boarding options
SE requirements

REINSTATEMENT OF FLOOR AT PENETRATIONS
Arrangement / Condition: Through-floor penetrations for services distribution. Redundant.
Objective: Reinstatement of floor deck.
Works Description: Remove services, consolidate / reinstate brick jack arches / sub-floor as original floor build-up.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles)
Cc_00_41_00 Historic Masonry (Repair)
SE requirements

BEAM REPAIR (SE DESIGN)
Arrangement / Condition: Original cast iron beam - snapped or cut through web and flange.
Objective: Repair.
Works Description: Conservation repair to beam as SE design, plating and / or stitching by specialists. Reinstate jack arch and make good around site of repair.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_90_00 Historic Ironwork
Cc_00_41_00 Historic Masonry (Repair)
SE requirements

NEW ROOF ACCESS HATCH
Objective: Provide safe means of access to roof for building repair / maintenance.
Works Description: Glazed opening light installed in roof pitch for maintenance use accessed via roof space ladder and platform. Rafters locally removed to form new timber trimming for opening.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_51_00 Historic Timber
WIN-101, AA-4605 & AA-4606 new roof window
SE requirements

REBUILD OF PARAPET
Arrangement / Condition: Solid brick construction with Roman cement finish. Later cementitous coatings and bitumen linings applied in places to address water ingress have accelerated deterioration. Render cracked and missing, parapet saturated, plant growth well established, masonry disrupted and failing particularly at NW. *See existing detail and Materials Analysis.*
Objective: Rebuild of parapet to remediate defects.
Works Description: Take down and rebuild with existing and new masonry, extents to be informed by trial take down early in construction period to inform understanding and proposals / method, inspections to inform approach. New render and lead weathering. Additional masonry courses for edge protection. Removal of coatings. *See proposed detail and Materials Analysis.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_40_00 Historic Masonry (Cleaning)
CC_00_41_00 Historic Masonry (Repair)
LED-103, BRK-101, RND-101, AA-3201 & AA-3204 parapet rebuild
SE requirements

REBUILD OF CORNICE
Arrangement / Condition: Presumed stone substrate with run in situ Roman cement / lime mortar in torus profile. Widespread cracking, delamination, some evidence of plastic repairs, vegetation growth, stonework displaced and failing at NW gable. *See existing detail.*
Objective: Rebuild of cornice to remediate defects.
Works Description: Take down and rebuild with existing and new stone, extents to be informed by trial take down early in construction period to inform understanding and proposals / method, inspections and materials analysis to inform approach. New render and lead weathering. Removal of coatings. *See proposed detail.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_40_00 Historic Masonry (Cleaning)
CC_00_41_00 Historic Masonry (Repair)
LED-102, RNO-101, Stone specification
SE requirements

RENEWAL / OVERHAUL OF RAINWATER DRAINAGE SYSTEM CONSERVATION AND UPGRADE OF COMPONENTS
Arrangement / Condition: Original system comprising individual cast iron valley and parapet gutters, discharging to 2no. cast iron chutes and downpipes at gables. Joints lapped and bolted with red lead putty. Some thinning, pitting and holes present. Some fractures at edges due to thermal stress and little opportunity for movement. Many timber bearers failed and replaced with masonry propping (some also failed). Connection to ground at NW failed with central RWP section missing. *See existing details, Infrastruct Report and gutter repair schedule.*
Objective: Overhaul existing units and upgrade capacity via back-up gutter to ensure system is watertight and futureproofed. Original fabric to be retained where viable.
Works Description: Conservation of gutter castings - Inspections to inform repair approach. Survey, catalogue and carefully demount units for overhaul in workshop. Blast, repair, restore, apply protective coatings and reinstate. Renewal of failed castings from new patterns. All works described by specialist ironwork conservator. New cast iron chutes and downpipes at gables - Renew 2no. downpipes and allow for for 5 new, all large RWPs with hoppers. Temporary connections to below-ground required in advance of future reuse to specialist design, details to be developed once access provided. *See proposed details, Infrastruct Report and gutter repair schedule.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_90_00 Historic Ironwork
AA-4604, AA3204 & SH-9334 – gutters outlet detail, layout and repair schedule

NEW SECONDARY GUTTER
Objective: Back-up secondary roof gutter to signpost maintenance / repair need in case of failure of main system.
Works Description: Bituminous waterproofing membrane formed at base of parapet above insulation
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
INS-102, AA-3201 & AA-4604 – gutter details at parapet

RENEWAL / UPGRADE OF ROOF COVERINGS
Arrangement / Condition: Asbestos roof slates. Lead and tin flashings deteriorated, missing or detatched. *See existing detail.*
Objective: Overhaul coverings include thermal upgrade and removal of hazardous materials.
Works Description: 100% replacement of coverings. No existing tiles to be retained. New secondary gutter system. Insulation installed to form warm roof. *See proposed detail.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
BAT-101, SLT-101, INS-101, INS-102, FLT-101, VAP-101, VNT-101

OVERHAUL OF WATER TANK
Arrangement / Condition: Cast iron tank at head of stair formed of riveted iron plates. Upper edge dressed by lead and later cement over reinforcement mesh likely to maintain a water-resistant flashing preventing water ingress to the stair below. Corroded, debris filled preventing inspection of the interior, likely to have a hole or crack in the tank.
Objective: Repair, overhaul with new roof.
Works Description: Repair and overhaul by specialist, removal of later linings, blasting and protective coatings, repairs to be determined following access and clearance of interior, cap or allow for drain, new lead roof. *See proposed details.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_90_00 Historic Ironwork
LED-101, LED-102, LED-103, PTS-101, AA-4602 water tank repair

STONE REPAIRS
Arrangement / Condition: External wall comprising solid wall with hard grey Limerick Limestone. Wall core of lime mortar, limestone rubble and red clay bricks. Limestone dressed six sides, carved units with drafted margin and rock-faced body to jambs and arches, coursed units of various sizes. Window surrounds formed of alternating tall and narrow stones each with iron dowels between units. Units fairly sound externally, some fracturing from either movement and or corrosion of iron dowel fixings. NW stone at Level 03 saturated. Loss of face from descaling / spalling evident in places.
Objective: Repairs to stone at locations in zone of Phase 01 works.
Works Description: Ensure clean, sound base. Repair types as specification, inspections to inform repair approach.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_40_00 Historic Masonry (Cleaning)
CC_00_41_00 Historic Masonry (Repair)
Cc_00_90_00 Historic Ironwork
SE requirements

REMOVAL OF PLANT GROWTHS
Arrangement / Condition: Plant growth well established around openings, water tank and rainwater drainage paths.
Objective: Remove to address causes of envelope deterioration.
Works Description: Careful removal to conservation standard, informed by trials.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_40_00 Historic Masonry (Cleaning)
CC_00_41_00 Historic Masonry (Repair)
CLN-105

STONE CLEANING AND REPOINTING
Works Description: 100% of envelope (Level 02 soffit to parapet). Methods to conservation standard, informed by trials. Repoint / regrout where required, informed by trials.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_40_00 Historic Masonry (Cleaning)
CC_00_41_00 Historic Masonry (Repair)
CLN-101 - 107

WASHOUT AT PERPENDS / ENCRUSTED DEPOSITS
Objective: Remediate mortar wash out comprising mineral deposits.
Works Description: Cleaning method to conservation standard, informed by trials. Regrout where required.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_40_00 Historic Masonry (Cleaning)
CC_00_41_00 Historic Masonry (Repair)
CLN-101 - 107, GRT-101

Asbestos containing materials present on site - Contractor to adopt suitable mitigation measures / precautions.

Existing measured building survey information taken from Geodata Chartered Land Surveyors survey drawings received 11/09/2020. Dimensions are not to be scaled from this drawing. Drawing to be used only for the purposes it was issued for.
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Drawings are to be used as an indication of the building as found and have been augmented to record observations from site visits for the explicit purpose of informing the repair of the structure and envelope. Site measurement will be critical for any construction activity.



Drawing to be printed in colour

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Revision	Date	Description
P01	18.10.2024	Stage 2A1 issue
P02	31.10.2024	Issued for co-ordination
P03	02.12.2024	Stage 2A2 issue
P04	18.02.2025	Issued for Stage 2A3 costing
P05	25.03.2025	Stage 2A3 issue for tender

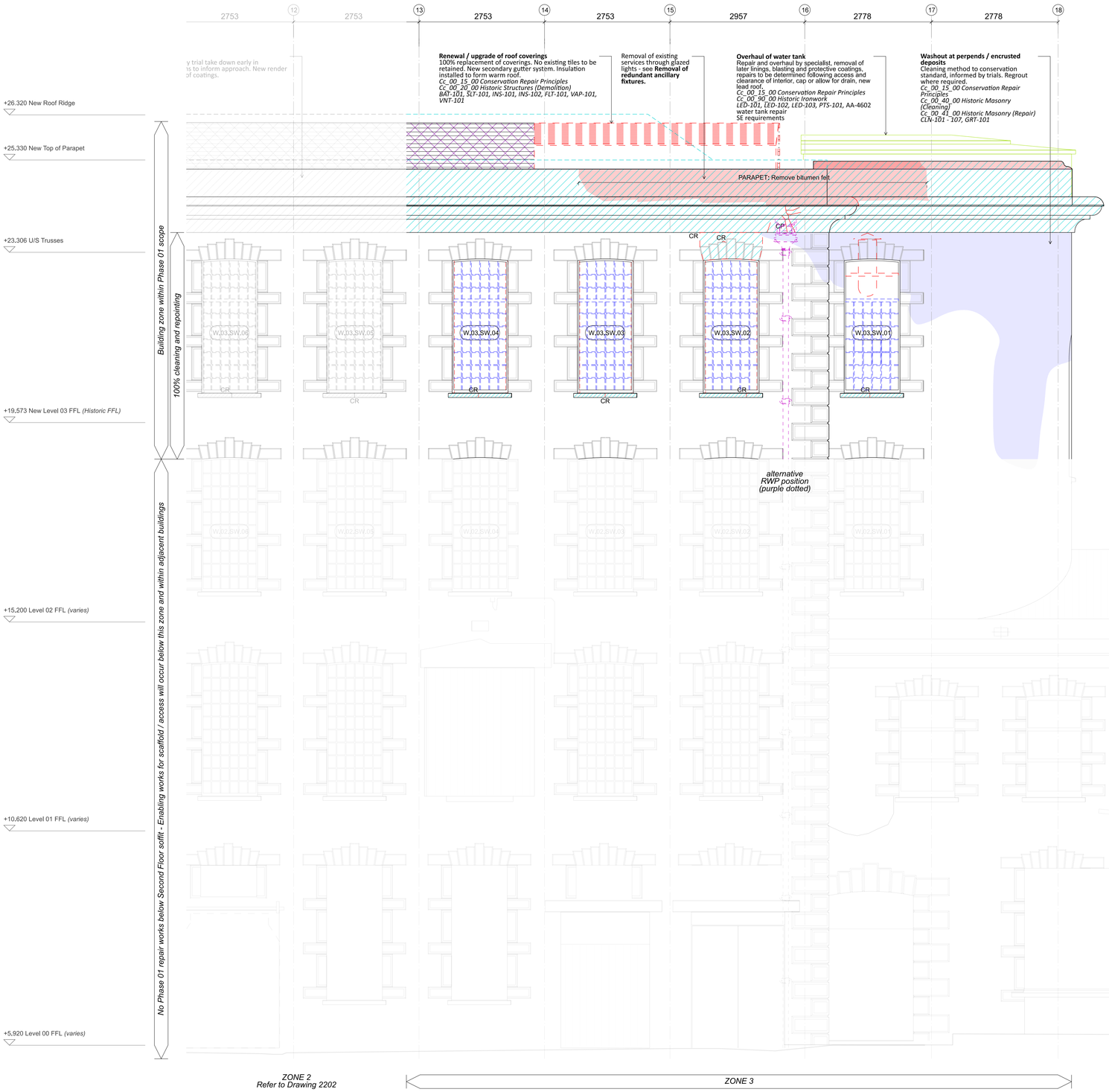
Job/Drawing No: CRP01-FCBS-1A-XX-DR-AA-2202
Revision: P05

CRQ - FLAX MILL PHASE 1 REPAIR
REPAIR STRATEGY - SW ELEVATION ZONE 2

Status: A4

Scale : 1:50 @ A1 / 1:100 @ A3
Drawn: Bath Studio Checked: JS

FCBS Project No: 2027-1



REPAIR STRATEGY PROPOSALS

Drawings and key to be read in conjunction with full 2A3 specification.

For description of elements identified for removal, refer to demolition strategy drawings / key.

KEY

FM **Ferrous material** - remove

CR **Crack / open joint** - remediate

Inv **Area of opening up / investig** - renew / rebuild as described

C1 Historic local removal of masonry at soffit to be retained as historic feature, repointing as required

C2 Voids to soffit cleared. deep packed and repointed

Remove: Careful removal of unsympathetic additions using methods ensuring no / minimal loss of retained fabric.

Rebuild: Carefully dismantle material that is in place, rebuild with existing and new to form complete elements.

Renew: Replace with new to form complete elements.

Redress: Stone repairs - as repair types and specification.

New: New fabric installed as upgrade to building fabric.

Store: Building elements to be carefully removed and stored prior to reinstall as part of future phase of work

Masonry cleaning: Carefully clean material surface as Cc_00_40_00. Note: Recommendation is for whole building clean - any reduced scope as minimum to include parapets, string courses and other weather-protecting features as shown on drawing.

Vegetation: Extensive growth, locations marked where fabric is significantly obscured. Full removal required.Treat and remove as biocide spec CLN-105, plants rooted into masonry as Cc_00_41_00-5. Substantial growth will require localised dismantling and rebuilding of the masonry.

Wash out at masonry bed / perpends: Mortar or other substance. Investigate, allow for 100% repointing.

ROOF STRUCTURE REPAIRS
Arrangement / Condition: Timber king post trusses with purlins and rafters. Original fabric with phases of historic repair, water ingress at eaves and valley has given rise to rot with partial replacement of timber assemblies observed. *See existing detail and truss repair schedule.*
Objective: Remediate failing structural members through repair and selective replacement as required. Original fabric and historic repair elements to be retained where viable.
Works Description: Seek retention of trusses and purlins. Rafter renewal where required. Reinstatement of hipped roof profile through removal of lift overrun. Repair types as specification, inspections to inform repair approach. *See proposed detail and truss repair schedule.*
Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_52_00 Historic Timber
Cc_00_90_00 Historic Ironwork
SE requirements

PLANNED EXTENT OF MASONRY TAKE DOWN AND REBUILDING
Objective: To address masonry jacking caused by water ingress and corrosion of iron band.
Works Description: Masonry carefully disassembled through phased approach, iron band removed and masonry reinstated with existing / new units.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_41_00 Historic Masonry (Repair)
AA-3211 iron band removal at pier
SE requirements

SWAN NECK VENTS - REBUILD
Arrangement / Condition: Through-wall swan neck vents with route of flue traversing floor levels. Terminations below cill externally and above window heads on the internal face of masonry envelope via cast iron grilles. Vents informally filled historically with masonry / backfill. Grilles remain present. Spandrel historically reconstructed with new masonry and cement sloping cill on inner face. *See existing detail.*
Objective: Formal closure of flue to omit through-floor void.
Works Description: Historic masonry / backfill to vent broken out, new masonry inserted to fully close path. Stone cills repaired and rebedded on sound masonry base. *See proposed detail.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_41_00 Historic Masonry (Repair)

SWAN NECK VENTS - RESTORE IRON VENT GRILLES
Arrangement / Condition: Cast iron grille situated above window heads forming termination of through-wall swan neck vents. Informally filled historically with masonry / backfill / plaster. *See existing detail.*
Objective: Vents overhauled and reinstated as part of formal closure of flue.
Works Description: Overhaul by iron foundry, off-site in workshop where required. Allow for new castings where existing have failed. *See proposed detail.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_90_00 Historic Ironwork

HISTORIC WINDOWS DEMOUNTED FOR STORAGE
Arrangement / Condition: Typically 60-pane SG timber windows with upper portion centre-pivot opening light over fixed window below. Windows typically lost or fragments only remaining on NE walls - blockwork, SS reinforcement bars and / or timber linings inserted to close openings. Present on SW walls. Where extant, windows heavily weathered, original decoration lost, all closed over with a mix of acrylic or other material to secure them. No opening lights operational. *See window schedule.*
Objective: Historic windows demounted to permit Phase 01 repair. Stored in anticipation of reinstatement in future reuse scheme.
Works Description: Carefully demount from fitted positions to permit works to the masonry and iron structure. All units numbered, catalogued and stored appropriately in preparation for future repair / overhaul / enhancement trials / reinstatement post contract. *See window schedule.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_51_00 Historic Timber

NEW PROTECTIVE LINING TO WINDOW OPENINGS
Arrangement / Condition: Void to window openings will be present as a result of planned window demounting or failure of existing sheet linings.
Objective: Openings to be secured in advance of reuse proposals.
Works Description: New ventilated ply lining on timber frame.
Key Drawings / Specifications:
Cc_00_51_00-10 Plywood
AA-8002 window boarding options
SE requirements

REINSTATEMENT OF FLOOR AT PENETRATIONS
Arrangement / Condition: Through-floor penetrations for services distribution. Redundant.
Objective: Reinstatement of floor deck.
Works Description: Remove services, consolidate / reinstate brick jack arches / sub-floor as original floor build-up.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles)
Cc_00_41_00 Historic Masonry (Repair)
SE requirements

BEAM REPAIR (SE DESIGN)
Arrangement / Condition: Original cast iron beam - snapped or cut through web and flange.
Objective: Repair.
Works Description: Conservation repair to beam as SE design, plating and / or stitching by specialists. Reinstate jack arch and make good around site of repair.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_90_00 Historic Ironwork
Cc_00_41_00 Historic Masonry (Repair)
SE requirements

NEW ROOF ACCESS HATCH
Objective: Provide safe means of access to roof for building repair / maintenance.
Works Description: Glazed opening light installed in roof pitch for maintenance use accessed via roof space ladder and platform. Rafters locally removed to form new timber trimming for opening.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_51_00 Historic Timber
WIN-101, AA-4605 & AA-4606 new roof window
SE requirements

REBUILD OF PARAPET
Arrangement / Condition: Solid brick construction with Roman cement finish. Later cementitous coatings and bitumen linings applied in places to address water ingress have accelerated deterioration. Render cracked and missing, parapet saturated, plant growth well established, masonry disrupted and failing particularly at NW. *See existing detail and Materials Analysis.*
Objective: Rebuild of parapet to remediate defects.
Works Description: Take down and rebuild with existing and new masonry, extents to be informed by trial take down early in construction period to inform understanding and proposals / method, inspections to inform approach. New render and lead weathering. Additional masonry courses for edge protection. Removal of coatings. *See proposed detail and Materials Analysis.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_40_00 Historic Masonry (Cleaning)
Cc_00_41_00 Historic Masonry (Repair)
LED-103, BRK-101, RND-101, AA-3201 & AA-3204 parapet rebuild
SE requirements

REBUILD OF CORNICE
Arrangement / Condition: Presumed stone substrate with run in situ Roman cement / lime mortar in torus profile. Widespread cracking, delamination, some evidence of plastic repairs, vegetation growth, stonework displaced and failing at NW gable. *See existing detail.*
Objective: Rebuild of cornice to remediate defects.
Works Description: Take down and rebuild with existing and new stone, extents to be informed by trial take down early in construction period to inform understanding and proposals / method, inspections and materials analysis to inform approach. New render and lead weathering. Removal of coatings. *See proposed detail.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_40_00 Historic Masonry (Cleaning)
Cc_00_41_00 Historic Masonry (Repair)
LED-102, RND-101, Stone specification
SE requirements

RENEWAL / OVERHAUL OF RAINWATER DRAINAGE SYSTEM CONSERVATION AND UPGRADE OF COMPONENTS
Arrangement / Condition: Original system comprising individual cast iron valley and parapet gutters, discharging to 2no. cast iron chutes and downpipes at gables. Joints lapped and bolted with red lead putty. Some thinning, pitting and holes present. Some fractures at edges due to thermal stress and little opportunity for movement. Many timber bearers failed and replaced with masonry propping (some also failed). Connections to ground at NW failed with central RWP section missing. *See existing details, Infrastruct Report and gutter repair schedule.*
Objective: Overhaul existing units and upgrade capacity via back-up gutter to ensure system is watertight and futureproofed. Original fabric to be retained where viable.
Works Description: Conservation of gutter castings - Inspections to inform repair approach. Survey, catalogue and carefully demount units for overhaul in workshop. Blast, repair, restore, apply protective coatings and reinstate. Renewal of failed castings from new patterns. All works described by specialist ironwork conservator. New cast iron chutes and downpipes at gables - Renew 2no. downpipes and allow for for 5 new, all large RWPs with hoppers. Temporary connections to below-ground required in advance of future reuse to specialist design, details to be developed once access provided. *See proposed details, Infrastruct Report and gutter repair schedule.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_90_00 Historic Ironwork
AA-4604, AA3204 & SH-9334 – gutters outlet detail, layout and repair schedule

NEW SECONDARY GUTTER
Objective: Back-up secondary roof gutter to signpost maintenance / repair need in case of failure of main system.
Works Description: Bituminous waterproofing membrane formed at base of parapet above insulation
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
INS-102, AA-3201 & AA-4604 – gutter details at parapet

RENEWAL / UPGRADE OF ROOF COVERINGS
Arrangement / Condition: Asbestos roof slates. Lead and tin flashings deteriorated, missing or detatched. *See existing detail.*
Objective: Overhaul coverings include thermal upgrade and removal of hazardous materials.
Works Description: 100% replacement of coverings. No existing tiles to be retained. New secondary gutter system. Insulation installed to form warm roof. *See proposed detail.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
BAT-101, SLT-101, INS-101, INS-102, FLT-101, VAP-101, VNT-101

OVERHAUL OF WATER TANK
Arrangement / Condition: Cast iron tank at head of stair formed of riveted iron plates. Upper edge dressed by lead and later cement over reinforcement mesh likely to maintain a water-resistant flashing preventing water ingress to the stair below. Corroded, debris filled preventing inspection of the interior, likely to have a hole or crack in the tank.
Objective: Repair, overhaul with new roof.
Works Description: Repair and overhaul by specialist, removal of later linings, blasting and protective coatings, repairs to be determined following access and clearance of interior, cap or allow for drain, new lead roof. *See proposed details.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_90_00 Historic Ironwork
LED-101, LED-102, LED-103, PTS-101, AA-4602 water tank repair

STONE REPAIRS
Arrangement / Condition: External wall comprising solid wall with hard grey Limerick Limestone. Wall core of lime mortar, limestone rubble and red clay bricks. Limestone dressed six sides, carved units with drafted margin and rock-faced body to jambs and arches, coursed units of various sizes. Window surrounds formed of alternating tall and narrow stones each with iron dowels between units. Units fairly sound externally, some fracturing from either movement and or corrosion of iron dowel fixings. NW stone at Level 03 saturated. Loss of face from descaling / spalling evident in places.
Objective: Repairs to stone at locations in zone of Phase 01 works.
Works Description: Ensure clean, sound base. Repair types as specification, inspections to inform repair approach.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_40_00 Historic Masonry (Cleaning)
Cc_00_41_00 Historic Masonry (Repair)
Cc_00_90_00 Historic Ironwork
SE requirements

REMOVAL OF PLANT GROWTHS
Arrangement / Condition: Plant growth well established around openings, water tank and rainwater drainage paths.
Objective: Remove to address causes of envelope deterioration.
Works Description: Careful removal to conservation standard, informed by trials.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_40_00 Historic Masonry (Cleaning)
Cc_00_41_00 Historic Masonry (Repair)
CLN-105

STONE CLEANING AND REPOINTING
Works Description: 100% of envelope (Level 02 soffit to parapet). Methods to conservation standard, informed by trials. Repoint / regrout where required, informed by trials.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_40_00 Historic Masonry (Cleaning)
Cc_00_41_00 Historic Masonry (Repair)
CLN-101 - 107

WASHOUT AT PERPENDS / ENCRUSTED DEPOSITS
Objective: Remediate mortar wash out comprising mineral deposits. Works Description: Cleaning method to conservation standard, informed by trials. Regrout where required.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_40_00 Historic Masonry (Cleaning)
Cc_00_41_00 Historic Masonry (Repair)
CLN-101 - 107, GRT-101

REVISION	NOTE
P05	alternaitve gutter outlet and down pipe position identified.

⚠ ***Asbestos containing materials present on site - Contractor to adopt suitable mitigation measures / precautions.***

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Revision	Date	Description
P01	18.10.2024	Stage 2A1 issue
P02	31.10.2024	Issued for co-ordination
P03	02.12.2024	Stage 2A2 issue
P04	18.02.2025	Issued for Stage 2A3 costing
P05	25.03.2025	Stage 2A3 issue for tender

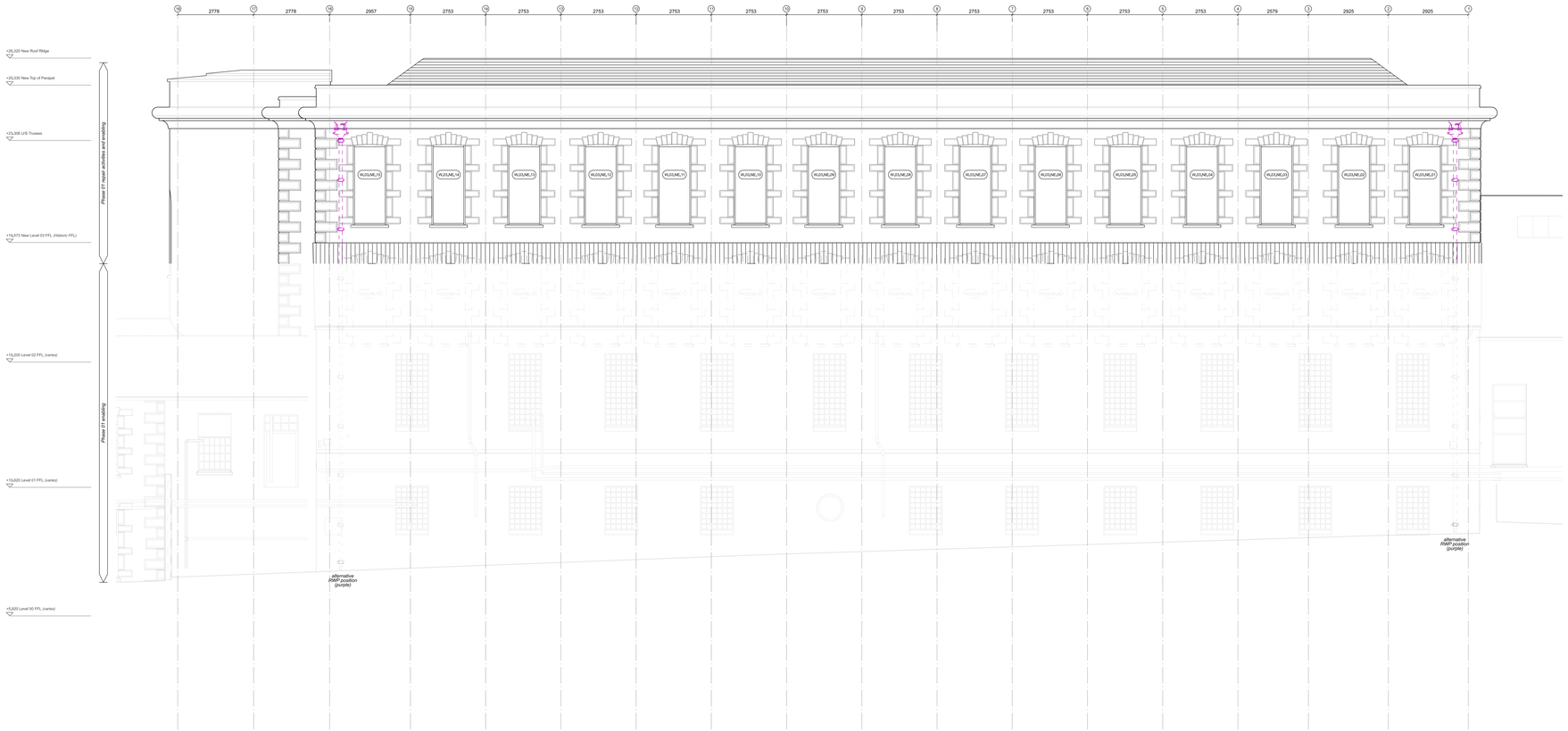
Job/Drawing No: CRP01-FCBS-1A-XX-DR-AA-2203
Revision: P05

CRQ - FLAX MILL PHASE 1 REPAIR
REPAIR STRATEGY - SW ELEVATION ZONE 3

Status: A4

Scale : 1:50 @ A1 / 1:100 @ A3
Drawn: Bath Studio Checked: JS

FCBS Project No: 2027-1



GENERAL ARRANGEMENT PROPOSALS

PHASE 01 OBJECTIVE

The stabilisation, consolidation and repair of the upper storey and roof of the main mill building.

Phase 01 is the first of multiple phases of repair. The proposed Phase 01 repairs are concerned with the historic fabric from the soffit of the Level 02 floor deck upward. The intention is to secure the structure and stabilise the building in a manner that minimises future scaffold requirements. The upper floors are to be left in a shell state ready for future servicing, fabric upgrade and fit out. The repairs are seeking to address inherent defects such as embedded corroding ironwork and the remediation of pathologies that have become apparent or are the result of unsuccessful later phase adaption. Rectification of failed fabric will include structural consolidation and remediation.

BUILDING PHASES

Phase 1 (1850-1877): Flax Mill
Phase 2 (1878-1883): Flour Mill
Phase 3 (1884-1890): Condensed Milk initial period
Phase 4 (1891-1923): Condensed Milk later period
Phase 5 (1927-1973): Dairy Disposal Company
Phase 6 (1974-2011): Golden Vale
Phase 7 (2011-present): Disuse (LTT site ownership: 2020)

SUMMARY OF PHASE 01 WORKS

The Phase 01 proposals comprise the following:

Roof

- Roof coverings replaced with thermal enhancements to form insulated warm roof;
- Repair / renewal of timber roof trusses, purlins and rafters;
- Removal of lift overrun to enable reforming of hipped roof profile;
- New roof access via central valley to serve building in its Phase 01- completed 'shell state';
- Repair / renewal of cast iron gutters;
- Upgrade of rainwater drainage system - new and additional downpipes and chutes;
- New secondary 'fail safe' gutter system;
- Water tank retained, overhauled, repaired and roofed.

External Walls

- Demounting of windows to allow for masonry repair works to progress;
- Partial take down and rebuild of masonry at building's north-west aspect to remediate displacement;
- Take down and reconstruction of parapet to address displacement - additional brick courses for edge protection, improved weathering, new rainwater outlets;
- Cornice reformed with weathering, repaired / rebuilt as required;
- Removal of horizontal wrought iron banding at Level 03 - NE and SW walls, NW gable;
- Removal of wall linings back to masonry at Level 03, grouting / repointing / packing;
- Original Level 03 window openings reformed through removal of wall linings / blockwork infill;
- Temporary linings installed to window openings to remain post-Phase 01 completion, with historic windows stored for future reuse;
- Take down and reassembly of below-cill spandrel at windows, voids closed;
- Bat roosts integrated into former below-cill voids.

Floors

- Repair / renewal of cut / failed beam supporting Level 03 floor deck;
- Removal of ceiling and modern partitions at Level 03;
- Modern Level 03 floor linings removed back to original floor finish;
- Consolidation of floor structure of level 03 entailing removal of soffit plaster linings back to masonry at Level 02, packing / repointing of open joints.

Ironwork

- Blasting of exposed iron beams and tie rods to remove corrosion and allow for protective coatings to be applied;
- Hand stripping of iron column coatings to allow for application of protective coatings.

Enabling Works – Required within and beyond the main mill footprint to permit the placement of scaffolding and create safe access for Phase 01 works to take place.

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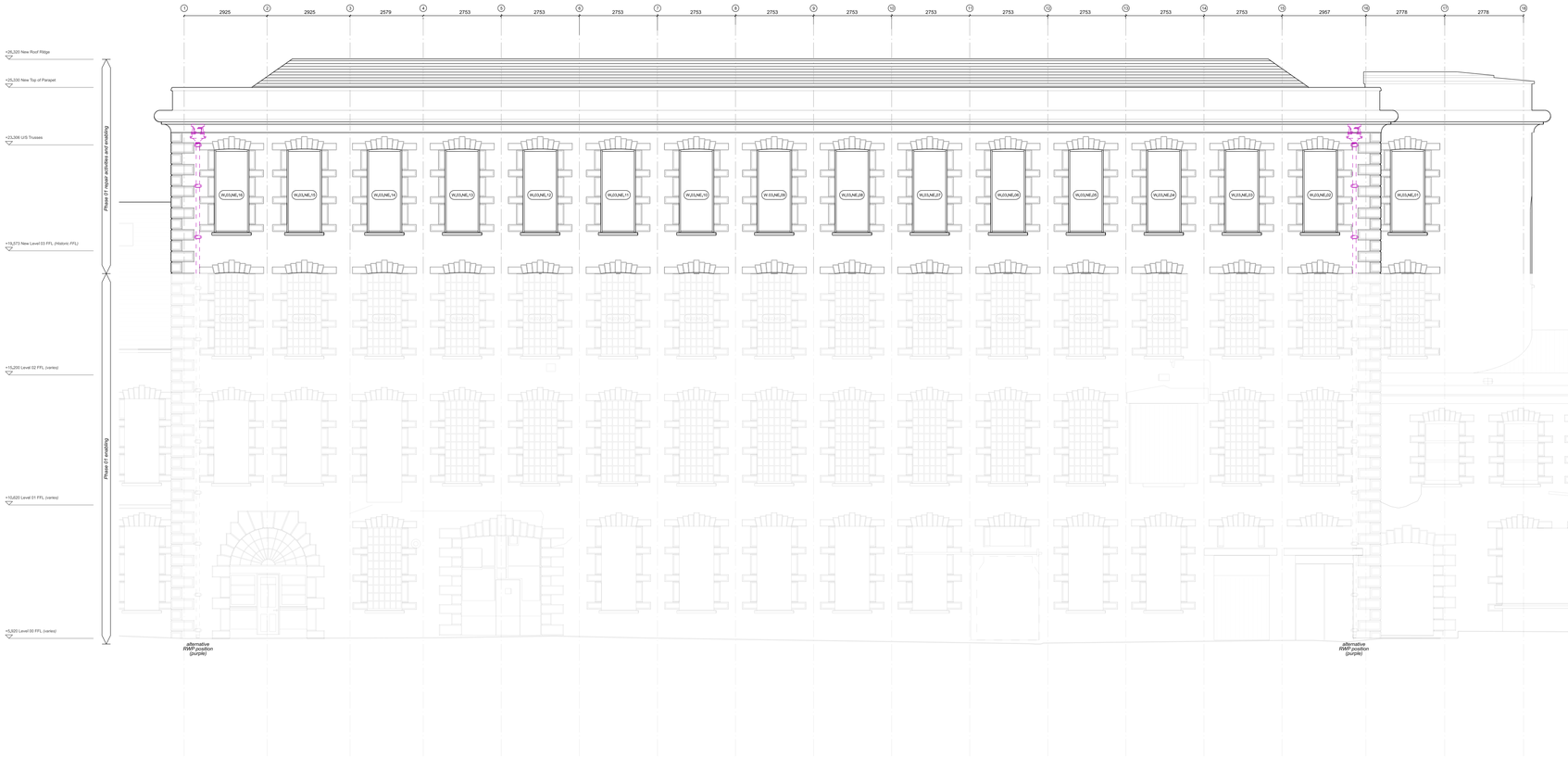
Revision	Date	Description
P01	02.12.2024	Stage 2A2 issue
P02	18.02.2025	Issued for Stage 2A3 costing
P03	25.03.2025	Stage 2A3 issue for tender

Job/Drawing No: CRP01-FCBS-1A-XX-DR-AA-2250
Revision: P03

CRQ - FLAX MILL PHASE 1 REPAIR
PROPOSED NE ELEVATION

Status: A4

Scale : 1:100 @ A1 / 1:200 @ A3
Drawn: Bath Studio Checked: JS
FCBS Project No: 2027-1



GENERAL ARRANGEMENT PROPOSALS

PHASE 01 OBJECTIVE
The stabilisation, consolidation and repair of the upper storey and roof of the main mill building.

Phase 01 is the first of multiple phases of repair. The proposed Phase 01 repairs are concerned with the historic fabric from the soffit of the Level 02 floor deck upward. The intention is to secure the structure and stabilise the building in a manner that minimises future scaffold requirements. The upper floors are to be left in a shell state ready for future servicing, fabric upgrade and fit out. The repairs are seeking to address inherent defects such as embedded corroding ironwork and the remediation of pathologies that have become apparent or are the result of unsuccessful later phase adaption. Rectification of failed fabric will include structural consolidation and remediation.

BUILDING PHASES

Phase 1 (1850-1877): Flax Mill
Phase 2 (1878-1883): Flour Mill
Phase 3 (1884-1890): Condensed Milk initial period
Phase 4 (1891-1923): Condensed Milk later period
Phase 5 (1927-1973): Dairy Disposal Company
Phase 6 (1974-2011): Golden Vale
Phase 7 (2011-present): Disuse (LTT site ownership: 2020)

SUMMARY OF PHASE 01 WORKS
The Phase 01 proposals comprise the following:

Roof

- Roof coverings replaced with thermal enhancements to form insulated warm roof;
- Repair / renewal of timber roof trusses, purlins and rafters;
- Removal of lift overrun to enable reforming of hipped roof profile;
- New roof access via central valley to serve building in its Phase 01- completed 'shell state';
- Repair / renewal of cast iron gutters;
- Upgrade of rainwater drainage system - new and additional downpipes and chutes;
- New secondary 'fail safe' gutter system;
- Water tank retained, overhauled, repaired and roofed.

External Walls

- Demounting of windows to allow for masonry repair works to progress;
- Partial take down and rebuild of masonry at building's north-west aspect to remediate displacement;
- Take down and reconstruction of parapet to address displacement - additional brick courses for edge protection, improved weathering, new rainwater outlets;
- Cornice reformed with weathering, repaired / rebuilt as required;
- Removal of horizontal wrought iron banding at Level 03 - NE and SW walls, NW gable;
- Removal of wall linings back to masonry at Level 03, grouting / repointing / packing;
- Original Level 03 window openings reformed through removal of wall linings / blockwork infill;
- Temporary linings installed to window openings to remain post-Phase 01 completion, with historic windows stored for future reuse;
- Take down and reassembly of below-cill spandrel at windows, voids closed;
- Bat roosts integrated into former below-cill voids.

Floors

- Repair / renewal of cut / failed beam supporting Level 03 floor deck;
- Removal of ceiling and modern partitions at Level 03;
- Modern Level 03 floor linings removed back to original floor finish;
- Consolidation of floor structure of level 03 entailing removal of soffit plaster linings back to masonry at Level 02, packing / repointing of open joints.

Ironwork

- Blasting of exposed iron beams and tie rods to remove corrosion and allow for protective coatings to be applied;
- Hand stripping of iron column coatings to allow for application of protective coatings.

Enabling Works – Required within and beyond the main mill footprint to permit the placement of scaffolding and create safe access for Phase 01 works to take place.

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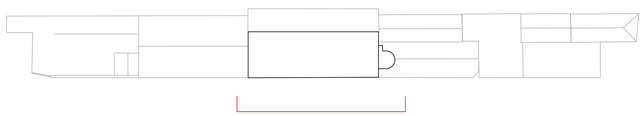

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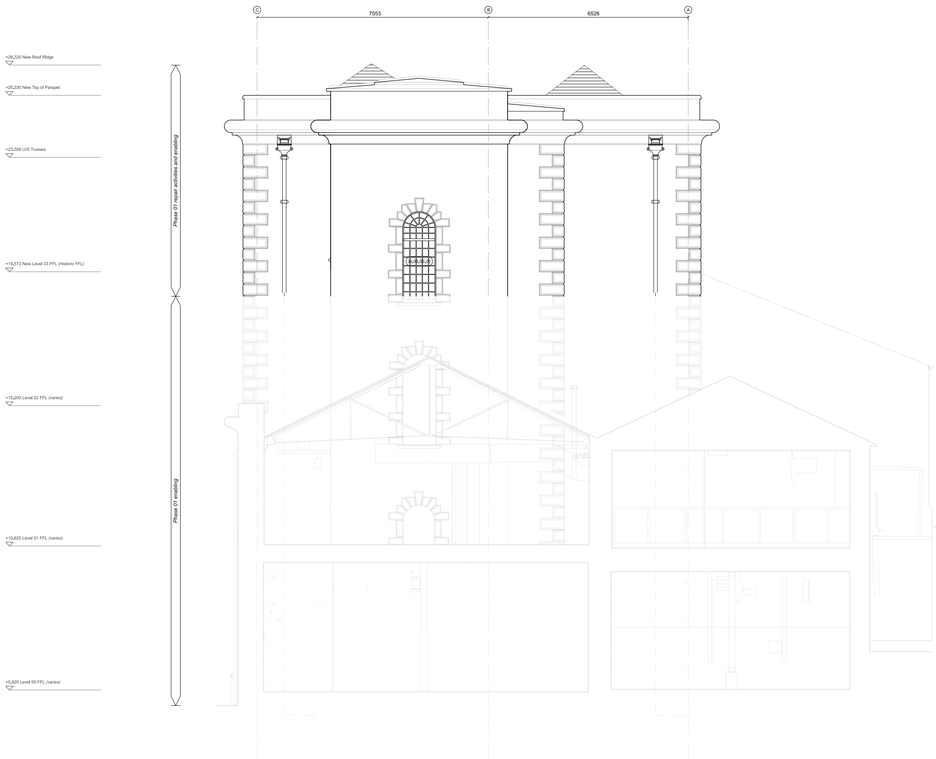
Revision	Date	Description
P01	02.12.2024	Stage 2A2 issue
P02	18.02.2025	Issued for Stage 2A3 costing
P03	25.03.2025	Stage 2A3 issue for tender

Job/Drawing No: CRP01-FCBS-1A-XX-DR-AA-2251
Revision: P03

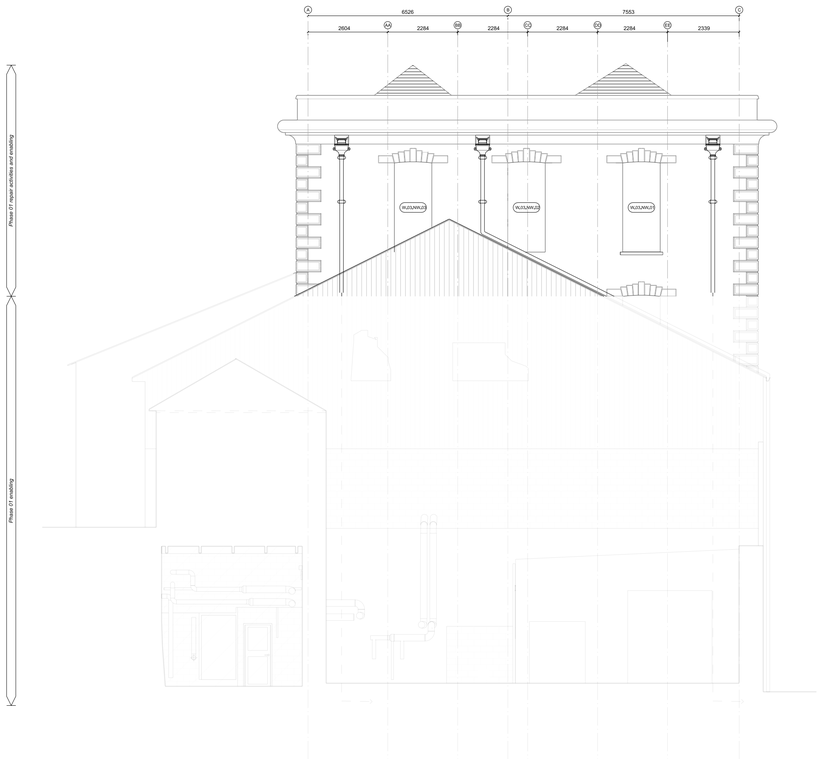
CRQ - FLAX MILL PHASE 1 REPAIR
PROPOSED SW ELEVATION

Status: A4

Scale : 1:100 @ A1 / 1:200 @ A3
Drawn: Bath Studio Checked: JS
FCBS Project No: 2027-1



Flax Mill Proposed SE Elevation
1:100 @ A1



Flax Mill Proposed NW Elevation
1:100 @ A1

GENERAL ARRANGEMENT PROPOSALS

PHASE 01 OBJECTIVE
The stabilisation, consolidation and repair of the upper storey and roof of the main mill building.

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BUILDING PHASES

Phase 1 (1850-1877); Flax Mill
Phase 2 (1878-1883); Flour Mill
Phase 3 (1884-1890); Condensed Milk initial period
Phase 4 (1891-1923); Condensed Milk later period
Phase 5 (1927-1973); Dairy Disposal Company
Phase 6 (1974-2011); Golden Vale
Phase 7 (2011-present); Disuse (LTT site ownership; 2020)

SUMMARY OF PHASE 01 WORKS
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- Repair / renewal of timber roof trusses, purlins and rafters;
- Removal of lift overrun to enable reforming of hipped roof profile;
- New roof access via central valley to serve building in its Phase 01-completed 'shell state';
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External Walls

- Demounting of windows to allow for masonry repair works to progress;
- Partial take down and rebuild of masonry at building's north-west aspect to remediate displacement;
- Take down and reconstruction of parapet to address displacement - additional brick courses for edge protection, improved weathering, new rainwater outlets;
- Cornice reformed with weathering, repaired / rebuilt as required;
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- Removal of wall linings back to masonry at Level 03, grouting / repointing / packing;
- Original Level 03 window openings reformed through removal of wall linings / blockwork infill;
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- Bat roosts integrated into former below-cill voids.

Floors

- Repair / renewal of cut / failed beam supporting Level 03 floor deck;
- Removal of ceiling and modern partitions at Level 03;
- Modern Level 03 floor linings removed back to original floor finish;
- Consolidation of floor structure of level 03 entailing removal of soffit plaster linings back to masonry at Level 02, packing / repointing of open joints.

Ironwork

- Blasting of exposed iron beams and tie rods to remove corrosion and allow for protective coatings to be applied;
- Hand stripping of iron column coatings to allow for application of protective coatings.

Enabling Works – Required within and beyond the main mill footprint to permit the placement of scaffolding and create safe access for Phase 01 works to take place.

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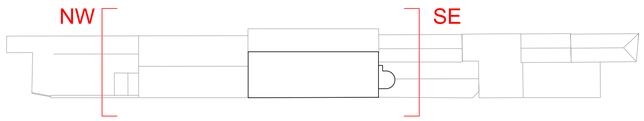
0 1 2 3 4 5m



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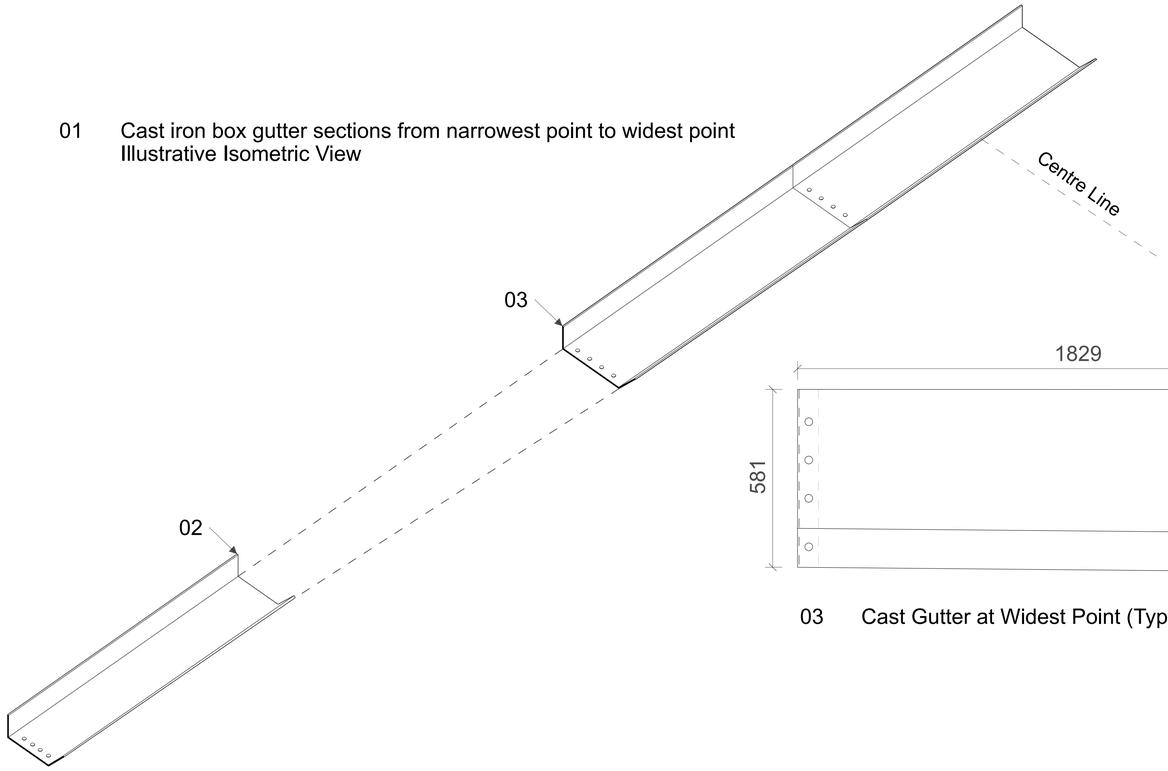
Revision	Date	Description
P01	02.12.2024	Stage 2A2 issue
P02	18.02.2025	Issued for Stage 2A3 costing
P03	25.03.2025	Stage 2A3 issue for tender

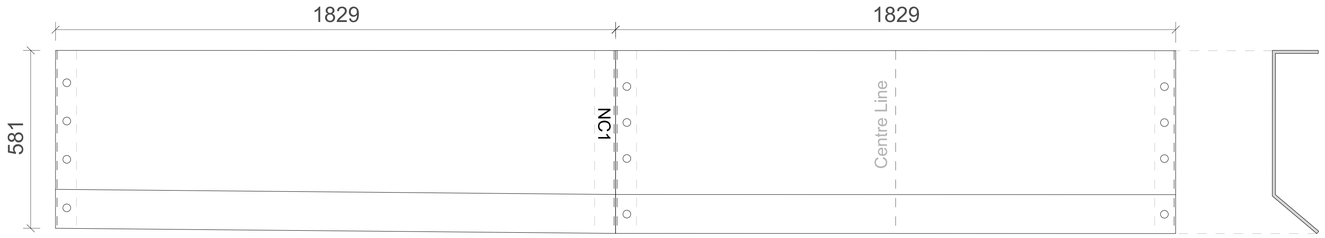
Job/Drawing No: CRP01-FCBS-1A-XX-DR-AA-2252
Revision: P03
CRQ - FLAX MILL PHASE 1 REPAIR
PROPOSED SE & NW ELEVATION
Status: A4
Scale : 1:100 @ A1 / 1:200 @ A3
Drawn: Bath Studio Checked: JS
FCBS Project No: 2027-1



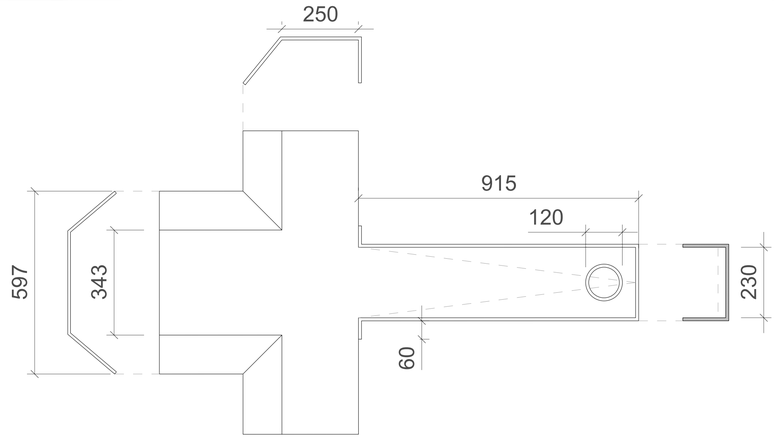
01 Cast iron box gutter sections from narrowest point to widest point
Illustrative Isometric View



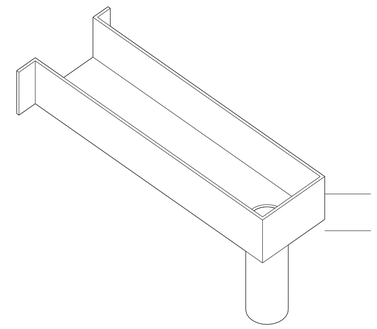
02 Cast Gutter at Narrowest Point (Type A)



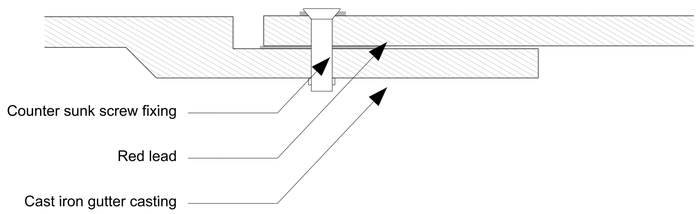
03 Cast Gutter at Widest Point (Type A)



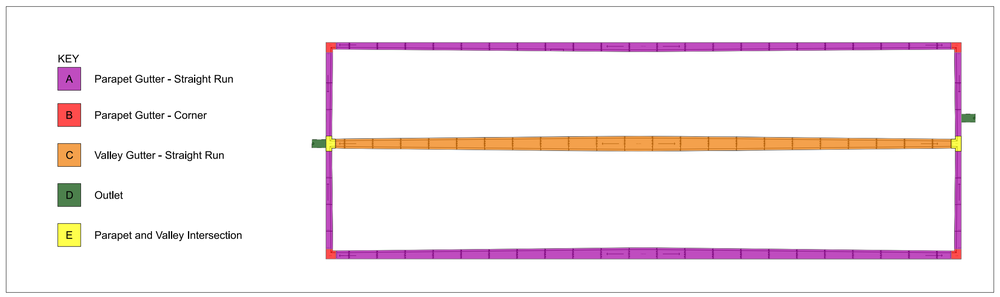
04 Gutter Outlet (Type D) and T-Junction (Type E)



05 Gutter Outlet (Type D) Isometric View



06 Existing Cast Gutter Lap
Detail Section 1:10 @ A1



07 Gutter Types

Rainwater Drainage
The cast gutters have survived for 170 years with little evidence of structural failure or maintenance demand. The drainage capacity is, however, significantly less than needed. A failure to rapidly drain and the subsequent overtopping of gutters has been a primary factor in rainwater ingress.

Cast Iron Parapet and Valley Gutters
The cast iron gutter are an original element of the buildings fabric.
The gutters are formed with a flat base that narrows along its length. This ensures that the gutter will fall once fitted over the 35-degree rafters. High points at the centre of the roof where the gutters are widest, draining to the gables where they are narrowest. The vertical element of the gutter is 150mm tall and the pitched section 170mm long. There are variations in the widths of the parapet gutters that indicate that each casting is likely to be unique. Each casting is individually numbered.
Rainwater is discharge via 2 no. through-wall outlets into circa 120mm cast iron downpipes, one at each gable *(see 2A2 specification: 'Building Pathology and Summary Condition')*.
Joints are sealed with red-lead compound and fixed together with countersunk iron bolts with square nuts on the underside. Average thickness of gutters ~7.3-13.4mm - *refer to Infrastruct NDT Test Report, Nov 2024.*

Cast Iron Valley Gutter Condition and Defects
Summary:
- Both downpipes failed with elements missing;
- Gutters thinning to ~5mm must be replaced;
- Parapet and valley gutters corroded but functional;
- Underside corrosion has resulted in thinning of the cast iron from about 13mm to 5mm.
- Most of the gutters have developed pitting in the gutter base. Some have holes a few of which have been plugged with ferrous pins in the past.

Thinning - Thinning of the casting is most likely due to underside corrosion due to condensate and a lack of ventilation. Limited air movement and the damp environment has led to the very gradual failure of the iron. It is of note that the thinning of the iron is localised to the areas where damp timber has been trapped against the iron. There is potential for the most pronounced thinning to be concealed at the interface of the rafters.

Fractures - Several gutters have fractures to the edges due to thermal stress and little opportunity for movement. There are fewer stress failures than might be expected. This may be an indication of the strength and quality of the iron. Many timber bearers carrying gutters have failed, often replaced by masonry for propping.

Capacity - Outlets provide inadequate capacity. Outlets have failed. Cast downpipes are missing and / or broken.

Repair, Enhancement and Reinstatement Requirements
The repair and reinstatement of the gutters is an important part of the building's conservation. Improvements in rainwater drainage have been informed by an assessment of drainage capacity which must be reviewed by the specialist. Additional outlets and the adaption of the existing cast iron will be essential. A secondary gutter is designed to provide a fail safe. Refer to proposal drawings.

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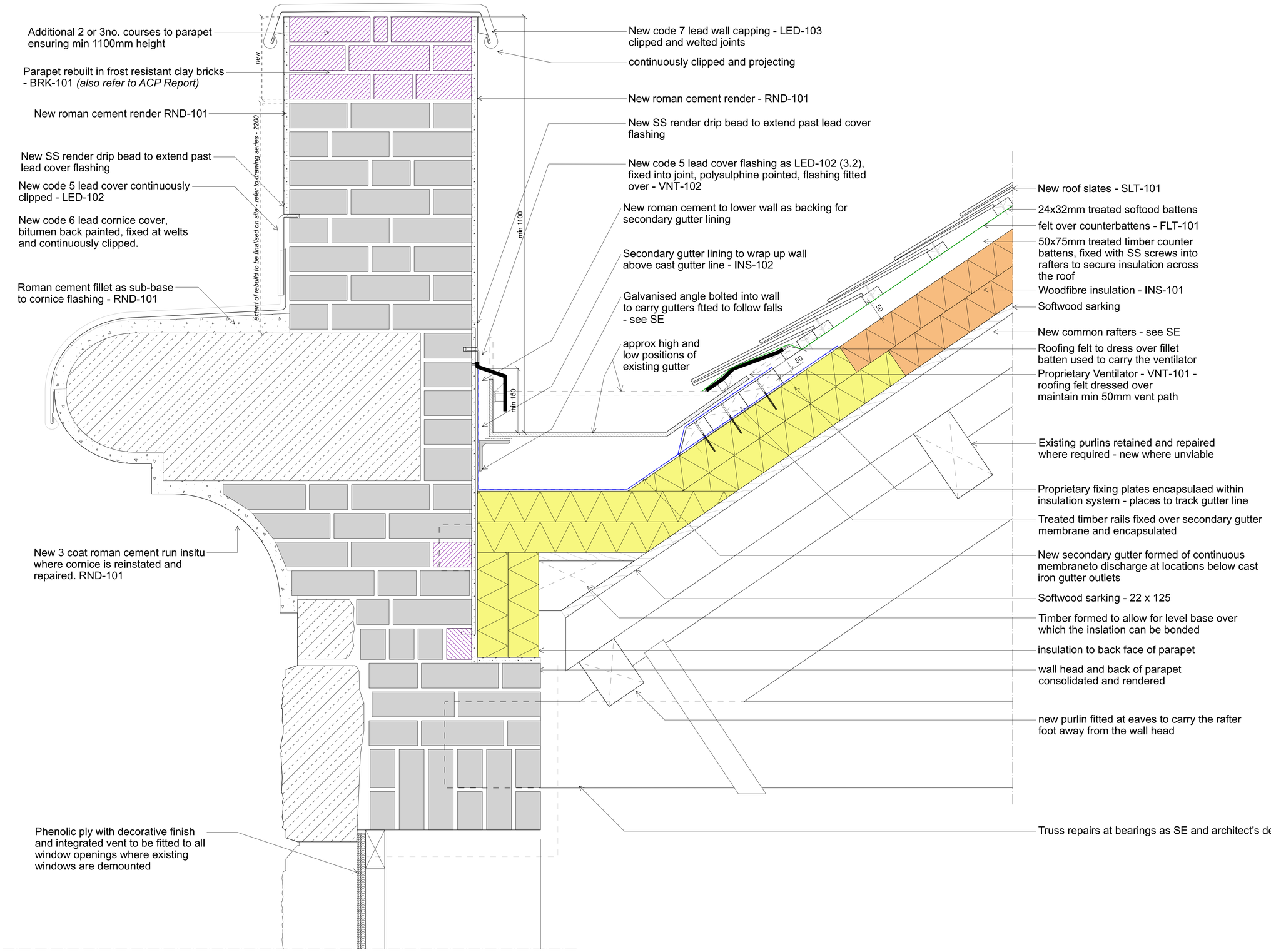
Revision	Date	Description
P01	18.02.2025	Issued for Stage 2A3 costing
P02	25.03.2025	Issued for Stage 2A3 Tender

Job/Drawing No: CRP01-FCBS-1A-XX-DR-AA-3102
Revision: P02
CRQ - FLAX MILL PHASE 1 REPAIR
EXISTING FABRIC ASSEMBLY
CAST IRON ROOF GUTTERS
Status: A4
Scale : 1:10 @ A1
Drawn: Bath Studio Checked: JS
FCBS Project No: 2027-1



Parapet Assembly

General
The parapet is subject to consolidation and rebuilding to address poor condition and structural movement.
As part of this work the parapet is to be reinstated in a form that improves its future durability. This will require care and co-ordination of the various elements.

Parapet - To be rebuilt in varying degrees. Top to be capped with lead. Faces to be re-rendered.

Cornice - To be rest where required. Loose render to be removed and existing to be robustly prepared. New roman cement stucco render to be run in-situ. New lead cover to be fitted.

Masonry General - To be consolidated and repaired. The lower section the inside face of the parapet and the shelf at the wall head are to be cleaned and consolidated. Where necessary the wall head is to be rebuilt. Pockets and voids are to be infilled. The wall is to be rendered to achieve a smooth, flat surface of sufficient uniformity to permit the installation of the glass slab insulation boards.

Parapet Gutter - To be overhauled, repaired, adapted and reinstated. Gutters to be set over repaired and reinstated roof, formed with insulation over sarking. A new sub-gutter is to be formed at the eaves as a backup to minimise the risk of water ingress at the wall head and to protect the construction generally. Note that great care will be required to plan the setting out for the reinstatement of the gutters. The galvanized steel angle is to be fitted and regular centres to reflect the gutter dimensions. A rubber strip can be used over the angle to allow for thermal movement between the iron gutter and angle.
The gutter is to be places with a 25mm gap from the wall to allow for ventilation. The proprietary flashing carrier will allow for the vent path to be maintained (VNT-101). The flashing will need to be chased into the wall in an alignment that tracks the gutter. Ensure measures are taken to prevent rubbish dropping into the sub-gutter below.

Sub Gutter - This is to be formed of a waterproof liner fitted as part of the eaves insulation system (INS-102). The membrane will be bonded over the face of the insulation and will lap up and bond to the wall. It must continue up the wall and track the line of the gutter, ensuring its upper edge is higher than that of the gutter. Similarly the timber battens used to form a carrier for the gutter edge that runs up the roof pitch will need to be fitted to follow the gutter. These are to be secured with sherardized screws and encapsulated with a capping layer of the waterproof membrane.

Insulation - The inside face of the wall, below the line of the gutter is to be lined with insulation. This is to extend up to the face of the wall in preparation for a future installation of Internal Wall Insulation (IWI) to permit a continuous thermal insulation line.

ISSUE	REV NOTE
P03	T-code VNT-101 for abutment flashing updated to correct reference VNT-102

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P01	02.12.2024	Stage 2A2 issue
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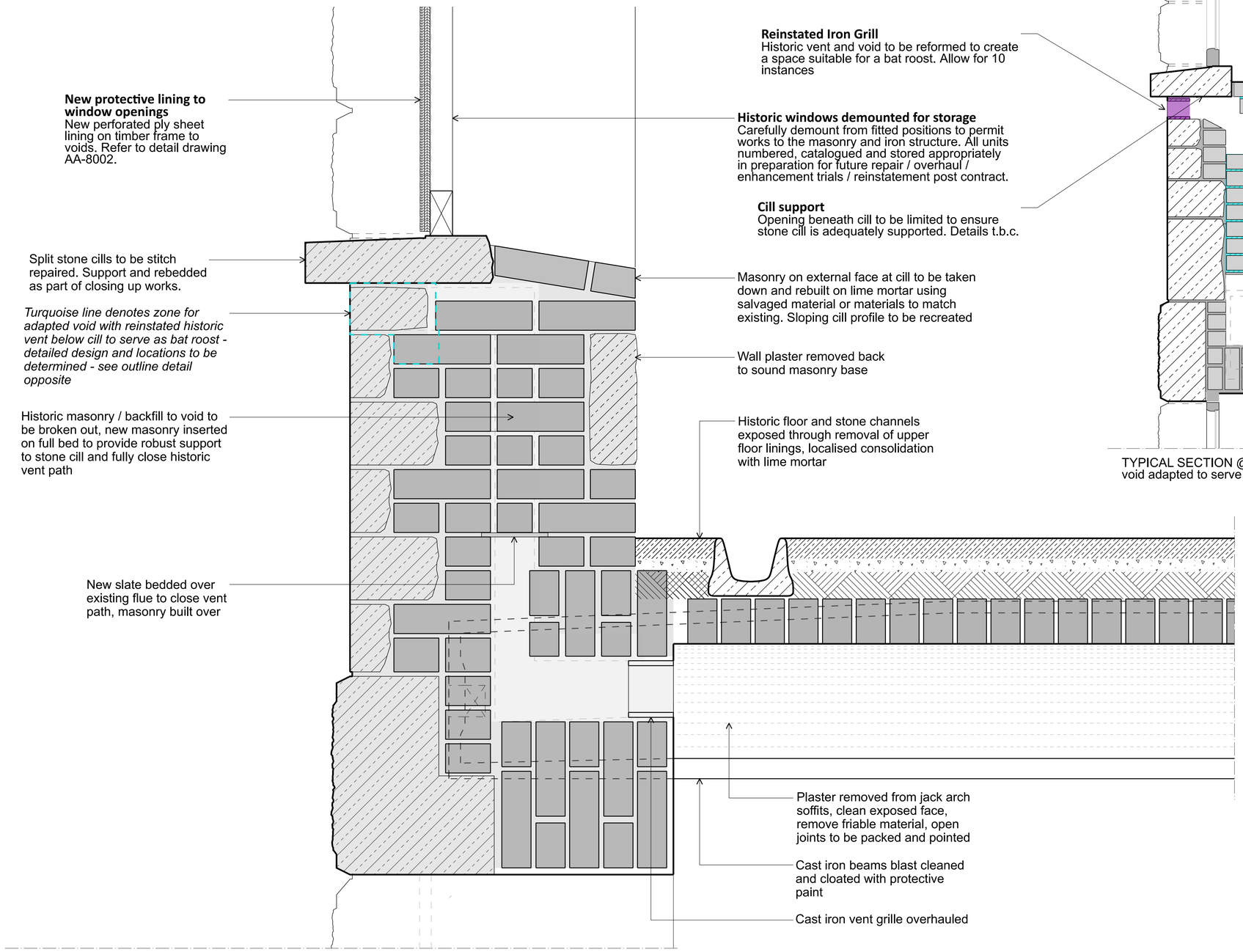
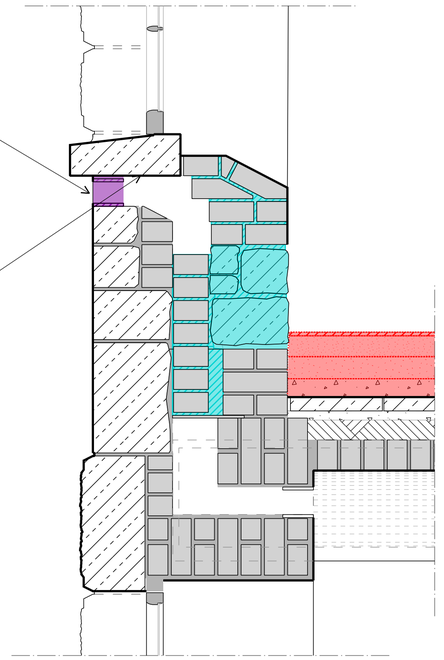
P3	25.03.2025	Issued for Stage 2A3 Tender

Job/Drawing No: CRP01-FCBS-1A-XX-DR-AA-3201
Revision: P03
CRQ - FLAX MILL PHASE 1 REPAIR
PROPOSED FABRIC ASSEMBLY
WALL HEAD, ROOF and PARAPET
Status: A4
Scale : 1:5 @ A1 / 1:10 @ A3
Drawn: Bath Studio Checked: JS
FCBS Project No: 2027-1





TYPICAL SECTION @ 3rd FLOOR WINDOW
void adapted to serve as a roost for bats

SWAN NECK VENTS - REBUILD
Arrangement / Condition: Through-wall swan neck vents with route of flue traversing floor levels. Terminations below cill externally and above window heads on the internal face of masonry envelope via cast iron grilles. Vents informally filled historically with masonry / backfill. Grilles remain present. Spandrel historically reconstructed with new masonry and cement sloping cill on inner face. *See existing detail.*
Objective: Formal closure of flue to omit through-floor void.
Works Description: Historic masonry / backfill to vent broken out, new masonry inserted to fully close path. Stone cills repaired and rebedded on sound masonry base. *See proposed detail.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_41_00 Historic Masonry (Repair)

SWAN NECK VENTS - RESTORE IRON VENT GRILLES
Arrangement / Condition: Cast iron grille situated above window heads forming termination of through-wall swan neck vents. Informally filled historically with masonry / backfill / plaster. *See existing detail.*
Objective: Vents overhauled and reinstated as part of formal closure of flue.
Works Description: Overhaul by iron foundry, off-site in workshop where required. Allow for new castings where existing have failed. *See proposed detail.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_90_00 Historic Ironwork

HISTORIC WINDOWS DEMOUNTED FOR STORAGE
Arrangement / Condition: Typically 60-pane SG timber windows with upper portion centre-pivot opening light over fixed window below. Windows typically lost or fragments only remaining on NE walls - blockwork, SS reinforcement bars and / or timber linings inserted to close openings. Present on SW walls. Where extant, windows heavily weathered, original decoration lost, all closed over with a mix of acrylic or other material to secure them. No opening lights operational. *See window schedule.*
Objective: Historic windows demounted to permit Phase 01 repair. Stored in anticipation of reinstatement in future reuse scheme.
Works Description: Carefully demount from fitted positions to permit works to the masonry and iron structure. All units numbered, catalogued and stored appropriately in preparation for future repair / overhaul / enhancement trials / reinstatement post contract. *See window schedule.*
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_51_00 Historic Timber

NEW PROTECTIVE LINING TO WINDOW OPENINGS
Arrangement / Condition: Void to window openings will be present as a result of planned window demounting or failure of existing sheet linings.
Objective: Openings to be secured in advance of reuse proposals.
Works Description: New ventilated ply lining on timber frame.
Key Drawings / Specifications:
Cc_00_51_00-10 Plywood
AA-8002 window boarding options
SE requirements

REMOVAL OF LININGS BACK TO MASONRY
Arrangement / Condition: Various plasters / linings applied to walls and brick jack arch soffit. Some lime-based plasters and cementious renders. Refer to types and Materials Analysis. All in poor repair.
Objective: Remove plasters / linings to enable future redecoration.
Works Description: Remove existing plasters / linings back to sound brick base, removing friable material. Grouting to large voids. Inspections and trials to inform approach.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_40_00 Historic Masonry (Cleaning)
Cc_00_41_00 Historic Masonry (Repair)

REMOVAL OF NON-ORIGINAL FLOOR COVERINGS AND CONSOLIDATE ORIGINAL FLOOR
Arrangement / Condition: Original floor 300x300mm square fired clay tiles on backfill, stone drainage channels at floor perimeter. Later floors various including reinforced cement screed, modern tile, insulated board with bituminous bonding (see types, Infrastruct Report). Modern floors in fair condition.
Objective: Carefully strip back to and consolidate historic floor, reform level surface in advance of future fitout – Once exposed, historic floor surface will be found to be worn. It will be necessary to consolidate the surface to provide a trip free surface. Required where surface is found to be inconsistent, damaged or sections of tiles are missing. The hope is for most of the historic tiles to be found in place, bound to the substrate and in a form that does not present a risk to people accessing the area. Whilst it is not the intention of the works to leave a fully repaired finish, the floor must be level, well bound and safe to walk on.
Works Description: Carefully strip back to historic surface, consolidate and repair ready to receive new covering as part of future phase. Removal / cleaning to conservation standard, informed by trials. Grout to voids, sand-cement screed to substantial gaps.
Key Drawings / Specifications:
Cc_00_15_00 Conservation Repair Principles
Cc_00_20_00 Historic Structures (Demolition)
Cc_00_40_00 Historic Masonry (Cleaning)
GRT-101, MRT-101
SE requirements

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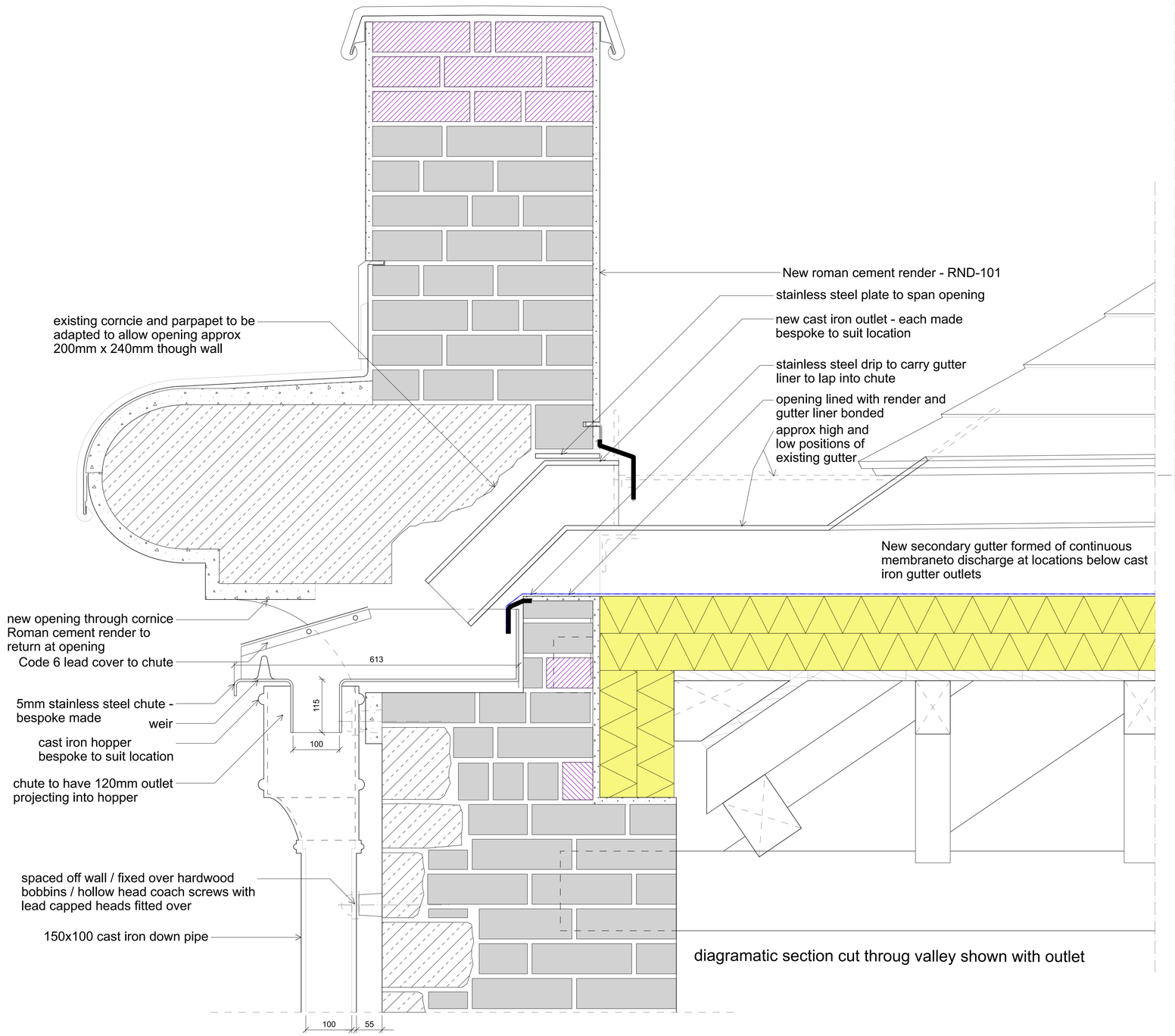
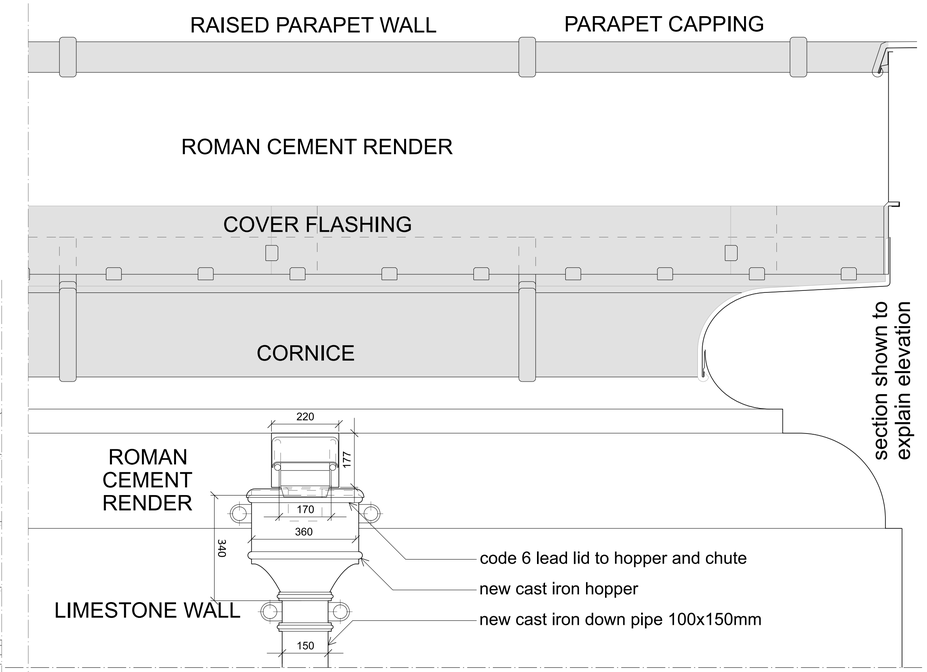
P01	02.12.2024	Stage 2A2 issue
P02	18.02.2025	Issued for Stage 2A3 costing
P03	25.03.2025	Stage 2A3 issue for tender

Job/Drawing No: CRP01-FCBS-1A-XX-DR-AA-3202
Revision: P03
CRQ - FLAX MILL PHASE 1 REPAIR
PROPOSED FABRIC ASSEMBLY WINDOW CILL and SPANDREL
Status: A4
Scale : 1:5 @ A1 / 1:10 @ A3
Drawn: Bath Studio Checked: JS
FCBS Project No: 2027-1

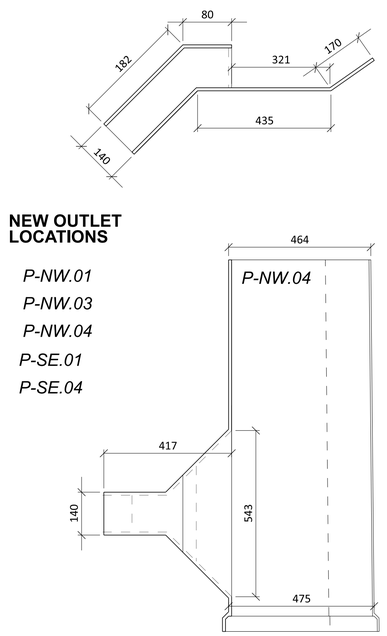


diagramatic section cut throug valley shown with outlet

PARAPET SECTION @ GUTTER OUTFALL



ELEVATION @ GUTTER CHUTE and RAINWATER DOWNPIPE - 1:10@A1 / 1:20@A3



NEW OUTLET LOCATIONS

P-NW.01
P-NW.03
P-NW.04
P-SE.01
P-SE.04

NEW GUTTER OUTLETS - 1:10@A1 / 1:20@A3
(*dimensions indicaive)

GUTTER OUTLET STRATEGY

Existing Cast Iron - to be overhauled, repaired and reinstated. New components to be installed to allow or five outlets.

Sub-Gutter - new secondary gutter to be formed beneath the reinstated cast iron gutter. To be formed by waterproof lining bonded over insulation as spec INS-102.
Gutter to be continuous running though newly formed openings and discharging into new bespoke made stainless steel chutes.

New Cast Iron Outlets - to be made to permit the discharge of the gutters into new cast iron down pipes. Example outlets shown here. Design for outlets to be resolved one opening up permits access to the wall construction and the parameters of the outlets can be confirmed. Principle is for one at each corner and two broadly aligned with the central valley. Each is to positively discharge into the chutes, overlapping to prevent splash saturating the surrounding masonry.

New Opening Through Wall and Cornice
The wall is to be opened up and a new route neatly formed. The base is to be flat to receive the chute. The cornice stone may require pinning at each side. Detail to be resolved once access and opening up permits. A 5mm stainless steel plate is to be used to support the brickwork over the new opening.

Hopper and Downpipe - new, painted cast iron fitted directly beneath the chute. A code 6 lead cover is to be secured over the cute and the hopper to guard against nesting pigeons.

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Job/Drawing No
CRP01-FCBS-1A-XX-DR-AA-3204

Revision
P02

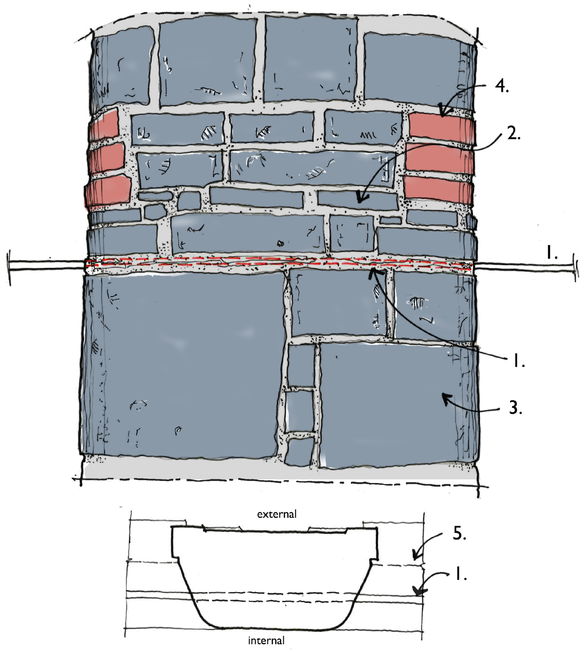
CRQ - FLAX MILL PHASE 1 REPAIR
PROPOSED FABRIC ASSEMBLY
PARAPET GUTTER OUTLET

Status
A4

Scale : 1:5 @ A1 / 1:10 @ A3
Drawn: Bath Studio Checked: JS

FCBS Project No: 2027-1

EXISTING MASONRY PIER



Key

1. Iron bar embedded in wall and spanning between piers.

2. Smaller masonry units set above the iron bar.

3. Larger masonry units used to cap the pier below the iron bar.

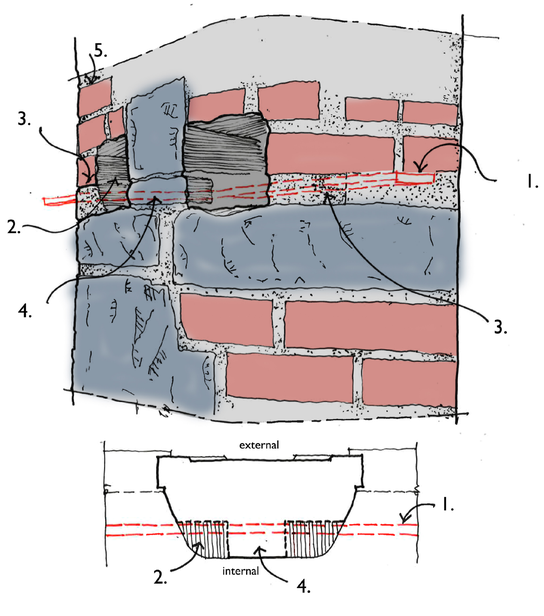
4. Red clay bricks used at corners and sides of piers.

5. Line of window reveal.

GENERAL NOTES: Iron Band Removal

Works to be conducted in line with the conservation-led repair principles outlined in the architectural specification with specific reference to: *Cc_00_15_00 Conservation Repair Principles, Cc_00_20_00 Historic Structures*
Drawing to be read in conjunction with Structural Engineer's proposals, approaches to repair must seek maximum retention of fabric where permittable, application of repair types to be reviewed and agreed on site with Conservation Architect / Structural Engineer.

MINIMAL OPENING UP:
SE REPAIR Type 4



Key

1. Iron bar – to be cut to leave sufficient length projecting from the face of the masonry to allow it to be pulled from the wall.

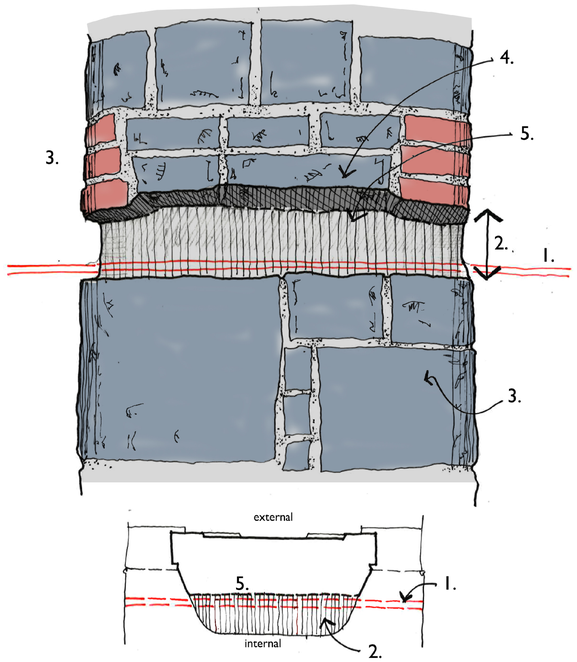
2. Pocket openings to be made into the pier to expose the lap in the iron band. Lap to be cut or drilled to release the band each side and permit them to be pulled from the wall. Lap to be extracted though the pocket opening.

3. Wide mortar and stone fragment band packed around iron bar. To be retained in place where possible save for the material that must be excavated / broken out to permit access to the lap in the iron band.

4. Larger masonry units retained to maintain stability to the pier and reduce need for temporary works.

5. Bricks and smaller masonry units typically found in the courses above the line of the bar to be retained. The preference is for the bricks to be retained in-situ where possible. Reinstated masonry to be fully packed and grouted.

MAJOR OPENING UP:
SE REPAIR Types 2 & 3



Key

1. Iron bar – to be fully exposed to permit extraction.

2. Channel in wall opened up to allow for the bar to be removed and wall to be solidly rebuilt.

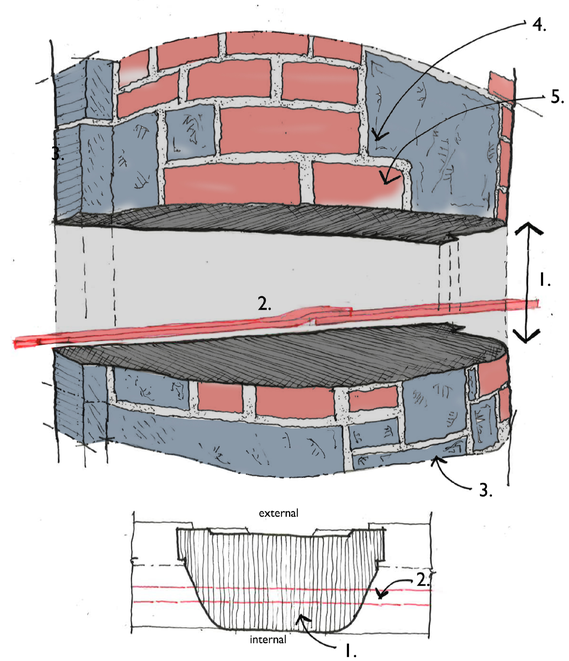
3. Larger masonry units retained. Work to open up wall to expose bar to focus on smaller masonry pieces.

4. Where opening up occurs seek to work out opening retaining solid masonry units before propping. This will allow for improved stability when rebuilding. Reinstatement to be deep and fully packed with voids grouted.

5. Avoid excavating / opening up deeper than necessary. Seek to minimise depth.

TOTAL OPENING UP:
SE REPAIR Type 1

This degree of opening up and the subsequent propping of retained masonry above is shown as a worst-case scenario. The objective is to minimise the extent of opening up while enabling the complete removal of the iron band and reinstatement of masonry.



Key

1. Section of masonry completely opened up with upper section temporarily supported.

2. Whole iron band exposed to permit removal.

3. Bottom extent of takedown to stop at soonest point of stability. This may not be a level plane as illustrated.

4. Upper extent of opening to work to solid and ideally substantial masonry units to avoid instability in the course of the reinstatement works.

5. Sound and well bonded masonry to be retained.

Existing measured building survey information taken from Geodata Chartered Land Surveyors survey drawings received 11/09/2020.
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Drawing to be printed in colour
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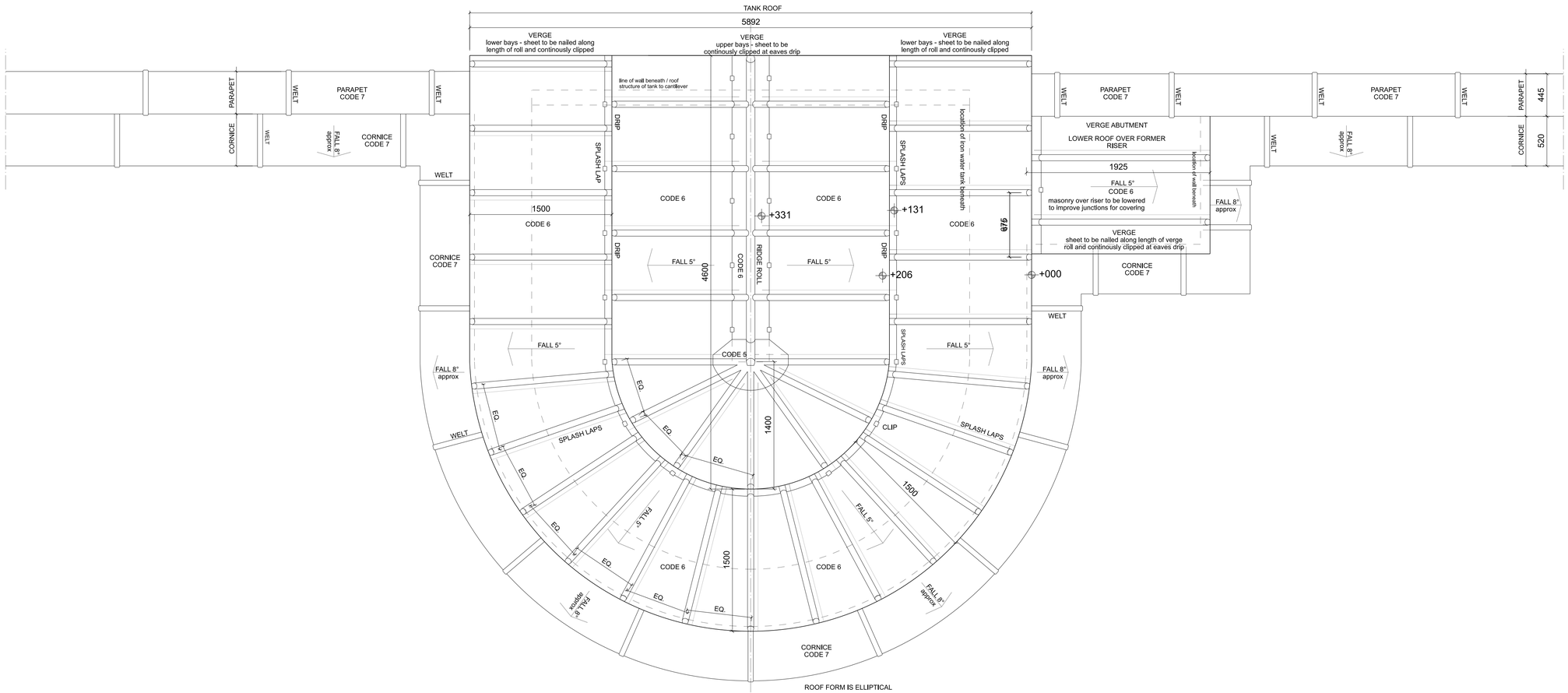
Revision	Date	Description
P01	14.03.2025	Stage 2A3 issue for comment
P02	25.03.2025	Stage 2A3 issue for Tender

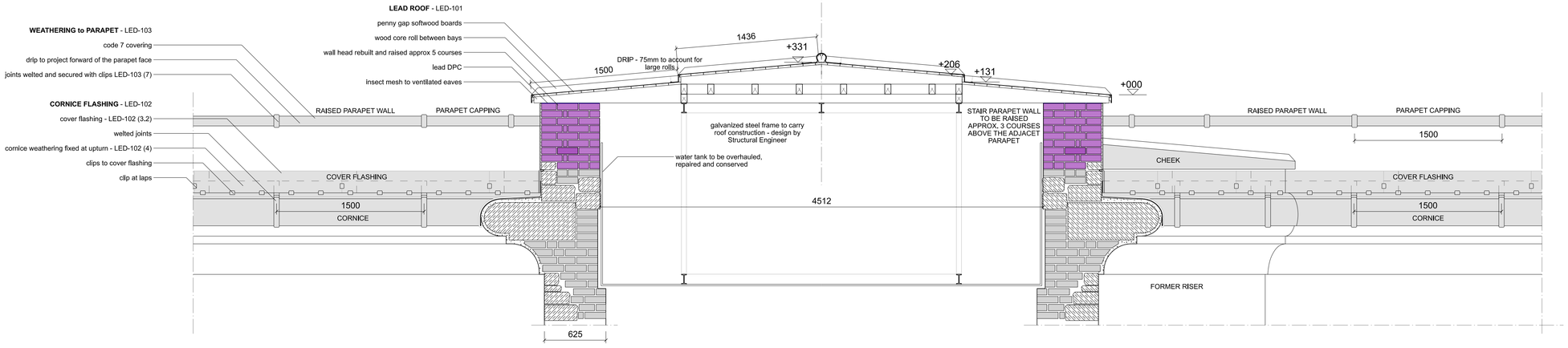
Job/Drawing No: CRP01-FCBS-1A-XX-DR-AA-3211
Revision: P02

CRQ - FLAX MILL PHASE 1 REPAIR
PROPOSED REPAIR METHOD
IRON BAND REMOVAL AT MASONRY PIER

Status: A4

Scale : NTS
Drawn: Bath Studio Checked: JS
FCBS Project No: 2027-1





Lead Roofing, Flashings, Cappings and Weathering

Lead Coverings Objective
To provide robust protection from rain to the parapets, cornice and water tank.

Method
Lead coverings fitted over prepared substrates.

Standards
In accordance with LSTA Guidance to suit exposed locations. Refer to detailed specifications for more detail, T-Code LED-101, LED-102 and LED-103.
Take care to review the wider scope of works to inform co-ordination of activities and setting out for the reinstatement of the parapet masonry.

WATER TANK spec ref LED-101

Description
Iron tank built into the head of the spiral stair. Historically used to store water and now disused.

Objective
Tank to be conserved and repaired in-situ. Now roof to provide a water and weather tight roof. Minimal impact of the iron tank.

Roof summary description
1. Masonry parapet raised to support roof over the level of the parapets to the main building.
2. Lead roof formed in bays with wood rolls all laid to 5-degree falls
3. Wood core rolls oversized to suit exposure and roof scale
4. Sheets laid with splash laps
5. Substrate of softwood laid with penny gaps
6. Substructure formed of treated timber frame formed over galvanized steel frame
7. Lead DPC where timber frame is set onto the wall head
8. Steel frame structure to be designed to fit tightly within the tank volume and assembled to prevent wind lift
9. Roof assembly to permit cross ventilation though ventilated eaves

Description by aspect
North - verge formed to drip into the gutter below, providing full protection to the masonry wall that runs across the face of the water tank.
East, South and West - Eaves formed as a drip with water shed onto the leaded cornice beneath.

RISER - spec ref LED-101

Description
Masonry built shaft at the east side of the stair core, Built as route for drain from roof gutters and for water tank pipe serving each floor. Not disused.

Objective
To provide a water and weather tight roof to the riser / shaft.

Roof summary description
1.Parapet masonry consolidated and adjusted to allow for roof to be formed in the frieze zone of the parapet.
2. Roof build like that of the water tank, treated softwood frame anchored over the masonry
3. Abutment flashing chased into the masonry at junctions

PARAPET CAPPING spec ref LED-103

Description
Raised masonry upstand over cornice formed as a frieze and providing ballast to counteract the rotation of the stone cornice. Formed of red clay bricks laid in lime mortar. Parapet is to be re-built to varying degrees. Top to be raised approx. 3 courses and capped in lead to prevent water ingress.

Objective
To provide a water and weather tight capping to the parapet to prevent the migration of rainwater into the wall core and down into the building. Measures to prevent rot of timber truss and to minimise the moisture content of the masonry walls.

Roof summary description
1. Lead sheet laid over consolidated and rebuilt parapet
2. Laid in sheets that extend to form a positive drip away from the face of the masonry
3. Sheets welted at the joints with clips to suit the exposure
4. Drip formed around a continuous clip

CORNICE spec ref LED-102

Description
Hard Limerick limestone masonry cornice rendered with roman cement, run in situ. Cornice of substantial proportions forming a large and prominent feature of the upper storey of the mill. Cornice to be repaired and re-rendered with new roman cement.

Objective
To provide a water and weather tight cover to the cornice.

Roof summary description
1. Lead sheet laid over prepared substrate, formed to falls
2. Lead to be formed to follow the profile of the cornice
3. Secured at the upper edge and clipped at the joints
4. Drip to be continuously clipped
5. Upper edge to be protected by a cover flashing fixed into a chase and clipped to suit exposure

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P01	18.02.2025	Issued for Stage 2A3 costing
P02	25.03.2025	Issued for Stage 2A3 Tender

Job/Drawing No
CRP01-FCBS-1A-02-DR-AA-4603

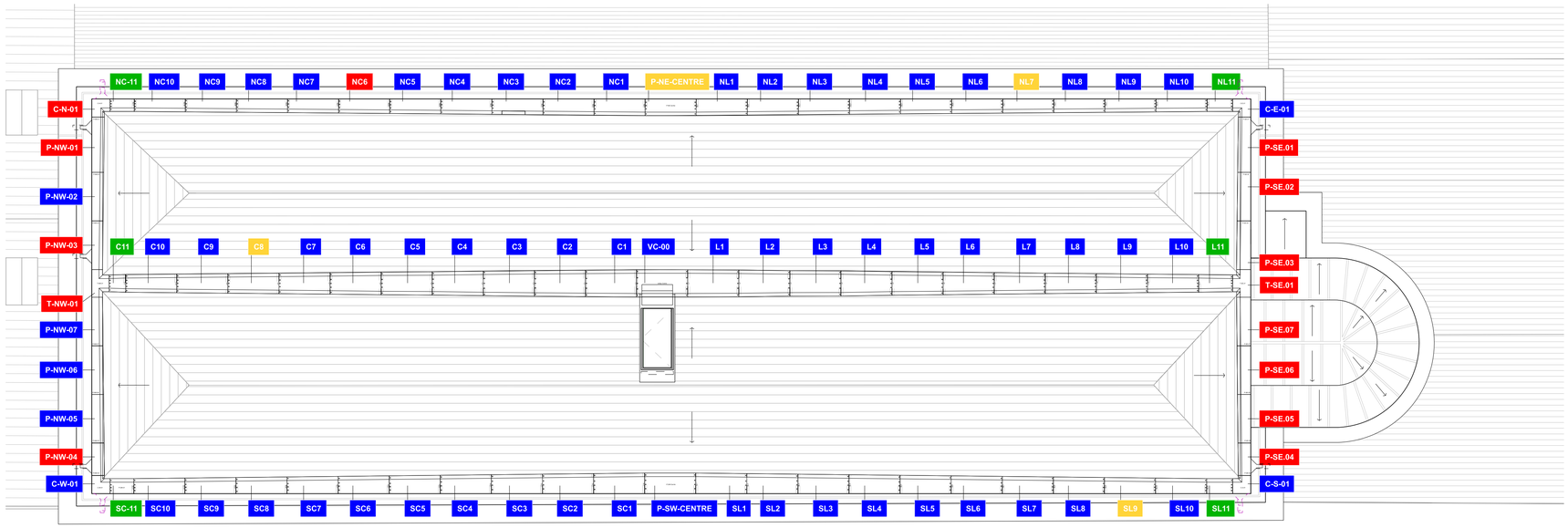
Revision
P02

CRQ - FLAX MILL PHASE 1 REPAIR
PROPOSED ROOF LEADWORK

Status
A4

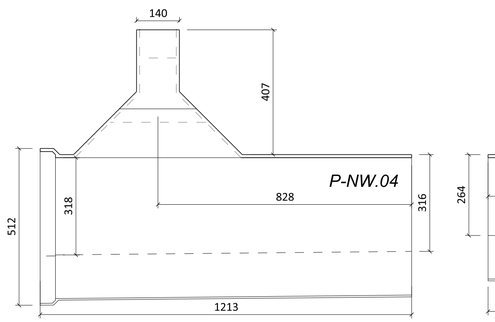
Scale : 1:25 @ A1
Drawn: Bath Studio Checked: JS

FCBS Project No: 2027-1

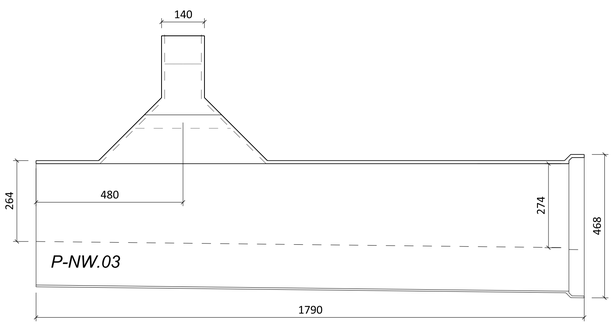


01 Gutter Overhaul/Removal/Replacement Strategy Plan

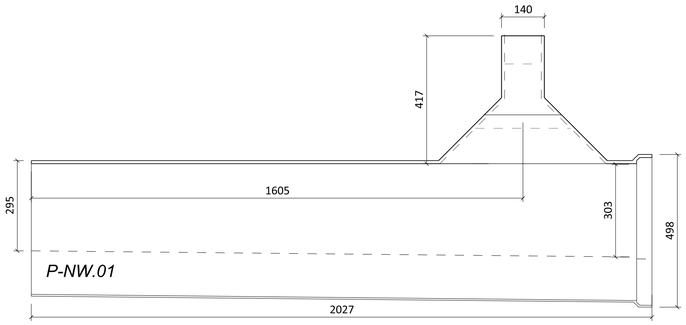
- Replace due to failure or design
- Provisional replacement based on in-situ assessment
- Provisional / Adaption to suit movement joint assembly
- Overhaul



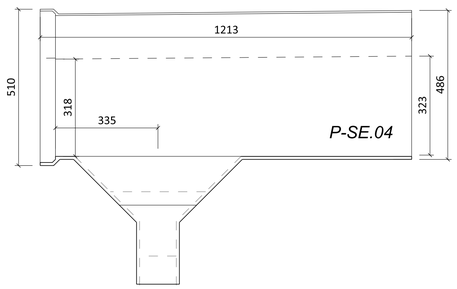
02 Proposed Replacement Gutter Casting P-NW.04
Plan View - 1:10 @ A1



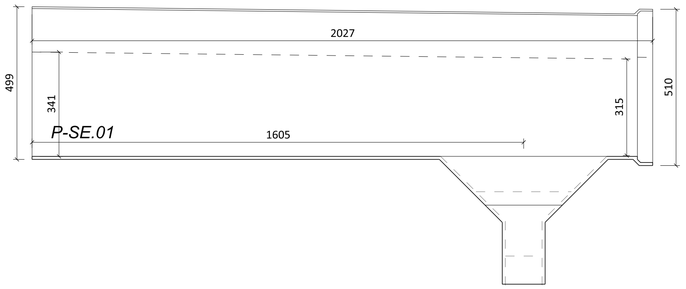
03 Proposed Replacement Gutter Casting P-NW.03
Plan View - 1:10 @ A1



04 Proposed Replacement Gutter Casting P-NW.04
Plan View - 1:10 @ A1



05 Proposed Replacement Gutter Casting P-SE.01
Plan View - 1:10 @ A1



06 Proposed Replacement Gutter Casting P-SE.04
Plan View - 1:10 @ A1

NOTE
Corner gutters identified as alternative locations for outlets.
Refer to drainage plan and elevations for more information.
Final location of outlets to be co-ordinated with below ground drainage and audit of most suitable route for the down pipes.

** all dimensions are indicative*
Fabrcation sizes to be based on assessment of the existing gutters and building parameters

REVISON	NOTE
P02	Alternative gutter location and note added





0 1 2 3 4 5m

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P01	18.02.25	Issued for 2A3 costing
P02	25.03.25	Issued for 2A3 Tender

Job/Drawing No
CRP01-FCBS-1A-XX-DR-AA-4604

Revision
P02

CRQ - FLAX MILL PHASE 1 REPAIR
PROPOSED GUTTER LAYOUT

Status
A4

Scale : 1:100 @ A1
Drawn: Bath Studio Checked: JS

FCBS Project No: 2027-1

E MASTERPLAN HERITAGE STRATEGY DRAWING

Masterplan Conservation Strategy Note

The following has been prepared to help indicate the scope and extent of demolition across phases I, II and III. This has been done to express the complexity of the site's evolution and the layering of past changes. It has been prepared to describe the extent to which the masterplan is guiding the retention and reuse of historic fabric. This is being led by a conservation philosophy that is seeing the retention, consolidation, repair and reuse of the historic structures as part of a multi-phase development

01. Flax Mill
01a. Main Mill – 1855
Phase I - Conserve and Repair, upper floor and roof.
Phase II – no works proposed
Phase III – Retain and Reuse

01b. Main Mill, Rear Extension c.1865, rebuilt 1955 and later.
Phase I – Removal of roof and upper walls to permit consolidation and repair of the upper storey.
Phase II activity - Peel back - Demolish rear extension to ground; reveal the rear elevation of the Main Mill to permit improved access for repair within Phase III.

02. Chimney Stack - *Conserve and Repair*, Phase III
Phase II - No works proposed

03. Boiler / Engine House
03a. Boiler House – 1853 and 1900
Phase II - No demolition activity proposed.
Phase III - Conserve and Repair / Retain and Reuse

03b – Gable Extension 1930s
Phase III – Peel back

03c – Side and Gable Extension 1947
Phase III – Peel back

04. Water Tank Building – 1851 / 1884
Phase II - No demolition activity proposed.
Phase III - Conserve and Repair

05. Infiltration Gallery
05a. Infiltration Gallery Plinth – 1850-1855
Phase II - No demolition activity proposed
Phase III - Conserve and Repair / Retain and Reuse

05b. Infiltration Gallery – Cold Store Shed c.1955 and 1960s
Phase II – No demolition activity proposed
Phase III – Peel back

06. Reservoir – 1850-55
Phase II – Retain and Reuse - Proposals to reinvigorate reservoir context as a new public open space. New filtration islands proposed within the reservoir.

07. Linen Store & Offices / Dairy Buildings
07a. Offices - 1855 – No demolition activity proposed.
Phase II - No works proposed save for minor consolidation of the gable where the former linen shed is removed.
Phase III – Conserve and Repair / Retain and Reuse

07b. Dairy Building - 1905 – Extension onto front of Offices
As 07a.

07c. Linen Store - 1855 – Demolish with Mitigation and Reuse
Linen Store, southeast element - General demolition including roof, walls and slab. Retention and reuse of external walls onto Stonetown Terrace and O'Callaghan Strand.
Linen Store, northwest element - Much altered single storey building between the linen store and Offices. Later C20th flat roof and shallow pitched roof structure to be demolished. Wall onto Stonetown terrace to be partially retained.

08. Workshop – c.1930s
Phase II - No demolition activity proposed
Phase III – Demolish

09. Cheese Plant / Packaging/ Store (Long Building)
09a. Long Building Fragment 1853 (Cheese Plant)
09b. Shop – 1853 façade / 1940s building and roof
09c. Packing Store – 1947
Phase II - No demolition activity proposed.
Phase III – Peel back and Reuse

09d. Offices – 1960s / Fragment of 1853 façade
Phase II - Demolish. Retain historic façade.
Demolition of this c.1960s reinforced concrete frame building. Retention of the surviving fragment of an earlier stone built single storey element that addresses the North Circular Road.

10. Office & Laboratory Building - 1910
Phase II – Demolish with Mitigation

11. Weaving Mill / Cold Store
11a. Weaving Mill 1855
Phase II - No demolition activity proposed
Phase III - Conserve and Repair / Retain and Reuse

11b. Weaving Mill Rear lean-to – 1960s
Phase II – Peel back and Reuse

11c. Weaving Mill – First floor and truss roof 1947 / 1951
Phase I – Remove dangerous materials and make safe to permit repair of main mill
Phase II - No demolition activity proposed
Phase III - Peel back and Reuse

12. Upper Reservoir - 1947
Phase II - Demolish - Proposal to demolish concrete water tanks and range of plant buildings.

13. Warehouse / Shipyard site – c.1990
Phase II – Remove and Redevelop - Proposal to demolish 1990s reinforced concrete structure.

14. Houses - 1854
Phase II – Demolish with Mitigation - Proposal to demolish to permit development of the site.

15. Quarry – pre 1850s
General clearance. No demolition of historic structures proposed.

16. Salesians Secondary School – Fernbank House c.1880
Phase II – Demolish with Mitigation - Proposal to demolish.

Mitigation
Building Recording will be carried out to the following buildings as part of the Phase II scope of work.

07. Linen Store - single story sheds inclusive of the office gable
10. Admin and Labs
14. Semi Detached Houses
16. Fernbank (discrete part of Salesians Secondary School)

In addition to recording a schedule of fabric worth salvage will be prepared for Fernbank House and the Semi-Detached Houses.

Reservoir piers will be recorded prior to their removal, when access allows for recording in the reservoir.

Key

Phase II Application Boundary
Curtilage of Historic Mill Site
Curtilage of Historic Shipyard Site

Key

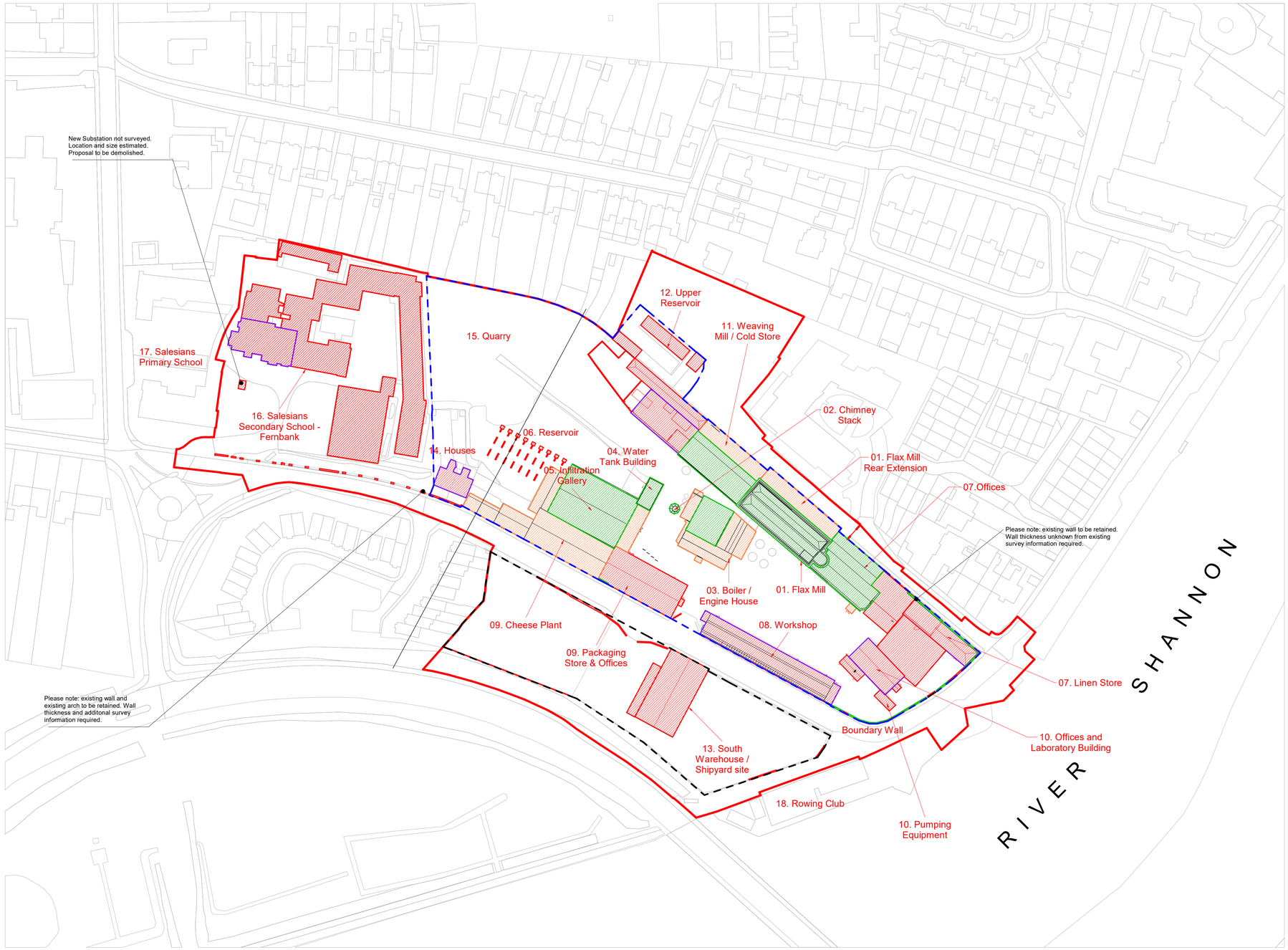
A. Conserve and Repair
Key historic structures that embody the greatest heritage significance and that will be subject to repair to preserve them and in preparation for adaptive reuse.

B. Retain and Reuse
Existing buildings identified for future reuse. To be described within Phase III application.

C. Peel back and Redevelop
Removal of elements that are typically of low and negative significance that inhibit the conservation and repair of the more culturally valuable aspects of the site and its buildings.

D. Remove
Structures that have been noted to be of negative significance or do not hold a heritage designation.

E. Remove with mitigation
Where this approach entails change to structures within the attendant grounds or with some potential to contain fabric of interest, mitigation measures are proposed.



1 Demolition Site Location Plan Conservation Strategy
1 : 1000

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Areas have been prepared for our client Limerick Twenty Thirty Strategic Development DAC are approximate only and have been measured from survey information drawings received on 11.09.2020 GROSS AREA: Measured Buildings Survey (Blocks 1-14). Net Internal Areas are annotated and approximate only. Construction tolerances, workmanship and design by others may affect stated areas. The existing building has been surveyed in a sketched, and not to any existing drawn plans that may also affect the stated areas. survey information drawings received on 11.09.2020
All areas & dimensions are to be confirmed on site prior to taking any decisions on the basis of these predictions, whether as to project viability, pre-letting, lease agreements or otherwise, and should include due allowance for the increases and decreases inherent in the design development and construction processes.

0 20 40 m
Scale 1:1000

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Rev	Status	Date
1	Issued for Information	13.06.25
2	Issued for AIDT Stage 2A2 Design Freeze	04.07.25
3	Issued for Information	15.07.25
01	Draft Planning Issue	22.08.25

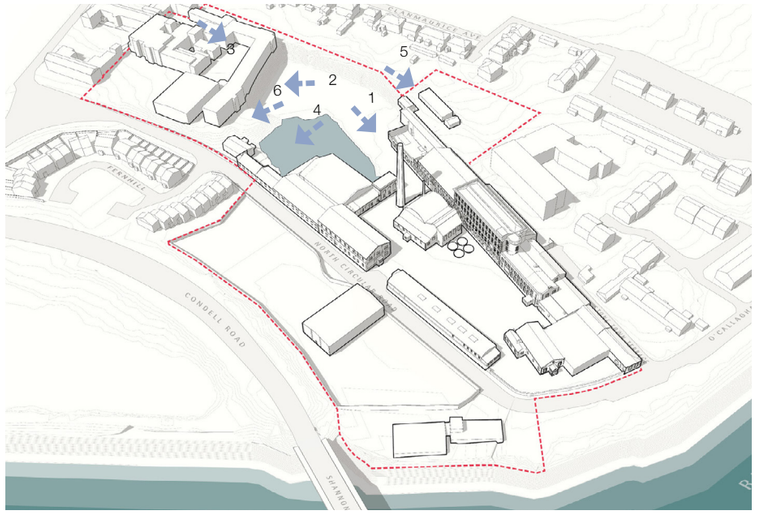
Job/Drawing No: CRQMP-FCBS-ZZ-XX-DR-AA-1901
Revision: P01
Status:
Cleeves Limerick
Heritage & Conservation Strategy-Site Plan
Scale 1 : 1000@A1 Drawn London
Date 05/01/25 Checked JS / GW FCBS project no 2027
Do not scale All dimensions to be checked on site

F SITE PHOTOS

G EXISTING SITE

Site Photographs

Key to Photographs





1 Cleeves Flaxmill



2 Flaxmill Studio Building



3 Infiltration Galleries and Quarry



4 View from inside the Flaxmill to the river Shannon



5 The retaining wall between the Quarry site and Stonetown Terrace

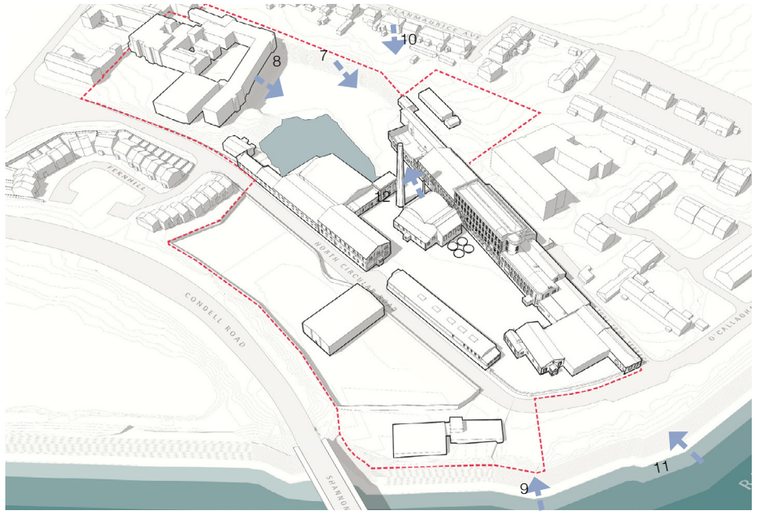


6 View from Stonetown Terrace

G EXISTING SITE

Site Photographs

Key to Photographs





7 North Circular Road Terraces



10 Cleeves Flaxmill Quarry



11 Stonetown Terrace Site



8 Overlooking the Quarry, Infiltration Gallery and Flaxmill



9 The Quarry



12 View of site from the River Shannon

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