3. DESIGN & ACCESS STATEMENT

3.1 SITE ANALYSIS INTRODUCTION

The site's built heritage significance principally derives from its role in the defence of London in the late nineteenth century and strategic armaments research and development during the twentieth century.

The site contains designated heritage assets which include buildings; Q14 a Grade II Listed building and non-designated buildings which include Q13.

Q14 is of considerable, national historic interest through its association with William Penney Chief Superintendent of Armaments Research and a collection of scientists who worked on Britain's atomic bomb development programme. It also holds historic interest as the only building nationally where the prototype atomic bomb was put together and was thus instrumental in the detonation of Britain's first atomic bomb in 1952.

Both buildings form the detailed planning application element of the larger hybrid planning application for Fort Halstead.

THE ATOMIC BOMB, HIGH EXPLOSIVES RESEARCH (HER)

In January 1947, the British cabinet decided to proceed with the development of the atomic bomb at Fort Halstead. To mask its true purpose the atomic work was code named High Explosives Research (HER). Existing buildings were also adapted for use as workshops and stores and significant new development occurred to the northeast of the Fort in the Q area.

KEY

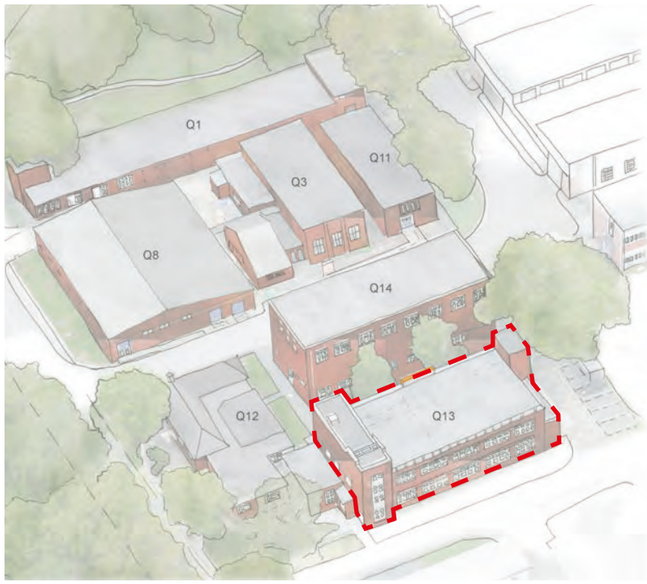
* Penney – (Q14)
* The Q – (Q13)

* Penney and The Q represent proposed names of the buildings throughout this document

Aerial view: The Fort and Q buildings in close proximity to Grade II Listed Q14 building (Penney)

Circa 1939 **Q13** Laboratory Block / CSAR chemical lab

RETAINED




Q13 – East elevation

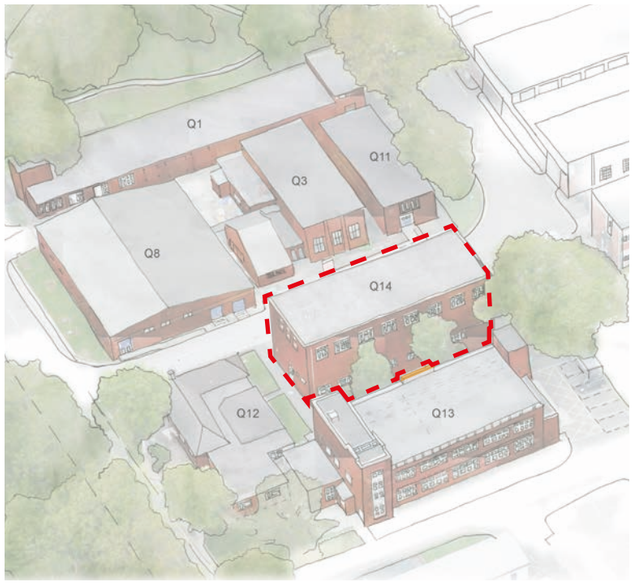

Q13 – South-east elevation


Q13 – North-west elevation


Q13 – South elevation

1949–1952 **Q14** Laboratory block; workshop, offices
Grade II Listed
(List Entry Number 1396578)

RETAINED




Q14 – East elevation

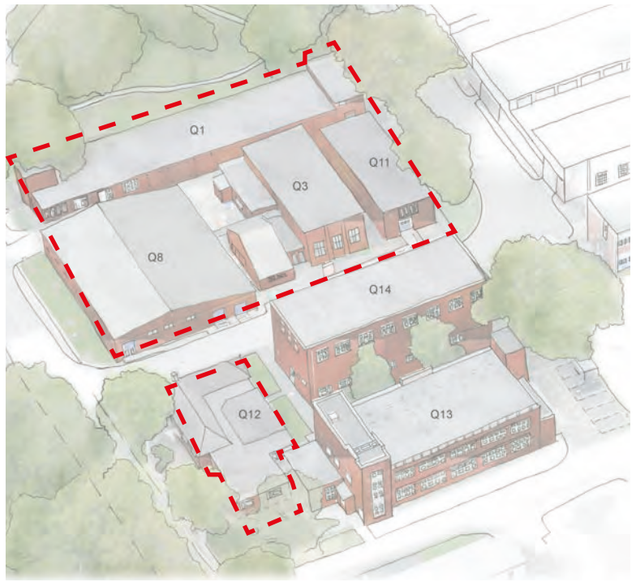

Q14 –West elevation


Q14 – North/West elevation


Q14 – South elevation (behind Q12)

1944–1946 **Q1** CEAD experimental buildings
1947–1949 **Q3** Workshop; office, storage
1957–1961 **Q12** Doctors surgery; offices
1961–1967 **Q11** Warehouse
1985–1993 **Q8** Library block; testing facility

TO BE DEMOLISHED




Q1


Q8/Q3


Q11


Q12

3.1 SITE ANALYSIS
RETENTION AND DEMOLITION PLAN

The buildings within the red line boundary proposed for:

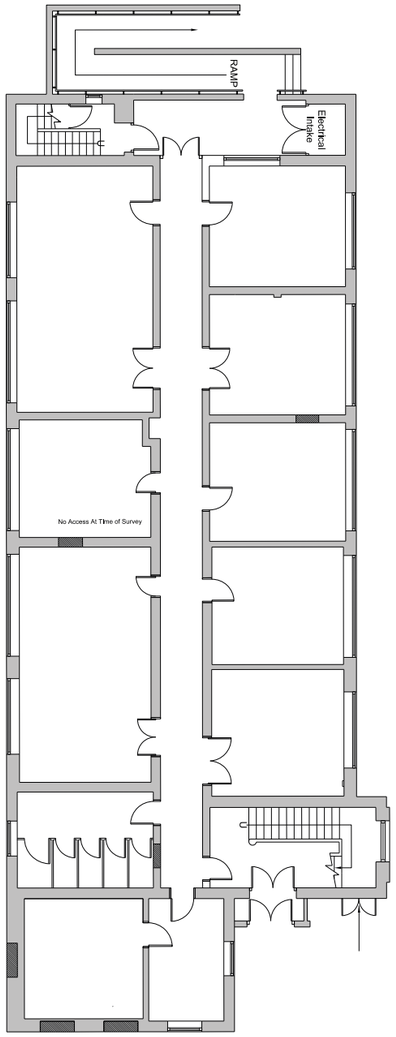
Retention: Q13 and Q14
Demolition: Q12, H8, H33.1 and partial elements of Q13-14

Please refer to the parameter plan (00556I_PP04_P1_Demolition Plan) for full demolition information outside of the Village Centre red line boundary.

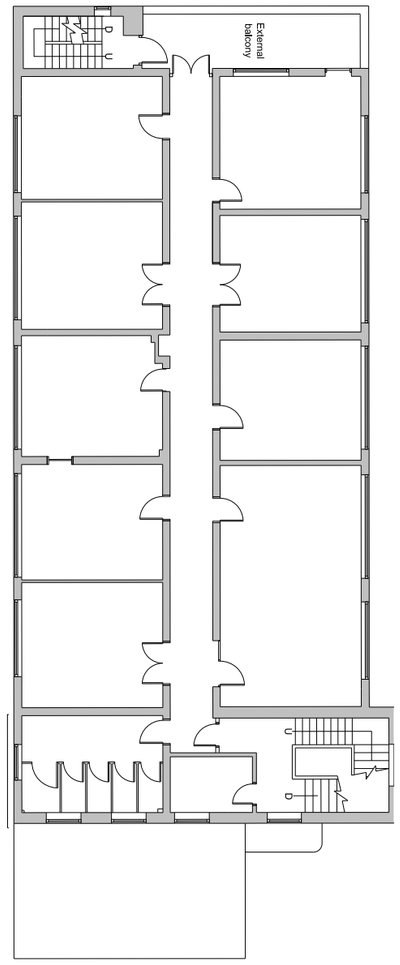
Detailed planning application boundary

Proposed demolition

Extract of planning drawing 00556J_MP_S02_Village Centre Proposed Demolition



Ground floor
NTS



First floor
NTS

Q13 built circa 1939
Use: chemical lab

The following paragraphs have been extracted from the Built Heritage Statement (site wide) prepared by CGMS.

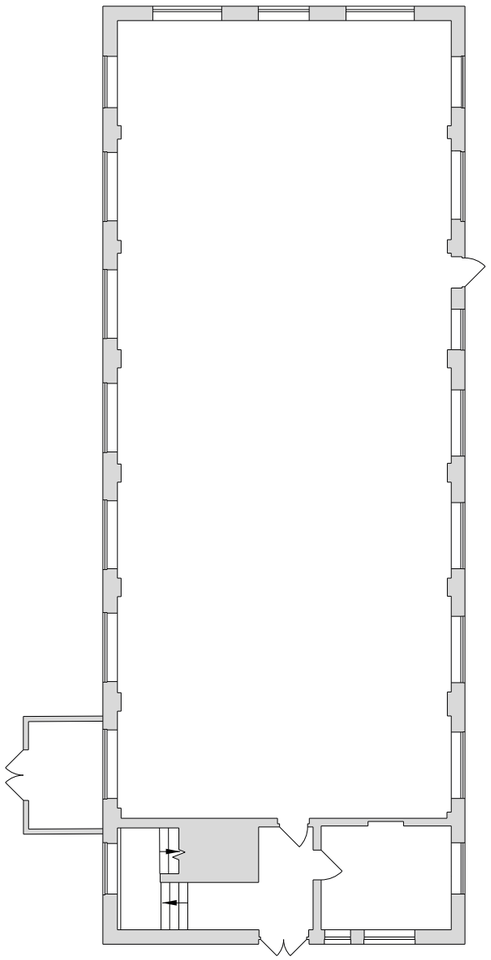
DESCRIPTION

Q13 was built circa 1939 and was originally designed as a chemical laboratory, serving the original phase of the Armaments Research Department (ARD) and was later used as the headquarters stores. It is a two-storey building with 1930s detailing and horizontal glazing bands. The building has additional massing to the southernmost bay which contains an impressive stairwell and is lit by a full height window. The building is entered from this southern bay via a porch and well finished oak doors, above these the first-floor window surround is emphasised by horizontally projecting bricks. Behind this massing the main body of the building has a flat roof with metal railings around it, giving the impression of a ship's deck.

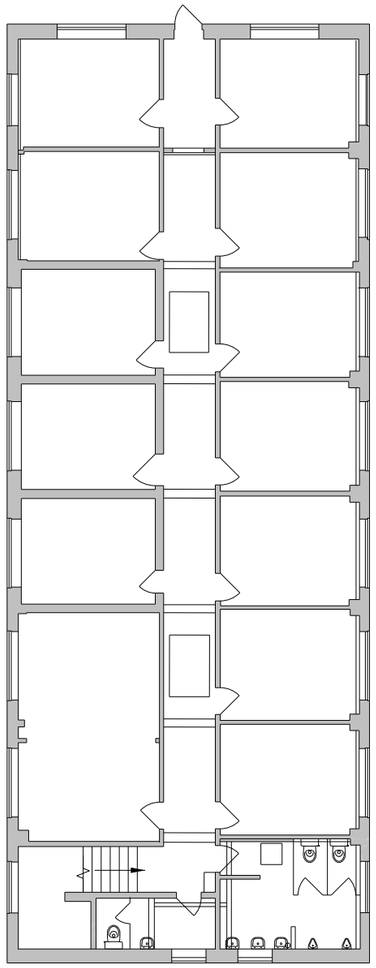
The building is located within the Fort Halstead complex, surrounded by hundreds of other buildings and structures related to its function as a military research site; these structures have a predominantly utilitarian character and range from subterranean to three storeys in height, with the tallest building reaching 22 metres above ground level. The building's immediate setting is formed by the Q Area, which incorporates closely packed buildings ranging from the 1930s to the late twentieth century in date, and was surrounded by a security fence during the High Explosive Research (HER) phase. Crow Road runs to the south of this area and separates it from the Fort. Areas of hard standing surround the building on all sides but are interspersed with grassed areas planted with mature trees. Intervisibility with the wider surroundings is restricted by the density of surrounding built form.

Q13 is a prominent building within the Q area, and has architectural value derived from its 1930s design and detailing, though this has been slightly reduced due to the recent replacement of the original Crittall style windows with PVCu. The building holds historic value as a relatively well-preserved example of the buildings constructed for the ARD and its association with the work they undertook into the research and development of armaments.

3.1 SITE ANALYSIS
THE PENNEY (Q14)



Ground floor
NTS



First floor
NTS

First floor room overlooking Q13

Ground floor / suspended ceiling / blocked window openings

Ground floor / suspended ceiling / blocked window openings on west elevation

Q14 designed in 1949 and built by 1952
Use: workshop and offices

INTRODUCTION

Building Q14 is Grade II listed (List Entry Number: 1396578). The following paragraphs have been extracted from the Q14 Built Heritage Statement prepared by CGMS.

DESCRIPTION

Q14 is a two-storey, flat concrete roofed building with a rectangular platform. It is built in red brick laid in stretcher bond encasing a steel frame structure. The main entrance to the building was originally to the south elevation through glazed double doors. A further pedestrian entrance is located on the east elevation, and there is evidence of a former doorway at the north east end of the building which has now been blocked (neither of these doorways are original). A former, large equipment entrance to the south west has been blocked but retains its original exterior wall light. This door head is suggestive of the former presence of a roller shutter door, now partly obscured by a later plant room. The form of the original fenestration to the west and north elevations remains legible as double-height windows to the ground floor to light the former workshop inside. These large openings are now bricked up with smaller ground-floor windows inserted. Ground floor windows on the east elevation are later insertions. All first-floor windows are PVCu replacements although re-use original window openings. There is a late twentieth-century fire escape staircase to the north elevation.

The ground floor comprises a double-height workshop space which has a later inserted ceiling. A small kitchen area and the principal, dog-leg staircase occupy the southern-most bay of the building. An English Heritage internal inspection in May 2008 confirmed steel framing in the ceiling void of the workshop area although it is unknown whether this was structural or a gantry for the travelling crane which is known to have been here originally. Steel pillars are located between each window bay but are covered by boxing out. The walls are painted brick with a simple skirting. The floor is in a poor state of repair and has been partially covered with carpet tiles.

The first floor has a central spine corridor lit by two roof lights. Regularly sized rooms are located to the east and west sides. Dividing walls between offices are built of solid painted brick some with boxing out in front. Two door architraves have evidence of former strong room type doors.

The building is located within the Fort Halstead complex, surrounded by hundreds of other buildings and structures related to its function as a former mobilisation centre and military research site. The listed building's immediate setting is formed by the Q enclave, incorporating several other brick built structures. Crow Drive runs to the south of this enclave and separates the area from the Fort Halstead Scheduled Monument. Areas of hard standing surround the building on all sides but are interspersed with grassed areas planted with mature trees.

HISTORIC INTEREST

Q14 was designed in 1949 and had been built by 1952. It was originally known as Building 27 and was used to assemble of the atomic bomb prototype. It has undergone a series of alterations during the late twentieth century, including additional entrances, an external fire escape staircase, additional ground floor windows to the east elevation, alteration of internal partitions and insertion of a suspended ceiling.

Q14 is of considerable, national historic interest through its association with William Penney Chief Superintendent of Armaments Research and a collection of scientists who worked on Britain's atomic bomb development programme. The association is celebrated by a memorial plaque.

It also holds historic interest as the only building nationally where the prototype atomic bomb was put together and was thus instrumental in the detonation of Britain's first atomic bomb in 1952.

ARCHITECTURAL INTEREST

The building's unique architectural interest is derived from how its form and design reflect its function as a purpose-built workshop for Britain's atomic bomb development programme. This value is principally manifest in the double height ground floor workshop with gantry for a travelling crane, as well as evidence of former strong rooms on the first floor.

The building's form and design also express the secrecy surrounding the High Explosive Research (HER) programme and the work that was being carried out inside. The HER secure boundary was drawn to the east of Q14 and therefore the building's east elevation at ground floor level was blind on the public-facing side. Double height windows were placed on the north and west sides probably to maximise daylight for the work being carried out inside, though these were glazed with obscured glass to the lower half and had internal metal grilles.

The building's functional architecture reflects both the urgency with which the HER needed the new purpose-built buildings, and the rise of modernism, which championed the idea that form should follow function. The building's rectangular shape, lack of ornamentation, use of metal frame and concrete flat roof are illustrative of this period of military architecture.

SUMMARY

In terms of a significance hierarchy, those elements of the building and its setting that date to the HER phase are of the highest significance relative to the building. Most of the more recent alterations and additions, such as blocking of original windows and doors, insertion of new windows on the east elevation,installation of suspended ceilings, PVCu windows and fire escape staircase are not of special interest and are considered to have had a detrimental impact on the significance of the asset.

3.2 CONSTRAINTS & OPPORTUNITIES

Existing site: Industrial buildings and sheds/hard standing.
Designated assets: The Fort (Scheduled Monument) and Grade II Listed Penney (Q14).

Removal of existing buildings including Q12. The removal of Q12 reveals the original entrance of Q14. It also reveals the façades of Q13-14 viewed from the Fort.

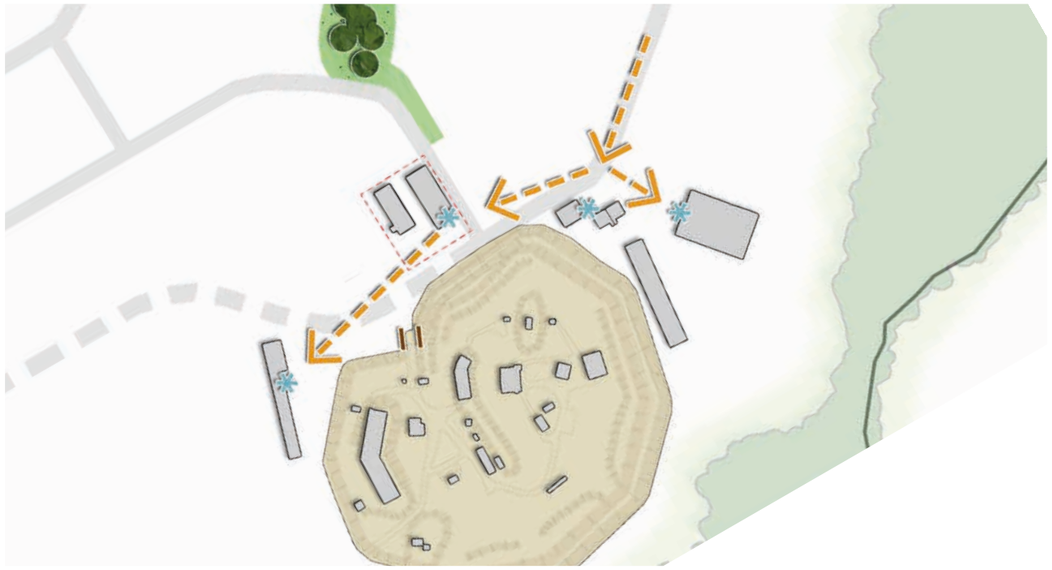
Retention of key existing buildings around the Fort to ensure the setting of the Fort is protected and existing buildings remain the nucleus of the development.

Opportunity for new development which respects the existing buildings, the Fort and its historic setting.

1

* Designated assets:
The Fort (Scheduled Monument) and the Grade II Listed Penney building (Q14) alongside the retention of key existing buildings.

2



*Sequence of vistas of existing buildings create a historic narrative along Crow Drive.

3

New public spaces create a setting for the Grade II Listed Penney building (Q14) and an interface with the Fort and the Village Green.

4

Opportunity to frame new public spaces with built form and create key features.

3.4 PROPOSED LAYOUT

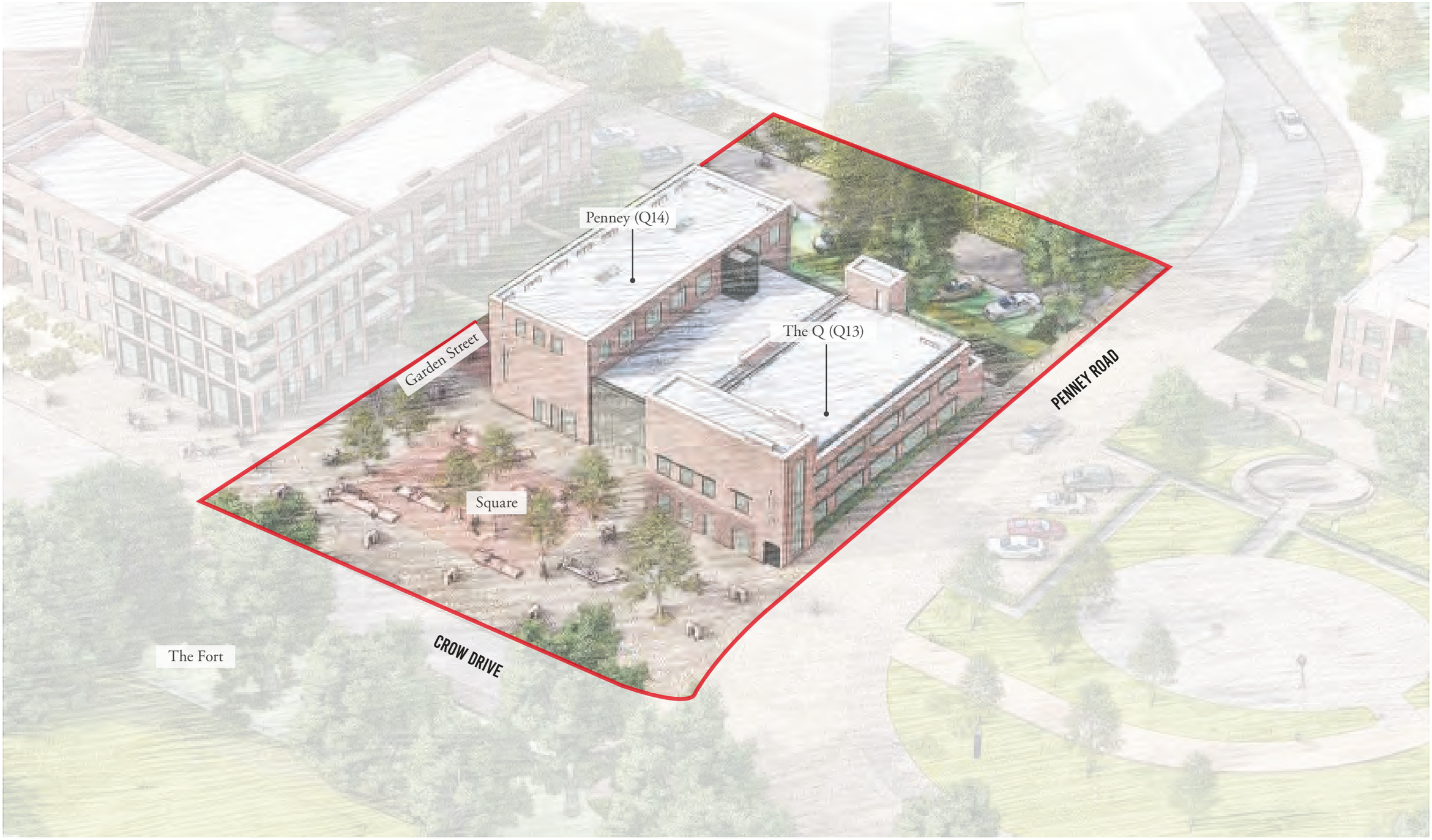
The restoration of Penney (Q14) and The Q (Q13) will provide flexible working accommodation.

The proposed new atrium will bring the two buildings together as a modern hub for employment.

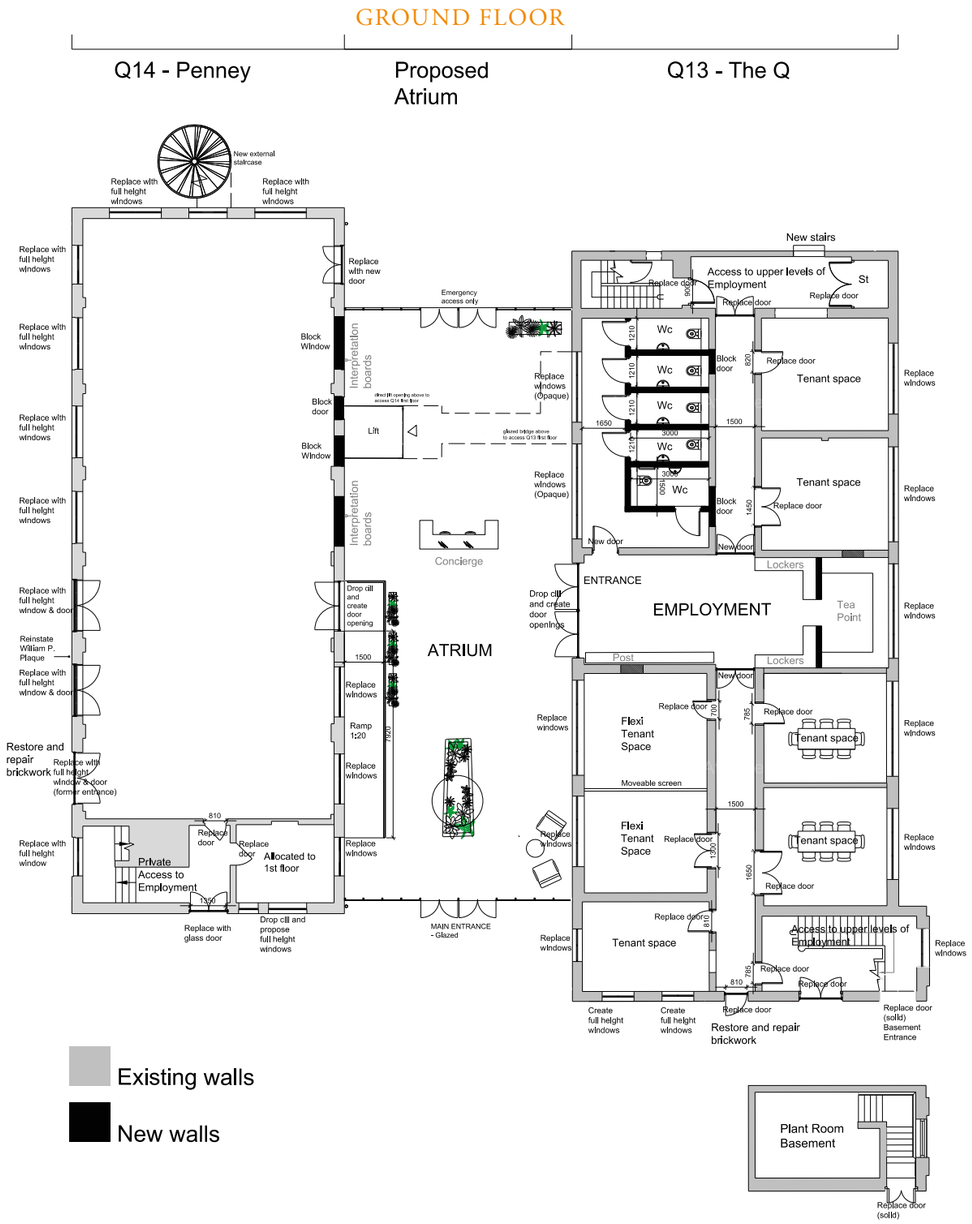
The buildings will be set on a new square which provides an important interface with the Fort.

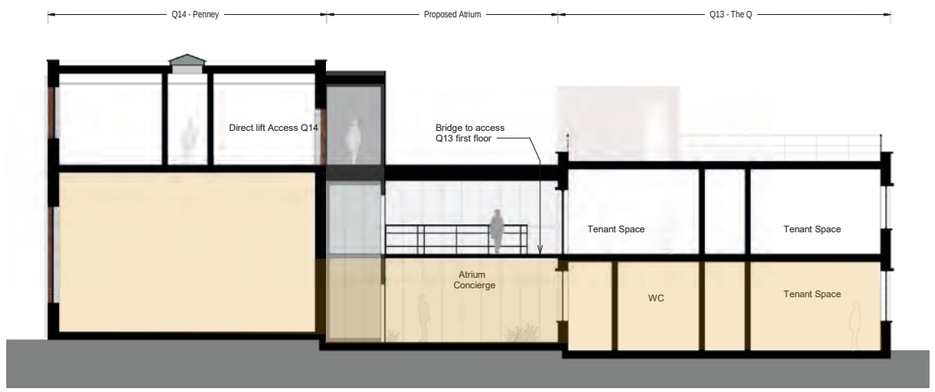
KEY

- Detailed planning application boundary
- 1 The Fort
- 2 Penney (Q14) (Grade II* Listed)
- 3 The Q (Q13)
- 4 Proposed Atrium
- 5 The Square
- 6 Garden Street
- 7 Parking
- 8 Cycle / Bin storage


Penney (Q14)
The Q (Q13)
Garden Street
PENNEY ROAD
Square
CROW DRIVE
The Fort

3.6 PROPOSED PLANS
PENNEY (Q14) – LISTED BUILDING CONSENT
THE Q (Q13)

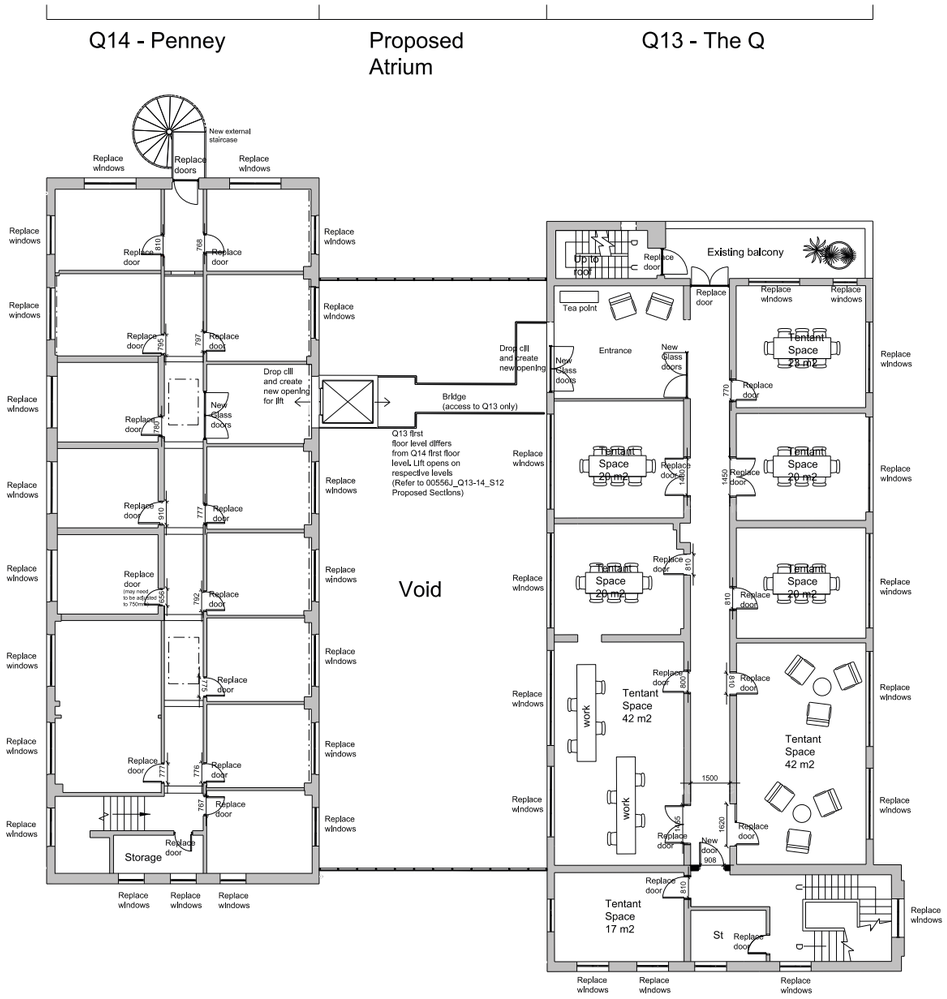


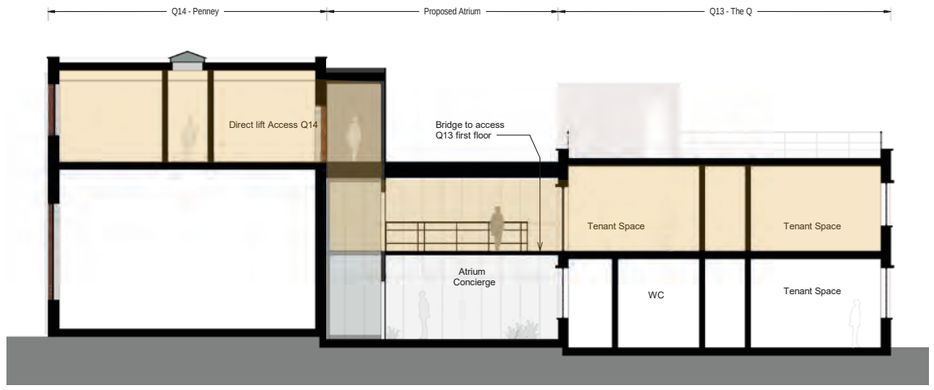


GROUND FLOOR KEY

3.6 PROPOSED PLANS
PENNEY (Q14) – LISTED BUILDING CONSENT
THE Q (Q13)

FIRST FLOOR





FIRST FLOOR KEY

3.7 PROPOSED ELEVATIONS PENNEY (Q14) & THE Q (Q13)

GENERAL NOTES

- The original window design from the 1949 plans for the Penney (Q14) and plans from 1939 for The Q (Q13) have been re-instated.
- Black metal Crittall style windows to replace all windows (a T-profile is mandatory).
- The condition of the walls will need to be investigated on site during the opening up works. There are small areas of demolition that could be used to source reclaimed bricks for making good the scarred elevations.
- The making good of scarred brickwork assumes specialist bricklayers. Scarring to be minimal by use of contemporary brick detailing.

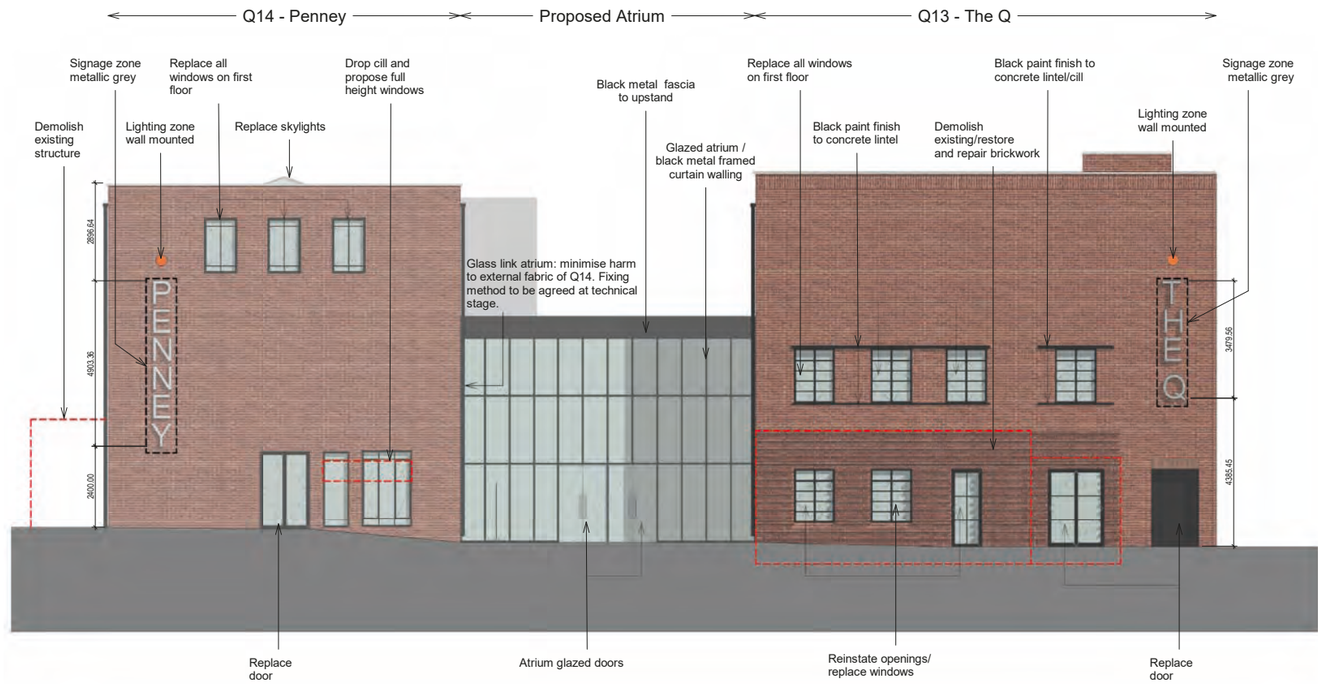
NOTES FOR PENNEY (Q14)

1. Re-open former entrances
2. Remove later additions (plant room)
3. Reinstate original plaque unveiled by William Penney
4. Reinstate proportions of double height window openings

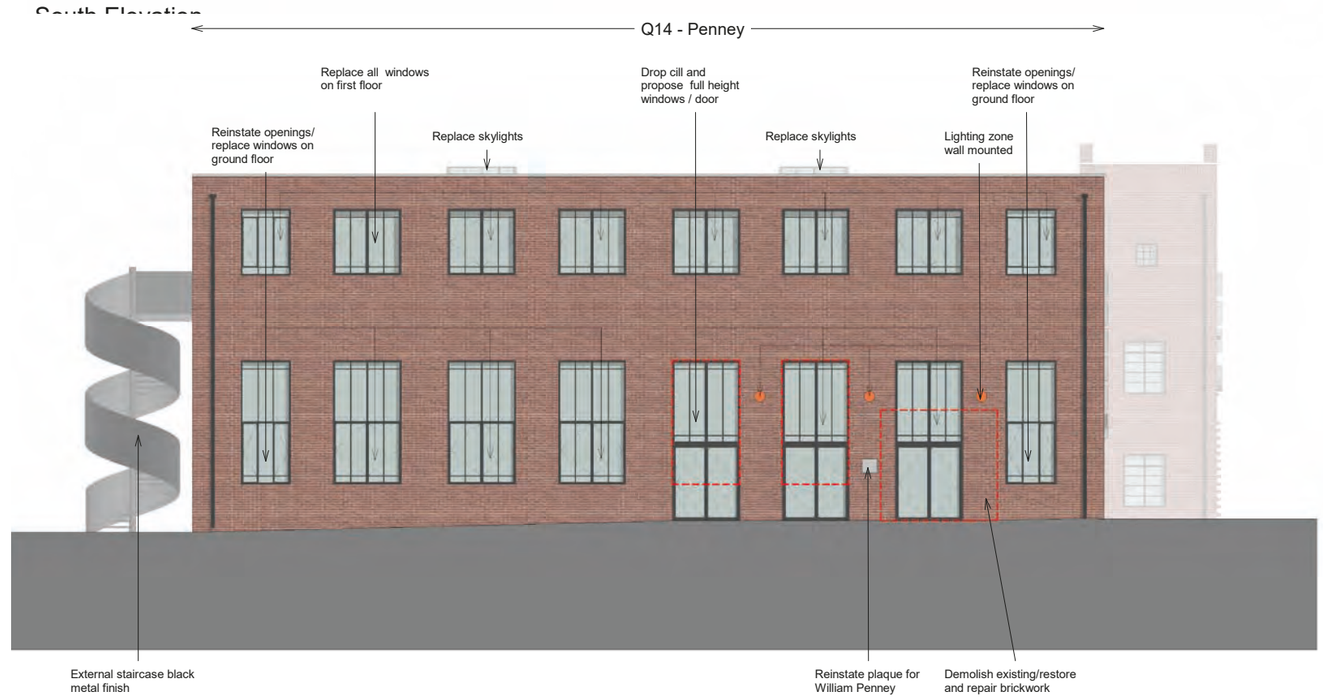
NOTES FOR THE Q (Q13)

5. Remove one-storey element to front elevation
6. Restore scarring with contemporary brick detailing

South elevation (facing Crow Drive)

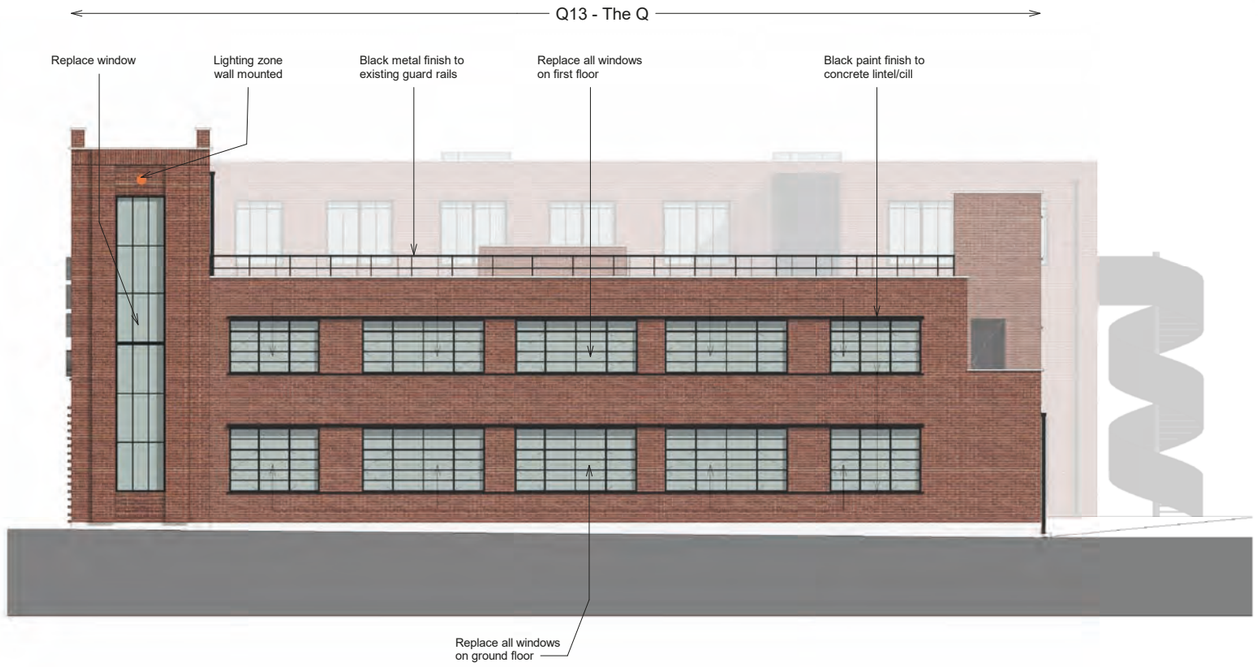


West elevation

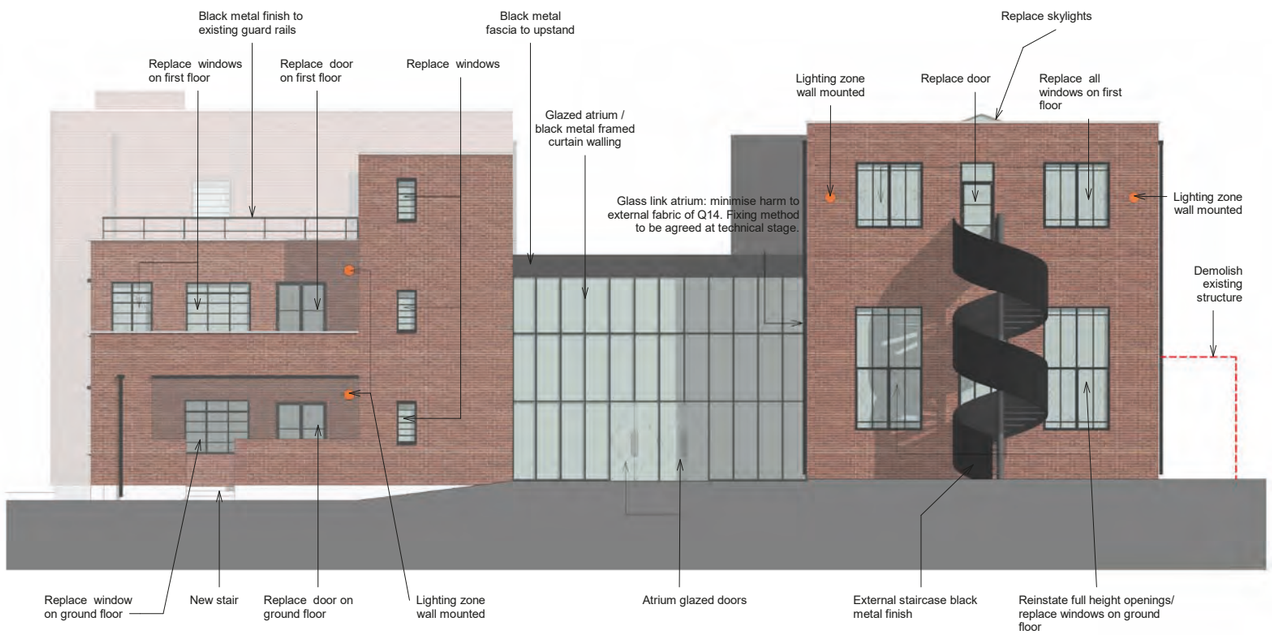


3.7 PROPOSED ELEVATIONS
PENNEY (Q14) & THE Q (Q13)

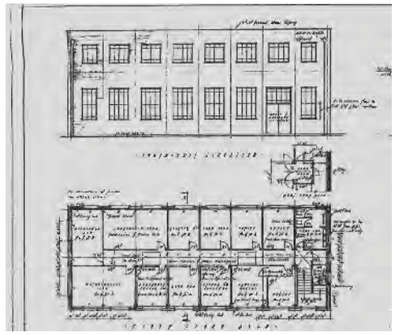
East elevation (facing Penney Road)



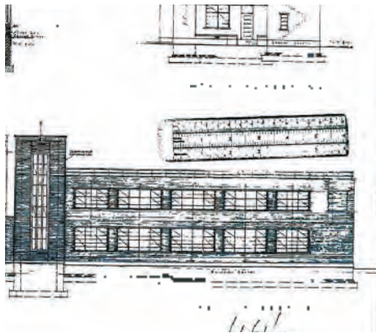
North Elevation



REINSTATE:



Q14 Window plans – 1949



Q13 Window plans – 1939

Crittall style windows – T-bar profile

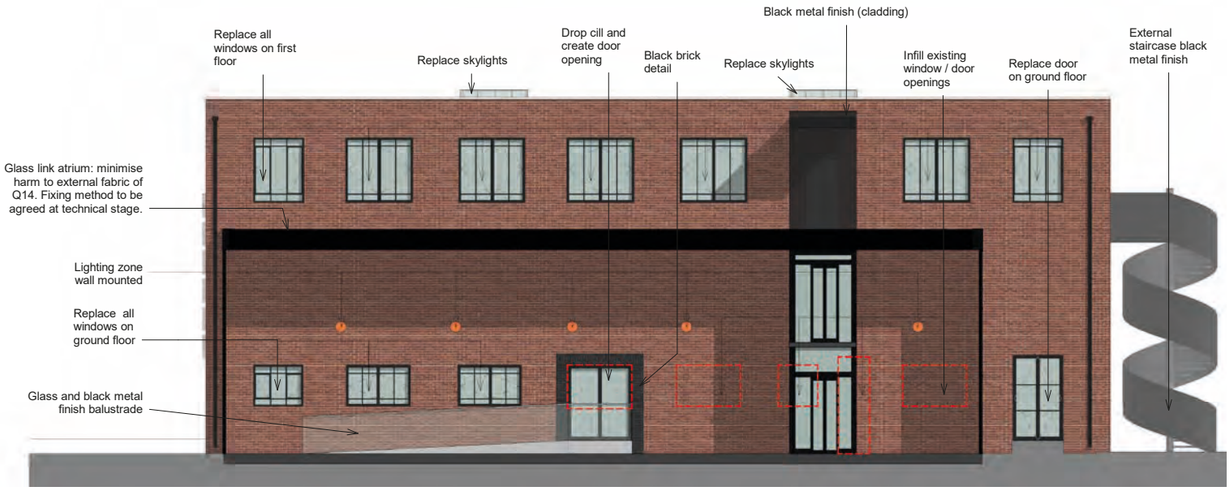
Plaque to be installed on west elevation by the entrance doors

NEW ELEMENTS:

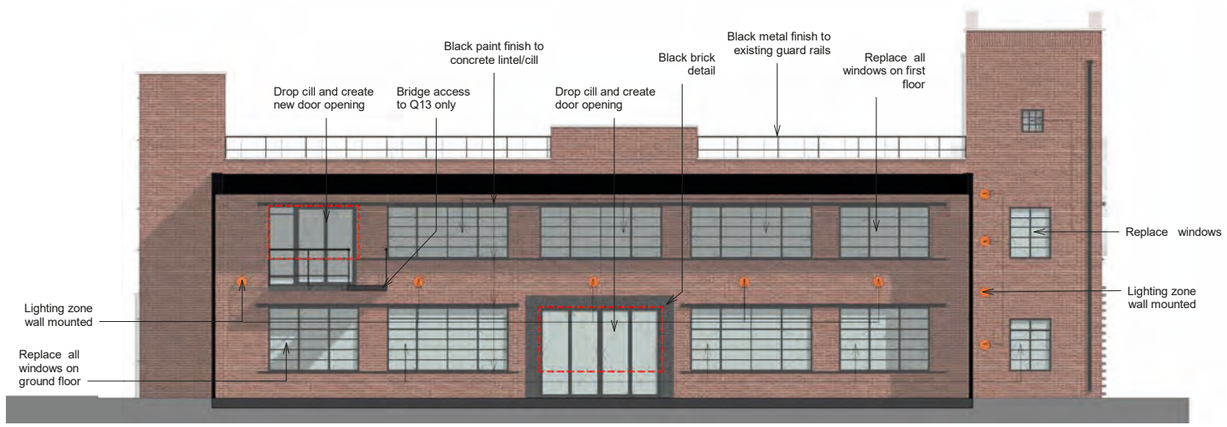
External staircase

Contemporary brick detailing

3.8 PROPOSED SECTIONS / ATRIUM
PENNEY (Q14) & THE Q (Q13)

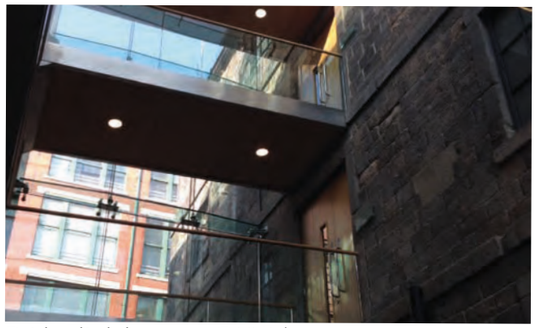


Section – East elevation of Q14



Section – West elevation of Q13

Lift to be glazed and of a contemporary design



Bridge link between Q13/14

Minimal fixings to existing buildings

Glass lift abutting existing building

Simple, utilitarian glazed link

3.8 PROPOSED SECTIONS / ATRIUM PENNEY (Q14) & THE Q (Q13)

Section through the Atrium

The Atrium

FUNCTION

A new glazed atrium will bring together the Penney (Q14) and The Q (Q13) creating a joint space for the employment uses designated for both buildings.

The atrium connects the two buildings with minimal impact to the existing building fabric. New openings at ground level on both buildings will support horizontal movement whilst a contemporary lift abutting the Penney (Q14) will provide vertical movement to the upper floors. A new bridge will connect the lift and The Q (Q13) at upper level.

THE DESIGN

The atrium design is simple and utilitarian reflecting the architecture of the existing buildings. The new solid roof form and glazed walls were chosen to provide daylight and contrast to the existing buildings making it clear that the atrium is a contemporary addition.

FIXING METHOD

The fixing method (to be approved at technical stage) should ensure minimal impact to the building fabric of the Penney (Q14). There are several strategies that can be explored as follows:

- The use of The Q (Q13) as the primary source of support;
- Minimal mechanical fixings to the facade of the Penney (Q14);
- Exploration of sealants that could prove reversible;
- Secondary structures within the atrium to support atrium roof.

KEY

1. Brown-red brick to match existing*
2. Black brick (soldier course)
3. Black brick (stretcher course)
4. Black Crittall style windows (mandatory T-shape glazing bars)
5. Black Crittall style doors (mandatory T-shape glazing bars)
6. Black curtain walling for Atrium
7. Black metal finish
8. Black paint finish: lintels/cills
9. Signage metallic grey*
10. Lighting: Wall mounted grey metallic RAL 9007
11. Glazed elements

*elements don't appear in this view

3.9 PROPOSED STREET SCENE
PENNEY (Q14) & THE Q (Q13)

3.9 PROPOSED STREET SCENE
PENNEY (Q14) & THE Q (Q13)

Street Elevation South