

JEWRY WALL MUSEUM & VAUGHAN
COLLEGE, LEICESTER
DESIGN AND ACCESS STATEMENT
AUGUST 2016



•
Levitata

•
Levitate

CONTENTS

	page
1. Introduction	4
2. Walkway	7
3. Vaughan College terrace	14
4. Vaughan College display case	16
5. Vaughan College new lift and stair	17
6. St Nicholas Walk repairs	20
7. Access statement	21
8. Bibliography	22



RIGHT:
AERIAL PHOTOGRAPH OF
THE SITE SHOWING THE SITE

JEWRY WALL MUSEUM & VAUGHAN COLLEGE

I.0 INTRODUCTION

Levitate Architecture and Design Studio Limited was appointed by Leicester City Council in June 2014 to carry out a feasibility study and prepare an access solution to the Jewry Wall Museum, located within the lower ground floor of Vaughan College. Disabled access is currently via the car park at the rear of the building. This study complemented the Connected Leicester initiative and sought to improve connections between the city centre and the Jewry Wall Museum.

The conclusion of this study was that a level walkway giving access from St Nicholas Circle to the upper ground floor of Vaughan College, combined with a new lift and stair, would be the best solution to the problem of the existing poor disabled access.

Since then, LCC have acquired the Vaughan College building from the University of Leicester. The Jewry Wall Museum, which currently occupies the lower

ground floor, will extend into the upper ground floor, previously occupied by the University of Leicester. There is at present no access between the Jewry Wall Museum and the Vaughan College demise.

Statutory protection

Jewry Wall is one of the largest upstanding civilian Roman remains in the UK, and forms part of the remains of a larger bath complex that surrounds it. The wall is a grade I listed building as well as being part of the Scheduled Ancient Monument that covers the remains of the baths. The Jewry Wall itself is in the guardianship of the Secretary of State in the care of English Heritage. The baths site is in the ownership and management of LCC.

Vaughan College is a grade II listed building built in 1962 that houses the LCC Jewry Wall Museum on the lower ground floor, which is dedicated to archaeological

history of Leicester. The building was built jointly for the University of Leicester's adult education department and LCC's Jewry Wall Museum. It has remained in this use until 2013 when the University of Leicester moved all teaching to its main campus.

Existing site

Ground levels on St Nicholas Circle adjacent to the Roman remains vary between 62.09m AOD at the west (Vaughan College) end and 63.26m AOD at the east (St Nicholas Church) end. The existing Museum entrance is at a level of 58.81m AOD, the main entrance to Vaughan College and entrance terrace is at a level of 63.36m AOD.

At present, access to the Museum is via steps down to lower ground floor. Access to Vaughan College is via steps up to upper ground floor level. Disabled access to the Museum is via the car park on Welles Street.



TOP LEFT:
VIEW OF VAUGHAN
COLLEGE AND THE
ROMAN REMAINS FROM ST
NICHOLAS CIRCLE

LEFT:
VIEW OF THE ROMAN
REMAINS AND JEWRY WALL
FROM THE MUSEUM

Levitate

Disabled access to Vaughan College is via lift accessed from the same car park. This lift, located at the very north of the building in an extension dating from 1998, is the only lift within the building. It does not provide a link between the Museum and the College.

St Nicholas Walk sits between the Jewry Wall and St Nicholas Church, linking St Nicholas Circle with Welles Street. The path is currently in a poor state of repair, with tarmac wearing through to the cobbles beneath, cracking and crumbling at the edges. The existing balustrade and handrail between the path and the Jewry Wall is also in poor condition, with evidence of decay in the feet and foundations of some of the posts.

Design and Access Statement

This report forms the Design and Access Statement for co-ordinated applications for planning permission, listed building consent and scheduled monument consent for the following works:

- Form a level walkway from the public pavement adjacent to St Nicholas's Church to the upper ground floor level of Vaughan College, arriving on the entrance terrace. This includes works to form the structure of the walkway within the boundary of the scheduled ancient monument.
- Install a screen to the rear of the Vaughan College entrance terrace, providing protection from falling that is absent, a location for signage and a bench in front.
- A large fixed bench is proposed on the Vaughan College entrance terrace combining seating and interpretation of the site and buildings.
- Construct a new staircase and lift within Vaughan College to provide access between the upper and lower ground floors.
- Construct a glazed external display case in the space adjacent to the Vaughan College entrance steps, occupying an under used space.
- Repair the cobbled surface of St Nicholas Walk.
- Replace railings to the edge of St Nicholas Walk, integrating these with the proposed new walkway.

Heritage Assets

The heritage assets directly affected by these proposals are:

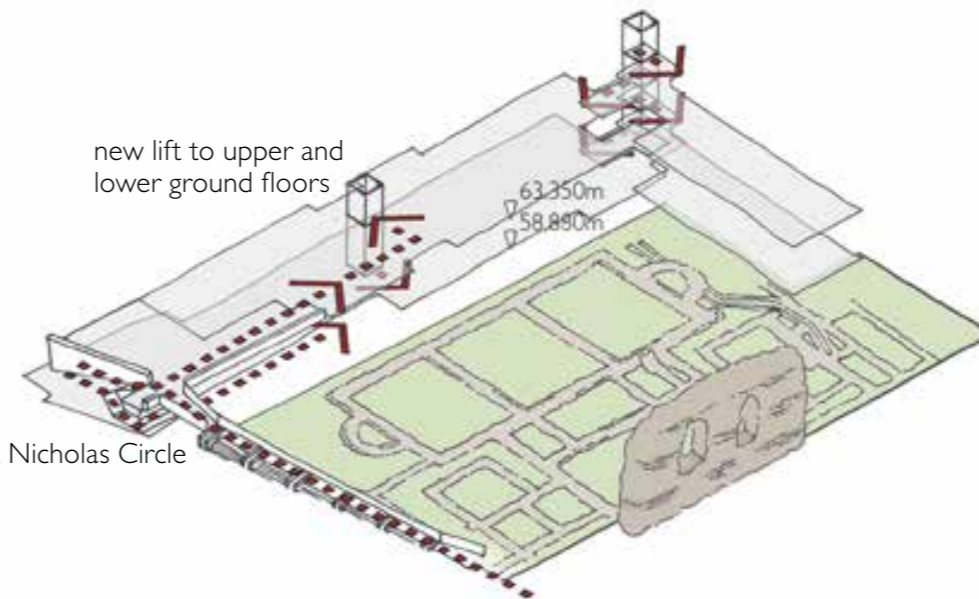
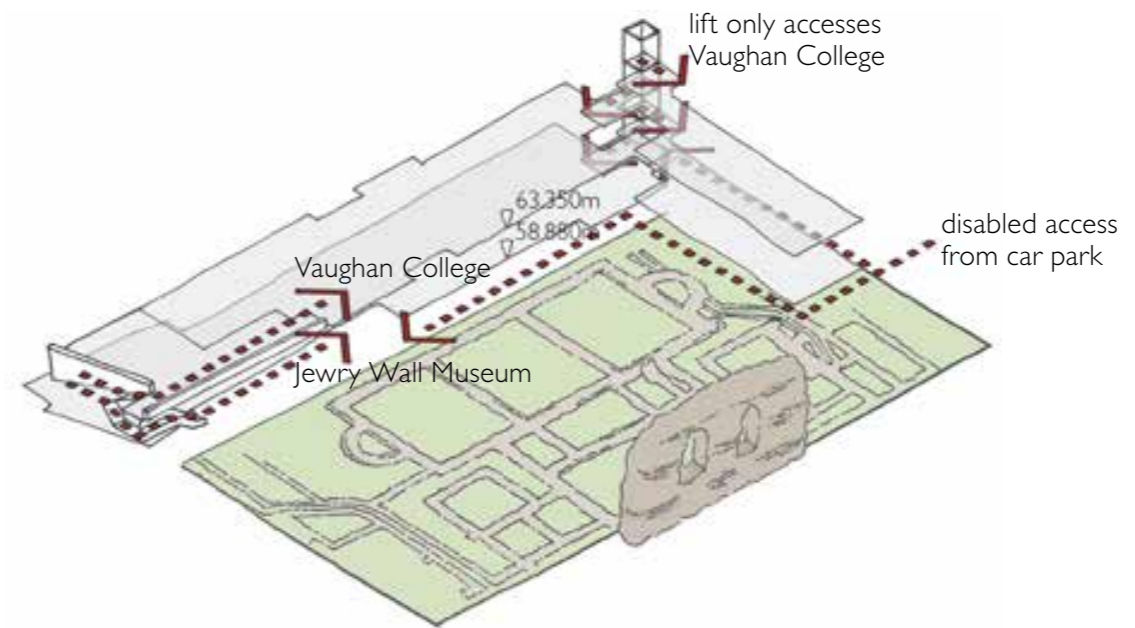
- The Scheduled Monument of Jewry Wall together with the Roman remains of the bathhouse. Jewry Wall is also grade I listed.
- Grade II listed Vaughan College

The heritage assets of which the setting may be affected by these proposals are:

- Grade I listed St Nicholas's Church
- Grade II listed 10 Talbot Lane
- Grade II listed 12 Talbot Lane

The site is not located within a conservation area.

A Heritage Statement has been prepared to assess the significance of the heritage assets that may be affected by the proposals and is submitted as part of these applications.



ABOVE LEFT:
EXISTING ACCESS TO THE
JEWRY WALL MUSEUM AND
VAUGHAN COLLEGE.

LEFT:
PROPOSED ACCESS TO THE
JEWRY WALL MUSEUM AND
VAUGHAN COLLEGE.

JEWRY WALL MUSEUM & VAUGHAN COLLEGE

2.0 WALKWAY

The walkway is the first part in achieving level access into the Jewry Wall Museum. Close to the end of St Nicholas Walk, the ground level is similar to that of the entrance terrace of Vaughan College. A level walkway between these two points therefore allows step-free access to the entrance level of Vaughan College.

In developing the original design for Vaughan College, Trevor Dannatt, the architect, spoke of visitors to the building reaching a 'prospect' on the terrace, where they could enjoy a panoramic view over the Roman remains and Jewry Wall. The terrace also shares the same floor level as the Roman baths - the walls that are now visible in the remains form the substructure, drains and heating system for the baths.

In his initial schemes, the prospect was a key part of the access to both Vaughan College and the Jewry Wall Museum, as the access steps down to the museum originated here. They were relocated in subsequent schemes and the finished building. In bringing the new walkway to the entrance terrace, all visitors to the building can enjoy the prospect over the remains and towards Jewry Wall, before entering Vaughan College and descending to the Museum via a new lift or stair.

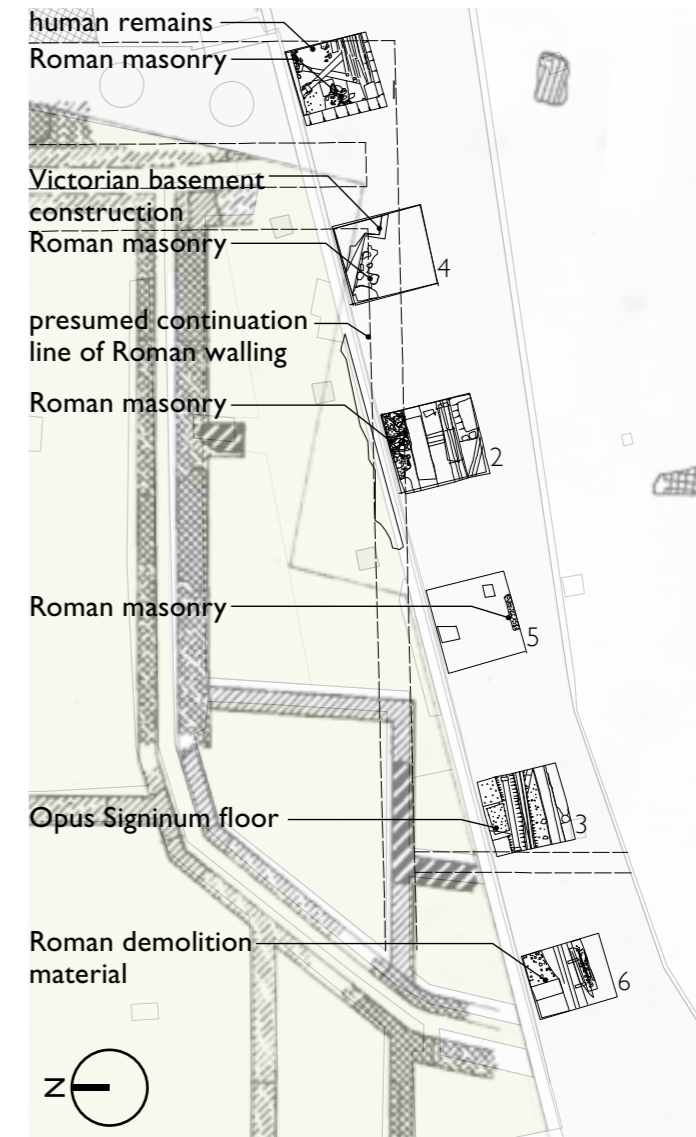
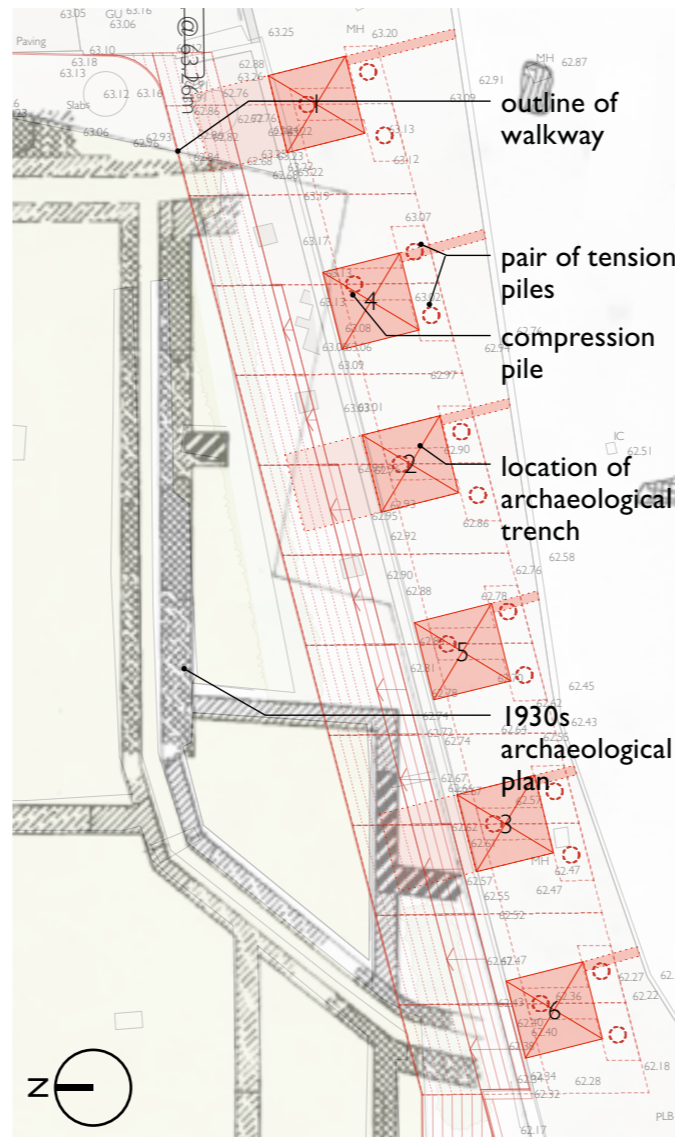
Archaeology

The preference for the structural strategy for the walkway was established at feasibility stage, with all parties preferring a cantilevering structure. This has the advantage of not needing to locate any supporting structure within the already excavated Roman remains, and offers more clarity to the presentation of those remains.

A series of archaeological investigations were undertaken within the pavement of St Nicholas Circle to determine whether any archaeology of interest existed beneath the pavement, or whether, as seemed likely, it had been destroyed by the 1960s highways works. The aim was to assess the impact of the cantilevered structure.

The full findings of the archaeological investigations are detailed in a separate report by the University of Leicester Archaeological Service (ULAS).

It was found that elements of Roman masonry that align with walls within the Jewry Wall site do exist beneath the pavement, and at a higher level (0.5 to 1m higher) than they exist in the excavated site. These are located to the east (towards St Nicholas's Church). The alignment of these findings suggested that there would be more between trenches 1, 4 and 2. Areas of Roman flooring also exist towards the west (towards Vaughan College), as do medieval and later finds.



TOP: VISUALISATION OF THE WALKWAY APPROACHING VAUGHAN COLLEGE.

FAR LEFT: PLAN SHOWING THE LOCATION OF THE ARCHAEOLOGICAL TRENCHES IN RELATION TO THE THEN CURRENT STRUCTURAL SCHEME.

LEFT: PLAN SHOWING THE ARCHAEOLOGICAL FINDS WITHIN THE TRENCHES.

Levitate

Both Historic England and the LCC Archaeologist were consulted throughout this process and during the subsequent development of the design of the walkway structure.

Structure

• Option 1

Cantilevering the walkway out from the pavement requires structure to carry the walkway to be buried beneath the pavement. The walkway was conceived as a series of precast concrete sections that would be anchored by means of pairs of tension piles towards the road edge, each working with a single compression pile at the walkway.

The size, location and depth of the section of precast concrete walkway conflicts with the location and height of Roman masonry to the east end of the walkway. This option was therefore discounted.

• Option 2

To avoid causing harm to the buried masonry, a further structural option was developed and tested. This placed pairs of beams, reminiscent of Vaughan College, set perpendicular to the pavement edge, restrained within the pavement zone and cantilevering out over the remains. The walkway structure then spans beneath these beams, in effect a series of bridges.

This would allow the position the pairs of beams either to be within the areas already excavated and along most of the length avoid any harm to the archaeology because the beams would span over the top of the buried roman remains. This option also had the benefit of needing fewer piles, in smaller numbers, as the spans are longer than in the first option.

Unfortunately we have again found that at the eastern end the height of the Roman remains conflicts with the lower portion of the beams. We have assessed this option in detail with the structural engineer but cannot engineer the cantilevering beams to be sufficiently shallow within the pavement zone so as to sit above the Roman masonry. This option was therefore also discounted.

• Option 3

A third option uses the same principle of pairs of beams as option 2, with the walkway and steps spanning between them. The beams are supported in part off new columns which are located within the existing Jewry Wall site, and partly restrained by the pavement edge.

Although this means 'seeing' new structure, the position of the columns and their piled foundations can be

OPTION 1

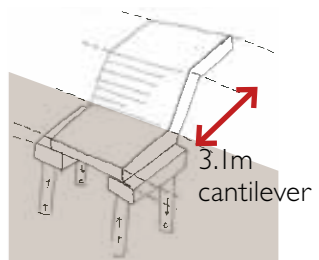
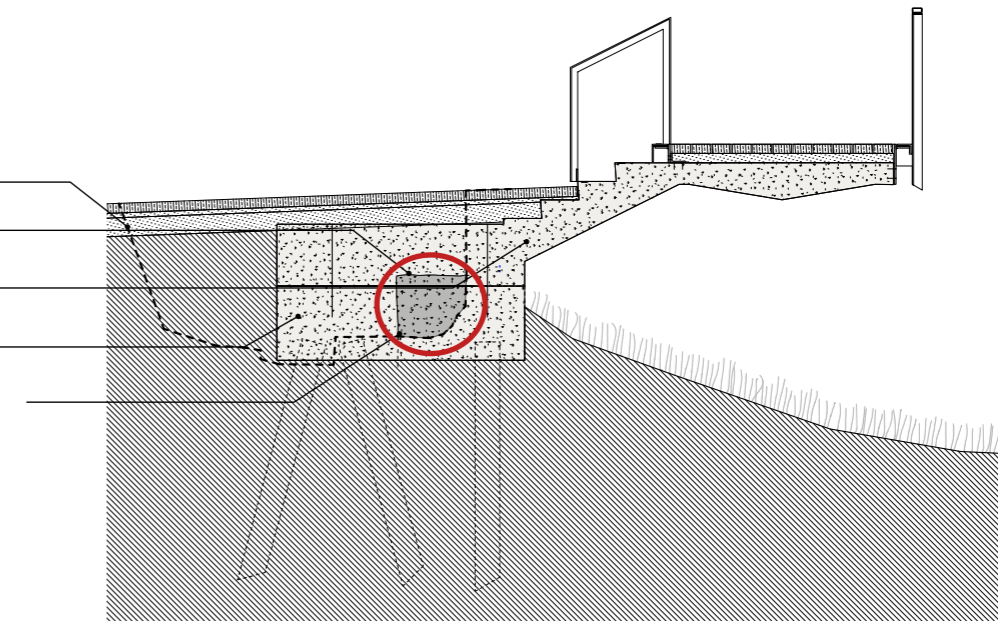
Section is shown cut through archaeological trench 2

outline of archaeological trench

position of Roman masonry

cantilevered walkway and stairs

pile cap



OPTION 2

Section is shown cut through archaeological trench 2

outline of archaeological trench

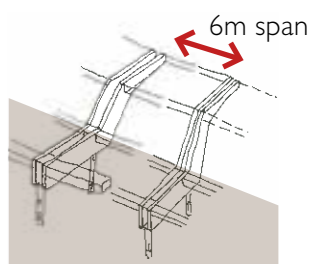
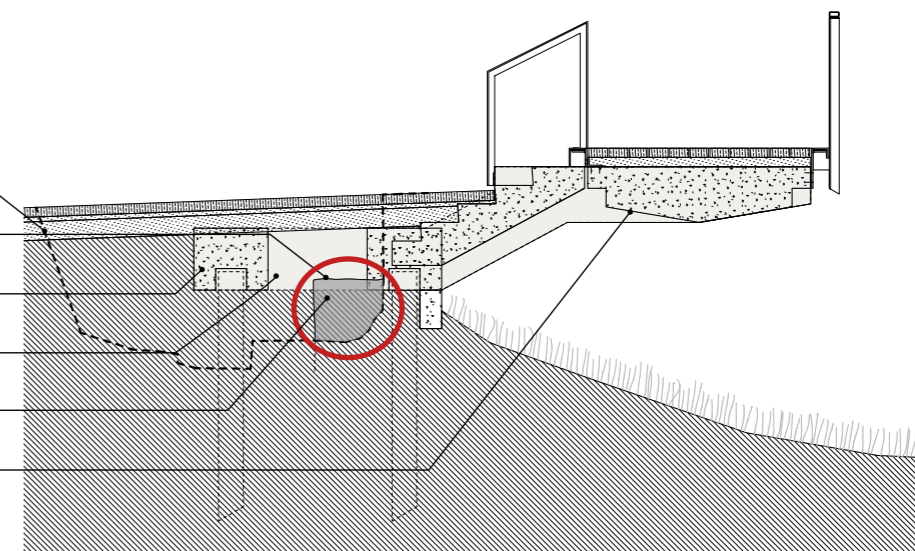
position of Roman masonry

pile connection between paired beams

paired beams cantilevering from pavement

structure clashes with Roman archaeology

stairs and walkway span between paired beams



OPTION 3

Section is shown cut through archaeological trench 2

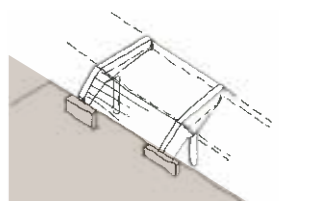
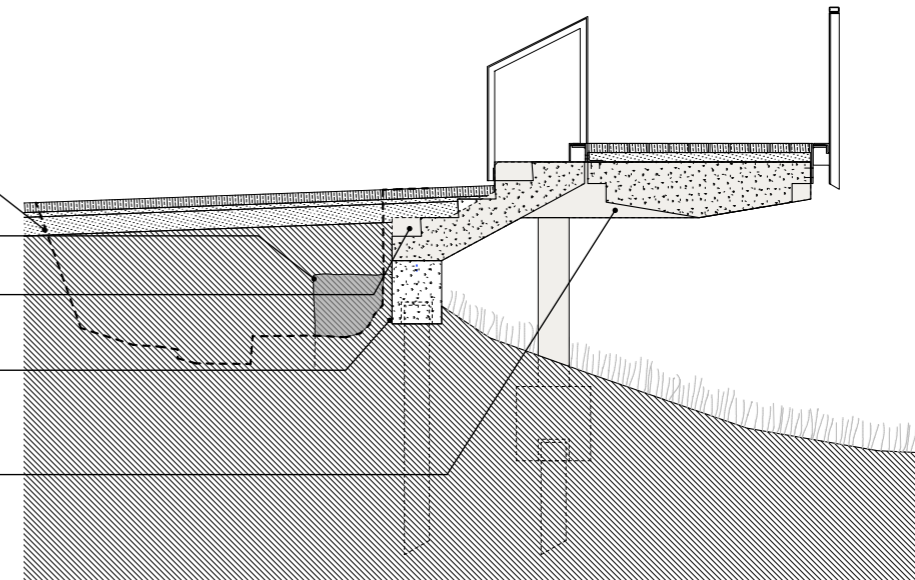
outline of archaeological trench

position of Roman masonry

paired beams supported on columns and tied into pavement edge beam

ring beam structure sits within zone of existing pavement edge beam, so no clash with archaeology

stairs and walkway span between paired beams



LEFT:
STRUCTURAL OPTIONS 1, 2
AND 3, ALL SHOWN CUT
THROUGH ARCHAEOLOGY
TRENCH 2, WHICH HAS
ROMAN MASONRY AT THE
HIGHEST LEVEL OF ALL 6
TRENCHES

JEWRY WALL MUSEUM & VAUGHAN COLLEGE

located where the foundations for Harvey Walk were, thus in already disturbed ground. The two additional columns are placed in between the Roman masonry.

Further archaeological investigations will be required in these areas prior to construction, but in areas previously excavated and recorded in the 1930s.

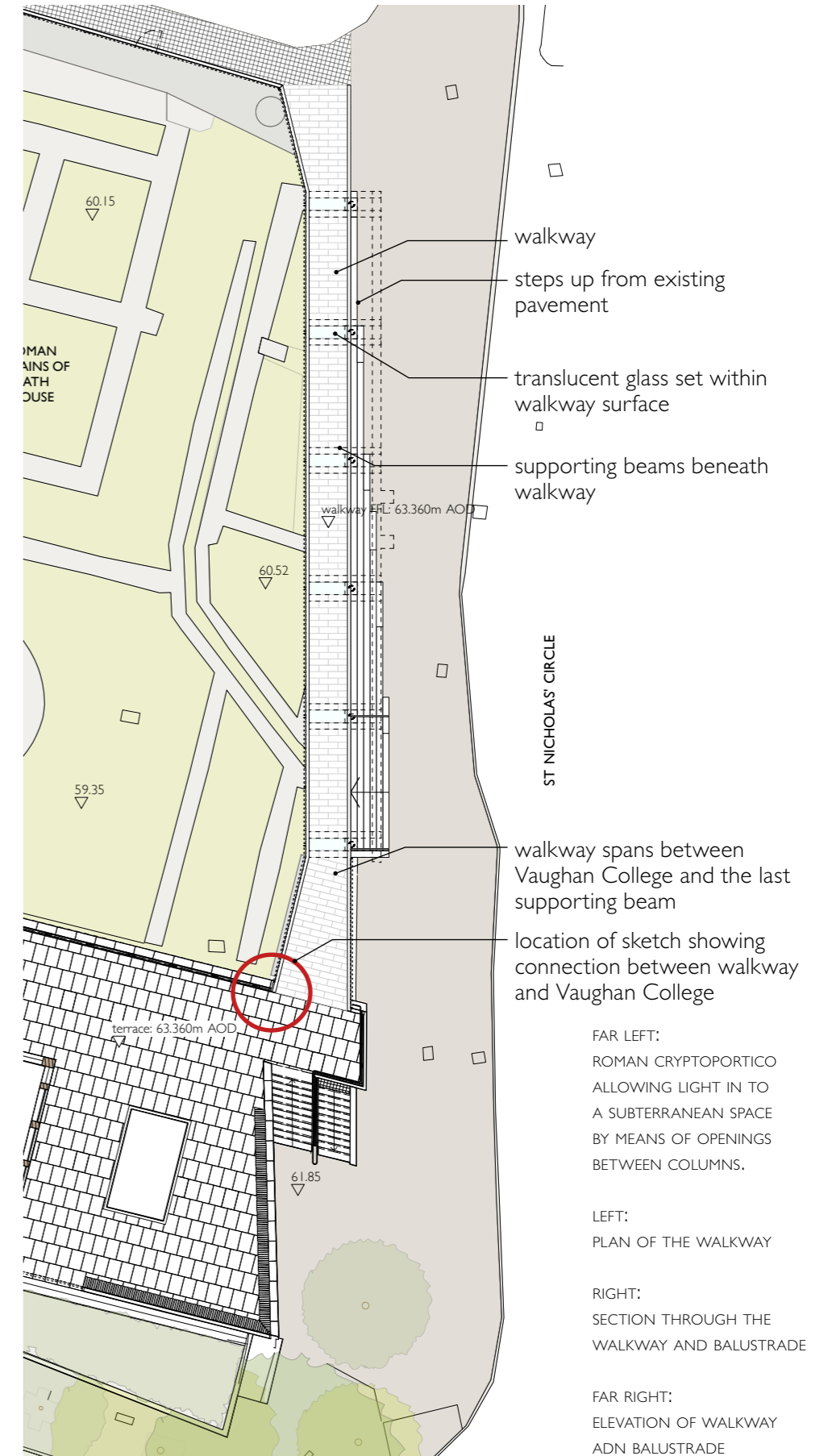
Where piles are required it is anticipated that Odex piles will be used in order to drill through buried layers rather than progressing the pile casing by impact.

Geometry and design

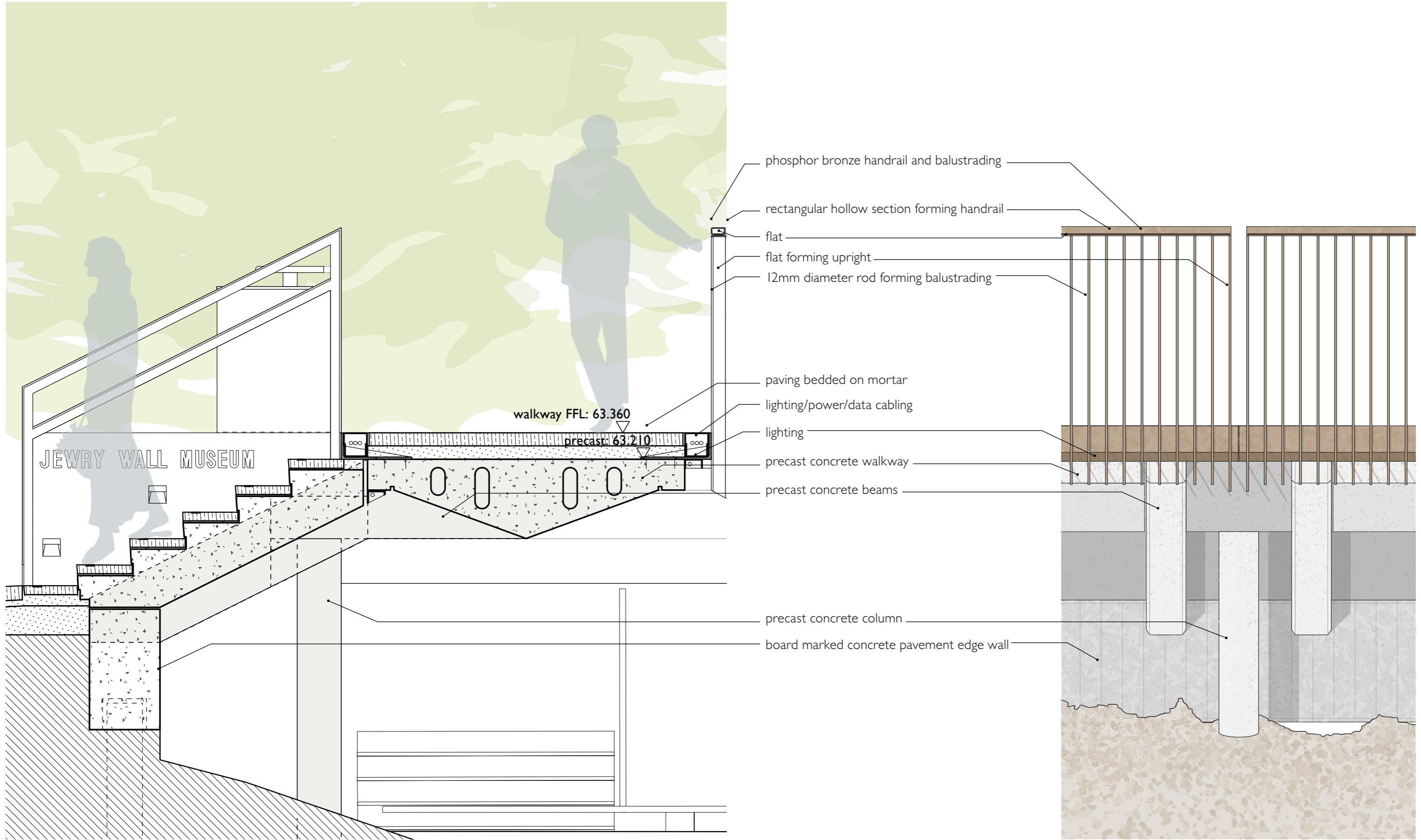
The archaeology of the site has had significant impacts on the geometry of the walkway and the structural scheme. The design of the walkway and its structure has though developed alongside its architectural design.

Pairs of beams are proposed for structural efficiency and to relate to the structure of Vaughan College. In the Vaughan College building, pairs of in-situ concrete beams support the vaulted floor structure, which spans perpendicular. The walkway itself and the steps up to it span perpendicular, bearing on the paired beams.

The pairing of the beams gives an opportunity for glazed areas to be introduced that allow light down into the ruins to avoid them being overshadowed by the walkway, and to allow views through.



Levitate



JEWRY WALL MUSEUM & VAUGHAN COLLEGE

Balustrade

The design of the balustrade needs to provide effective edge protection but also be visually lightweight in order that pedestrians at the level of St Nicholas Circle can see through it to Jewry Wall. The balusters are therefore rods with deeper plates at intervals for structural integrity. The design specifically has no thicker uprights in order that the balustrade reads as visually lightweight as possible.

The handrail is a rectangular section that reflects the handrail on the balusters of the Vaughan College entrance terrace.

The balustrading is fixed to the walkway at its base, which also integrates lighting.

The balustrading continues from the walkway along St Nicholas Walk, presenting a co-ordinated view.

Connection to Vaughan College

The walkway spreads out at the junction with Vaughan College in order to increase pedestrian capacity and not create pinch point, but also to respond to the width of the stairs up from the street that land on the terrace opposite.

The walkway structure spans between the last of the paired beams and bears onto the edge of the Vaughan College upper ground floor structure. It is intended that this will be all but invisible, in order that Vaughan College does not appear to have been altered.

The junction between the walkway and Vaughan College is articulated carefully in order to clearly delineate the new and the existing, and to create a neat junction. This is shown in the sketch adjacent.

existing handrail and brick balustrade cut back neatly

bronze edging to define edge of walkway and cover end of cut brick wall

light set within bronze panel

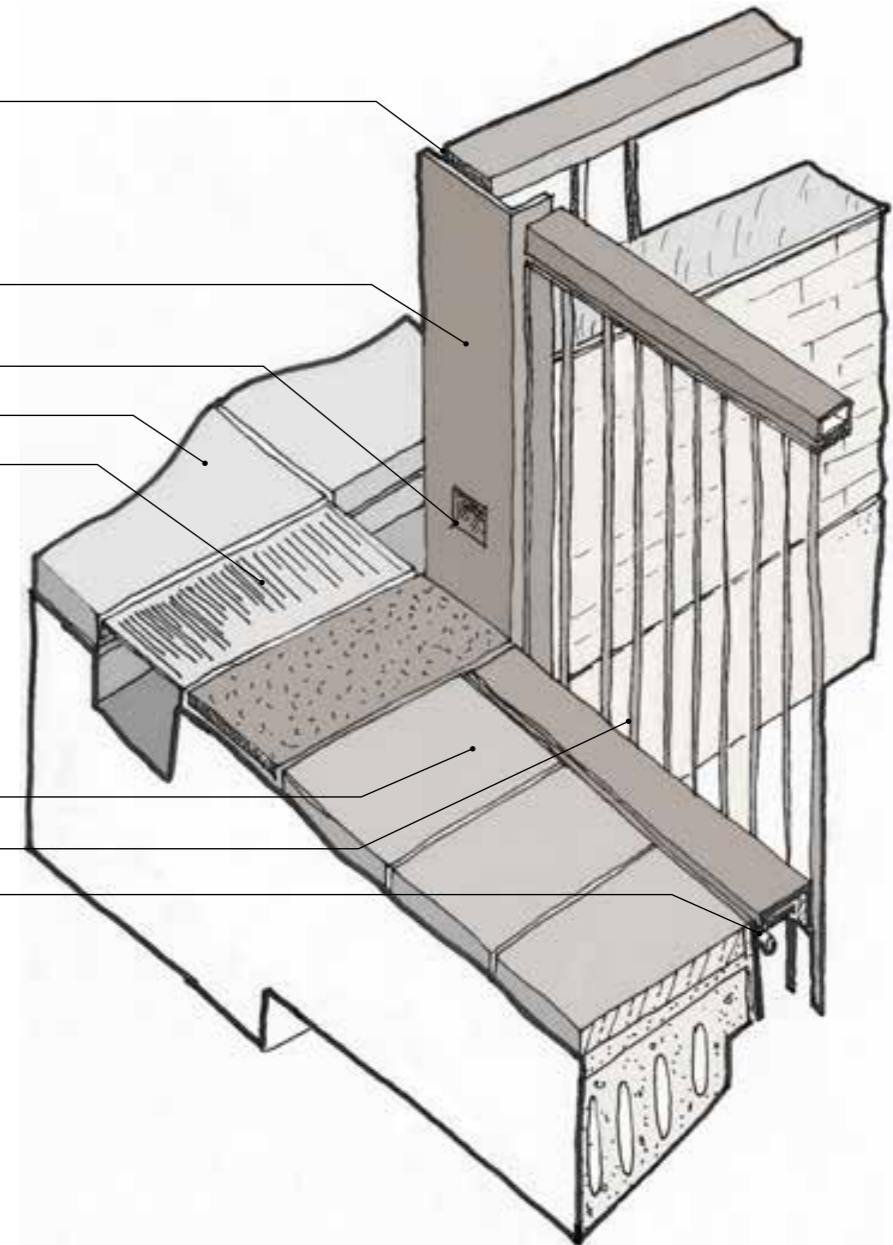
existing paving slabs

cover piece to existing gutter

precast concrete pavers

bronze handrail and balustrading

lighting set within walkway edge



LEFT:
INDICATIVE DETAIL
SHOWING THE
CONNECTION OF THE
WALKWAY TO THE
VAUGHAN COLLEGE
TERRACE

Levitate

Materials

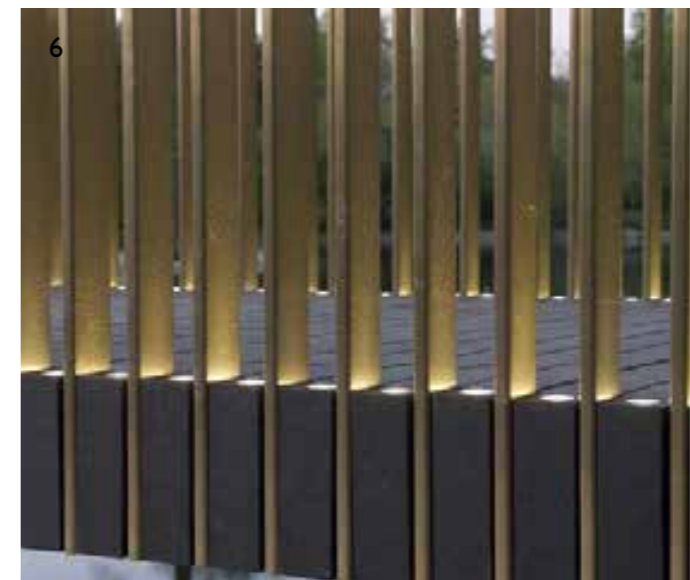
In response to the heavy masonry of Jewry Wall and the Roman remains, and Vaughan College, pre-cast concrete was the natural material choice for the walkway. It is also a modern method of construction, which continues the history of masonry construction on the site. It is a high quality, self finished material with few maintenance requirements. Manufacture off site will allow for a shorter construction sequence on what is a difficult site, being located adjacent to St Nicholas Circle.

Bronze is combination with the pre-cast concrete as a complementary material and one that is used on the existing building for handrails. It is also a self-finished material that has good longevity with few maintenance requirements.

The surface of the walkway and steps are proposed to be stone, providing a hard wearing surface with few maintenance requirements.

Lighting

It has been assumed that lighting for the safe use of the walkway will be provided by the existing street lighting. Lighting integrated into the bottom of the balustrading of the walkway will wash the underside of the walkway with light, forming a backdrop to the Roman remains.



- 1:
JEWRY WALL - STONE AND BRICK HEAVY MASONRY CONSTRUCTION.
- 2:
VAUGHAN COLLEGE BOARDMARKED CONCRETE.
- 3:
VAUGHAN COLLEGE BRONZE HANDRAIL AND STEEL BALUSTRADE.
- 4:
HIGH QUALITY STONE STEPS AND PAVERS WITH STEPS BLENDING INTO THE PAVEMENT
- 5:
HIGH QUALITY PRECAST CONCRETE.
- 6:
BRONZE BALUSTRADING.

JEWRY WALL MUSEUM & VAUGHAN COLLEGE



Levitate

3.0 VAUGHAN COLLEGE TERRACE

A number of works are proposed to the area of the entrance terrace that improve access and use of spaces before the building entrance along with improving the visibility of the Jewry Wall Museum.

The 'prospect' over the Roman remains was a key part of the design of the Vaughan College building by Trevor Dannatt. Constructing the walkway makes this 'prospect' the entry point to the building for the majority of visitors. These works reinforce this concept and provide seating facilities for people meeting there or enjoying this view. This also provides an ideal place for some historic interpretation of the site and buildings, which may draw visitors into the building and the museum.

Bench

The proposed bench in the centre of the terrace breaks up the currently large open and sometimes windswept terrace. As a large surface it provides an ideal location for interpretation of the site and buildings.

The bench is proposed to be built with a galvanised steel frame clad with bronze metal panels to the edges and with a fine edge similar to the walkway edge that will also house lighting. The centre will be a stone or terrazzo similar to the museum floor finish at lower ground floor level. As elsewhere, bronze is chosen to complement the surrounding brick and concrete, and it is used for handrails on the existing building.

Balustrade and signage

The rear of the terrace gives onto an area of green roof that is currently unplanted but is proposed to be reinstated as part of these works. There is no edge protection to the terrace or the green roof, which is not acceptable for a public building. The balustrade is therefore proposed to be installed to the rear of the terrace to provide protection from falling.

The proposed screen performs this function along its length, in addition to improving visibility of the museum with integrated 'Jewry Wall museum' signage. The height of the screen aligns with the height of the windows on the adjacent main hall. The screen is a deliberate space from the main hall in part to clearly delineate new from existing, and in part to allow the existing view from St Nicholas Circle to the listed houses at 10 and 12 Talbot Lane to be maintained.

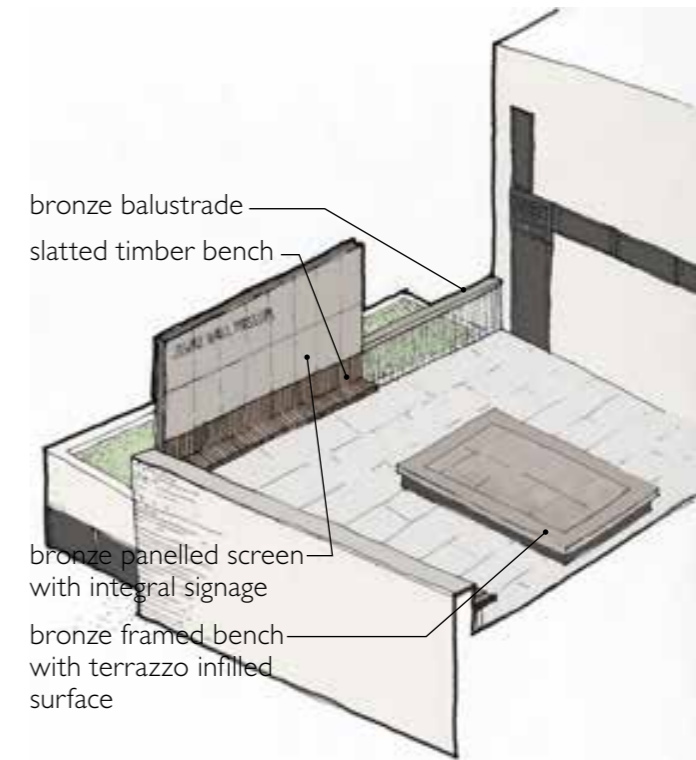
The screen is proposed to be clad in bronze metal panels. The signage is proposed to be internally illuminated.

Below the screen is a timber slatted bench. This provides extra seating on the terrace. Timber is used

here in reference to the timber window frames used at the upper ground floor level of the building and as a contrast to the larger areas of bronze panelling on the screen and central bench.

Disabled lift

An existing but out of use platform lift exists to the side of the entrance terrace. This is proposed to be removed and the building made good with materials to match the existing.

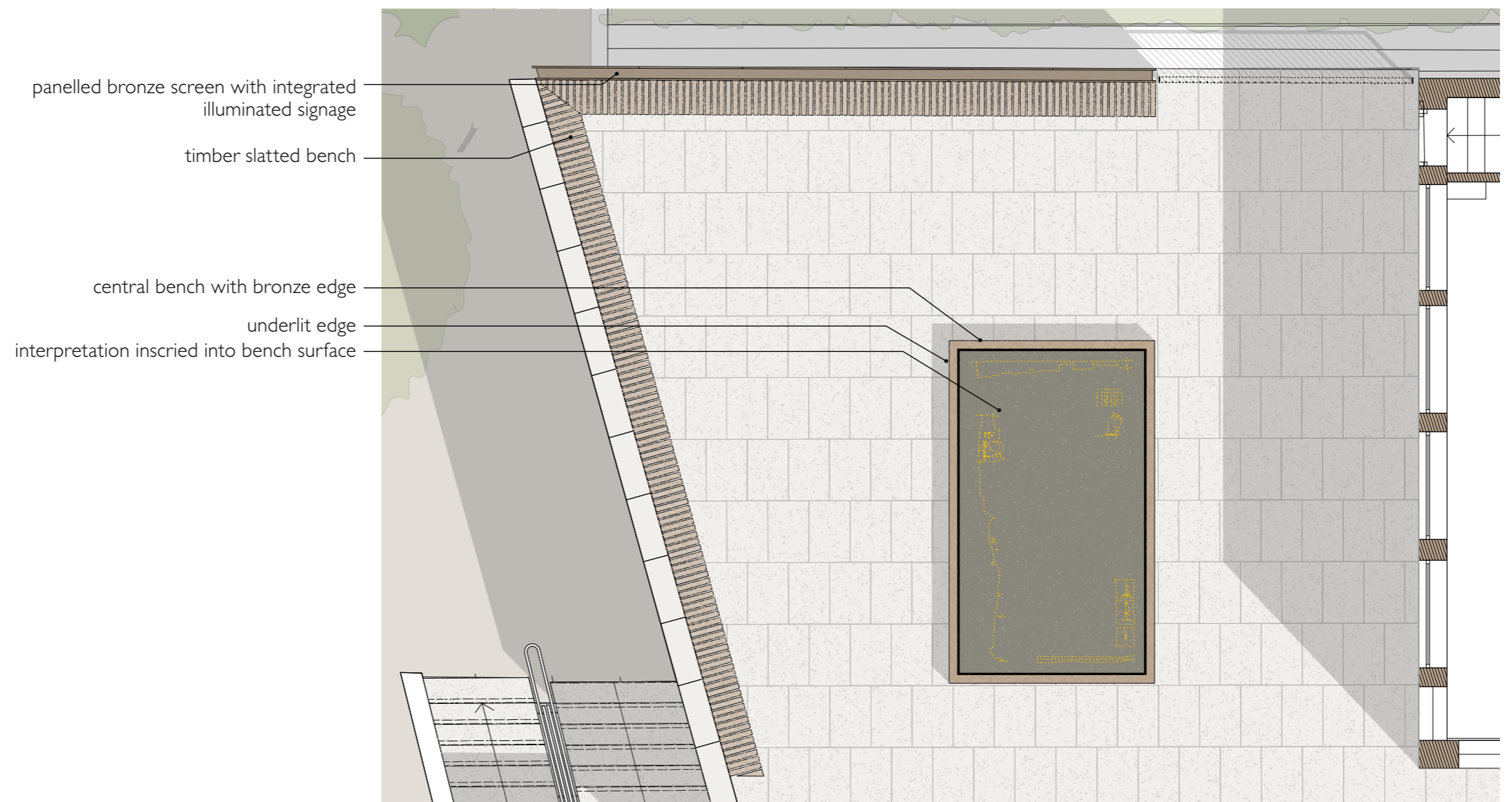
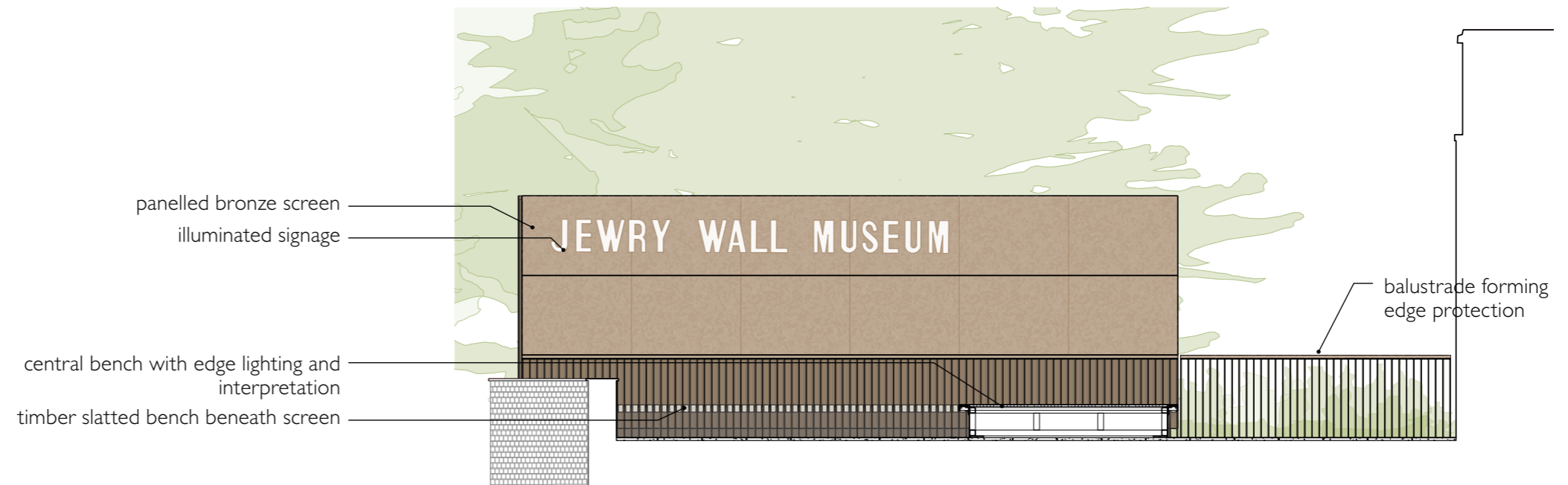


ABOVE:
SKETCH SHOWING THE
SCREEN, BALUSTRADE AND
BENCHES.

FAR LEFT:
THE REAR EDGE OF THE
TERRACE WITH THE EMPTY
PLANTER AND ABSENCE OF
BALUSTRADE.

LEFT:
THE EXISTING DEFUNCT
PLATFORM LIFT THAT WILL
BE REMOVED.

JEWRY WALL MUSEUM & VAUGHAN COLLEGE



ABOVE LEFT:
 SECTION THROUGH BENCH
 WITH ELEVATION OF SCREEN
 BEHIND.

LEFT:
 PLAN OF BENCH, SCREEN
 AND BALUSTRADE.

4.0 VAUGHAN COLLEGE DISPLAY CASE

Adjacent to the stairs down to the Jewry Wall Museum is an unused space where litter gathers and which also attracts antisocial behaviour.

To improve this area a glazed display case is proposed to be installed. This will occupy the unused area and provide the museum with an opportunity to display artefacts or information. The space beneath the stairs will be closed off.

Design

The geometry of the existing space defines the shape of the display case. The stair overhead, which accesses the entrance terrace, will define the soffit. This allows the case to be spaced off the staircase and balustrade accessing the museum. The case will be internally lit, which will help to lighten an otherwise rather gloomy space.

Materials

Drawing on the language of glazing in the existing building, the display case is proposed to be constructed from fine metal framed glazing.



LEFT:
SPACE ADJACENT TO THE
EXISTING JEWRY WALL
MUSEUM ENTRANCE STAIR.



ABOVE LEFT AND LEFT:
POSITION OF THE GLAZED
DISPLAY CABINET BENEATH
THE VAUGHAN COLLEGE
STEPS AND ADJACENT TO
THE JEWRY WALL MUSEUM
STAIRS.

RIGHT: SPACE ADJACENT TO
THE EXISTING JEWRY WALL
MUSEUM ENTRANCE STAIR.

JEWRY WALL MUSEUM & VAUGHAN COLLEGE

5.0 VAUGHAN COLLEGE NEW LIFT AND STAIR

Circulation

Having provided level access to the upper ground floor level of Vaughan College, a new lift and stair are required to access the lower ground floor. The existing lift at the north of the building does not and cannot access the Jewry Wall Museum. The new stair and lift are therefore introducing a circulation route that has never existed before.

The stair and lift have been located in the middle of the plan in the upper ground floor reception area. This is the location that has the least impact on the original plan layout of the upper ground floor college.

Structure and design

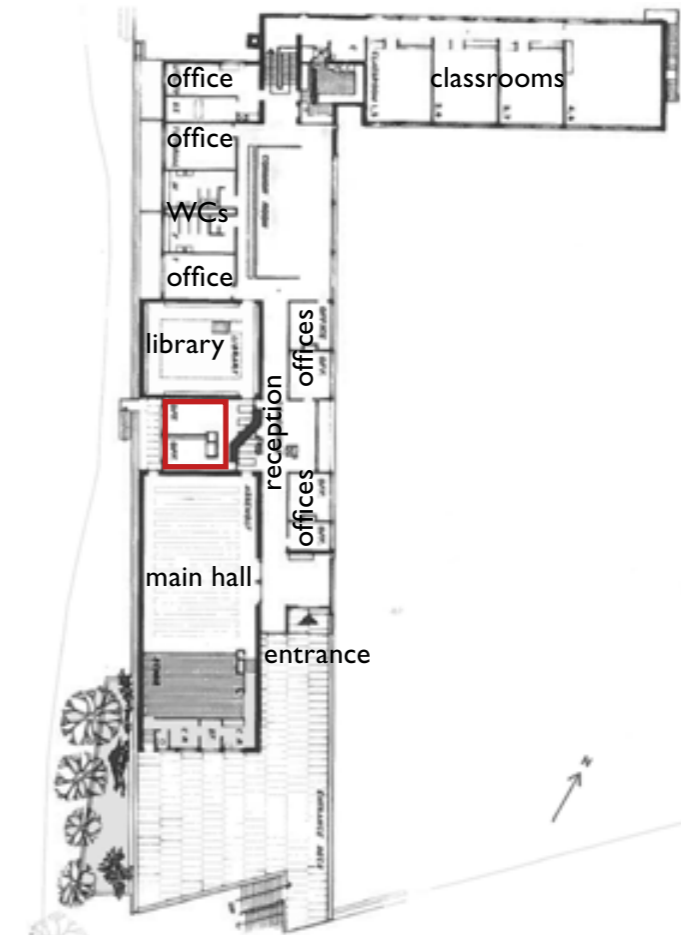
Cutting through the in situ vaulted concrete upper ground floor structure requires the cut ends of the vaults to be supported. To that end, a pair of in situ concrete walls are proposed either side of the stair. These visually contain the new elements and also act as blinkers, so that as a visitor descends into the large vaulted space, the view is ahead through the glazing, reinforcing the building's relationship to the remains.

Materials

The stair treads are proposed to be precast concrete to relate to the external stairs. The lift shaft is proposed to be clad in panels of bronze metal. Bronze is part of the palette of materials in the existing building, being used for handrails. Its use on the lift shaft therefore relates to the existing building and is complementary to the materials in close proximity, namely cast concrete and glazing.

Archaeology

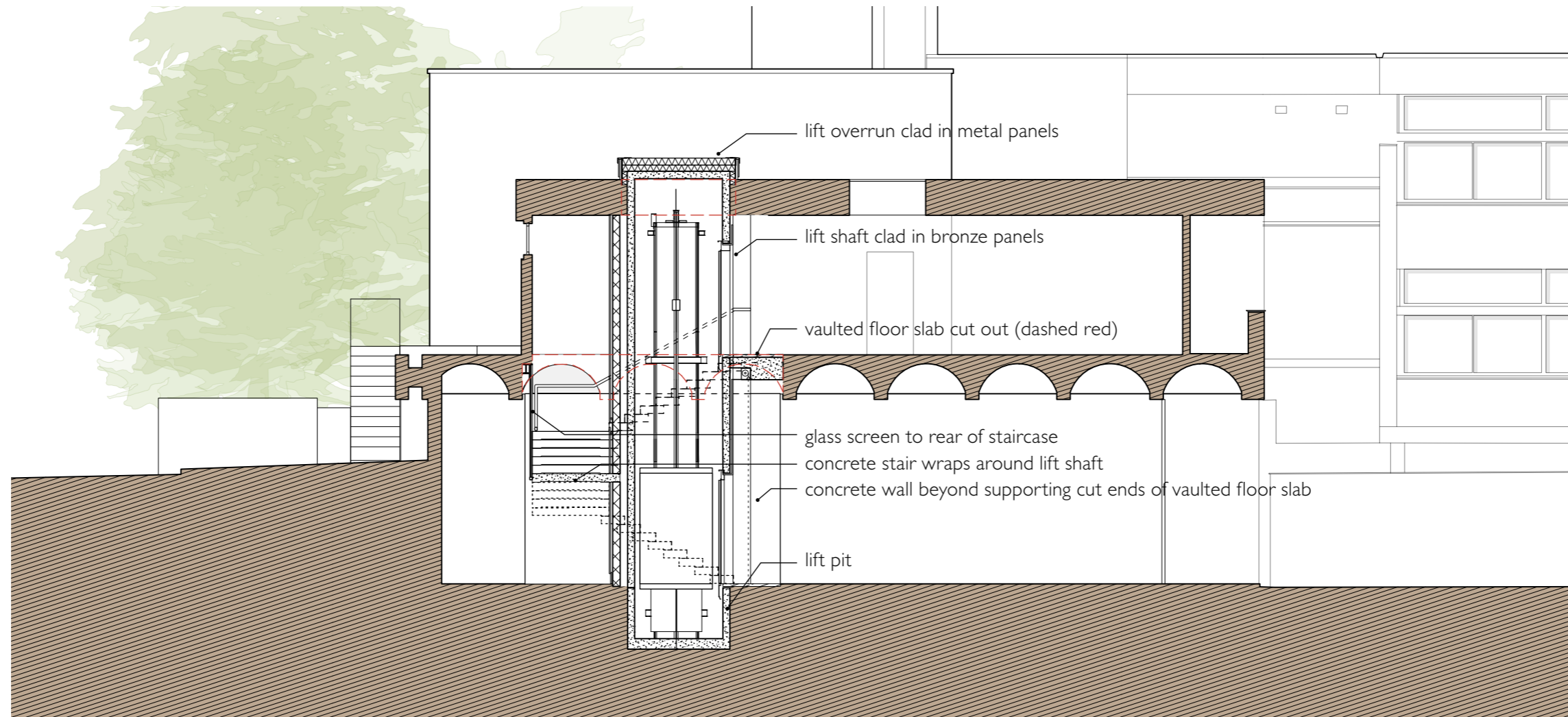
Scheduled Monument Consent is sought for the works to form the lift pit. This includes a preliminary investigation to excavate the position of the lift pit to determine what, if any, archaeological remains are to be found in that position. The design of the lift pit and its structure will be finalised following these investigations.



ABOVE LEFT:
UPPER GROUND FLOOR
PLAN AS DESIGNED WITH
THE POSITION OF THE NEW
LIFT AND STAIR OUTLINED
IN RED.
(SOURCE: STONEHOUSE
(2008))

LEFT:
A VIEW OF THE NEW LIFT
AND STAIR FROM THE
LOWER GROUND FLOOR.

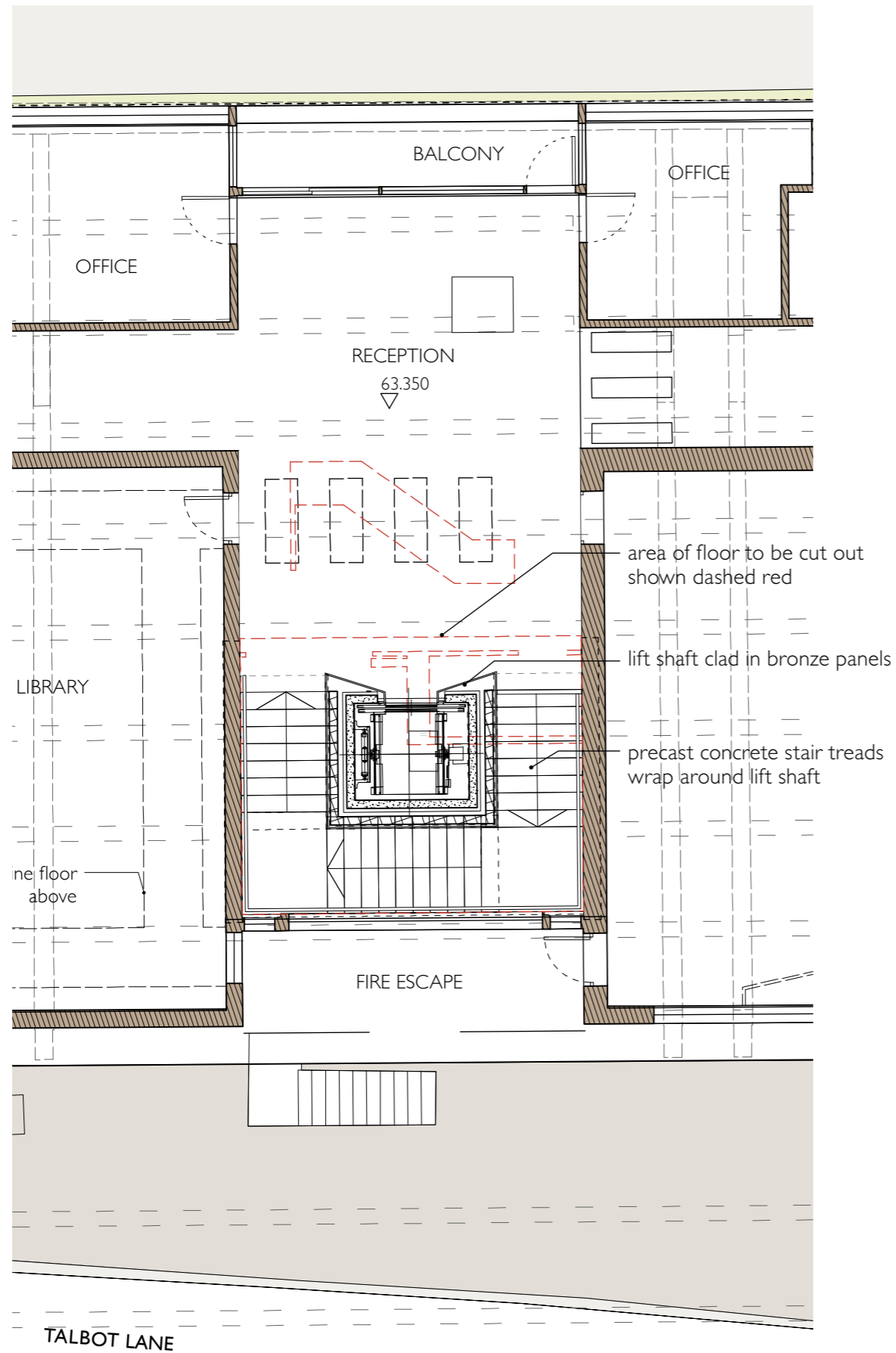
Levitate



ABOVE LEFT:
SECTION THROUGH LIFT
AND STAIRS.

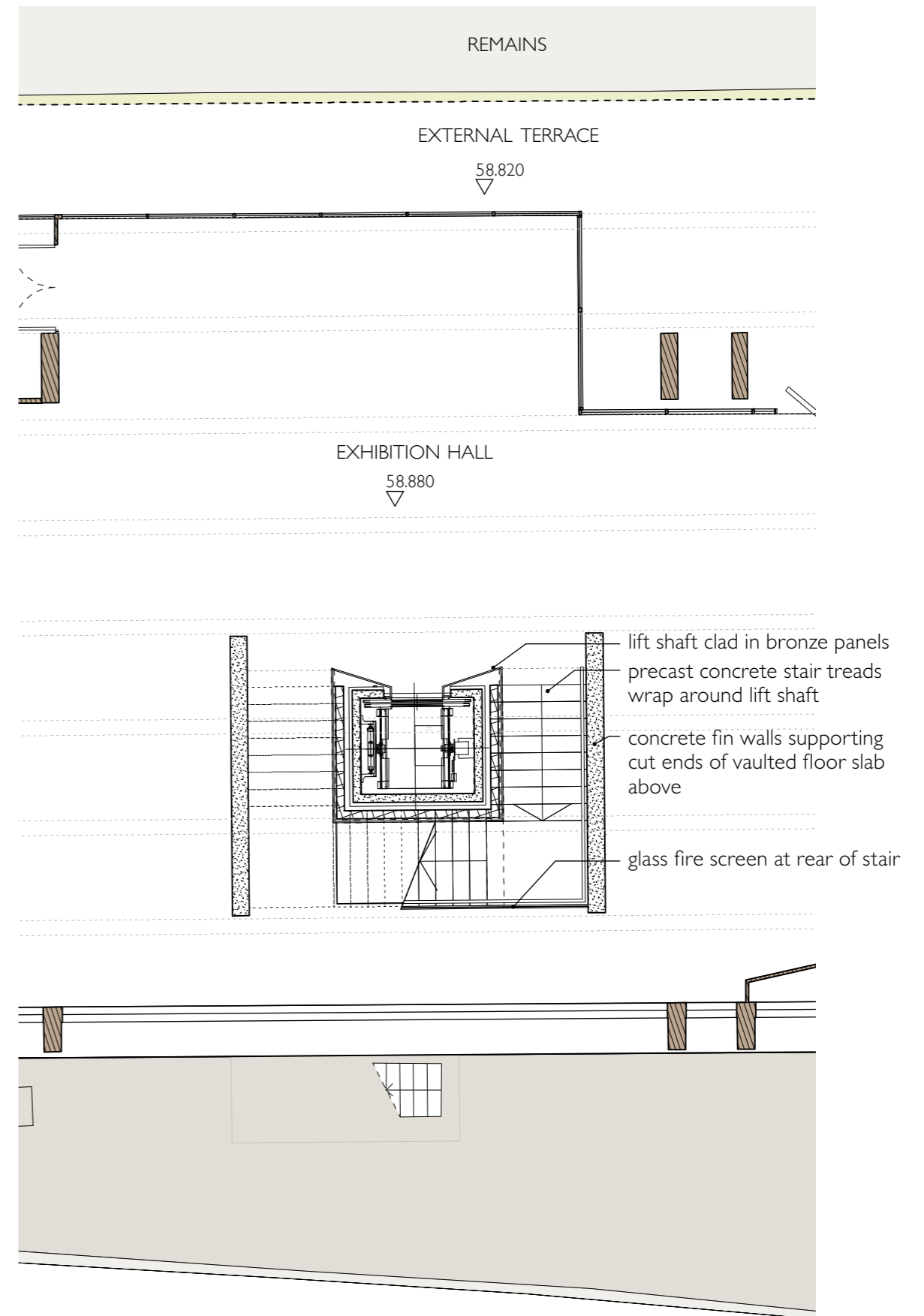
LEFT:
1 BRONZE PANNELLING
2 CONCRETE WALL
3 PRECAST CONCRETE STEPS

JEWRY WALL MUSEUM & VAUGHAN COLLEGE



RIGHT:
UPPER GROUND FLOOR
PLAN SHOWING NEW LIFT
AND STAIRS.

FAR RIGHT:
LOWER GROUND FLOOR
PLAN SHOWING NEW LIFT
AND STAIRS.



Levitate

6.0 ST NICHOLAS WALK REPAIRS

Overview

St Nicholas Walk stretches between St Nicholas Circle and Welles Street/Holy Bones, to the north of Vaughan College. The surface of the path appears to originally have been cobbled, which has almost wholly been covered with tarmac that is now degrading. The path edge is crumbling and in poor repair.

Pavement surface

It is proposed to remove the tarmac from the surface of St Nicholas Walk and to repair the cobbled surface beneath. Where cobbles are loose they will be re-set. Where individual cobbles or larger areas are missing they will be replaced with cobbles to match the existing.

The edge of the pavement will be repaired as part of this work, re-establishing the edge that is currently crumbling.

Paved area

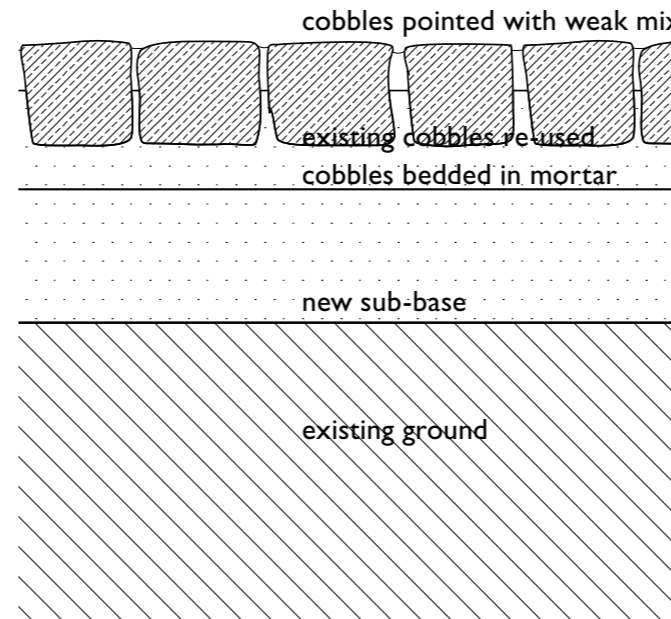
Adjacent to the pavement is an area at lower level that is currently paved with concrete pavers. The surface has been disrupted by the growth of a tree (now removed). It is proposed to resurface this area with gravel to present a neater appearance.

Handrail

The existing handrail is in poor condition in places, with the bases of some uprights showing signs of rust. It is proposed to remove the balustrade to the length of St Nicholas Walk and to replace it with a new bronze handrail and balustrade that matches that proposed for the walkway. This will provide cohesion to the treatment of the walkway and pavement edges.

Archaeology

The path is located within the bounds of the Scheduled Ancient Monument. Excavation will be limited to the depth of the bedding beneath the cobbles.



FAR TOP LEFT: EXAMPLE OF CBBLES BEING RE-SET.

FAR MID LEFT: DETAIL SHOWING REINSTATEMENT OF COBBLES OR REPAIR WHERE AREAS ARE LOOSE.

FAR LEFT: EXISTING COBBLED SURFACE BENEATH THE TARMAC.

NEAR TOP LEFT: VIEW ALONG ST NICHOLAS WALK SHOWING THE EXISTING SURFACING.

LEFT: VIEW OF THE AREA OF PAVING ADJACENT TO THE PAVEMENT.

7.0 ACCESS STATEMENT

The starting point for this project was to provide disabled access to the Jewry Wall Museum. All parts of the project are therefore either to provide this access or are related to it.

Where steps are provided an alternative walkway or lift is also provided.

The walkway, its balustrading and its steps are designed to BS8300:2009 Design for the Disabled and BS6180:1999 Barriers in and about Buildings. The passenger lift and internal steps to Vaughan College are also designed to BS8300:2009 and Approved Document M of the Building Regulations.

8.0 BIBLIOGRAPHY

British Standards Institution (2009) *BS8300:2009 Design of buildings and their approaches to meet the needs of disabled people - Code of practice*. London: BSI.

Dannatt, T. (1972) *Trevor Dannatt: buildings and interiors 1951/72*. London: Lund Humphries Publishers Ltd.

DCLG (2012) *National Planning Policy Framework*. London: DCLG

DCLG (2014) *Conserving and enhancing the historic environment*. Available online at <http://planningguidance.planningportal.gov.uk/blog/guidance/conserving-and-enhancing-the-historic-environment/>, accessed 25th June 2014.

English Heritage (2011) *English Heritage Guidance: The setting of Heritage Assets*. London: English Heritage

HM Government (2013) *Approved Document M: Access to and use of buildings*. Newcastle: NBS.

Kenyon, K. (1948) "Excavations at the Jewry Wall Site Leicester", *Reports of the Research Committee of the Society of Antiquaries of London*. Oxford: Oxford University Press.

McKinley, R. A. (ed.) (1958) 'The ancient borough: St. Nicholas's' in *A History of the County of Leicester: Volume 4, the City of Leicester*, Available online at <http://www.british-history.ac.uk/vch/leics/vol4/pp383-387>, accessed 21st June 2016, pp. 383-387.

Pevsner, N. (1984) *Buildings of England: Leicestershire and Rutland*. London: Yale University Press.

Stonehouse, P. (2008) *Trevor Dannatt: works and words*. London: Black Dog Publishing.