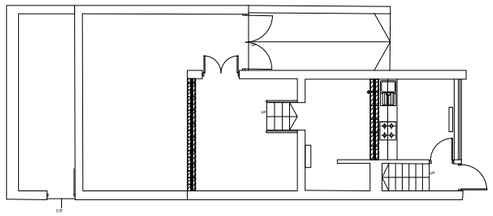
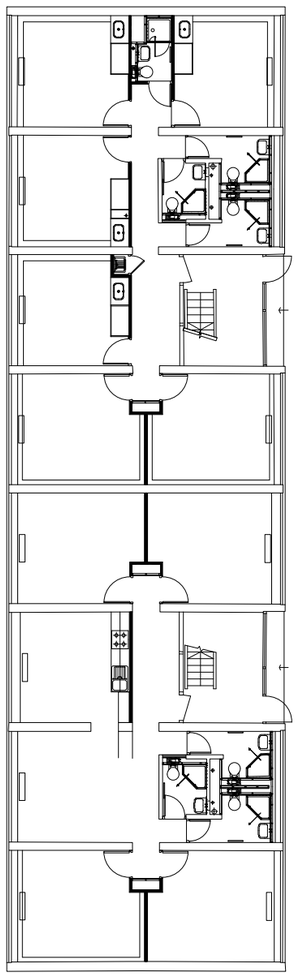
8. PROPOSALS FOR EXISTING BUILDINGS

8.8 Brewer Building Entrance level (LG–2)

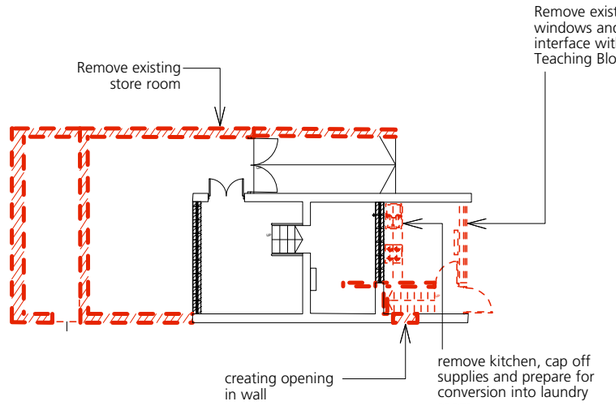
Works to the Brewer Building are largely confined to the lowest entrance level of the block (LG-2). The proposed internal circulation route through the school goes through the existing passageway, connecting the new Teaching Block with the Refectory Block.

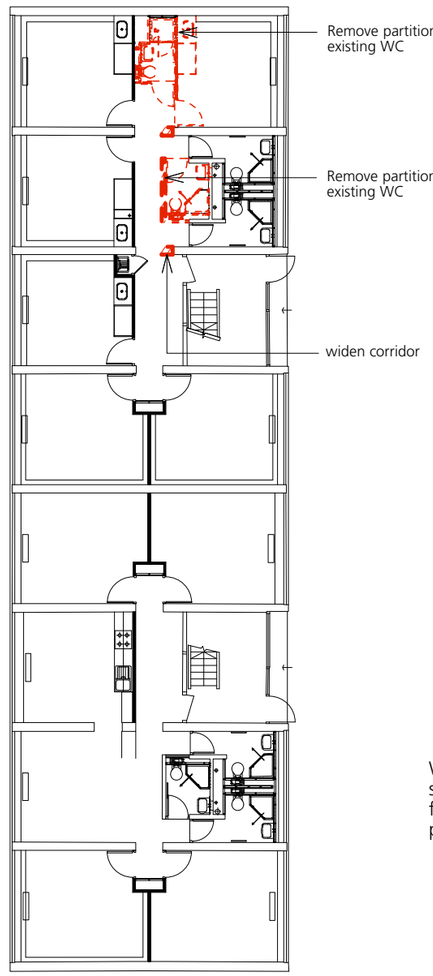
A ramped approach to the entrance of the Brewer Building provides level access to the sleeping accommodation and separates it from the circulation between teaching spaces during the day. Modification to the entrance level to the building provides an accessible shower and WC room and improves accessibility.



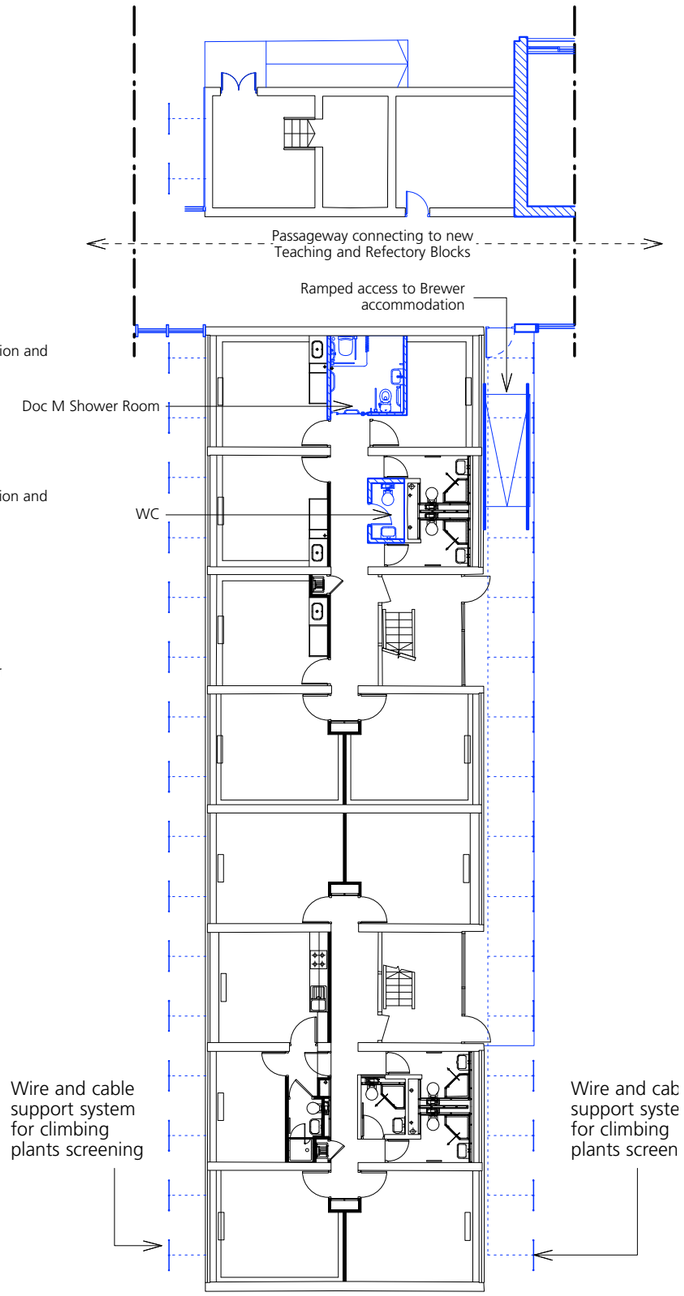


Brewer Building Ground Floor (LG-3)
As existing





Brewer Building Ground Floor (LG-3)
Demolitions



Brewer Building Ground Floor (LG-3)
As Proposed

KEY

Demolition in section

Demolition in elevation

Proposed additions in section

Proposed additions in elevation

8. PROPOSALS FOR EXISTING BUILDINGS

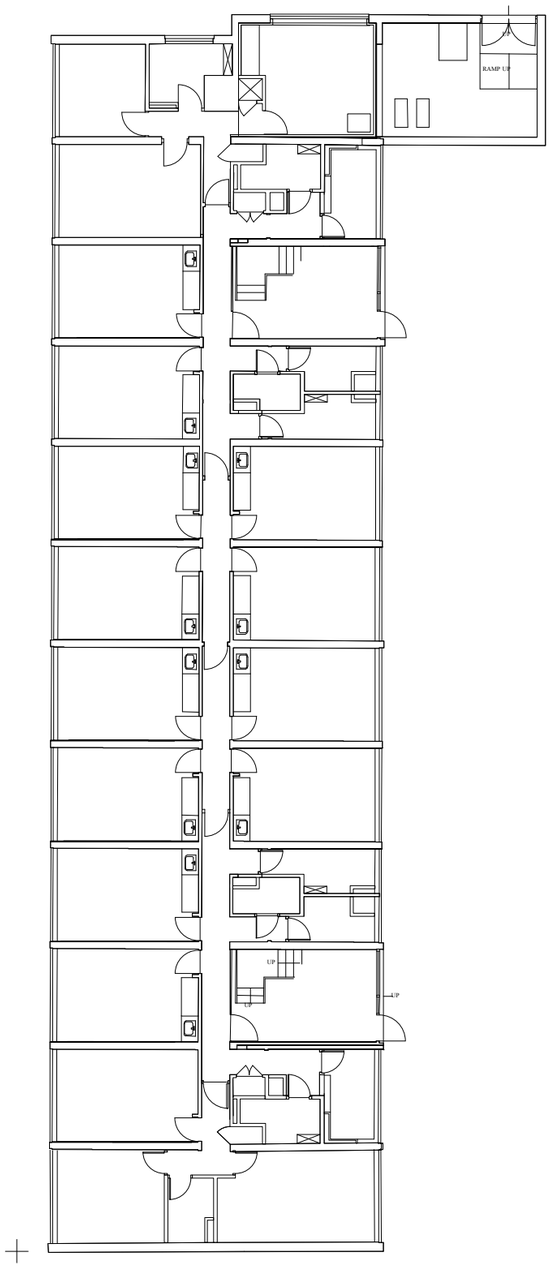
8.9 Marcus Lower Building Entrance Level (LG–3)

The proposed circulation passes from the New Refectory Building, through Marcus Lower building, onto the New Accommodation Block. One student bedroom is demolished to create space for this connecting passageway. The bottom steps of the existing staircase are modified to facilitate circulation through the space.

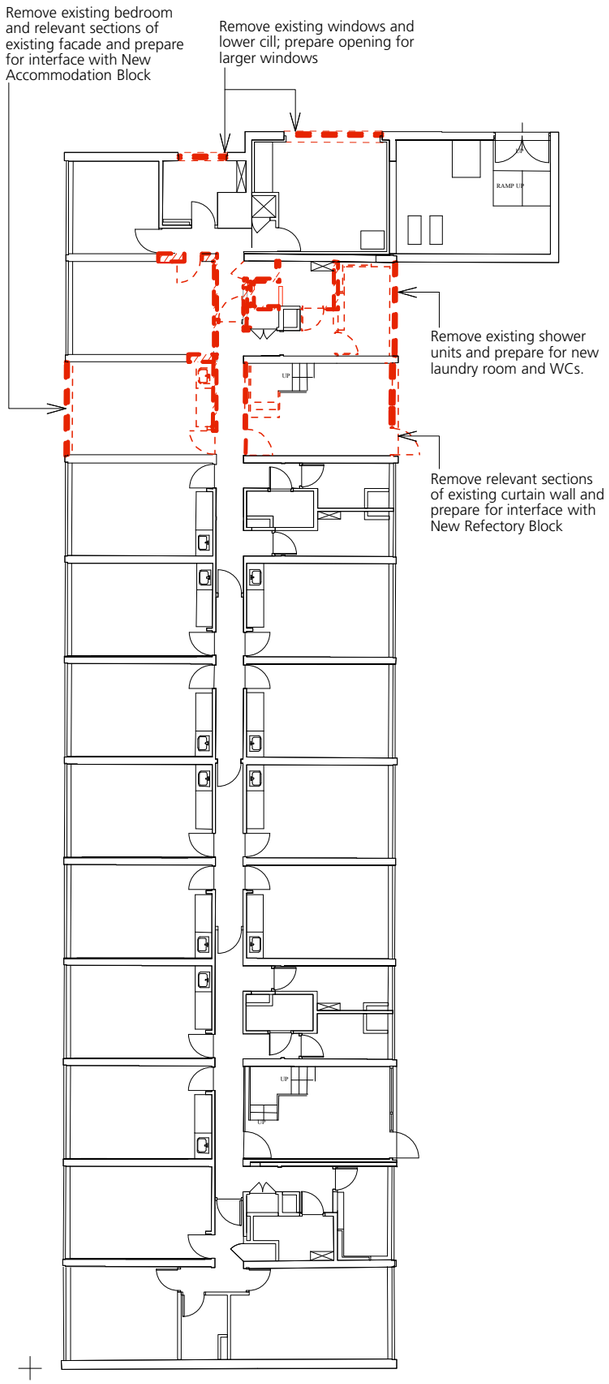
The existing shower units on the north side of this passageway are given over to WCs serving the school. The House Parent flat is modified with larger windows to give it better quality living space. A laundry is also inserted at the north end of the block.

KEY

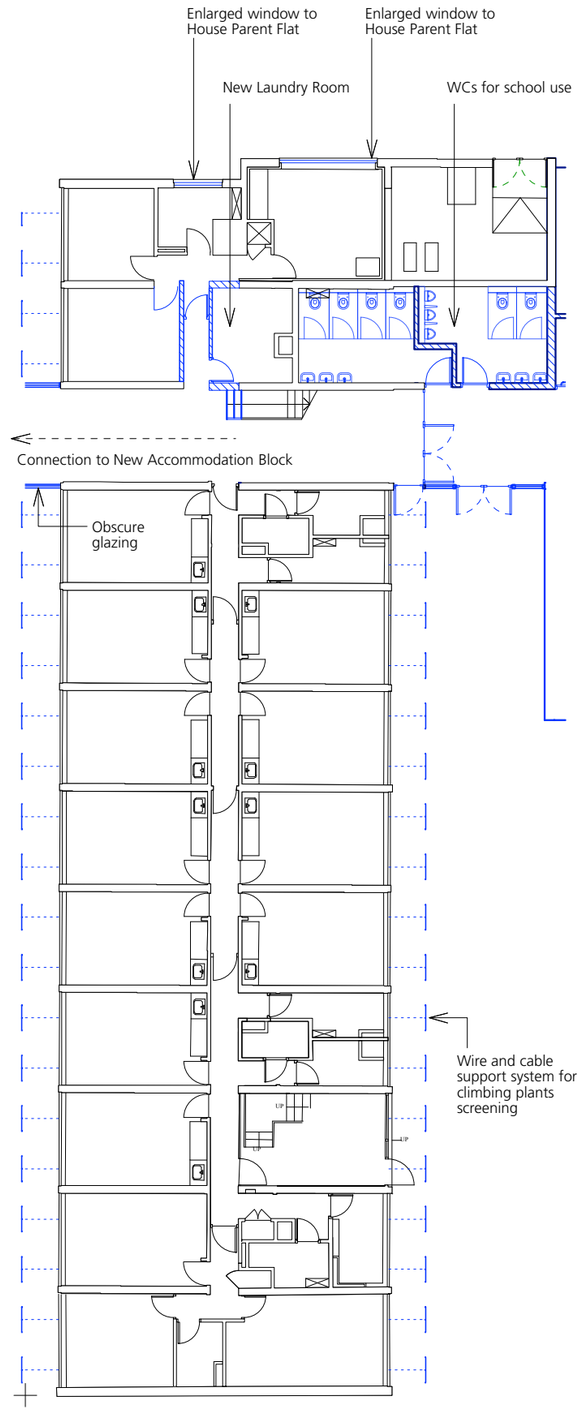
- Demolition in section
- Demolition in elevation
- Proposed additions in section
- Proposed additions in elevation



Marcus Lower Ground Floor (LG-3)
As existing



Marcus Lower Ground Floor (LG-3)
Demolitions



Marcus Lower Ground Floor (LG-3)
As Proposed

9. PROPOSALS FOR NEW BUILDINGS

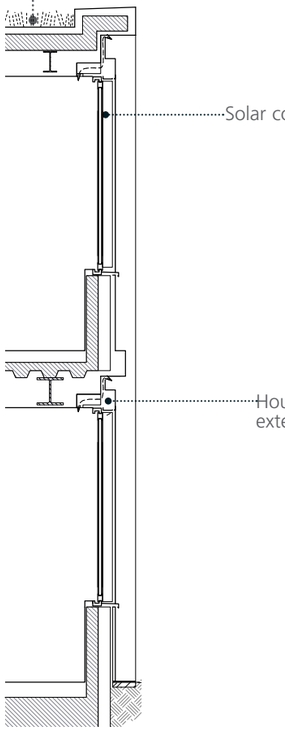
9.1 Materials & Finishes

The new buildings have a simple palette of materials of anodised aluminium with green roofs to produce a ‘garden’ architecture that works to complement the existing Cotuit Hall landscape and house.

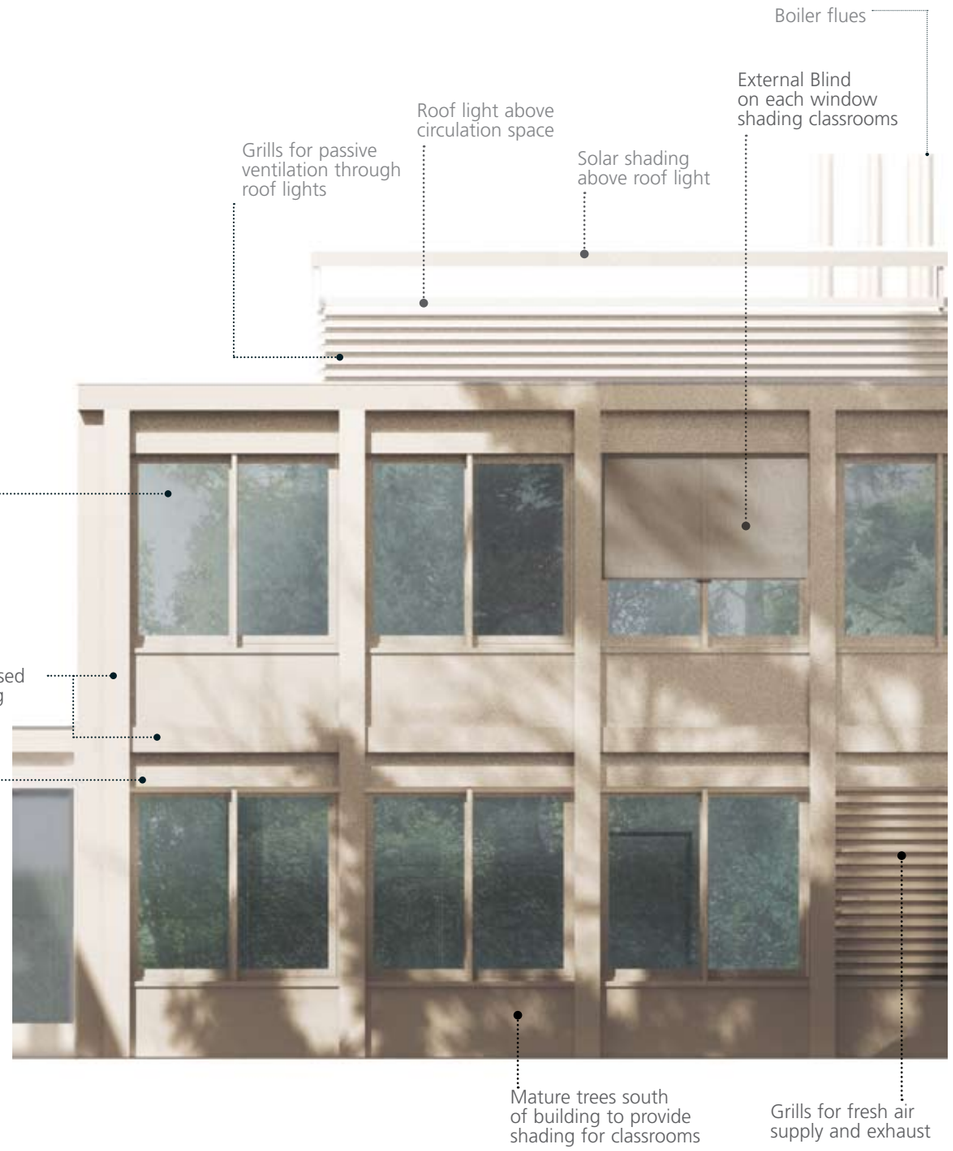
The main material expression is in the warm tones of the anodised aluminium. The depth of the proposed trabeated elevations gives the buildings a more layered appearance that will give subtle variation according to the spectators angle of view, time of day and changing light.

FACADE CLADDING:
- Light bronze anodised aluminium cladding
- Anodised aluminium window and door frames and columns
- High performance glazing

ROOF:
- Green roof



Typical classroom facade section



New Teaching Block partial South Elevation

9. PROPOSALS FOR NEW BUILDINGS

9.1 Materials & Finishes

The tone of the light bronze anodised cladding has been chosen to form a harmonious relationship with the existing brickwork and stone detailing of Cotuit Hall. The green roofs help to visually embed the low lying new buildings further into the landscape.

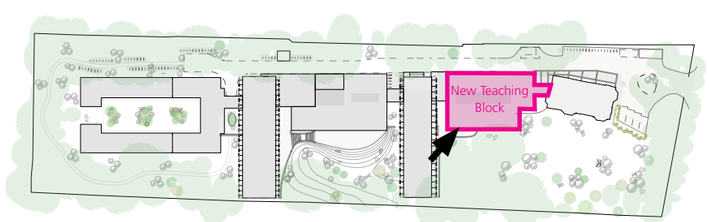
Materials Palette

Cotuit Hall partial south elevation: brick, stone, white painted timber

9.2 New Teaching Block

The New Teaching Block sits beside, and is connected to, Cotuit Hall. It introduces the trabeated language of the elevations in the new buildings

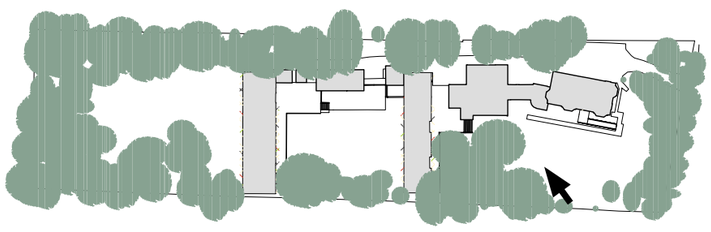
View of the New Teaching Block from the lower level looking back up towards Cotuit Hall



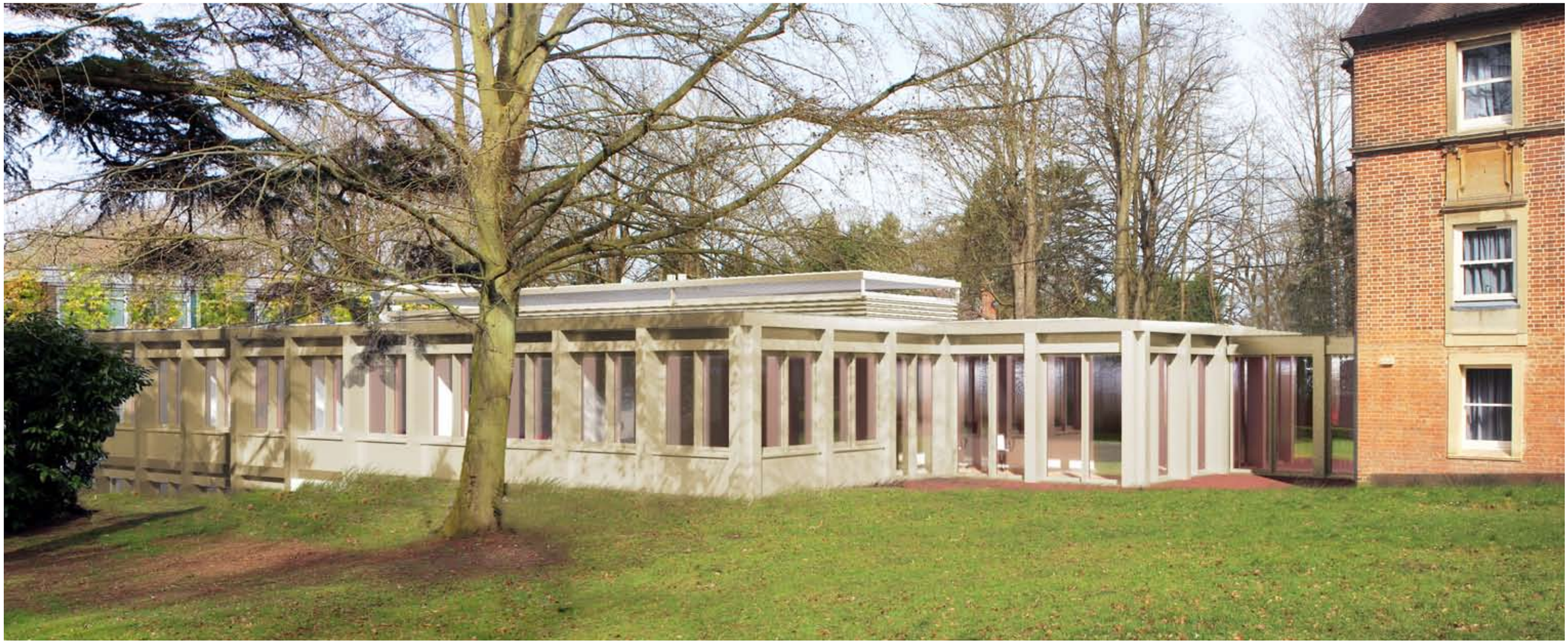
9. PROPOSALS FOR NEW BUILDINGS

9.2 New Teaching Block

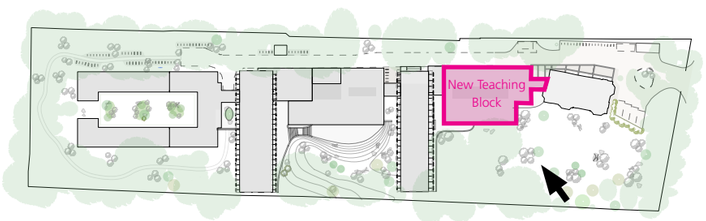
Existing Refectory Building



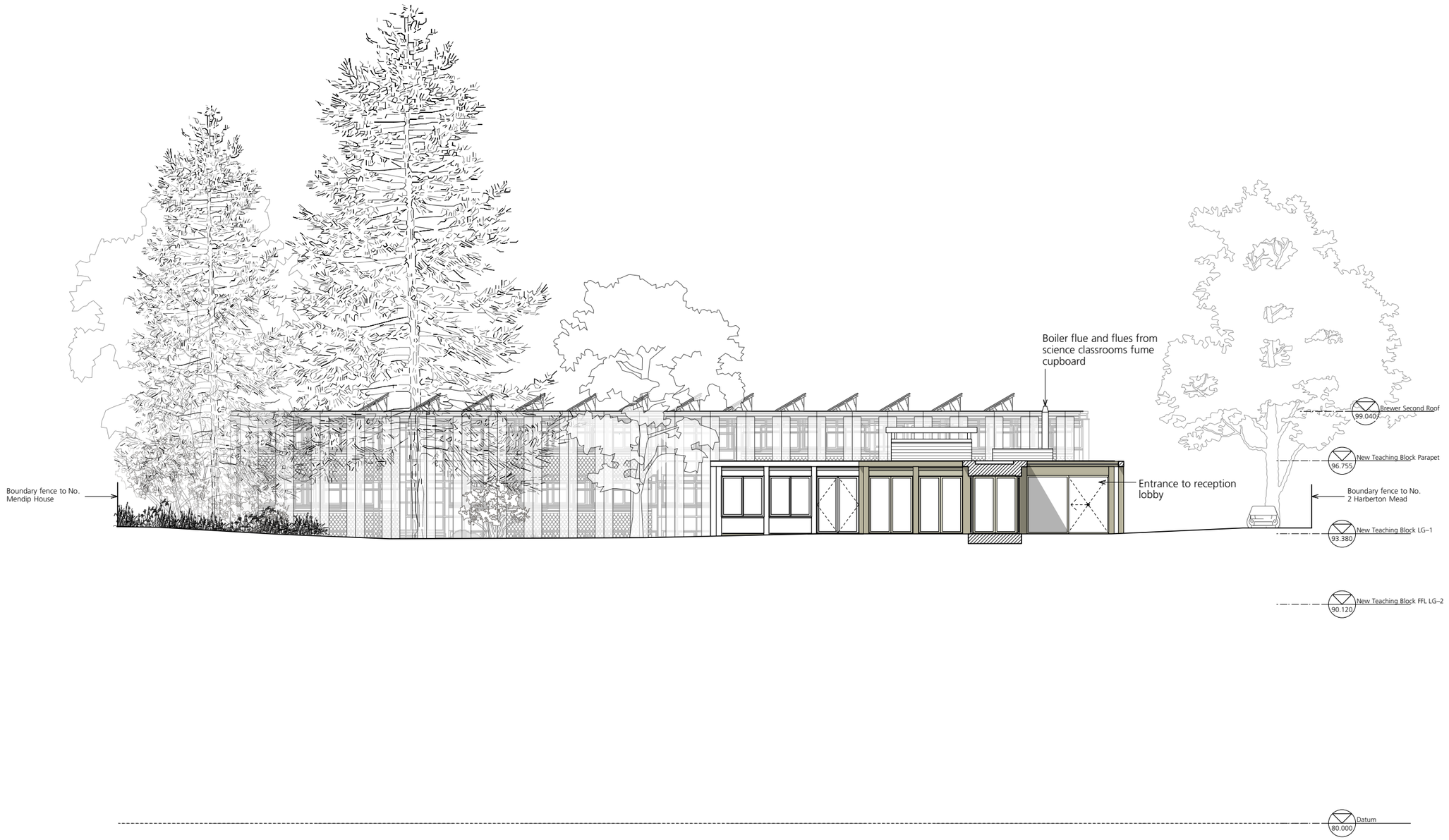
9.2 New Teaching Block



Proposed New Teaching Block



9.2 New Teaching Block



New Teaching Block East Elevation

9.2 New Teaching Block

New Teaching Block West Elevation

9. PROPOSALS FOR NEW BUILDINGS

9.3 New Refectory Block

Located in between the two existing accommodation buildings the New Refectory Block shares the simple palette of materials of anodised aluminium with green roofs. Variations within the fenestration reflect the different functions and needs of the gym, refectory and common room that are located in this block.

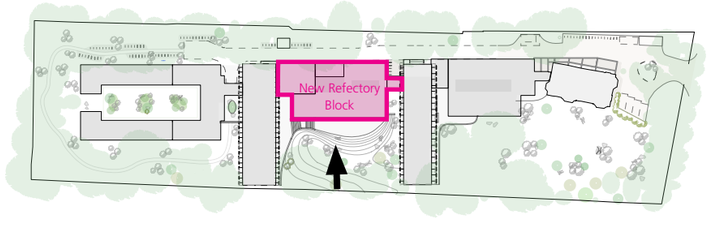
The New Teaching Block and the Brewer Building connects with the New Refectory Block at the upper level (LG–2), which contains classrooms, with the refectory and common room beneath (LG–4). A half level (LG–3) connects the block with Marcus Lower Building and the New Accommodation Block beyond. Located at this level are shared amenity spaces –the double height gym and the prayer room. Located on the north side are service spaces such as plant rooms and the kitchen, which will have level access for deliveries.

Middle Garden as existing

Visual of part of New Refectory Block south elevation

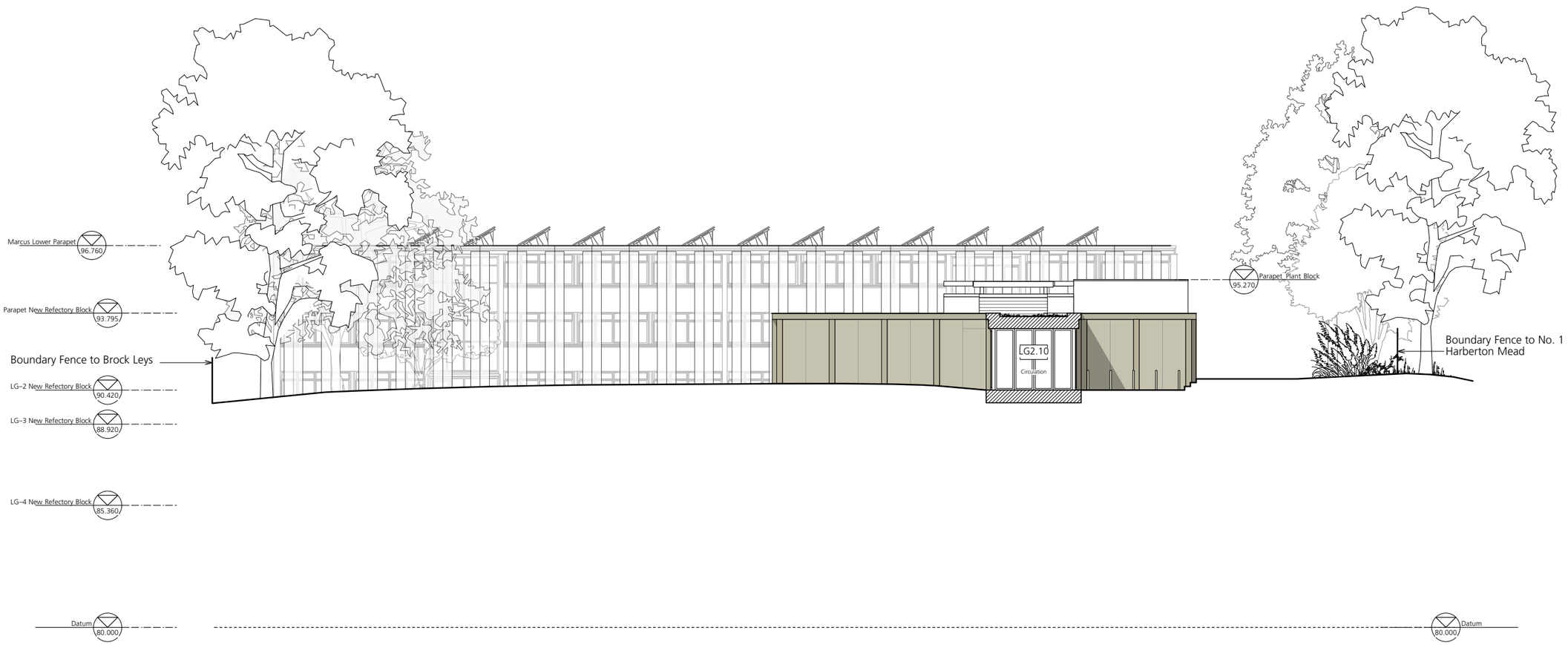
9.3 New Refectory Block

New Refectory Block south elevation – Note: New planting proposed by Todd Longstaffe-Gowan Landscape design not shown in this illustration



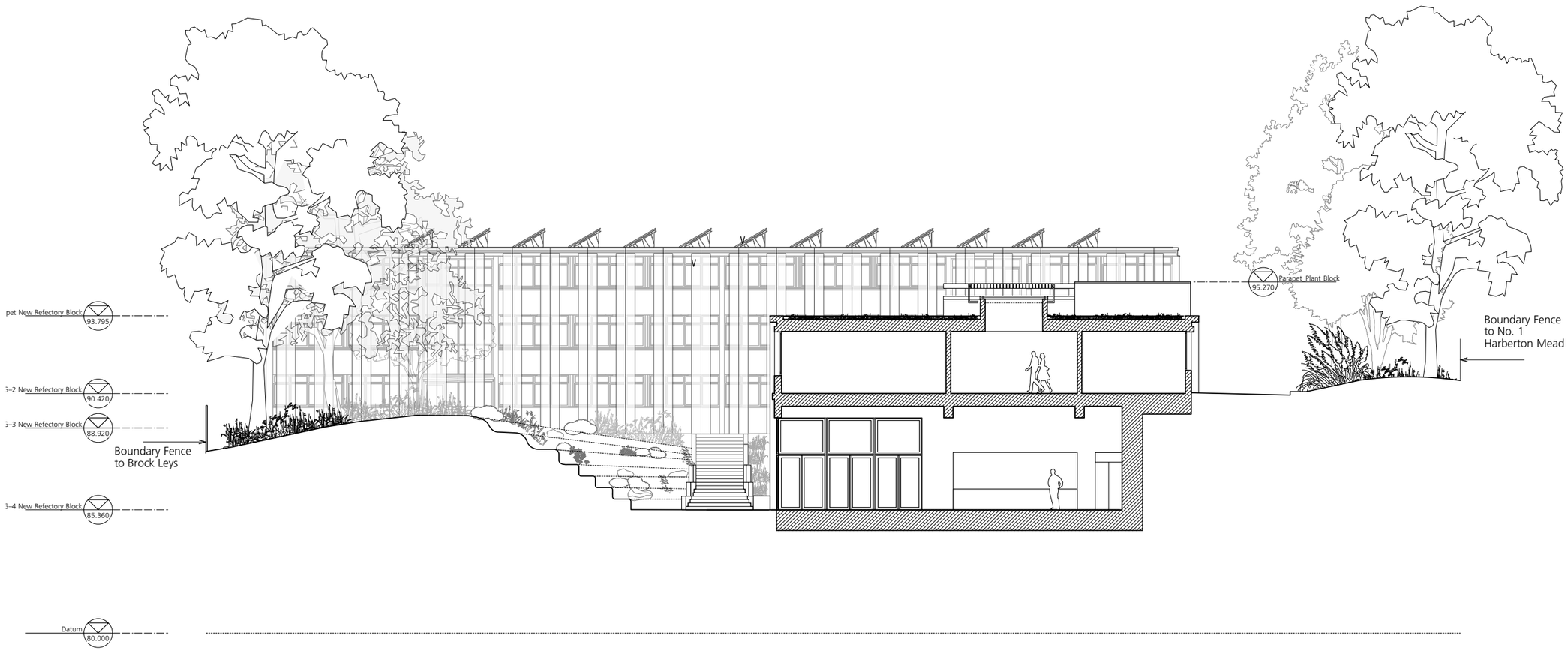
9.3 New Refectory Block

The terrace garden outside the refectory helps to contain noise and activities close to the building. Generous rooflights provide light to the circulation route in the middle of the block and gives views out to the tree tops in the site.



New Refectory Block East Elevation

9.3 New Refectory Block



Section across Terraced Garden and Refectory, with classrooms and central corridor above

9. PROPOSALS FOR NEW BUILDINGS

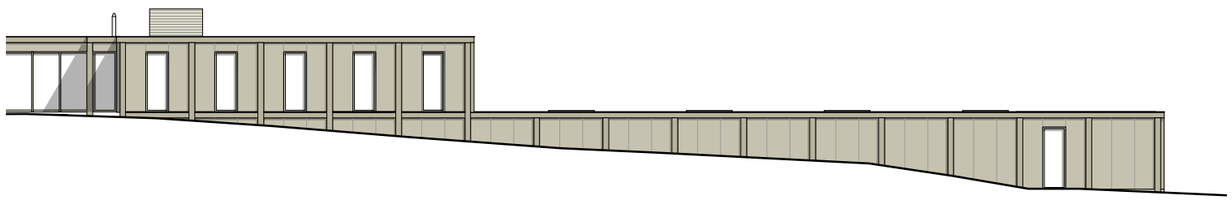
9.4 New Accommodation Block

The New Accommodation Block faces inward onto a courtyard. Student rooms are arranged around the courtyard with House Parent Flats located at the western end of the block. This design takes on board the advice given by the Design Review Panel (refer to Appendix II).

The New Accommodation Block is accessed from the east, as the termination point of the main internal access route connecting all the existing and new buildings. A staircase leads down to a common room that faces onto the courtyard garden.

The courtyard provides students and staff a different kind of outdoor space to the Upper or Middle Garden. This is described in more detail in the Landscape Report that accompanies this application.

The elevation of the New Accommodation Block shares the traviated language and material palette with the other new buildings at the school. This gives the site a coherent appearance, but also allows the block to have its own identity that reflects its residential function.

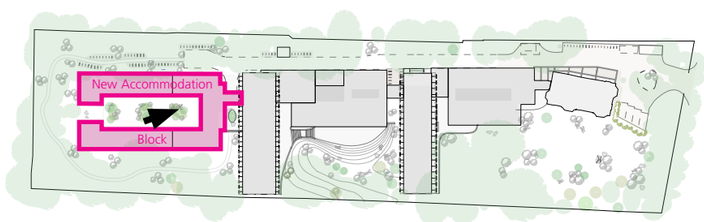


New Accommodation Block North elevation

New Accommodation Block – visual of part of courtyard elevation

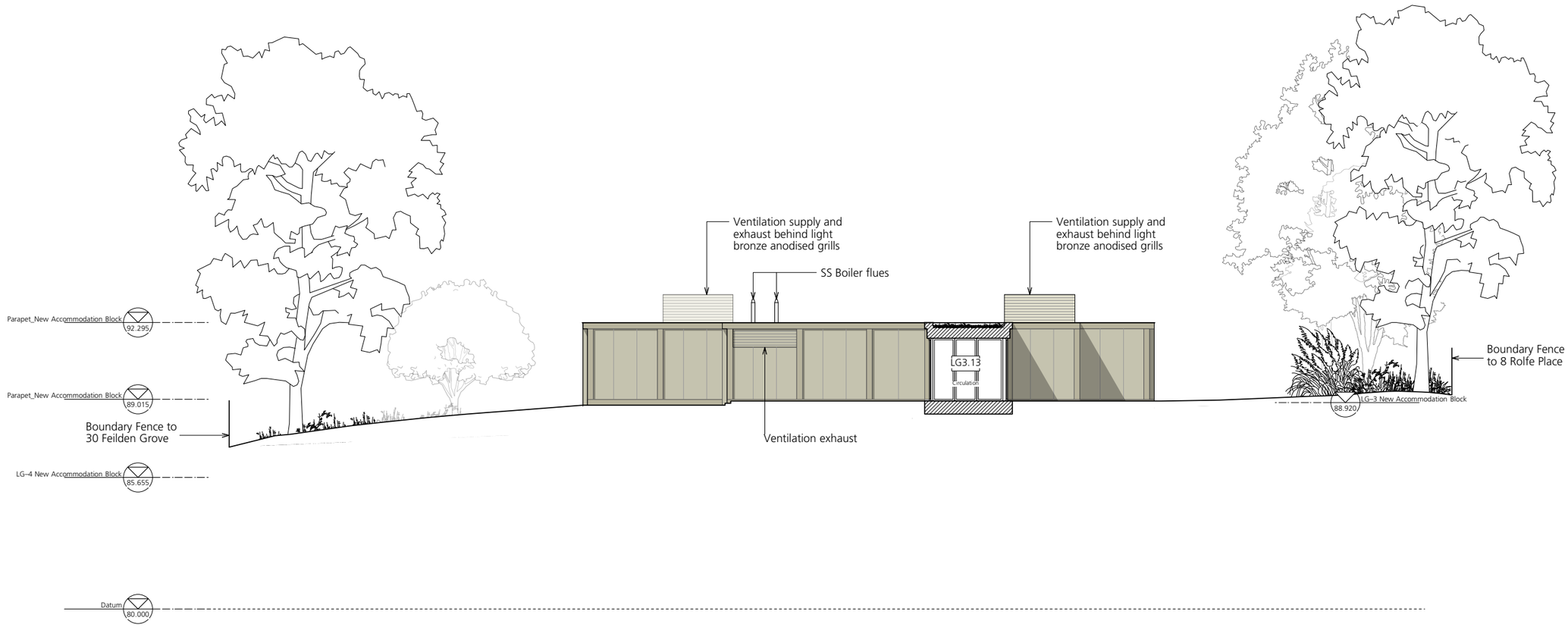
9.4 New Accommodation Block

Visual of New Accommodation Block courtyard (Note: Planting proposed by Todd Longstaffe-Gowan Landscape design not shown in image.)



9.4 New Accommodation Block

The E



New Accommodation Block East Elevation

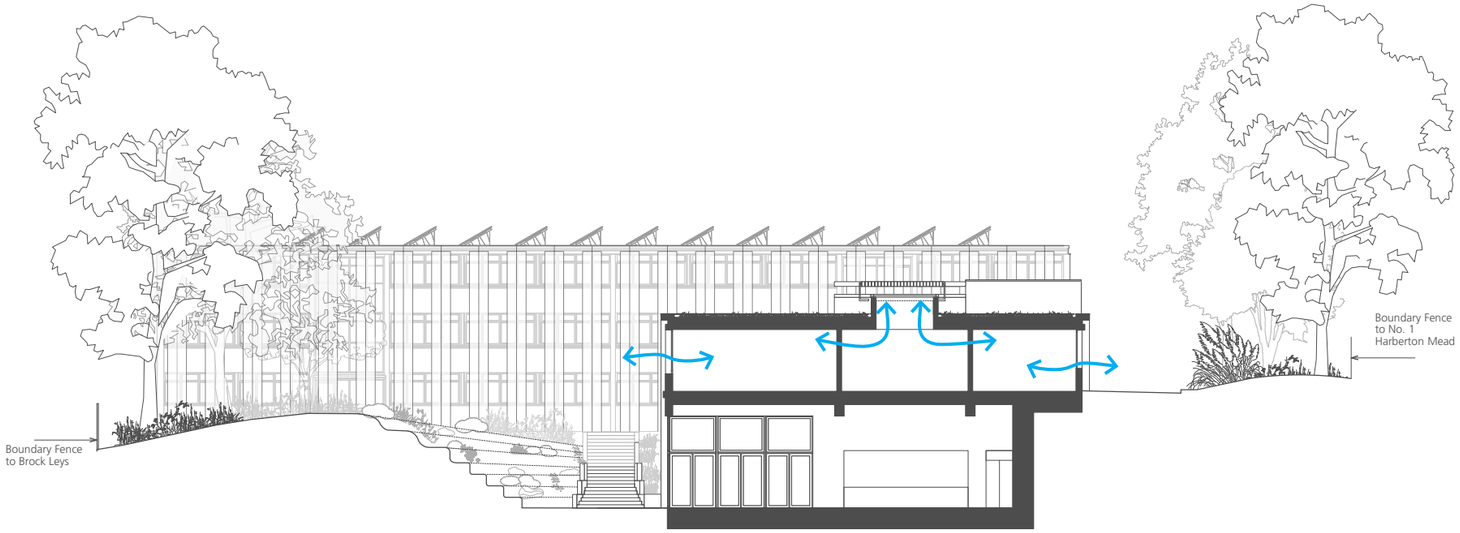
9.4 New Accommodation Block

New Accommodation Block West Elevation

9.5 Natural Ventilation

The ventilation strategy for the building utilises both mechanical and natural ventilation strategies which vary depending upon location within the building and levels of occupancy.

Naturally ventilated areas are reliant upon room occupants manually opening the ventilation panels. Mechanical ventilation is provided where natural ventilation cannot be relied upon to provide the necessary ventilation. This include areas such as the science labs, the gym and catering related spaces. Distribution of mechanical ventilation will be determined by the building management systems and based upon occupancy and CO2 levels.

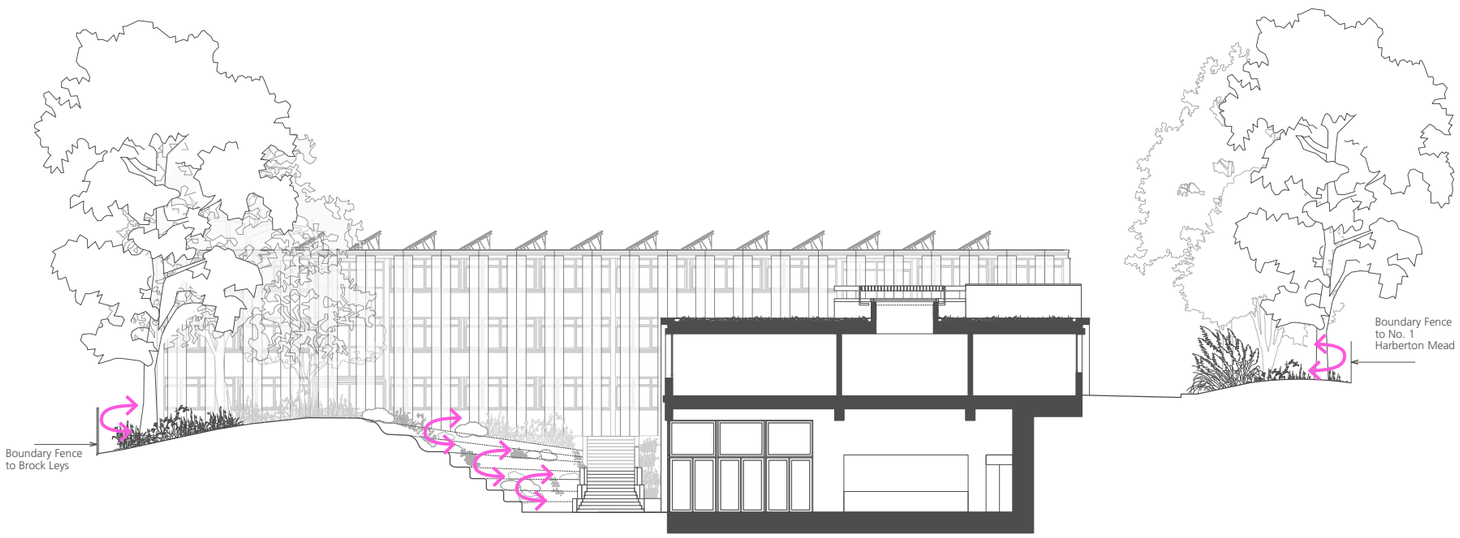


Section across Terraced Garden and Refectory – Ventilation Diagram

9.6 Noise Reduction

An acoustic noise survey has been undertaken at the site to determine existing ambient noise levels The results of the survey have informed the building façade design. The acoustic analysis of the building utilised criteria noise standards, including BS8233: 2014. Noise levels experienced in garden areas in adjacent properties will not exceed BS8233 55dB LAeq limit.

Plant equipment such as air handling units and condensers will have noise control measures applied to improve upon the required noise levels criteria at nearest residential buildings. Noise levels generated by plant equipment will not exceed existing background noise levels and therefore will have a negligible impact on existing external noise conditions at the nearest residential buildings.

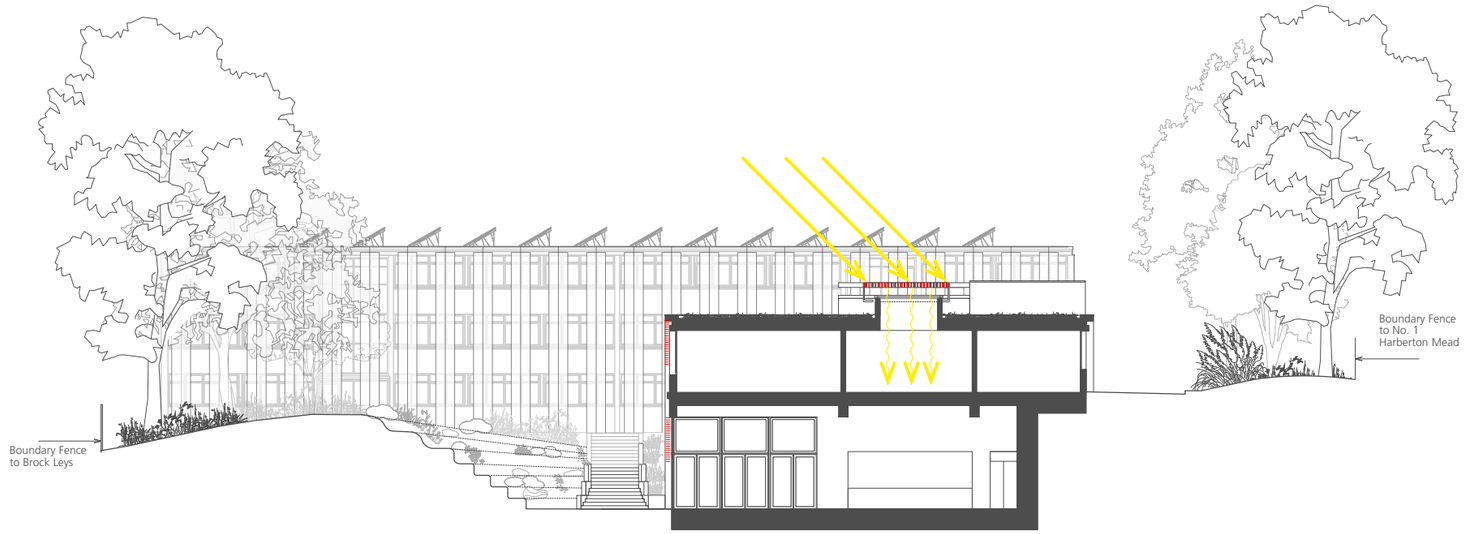


Section across Terraced Garden and Refectory – Acostics Diagram

9.7 Daylight and Solar Shading

The glazed facade provides generous natural light. The rooflights above the circulation spine running through the new additions to the school gives all areas located in the towards the centre of the buildings a good sense of natural light.

External fins to the rooflights, high performance glass and external blinds help to prevent overheating from solar gain and regulate internal temperature performance of the naturally ventilated classrooms in summer months.

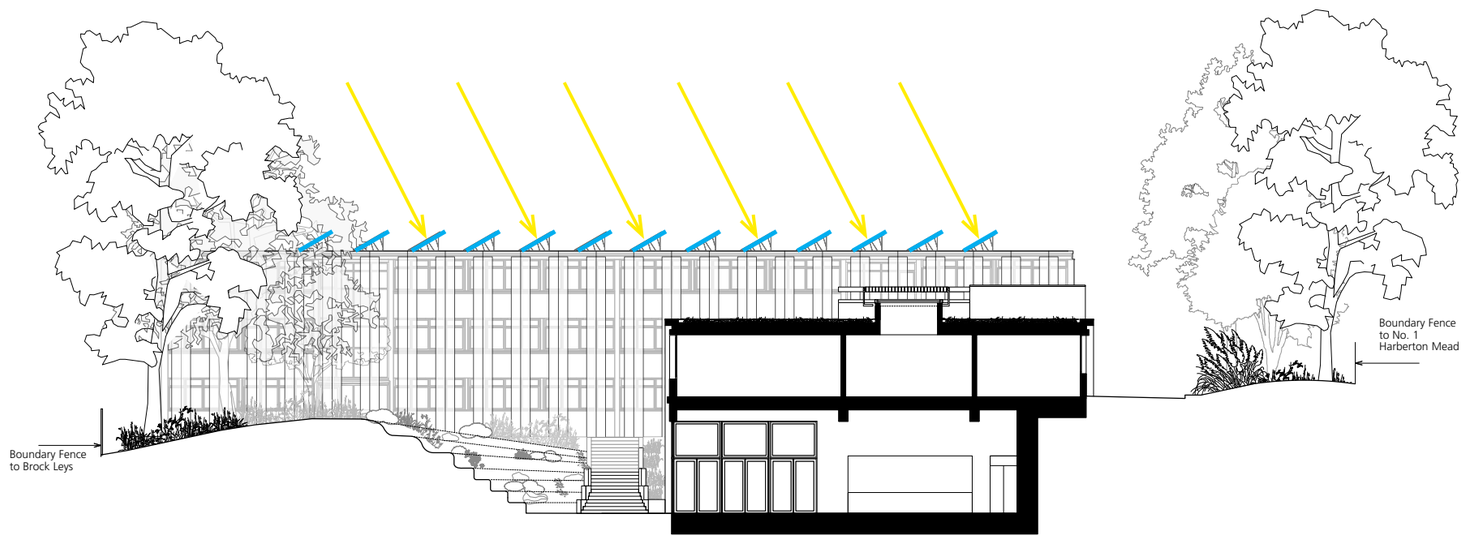


Section across Terraced Garden and Refectory –Daylight and Shading Diagram

9.8 Photovoltaic

As mentioned earlier in Section 8.7, the roofs of the existing Brewer and Marcus Lower Building are judged to be the most appropriate locations for PV arrays, which were selected as the most appropriate source of renewable energy for Cotuit Hall following an initial assessment.

Please refer to the NRIA and Energy Strategy prepared by Max Fordham that accompanies this application for more detail.



Section across Terraced Garden and Refectory – PV array Diagram

9.9 Foul & Surface Water Drainage

The site is located in a critical drainage area. The proposed development would potentially discharge foul water into the public sewer at Thames Water Manhole 3101, located within the site boundary.

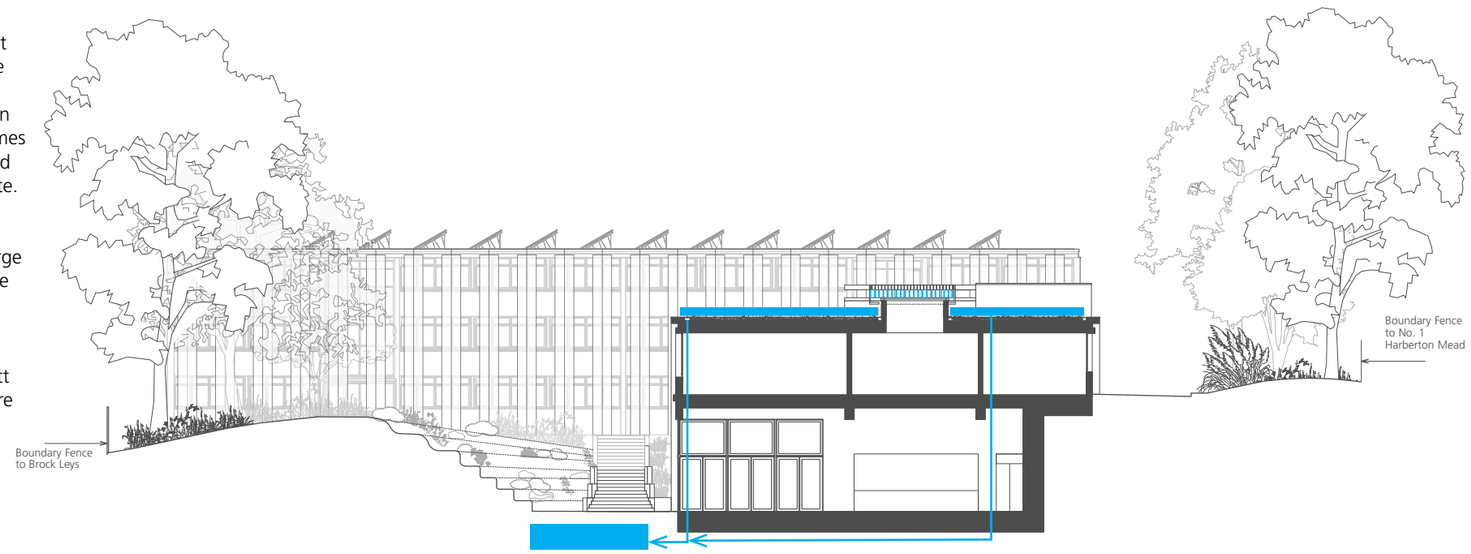
A branch of the public foul water sewer runs beneath the middle third of the site from south to north, parallel with another branch along Pullens Lane to the east of the site. The sewer turns east as it crosses the northern site boundary before connecting into the sewer beneath Harberton Mead at Thames Water Manhole 4101.

The level of Lower Ground Floor–4 in the scheme is lower than the Invert Level of the sewer at Manhole 3101. Foul water discharge from facilities such as WCs at that level in the New Residential Block and New Refectory Block will therefore have to be pumped to connect with the public sewer.

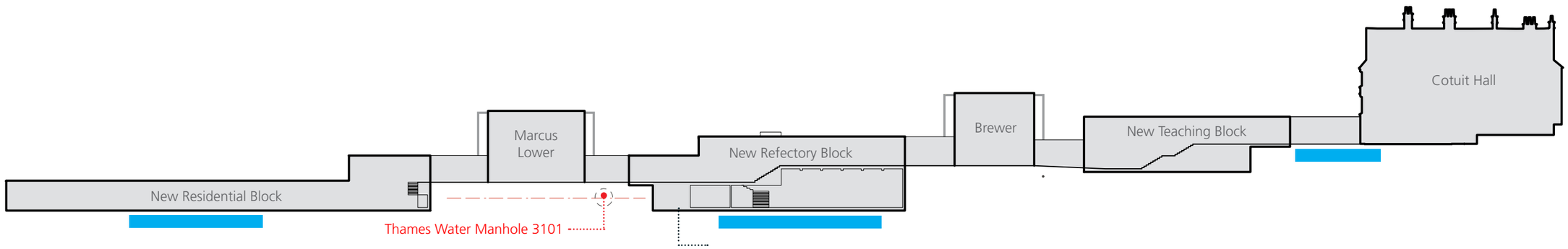
Infiltration testing was performed onsite, however it was not considered to be a viable option due to the low infiltration rates that were recorded. Therefore attenuation has been used as the most viable option for managing the surface water. Attenuation volumes have been calculated accordingly and are distributed within the landscape design in three areas of the site.

Green roofs help retain surface water and it is envisaged that the attenuation tanks would discharge to the existing Thames Water infrastructure near the site, utilising existing connections where possible.

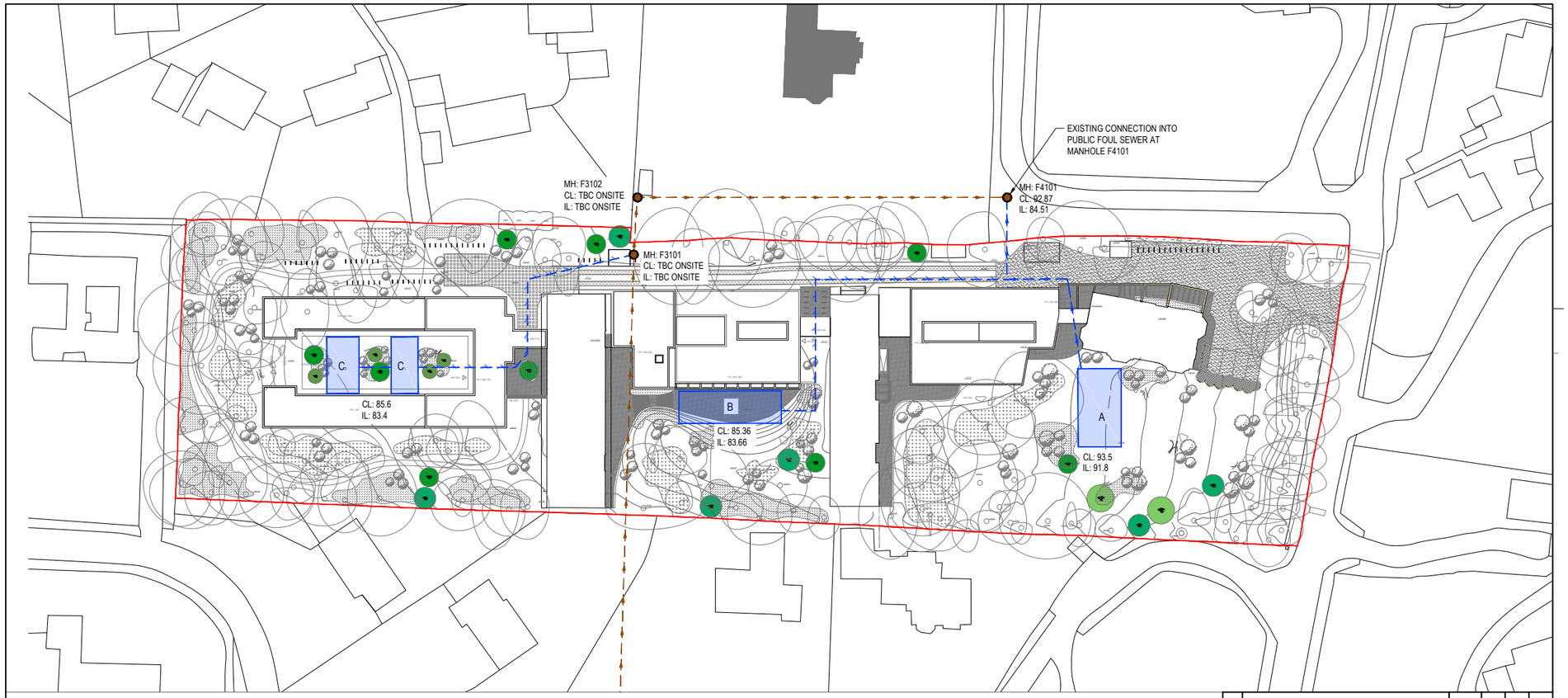
Please refer to the *Flood Risk Assessment* and *Foul Water Drainage Assessment,* prepared by Peter Brett Associates, that accompany this application for more detail.



Section across Terraced Garden and Refectory – Illustrative Attenuation Diagram



Section across Cotuit Hall Site – Illustrative Attenuation Diagram



GENERAL NOTES:

1. PROPOSED ARCHITECT LAYOUT SUPPLIED BY (TONY FRETTON ARCHITECTS, 275/D/002 , SEPTEMBER 2015)
2. PROPOSED LANDSCAPE LAYOUT SUPPLIED BY (TODD LONGSTAFFE-GOWAN LTD, TLG.342.GA.001 , JUNE 2016)
3. THIS SURFACE WATER MANAGEMENT STRATEGY (SWMS) SETS OUT THE KEY ASSUMPTIONS AND CONSIDERATIONS THAT HAVE BEEN USED IN THE DESIGN AND INTEGRATION OF SUSTAINABLE DRAINAGE SYSTEMS (SUDS) WITHIN THE DEVELOPMENT PROPOSALS.
4. THE DEVELOPMENT AREA IS LOCATED OUTSIDE OF 100 YEAR + CLIMATE CHANGE FLOOD EXTENTS
5. FROM THE SOILS REPORT (GROUND INVESTIGATION SERVICES (SOUTHERN LTD) S.4807, 16.05.2016) IT HAS BEEN DETERMINED THAT INFILTRATION WILL NOT BE POSSIBLE DUE TO GROUND CONDITIONS.
6. THE TOTAL DEVELOPMENT AREA IS 1.13 HA.
7. THE IMPERMEABLE AREA IS APPROXIMATELY 0.451 HA.
8. THE FOLLOWING ASSUMPTIONS HAVE BEEN USED IN THE SWMS DESIGN:
9. THE GREENFIELD RUNOFF RATE IS TO BE 5L/S USING THE IOH124 METHOD FOR ALL EVENTS UP TO 1% AEP + CLIMATE CHANGE.
10. THERE IS AN EXISTING SURFACE WATER CONNECTION INTO THE PUBLIC THAMES WATER SEWER AT MANHOLE F4101. IT IS PROPOSED TO MAINTAIN THIS CONNECTION AND LIMIT RUNOFF FROM THE SITE IN LINE WITH THE REQUIREMENTS OF THE OXFORD CITY COUNCIL LEVEL 2 STRATEGIC FLOOD RISK ASSESSMENT FOR CRITICAL DRAINAGE AREAS (MIN 30% REDUCTION IN DISCHARGE RATE). ON THIS BASIS, THERE IS LIKELY TO BE A DECREASE IN IMPACT ON THE SEWER SYSTEM AS A RESULT OF THE DEVELOPMENT PROPOSALS.
11. BASED ON THE ASSUMPTIONS, THE VOLUME OF ATTENUATION REQUIRED FOR ALL EVENTS UP TO AND INCUDING 1% AEP IS 389m³ WITH 30% CLIMATE CHANGE ALLOWANCE . ASSUMING A DISCHARGE RATE INTO THE THAMES WATER SYSTEM OF 5l/s EVENTS UP TO 1% AEP + CLIMATE CHANGE
12. DESIGN UNDERTAKEN IN ACCORDANCE WITH BEST PRACTICE & NPPF.

ATTENUATION TANK NOTES:

13. THE ATTENUATION TANK SIZES HAS BEEN CALCULATED USING WINDES MICRODRAINAGE:
14. THE PROPOSED ATTENUATION TANKS REQUIRE A COVER OF 0.5m AS THERE IS NO VEHICULAR LOADING EXPECTED
15. (TABLE SHOWING POND VOLUMES AND LAND TAKE):

ATTENUATION TANK	AREA (m²)	VOLUME WATER (m³)
A	116.00	132.24
B	114.00	129.96
C (C_1→C_2)	115.50	131.67
TOTAL	345.50	393.87

KEY

- INDICATIVE POSITION OF EXISTING FOUL THAMES WATER SEWER
- INDICATIVE POSITION OF EXISTING FOUL WATER MAHOLE
- PROPOSED PUMPED CONNECTION
- PROPOSED GRAVITY CONNECTION
- X — PROPOSED ATTENUATION TANK

Mark	Revision	Date	Drawn	Chkd	Appd

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.

UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.

Drawing Issue Status: For Information

EF Academy, Oxford
Cotuit Hall

Proposed Surface Water Management Plan

Client: Tony Fretton Architects

Date of 1st Issue	Designed	Drawn
30.06.2016	RS	CA
A2 Scale	Checked	Approved
1:500	MD	MD
Drawing Number		Revision
36765-2001-001		-

peterbrett
Offices throughout the UK and Europe
www.peterbrett.com

OXFORD
Tel: 01865 410000

user name: claire.alvey

File Location: j:\36765 - cotuit hall\cad\dwgs\36765-2001-001.dwg

Attenuation Plan by Peter Brett Associates