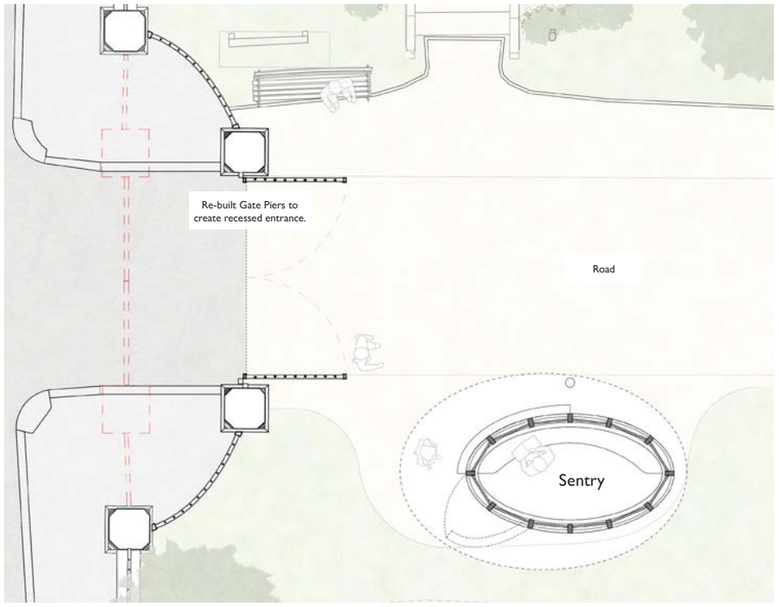
## 5.5 ENTRANCE SENTRIES (EAST SIDE, PROJECT 5)

**Materiality**

In a similar manner to all new buildings, the base of the sentry will be made with a layered aggregated concrete in part using recycled materials where possible from within the cemetery. This provides a robust base upon which an expressed timber structure with a series of faceted timber sash windows allow for open ventilation and engagement with members of the public from inside.

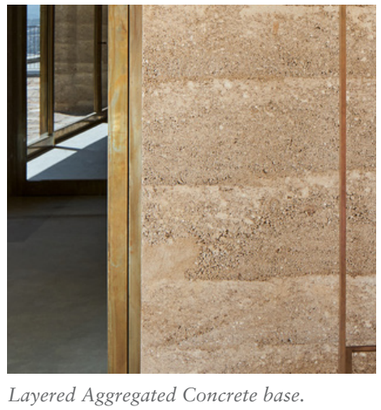
The roof structure overhangs these windows to provide shelter for members of the public asking for information. It is intended to clad this overhang in Slate so that it contextually responds to the roof of the Chapel and nearby Education & Community Building. Similarly the timber for the windows will be grey to blend sensitively with the context.




*Plan of Swain's Lane Entrance Gate & Sentry.*


*Elevation of Sentry to Swain's Lane*


*Slate to Canopy*



*Layered Aggregated Concrete base.*

*Custom Timber-framed glazing.*

*Illustrative Views of Sentry at Swain's Lane, looking towards Chapels (shown with reinstated exterior features).*

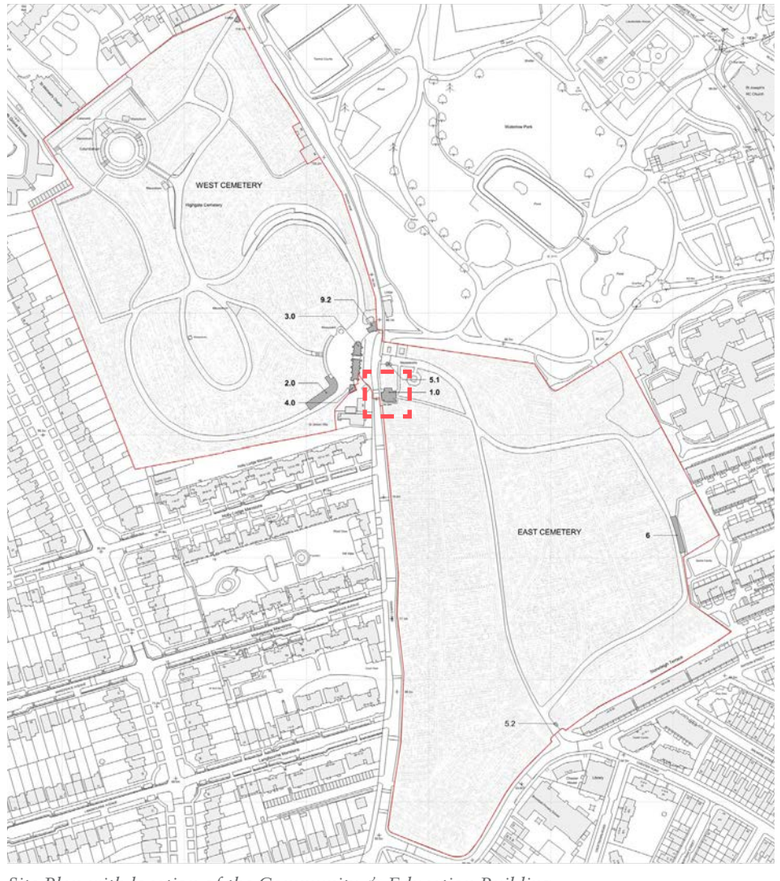
## 5.6 EDUCATION & COMMUNITY BUILDING (EAST SIDE, PROJECT 1)

**Location:**

The proposed Education & Community Building is situated on the existing gardeners' compound and toilet building site which is proposed to be demolished. This is also the location of the historic coffin tunnel.

The plot is visible on all four sides nestled behind the existing boundary wall where the East Cemetery meets the public highway as Swain's Lane with an level change of between 900 to 1800mm. The ground level slopes from north to south across the plot. There are graves in close proximity to the north, east and south - and the proposed building footprint is planned around the locations of these (where known) and offset by 500mm.

The scope for this project was to provide a new architectural building suitable for the brief as further described below.




*Site Plan with location of the Community & Education Building.*

*Photograph of the existing East Compound Building.*

**Brief, Function & Use**

The brief for this building was to provide two community spaces, approximately 6m x 6m each for up which could accommodate school groups and spaces for up to 30 people for public events such as:

- Visits from school groups
- Community events
- The potential for a rentable flexible public space
- Revealing of historic tunnel; repaired and conserved.

Further detail on the uses can be found in the Trust's Interpretation & Activity Planning document. In addition to the above the building needed to be adaptable to future needs with a main structure that could last up to 100 years.

It was not deemed viable to refurbish the existing building as this did not provided a sufficient increase in accommodation area. A new building brought the opportunity to maximise the basement space, re-create a connection to the tunnel and improve accessibility and functionality.

**The Tunnel**

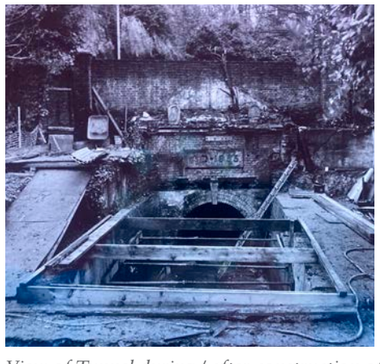
- Constructed 1855 to connect the 'New Ground' later known as the East Cemetery to the existing West Cemetery. Listed Grade II.
- Linked to Chapel crypt to allow transfer of coffins.
- Western portal in-filled 1967 with concrete by LB Camden.
- Most of approach cutting on West side lost 1967 to Winter House development.
- Eastern portal survives incorporated into 1994-built East Gardeners' Compound.

Proposed conservation works to portal and Tunnel Vault

- Careful demolition of existing concrete slab abutting portal brickwork and de-vegetation of cornice and parapet, lift, re-bed and repoint stonework.
- Making-good brickwork, where affected by slab. May require matching bricks to be pieced-in.
- Rake-out and repoint portal brickwork using lime mortar.
- Pin broken-off sections of cornice and carry out selected mortar repairs to other defects where required.
- Shelter-coating to eroded masonry e.g. date stone.
- New flooring of yorkstone flags which will extent to new cutting.



*Existing Plan showing the existing basement and portion of tunnel below Swain's Lane.*




*View of Tunnel during / after construction of existing compound.*

## 5.6 EDUCATION & COMMUNITY BUILDING (EAST SIDE, PROJECT 1)

**Concept & Development:**

The concept for this building calls for a volume that is seen in the round, contextually responsive and yet modern in character. It is a public building, accessible not just from within the east side of the Cemetery but also directly through two new gates from Swain's Lane.

It is designed to sit subserviently in the context of the John Winter's House, the Chapels & adjacent mausolea and is both informed by, yet visually distinct to the various funerary architecture present on the Cemetery. The solidity and spatial arrangement of this building takes its cues from other buildings and structures within Highgate Cemetery such as the Beer Mausoleum and the 'compress and release' of the entrance to the Egyptian Avenue and Circle of Lebanon. Whilst appearing solid externally a series of carefully punched window openings provide views out to the cemetery as well as important backdrops to the tunnel.

A heritage benefit is seen in how the entrance to the existing Highgate Cemetery Tunnel will be restored and will become a visual focus internally with large picture windows overlooking this entrance from the ground floor and basement gathering spaces.

**Mass & Scale:**

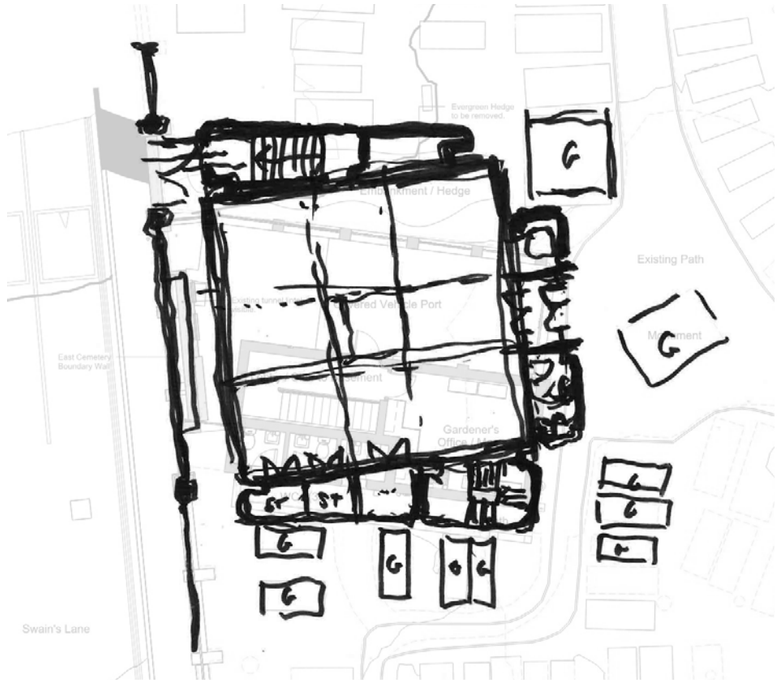
The building is situated with a heavily constrained site with several gravestones arranged in what appears to be a loose orthogonal arrangement. There has been a significant reduction in the massing of this building from a 3-storey to a 1-storey with tapering roof and fragmentation of the ancillary supporting spaces, during the course of its development.

The approach was to create a main gathering space, square in plan and defining a primary gathering space at ground level with a voluminous internal space that takes advantage of the height of a pyramidal sloped roof form above the walls which is top lit, creating a dramatic experience for groups to gather. Situated around this primary volume and working in-between the grave constraints are a series of poche 'servant' spaces accommodating various supporting functions for the primary gathering spaces such as toilets, cloakrooms, kitchenettes and storage. The building's design takes advantage of its ground level being between 1 to 1.8m below Swain's Lane. The resulting overall height and mass of the compound is not only subservient to the Chapel but also to the John Winter's modernist house extension on the other side of the road.

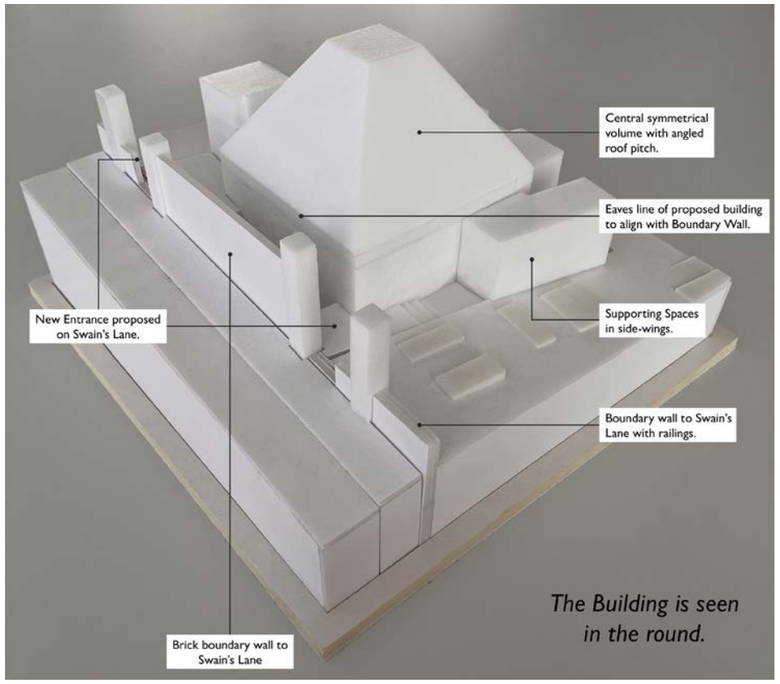
**Consultation Feedback:**

Several meetings were held on this building with numerous stakeholders and Camden Local Authority and Historic England. Feedback from LBC & HE guided much of the development of the building - reducing its massing and exterior material palette. The design took note of direction from Rose Todd, senior Conservation Officer at Camden, as well as the client, suggesting references for exaggerated roof forms taper massing & materiality (Assyrian Tombs & Liverpool Metropolitan Cathedral). The design also responded to the feedback from the DRP in regards to defining a material palette for all the new buildings, to bring them together visually. New window openings have been formed to create connections with the east cemetery to the south and north.

The final design proposal has been positively supported by many stakeholders not just in its ability to provide a functional, for the Cemetery's public programmes and visitors but also a new public space for the community. The special character of the building that is not only modest in its appearance externally but also powerful and dramatic with the light and space inside.

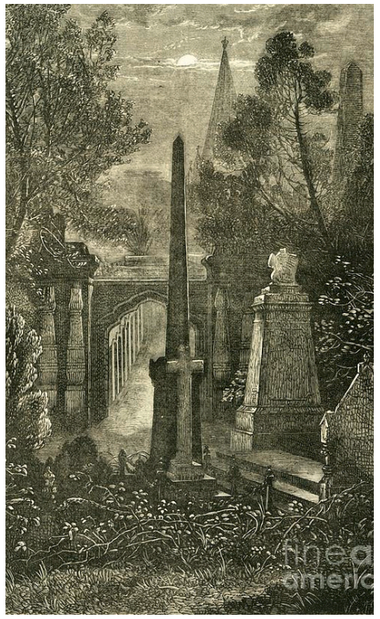



*Parti Sketch-Plan - A central volume, orientated on the Tunnel with supporting spaces.*




*Massing Model of Tapered Roof Form & Poche Spaces*

*Tall sculptural elements punctuate the tree canopy to create a layered vista.*



*Cemetery Etching, Edward Walford, 1877*

*Client Reference: Assyrian Tombs*

*Camden Conservation Reference: Liverpool Met. Cathedral*

## 5.6 EDUCATION & COMMUNITY BUILDING (EAST SIDE, PROJECT 1)

**Layout & Accessibility**

As previously noted in the mass & scale section, this building has a primary volume containing flexible gathering spaces of which are a series of supporting poche servant spaces.

These gathering spaces can be independently accessed from the outside either through a lift or staircase on Swain's lane or through an entrance vestibule on the East.

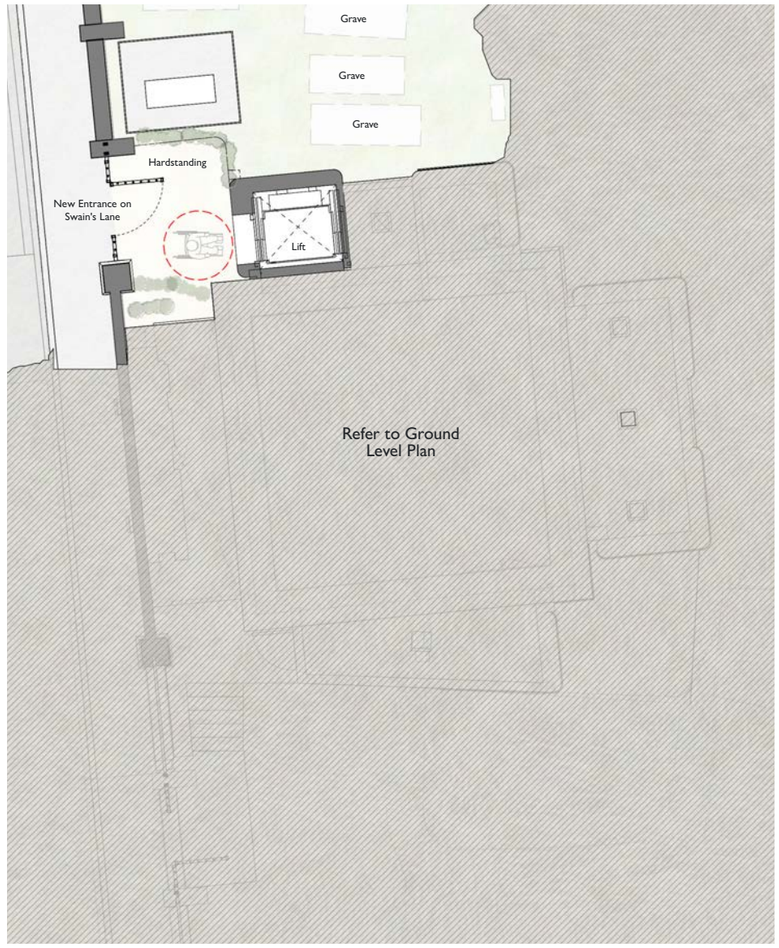
The primary entrance is from within the east side of the Cemetery this is step-free. The entrance vestibule is flanked with a storage / coat room and kitchenette with the door leading to the central space centred on the tunnel.

The provision of two new gates on the boundary wall with Swain's Lane allow the building to be accessed out of hours should the East Cemetery main gate be closed which offers further flexibility in terms of its function and use. Step free access is also available through a lift to the side of the main gathering spaces.

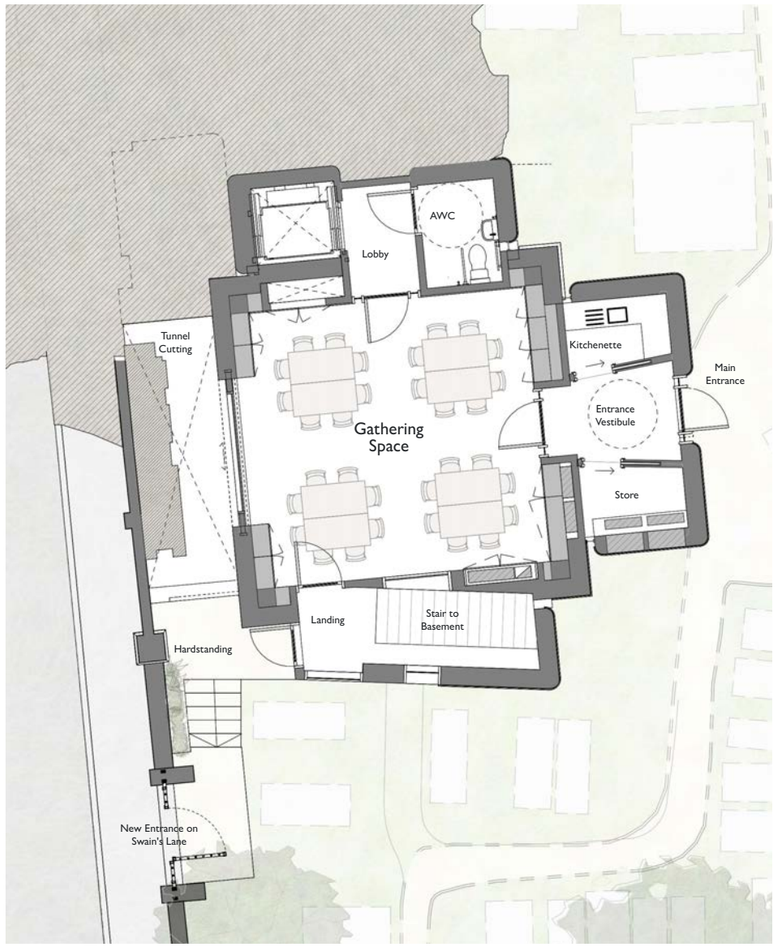
From the central space at ground level, the poche to the north accommodates an accessible WC and lift; the poche to the south included the staircase to the basement level.

At the basement level additional ambulant and accessible WCs are provided. The central gathering space connects onto the tunnel via a newly formed cutting between the proposed building and boundary wall; which is sheltered at high level by a glazed canopy. Building users are able to access this external space via a sliding door. There are equipment rooms at basement level for the MHVR unit and water heater.

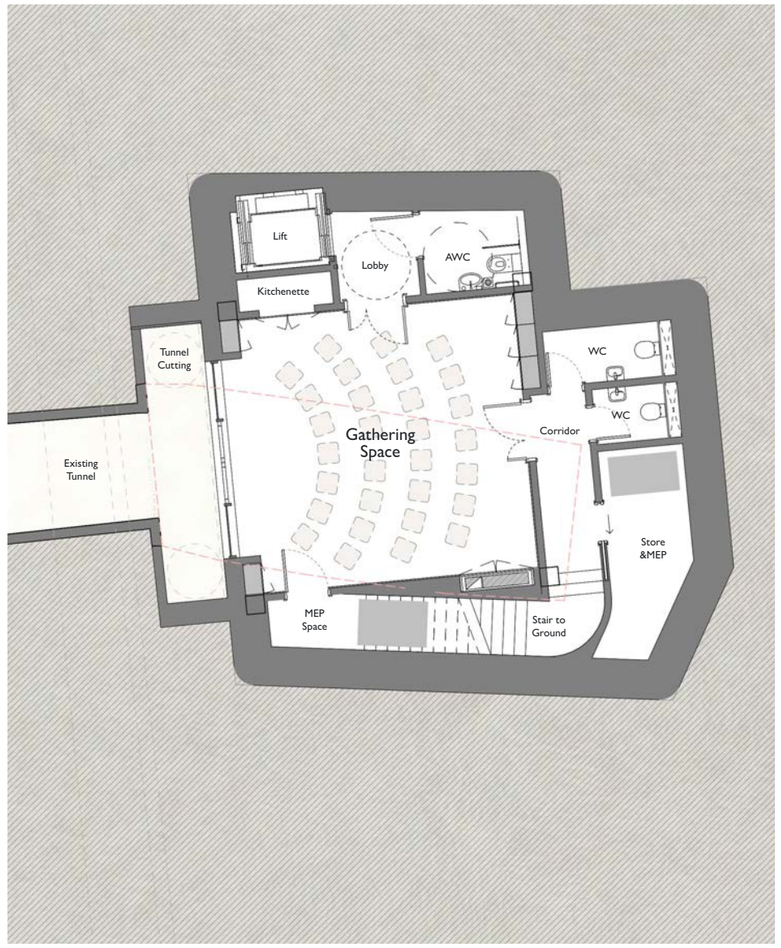
There are pocket storage spaces throughout the build to maximise the available area for accommodating furniture and other resources related to the use of the gathering spaces (education materials etc.).




*Upper Ground Level (landing and lift access to Swain's Lane.*



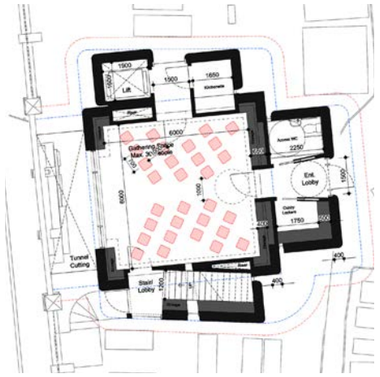

*Ground Level Plan*



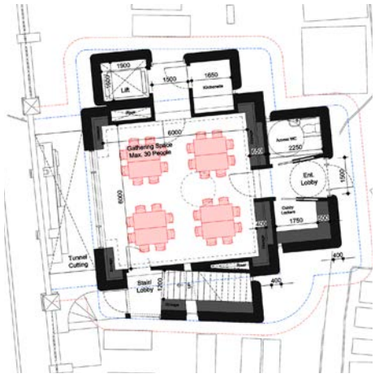

*Basement Level Plan*

## 5.6 EDUCATION & COMMUNITY BUILDING (EAST SIDE, PROJECT 1)

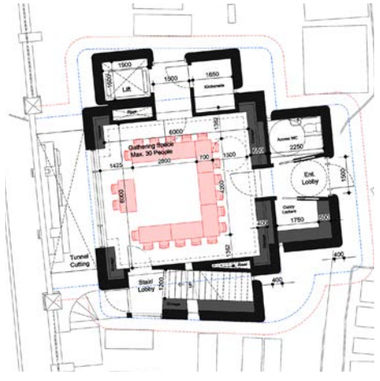
The central spaces have been designed to accommodate a wide range of uses for visiting groups they are approximately 40m² each. Options for furniture configurations have been developed, with storage of these items considered. Space use/ arrangements outlined below.



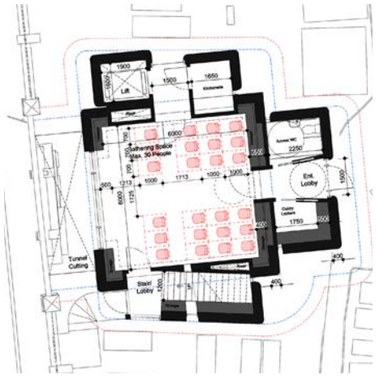
*Informal Classroom with 30 seating mats.*



*Classroom with tables & chairs for 30px.*



*Committee 'Seating in the Round' 20px.*



*Lecture Seating for 24 px.*

**Security**

The majority of the external envelope of the building being constructed from a layered aggregated concrete makes it extremely secure from the outside. All windows and doors would also be robust and made from solid timber. Suitable locking mechanisms and access control will be considered at RIBA Stage 4 following the secure by design principles.

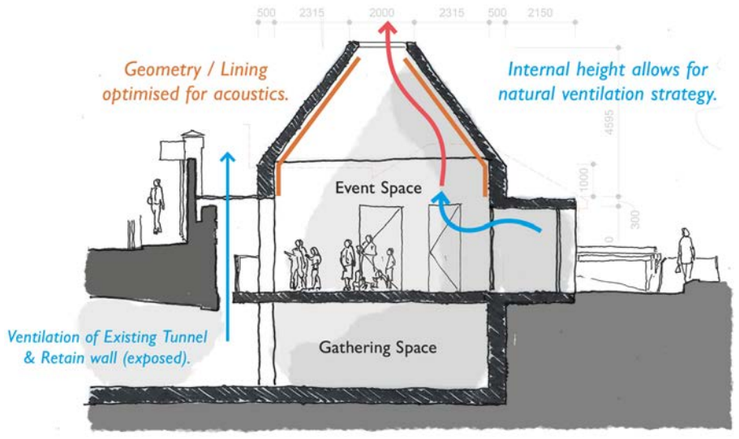
**Servicing**

As noted previously the building can be serviced by the East Cemetery and from Swain's Lane through two gates, one of which connects to a lift serving all floors. Storage Spaces at Ground Level. It is understood that visitors to this building will be accompanied by Cemetery Staff/Volunteers familiar with its layout. The gathering spaces are intended to be provided with stackable furniture that can be stored in nearby niche and poche spaces.

**Environmental Strategy**

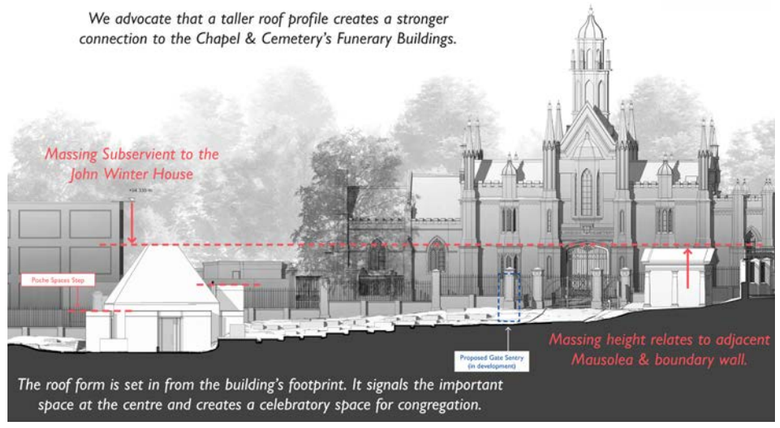
Whilst further detail can be obtained within the sustainability reports the general environmental strategy for this building is to:

- Create a durable, long lasting, low maintenance building and structure that can last for at least 100 years if not more.
- To allow for natural ventilation but also provide mechanical ventilation with heat recovery for energy saving measures throughout the year.
- To use air source heat pumps with underfloor heating to minimise operational energy needs. The ASHP is located behind the existing boundary wall to the NW corner of the building.
- The internal gathering space, structure and fit-out is envisaged as primarily timber thus having a lower embodied carbon as well as a pleasant appearance and long lasting finish.
- Rain run-off from the roof will be harvested and stored in an external tank housed below the approach path close to the building. This is supply toilets and irrigation.

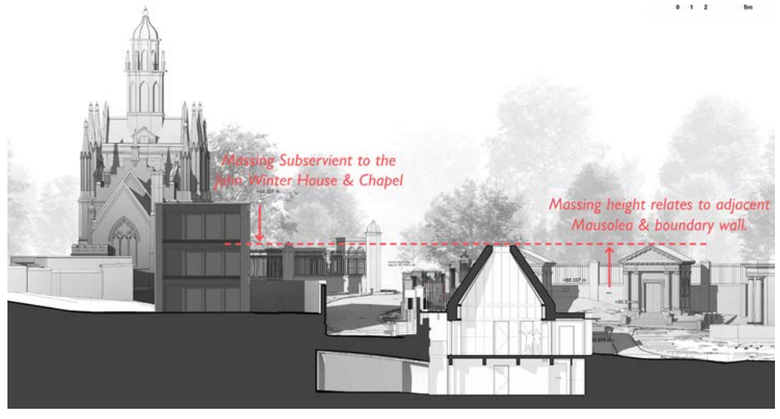



*Natural ventilation has been incorporated and supplemented by and efficient MVHR unit.*

*Context & Massing Study: Existing Compound with inset photo of Chapel + features.*




*Context & Massing Study: Proposed Building.*




*Context & Massing Study: Section through Swain's Lane & relationship to Winter House.*

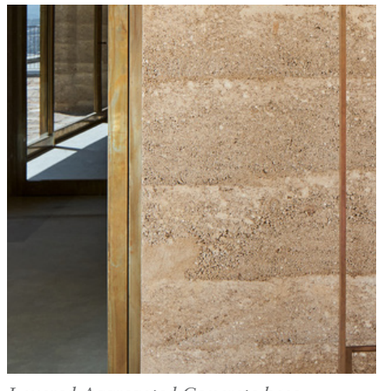
## 5.6 EDUCATION & COMMUNITY BUILDING (EAST SIDE, PROJECT 1)

**Materiality**

In a similar manner to the Visitor & Operations Building, an extensive study was carried out with regards to finding a suitable palette of materials to design the building from. Given the aspiration of the Trust to have a response which was durable long lasting and in keeping with its context, a decision was taken to create the walls out of a layered aggregated concrete cast gradually in horizontal courses. This wall would also seek to incorporate some of the existing materials to be demolished within the Cemetery for the new works.

This creates an overall appearance and character which blends in terms of colour and texture with the existing London Yellow Stock brick, the pale Oolitic Limestone of the Chapel and the East Cemetery boundary wall; yet at the same time allows the building to have its own modern character that is also shared with the Sentry's plinth nearby and the Gardeners' Building.

*Slate to Roof*



*Layered Aggregated Concrete base.*

*Ref: Large Format Stone Slab Roof, Hoy.*

*Illustrative View of proposed building from Swain's Lane.*

*Illustrative View of proposed building, close to Swain's Lane Entrance to East Cemetery.*

As noted in the consultation feedback section, the roof of the main gathering space, coping to the poche spaces and canopy has been designed using thick slate slabs which not only take their cues from the slate roofing of the Chapel and tonally complements the John Winter House but also create a distinctive series of horizontal lines the overall result is the appearance of an robust 'authentic' material form that looks harmonious

*Illustrative View of proposed building, interior looking from entrance to tunnel.*

and in keeping with the heritage structures surrounding it.

The building is also complemented through the use of warm timber materials for windows doors, internal linings and furniture. The proposed flooring is a robust wearing screed, with custom pigmentation and inset aggregate.

# 5.0 ARCHITECTURAL DESIGN PROPOSALS

## 5.6 EDUCATION & COMMUNITY BUILDING (EAST SIDE, PROJECT 1)


*Illustrative View Key Plan*


*West Elevation*

*Illustrative View of proposed building, when approached from within the East side of the Cemetery.*

## 5.7 GARDENERS' BUILDING (EAST SIDE, PROJECT 6)

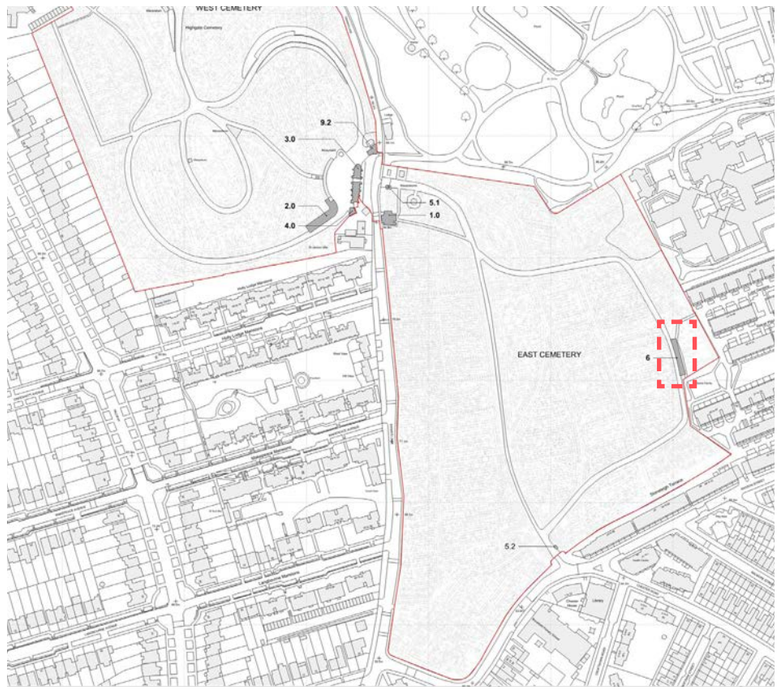
**Location**

The Gardeners' Mound Building is the most easterly project in the Cemetery, located on the eastern boundary of the East side, south of Karl Marx's tomb, next to the Whittington Estate.

This embankment was identified as an area requiring stabilisation with a retaining structure, making it a suitable location for a new facility to assist the Cemetery's operations team.

The plot for development is rectangular and narrow—thirty-three meters long (north to south) and five to six meters wide (east to west). The plot consists of a small, sloped grassy embankment or mound created by the trust in the 1990s. The north-south axis of the site has a gradual slope downward, while the east-west axis has a steeper, shorter slope.

The upper Mound level contains burials. A hairpin path provides graded access up to this level. There is a lower path at the base of the mound. This is a pedestrian and vehicular path that runs north to south, serving as one of the East side access routes for gardeners, visitors, and grave owners.

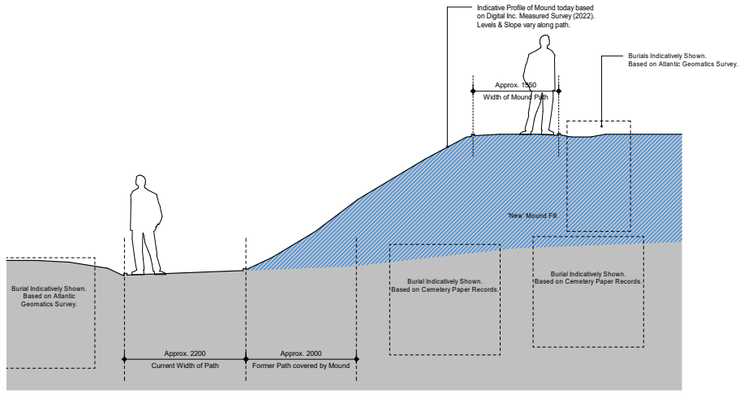



*Site Plan with location of Proposed Gardener's Building*

**Brief, Function & Use**

- Provision of a storage facility for machinery and vehicles away from the Chapel in the West side. The building must rehouse the Gardeners' Mess, Staff WCs that will be demolished at the East Compound building.
- The existing Gardeners' accommodation is inadequate, fragmented, insecure & unsightly.
- Tool Store / Workshop in Existing East Compound a space prone to flooding.
- It must also provide a drying room, storage, a small kitchenette, and lockers. The Gardeners' building should provide a viewing terrace for and an accessible WC for visitors.
- The East facade of the building should include commemorative plaques and seating for visitors tying into the wider aesthetic of the Cemetery of overgrown vegetation, material and textural richness.

*Existing photograph of the Mound, looking south from lower path.*




*Existing Mound: Existing Section (typical) and historic development.*

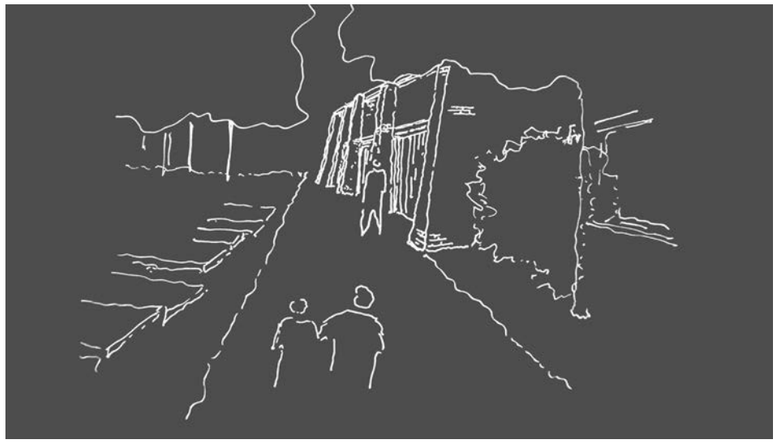
**Amount & Scale**

This is a 2-Storey Building - set within an embankment as a retaining structure, to stabilise the Mound - the tallest point of the building is at the southern edge at 7.8m above the adjacent path.

**Concept**

The concept for this building is to follow the principles of an English garden wall. One of the challenges for Gardeners' Building is its isolated & contextually sensitive location - surrounded by a what is still a functioning Cemetery - yet still provide essential amenities for the day-to-day operations of the site.

The English garden wall was a response to the material and textural context of the site. Walls are often used in memorial settings to commemorate the dead - while also providing a textural simplistic intervention in the landscape that responds to the human scale.



*Concept sketch - View from the Lower Path - The English Garden Wall*

*The English Garden Wall, Buttressing, Mass and Material fragments.*

## 5.7 GARDENERS' BUILDING (EAST SIDE, PROJECT 6)

**Layout**

The ground floor provides space for the gardeners' workshop, maintenance machinery, storage and building services plant room. It is largely an external space with gates to the building's frontage. The floor gradually slopes to match that of the adjacent path to enable vehicular access for the gardeners' machinery. The storage and workshop bays at either end are level. An external staircase at the south end of the building provides staff access to the first floor entrance via the mound.

At ground floor the building accommodates the Gardeners' office and welfare facilities. These space are also used by the gardening volunteers and it is understood that volunteers are supervised by staff. This includes an open-plan Office & Mess Space with kitchenette; 2 No. Staff Toilets and 2 No. Staff Showers; Storage and a drying room for gardeners clothing. To the north end, the building's massing has been cut-back to create an accessible terrace. A publicly available accessible WC can be accessed via the terrace.

**Accessibility**

There is existing step free access, via external paths to both the ground floor and first floor. These paths will be resurfaced, please refer to the landscape architects design documentation.

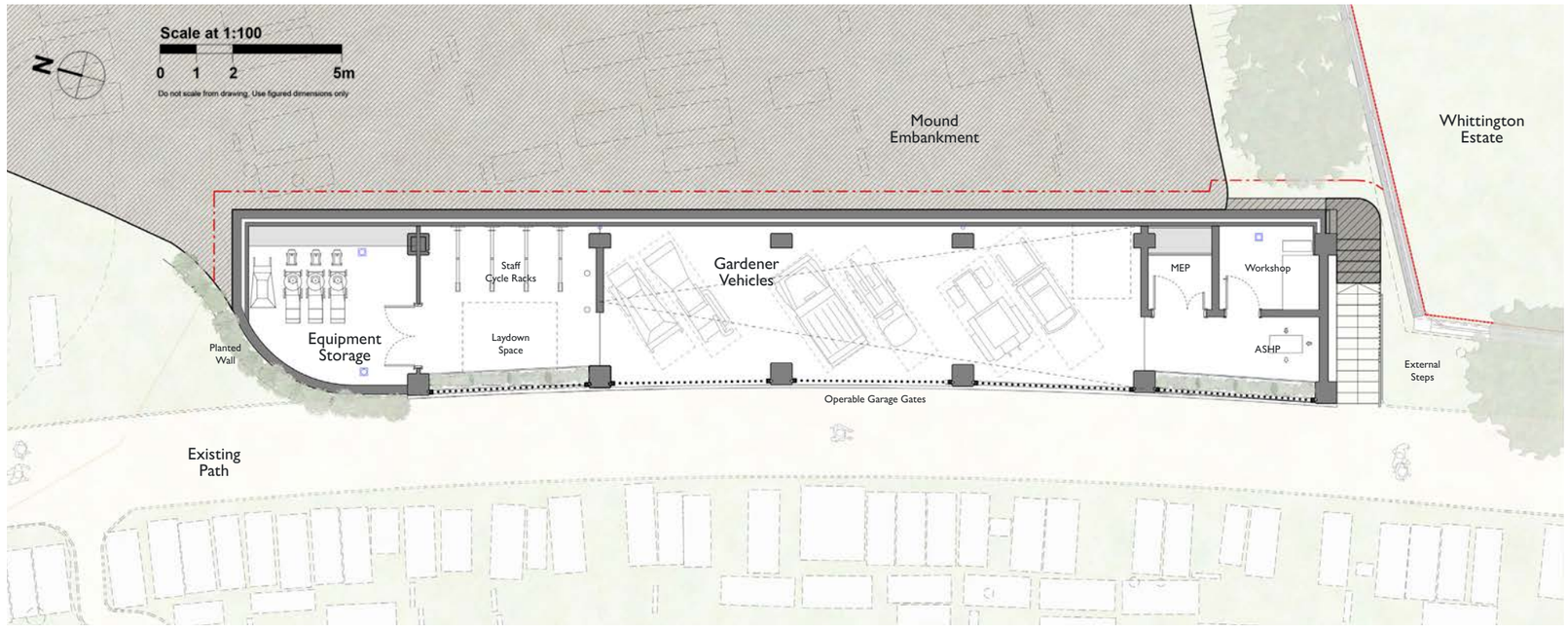
**Servicing**

The buildings' ground floor is unheated and ventilated via the open louvred gates. An ASHP is located at the ground floor and this supplies the underfloor heating to the first floor. With the exception of the WCs & Showers (which will have mechanical ventilation), the first floor will be naturally ventilated via operable glazing a louvred shutters. The drying room will have heated racks for clothing.

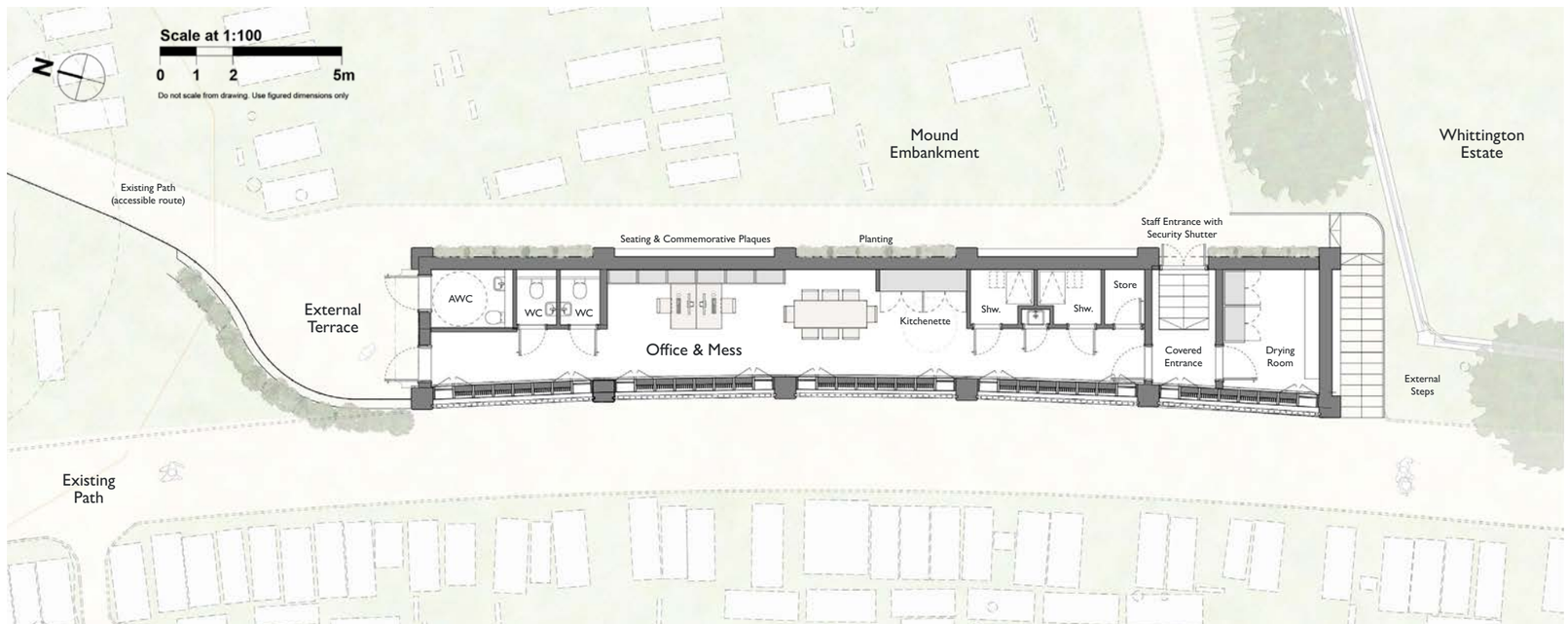
**Ecology**

The building has an intensively planted green roof (84.1m2) with sun species / meadow. In addition, the following enhancements to the proposed building have been incorporated as per the ecology consultant has recommendations:

- Sparrow & Swift Nest Boxes (min. 3 No. in a row)
- Integrated Bat Box
- Bee Brick (min. 2 No. locations)




*Ground Floor Plan*




*First Floor Plan*

## 5.7 GARDENERS' BUILDING (EAST SIDE, PROJECT 6)

**Materiality**

The exterior palette of the Gardeners' building follows that of the Visitor & Operations Building. The expressed piers and lintels will be the layered aggregated concrete, where viable this will be greened with climbing plants to blend the building into the landscape. A green roof will also be used to break-up the overall massing and partially conceal the rooftop PVs.

At the lower level a series of metal gates will front the open bays which accommodate the gardeners' machinery. Three of these will be openable to provide vehicular access. To the upper level, timber infill panels and framed glazing units will sit between the piers. A portion of these will be openable windows / timber louvres for natural ventilation. The timber will will be treated with an exterior grade painted or stained finish.

A stone canopy on the north elevation of the building will shelter the entrances and the parapet will be capped with matching coping.

The mound elevation is largely solid with the exception of an inset staff entrance to the south, which affords a degree of privacy to this part of the Cemetery. This will be broken up with areas of planting, inlaid stone commemorative plaques and seating for grave owners.

*Illustrative View of Gardeners' Building from the lower level, looking south.*

*Illustrative View of Gardeners' Building from the Mound*

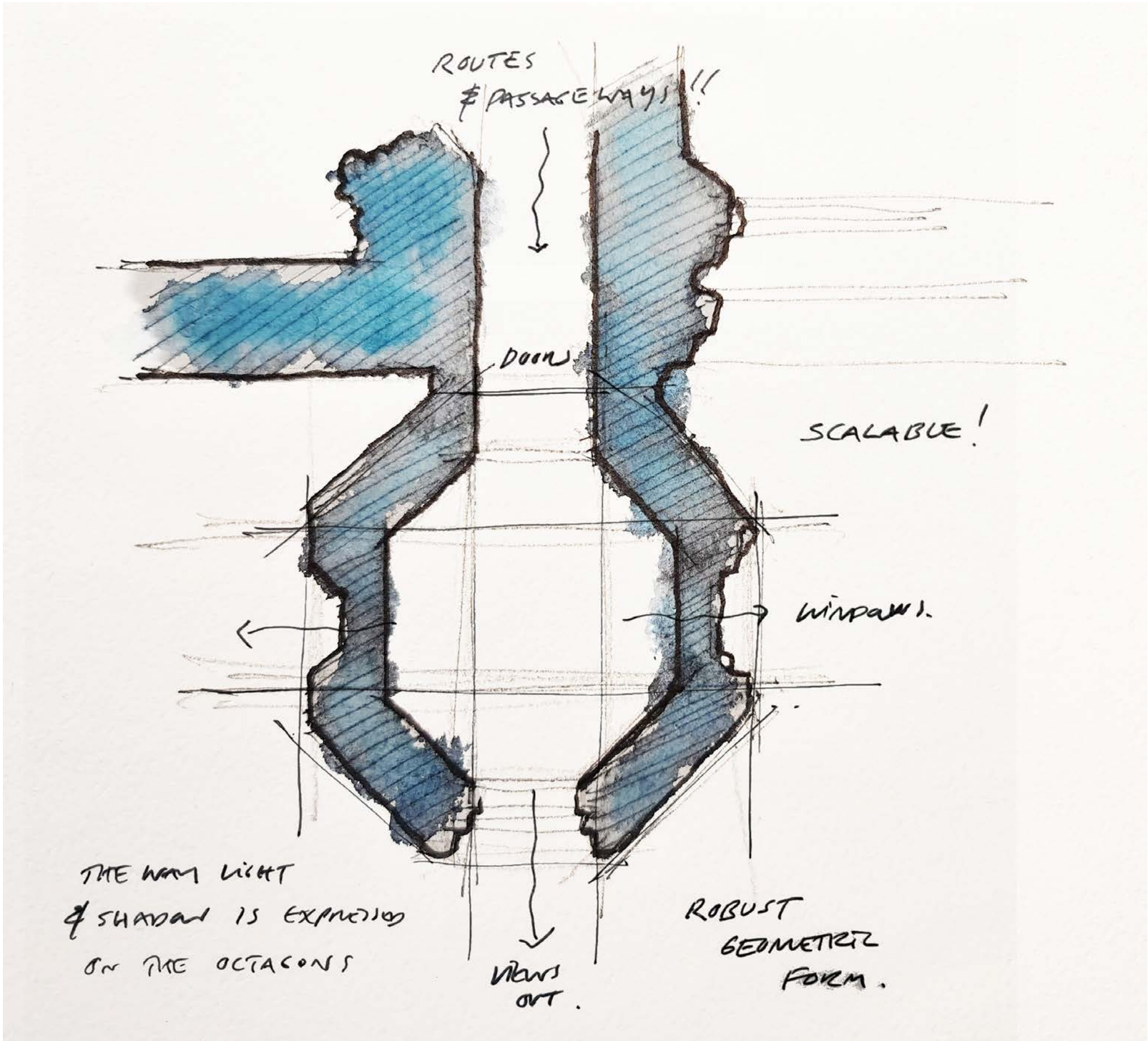
*Enlarged Elevation of the East (Mound-facing) elevation*

*Enlarged Elevation of the West Elevation*

# 6.0 SUPPORTING STUDIES & INFORMATION

## INFORMATION PERTAINING TO THE SCHEME AS A WHOLE






*Watercolour Study, Chapel Octagonal Study (Simon Fraser, Hopkins Architects)*

# 6.0 SUPPORTING STUDIES & INFORMATION

## 6.1 AREA SCHEDULE

| Reference (Refer to Site Plan) | Existing | | | | | Proposed (23/10/24) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Project 1 (East Cemetery)** | **East Cemetery Compound** | **Level** | **m²** | **Use** | **Notes** | **Community & Education Building** | **Level** | **m²** | **Use** | **Notes** |
| | Sub-Total: Useable Area | | **120.6** | | | Sub-Total: Useable Area | | **159.5** | | |
| | Gardener Garage/Store | G | 23.4 | G | External / Covered | Community Space | G | 41.9 | V | 30px |
| | Circulation / Hall | G | 8.7 | G | | Kitchenette | G | 3.2 | V | |
| | Kitchen / Lockers | G | 14.9 | G | | Accessible WC | G | 3.7 | V | |
| | Visitor Toilets | G | 5.3 | V | 3 No. | Store / Lockers | G | 3.2 | V | |
| | External Storage Space | G | 18.0 | G | | Circ. Lobbies & Stairs | G | 16.6 | V | |
| | Basement Workshop / Equip. St. | B | 23.9 | G | | Circ. Lift | G | 3.03 | V | |
| | Basement Shower | B | 2.4 | G | | MEP | G | 1.3 | V | |
| | Basement Storage | B | 3.9 | G | Tunnel / Unfit | Gathering Space | B | 39.4 | V | 30px |
| | Basement Storage | B | 20.1 | G | Tunnel / Unfit | Furniture Store / MEP | B | 7.6 | V | |
| | | | | | | WCs | B | 9.5 | V | 3 No. |
| | | | | | | MEP Rooms | B | 7.4 | V | |
| | | | | | | Circ. Lobbies & Stair | B | 11.7 | V | |
| | | | | | | Circ. Lift | B | 3.2 | V | |
| | | | | | | Semi-Enclosed Tunnel Cutting | B | 7.9 | V | |
| | **Total: GIA** | | **87.0** | | | **Total: GIA** | | **173.7** | | |
| | **Total: GEA** | | **144.5** | | | **Total: GEA** | | **244.3** | | |
| | **Total: Footprint (measured at Ground)** | | **86.5** | | | **Total: Footprint (at Ground)** | | **94.4** | | |
| | Total: Volume (Approximate m3) | | 388 | | | Total: Volume (Approximate $m^3$) | | | | |
| | Below Ground Plane ($m^3$) | | 157 | | | Below Ground Plane ($m^3$) | | | | |
| | Above Ground Plane ($m^3$) | | 227 | | | Above Ground Plane ($m^3$) | | | | |
| | Building Height (Ground FFL to highest point) | | 4.4 | | 2 storeys | Building Height (Ground FFL to highest point) | | | | 2 storeys |
| **Project 2 (West Cemetery)** | **Shipping Containers** | **Level** | **m²** | **Use** | **Notes** | **Visitor & Operations Building** | **Level** | **m²** | **Use** | **Notes** |
| | Sub-Total: Useable Area | | **36.5** | | | Sub-Total: Useable Area | | **212.7** | | |
| | 3 No. Shipping Containers | G | 36.5 | G | Un-Fit | Ticketing | G | 6.1 | O | |
| | | | | | | Store | G | 2.4 | O | |
| | | | | | | Café Servery | G | 5.1 | V | |
| | | | | | | Café Seating | G | 36.0 | V | 35px |
| | | | | | | Toilet (Visitor AWC) | G | 4.2 | V | |
| | | | | | | MEP | G | 5.5 | O | |
| | | | | | | Toilets (Staff) | G | 4.2 | O | |
| | | | | | | Volunteer Space | G | 32.1 | O | 18px |
| | | | | | | Archive Store | G | 17.7 | O | |
| | | | | | | Circ. Lobbies & Stair | G | 16.8 | O | |
| | | | | | | Circ. Lift | G | 2.6 | O | |
| | | | | | | Office (Open-Plan) | 1 | 44.0 | O | 12px |
| | | | | | | Office (Private) | 1 | 6.4 | O | 3px |
| | | | | | | Meeting Room | 1 | 9.7 | O | 8px |
| | | | | | | Kitchenette | 1 | 3.3 | O | |
| | | | | | | Toilets (Staff) | 1 | 1.8 | O | |
| | | | | | | Circ. Lobbies & Stair | 1 | 12.5 | O | |
| | | | | | | Circ. Lift | 1 | 2.6 | O | |
| | **Total: GIA** | | **36.5** | | **To Be Demolished** | **Total: GIA** | | **222.4** | | |
| | **Total: GEA** | | **36.5** | | | **Total: GEA** | | **290.5** | | |
| | **Total: Footprint (measured at Ground)** | | **36.5** | | | **Total: Footprint (measured at Ground)** | | **189.1** | | |
| | Total: Volume (Approximate m3) | | 82 | | | Total: Volume (Approximate $m^3$) | | | | |
| | | | | | | Below Ground Plane ($m^3$) | | | | |
| | | | | | | Above Ground Plane ($m^3$) | | | | |
| | Building Height (Ground FFL to highest point) | | 2.3 | | 1 storey | Building Height (Ground FFL to highest point) | | | | 2 storeys |
| **Project 3 (West Cemetery)** | **Anglican & Dissenters Chapel** | **Level** | **m²** | **Use** | **Notes** | **Anglican & Dissenters Chapel** | **Level** | **m²** | **Use** | **Notes** |
| | Sub-Total: Useable Area | | **205.1** | | | Sub-Total: Useable Area | | **198.4** | | |
| | Gardener's Mess | LB | 15.1 | G | | Tunnel Cutting Store | LB | 15.1 | G | |
| | Store & Access Stair | B | 18.6 | O | | Store & Access Stair | B | 18.6 | O | |
| | Anglican Chapel | G | 71.3 | V | | Anglican Chapel | G | 71.3 | V | |
| | Dissenters' Lobby + WC | G | 12.4 | O | | Dissenters' Ground Level | G | 50.1 | V | |
| | Dissenters' Offices | G | 37.8 | O | | Dissenters' Mezzanine | 1 | 11.9 | O | |
| | Dissenters' Chapel Stair & Lobby | 1 | 6.3 | O | With Pantry | Pateman Room & Access | 1 | 18.0 | O | |
| | Dissenters' Mez Offices | 1 | 22.5 | O | | Lobby & Stairs | 1 | 11.4 | O | |
| | Pateman Room & Access | 1 | 21.1 | O | | MEP | 1 | 2.02 | O | |
| | **Total: GIA** | | **206.5** | | | **Total: GIA** | | **199.8** | | |
| | **Total: GIA Demolished** | | **6.7** | | | | | | | |
| | **Total: GEA** | | **366.4** | | | **Total: GEA** | | **366.4** | | |
| | **Total: Footprint (measured at Ground)** | | **196.7** | | | **Total: Footprint (measured at Ground)** | | **196.7** | | |
| | Building Height (Ground FFL to highest point) | | 14.1 | | 4 storeys | Building Height (Ground FFL to highest point) | | 18.7 | | 4 storeys |

| **Project 4 (West Cemetery)** | **Visitor Toilet Block** | **Level** | **m²** | **Use** | **Notes** | **Utility Block** | **Level** | **m²** | **Use** | **Notes** |
|---|---|---|---|---|---|---|---|---|---|---|
| | Sub-Total: Useable Area | | **9.2** | | | Sub-Total: Useable Area | | **16.8** | | |
| | Visitor WCs | G | 9.2 | V | | Utility Block | G | 16.8 | O | |
| | **Total: GIA** | | **9.6** | | **To Be Demolished** | **Total: GIA** | | **16.8** | | |
| | **Total: Footprint / GEA (measured at Ground)** | | **13.6** | | | **Total: Footprint / GEA (measured at Ground)** | | **23.7** | | |
| | Total: Volume (Approximate m3) | | 35 | | | Total: Volume per building (Approximate $m^3$) | | | | |
| | Building Height (Ground FFL to highest point) | | 2.8 | | 1 storey | Building Height (Ground FFL to highest point) | | | | 1 storey |
| **Project 5 (East Cemetery)** | **Ticket Booth** | **Level** | **m²** | **Use** | **Notes** | **East Cemetery Sentries** | **Level** | **m²** | **Use** | **Notes** |
| | Sub-Total: Useable Area | | **7.6** | | | Sub-Total: Useable Area | | **6.0** | | |
| | Ticketing | G | 7.6 | O | | Swain's Lane Sentry | G | 3.8 | O | |
| | | | | | | Chester Road Sentry | G | 2.2 | O | |
| | **Total: GIA** | | **7.6** | | **To Be Demolished** | **Total (Both): GIA** | | **6.0** | | |
| | **Total: Footprint / GEA (measured at Ground)** | | **8.4** | | | **Total (Both): Footprint / GEA** | | **8.7** | | |
| | Total: Volume (Approximate m3) | | 21 | | | Total: Volume for Both (Approximate $m^3$) | | | | |
| | Building Height (Ground FFL to highest point) | | 2.5 | | 1 storey | Building Height (Ground FFL to highest point) | | | | 1 storey |
| **Project 6 (East Cemetery)** | **NA** | **Level** | **m²** | **Use** | **Notes** | **Gardner's Building** | **Level** | **m²** | **Use** | **Notes** |
| | Sub-Total: Useable Area | | NA | | | Sub-Total: Useable Area | | **189.0** | | |
| | | | | | | Material / Equip. Store | G | 18.83 | G | |
| | | | | | | Vehicle Store | G | 93.97 | G | |
| | | | | | | Workshop | G | 3.96 | G | |
| | | | | | | MEP | G | 6.2 | G | |
| | | | | | | Toilets (Visitor) | 1 | 3.6 | V | AWC |
| | | | | | | Toilets (Staff) | 1 | 3.3 | G | 3 No. |
| | | | | | | Office, Mess & Circ. | 1 | 43.6 | G | 10px |
| | | | | | | Showers | 1 | 4.9 | G | 2 No. |
| | | | | | | Storage | 1 | 1.7 | G | |
| | | | | | | Dry Room | 1 | 8.9 | G | |
| | **Total: GIA** | | **NA** | | | **Total: GIA** | | **201.3** | | |
| | **Total: GEA** | | **NA** | | | **Total: GEA** | | **245.1** | | |
| | **Total: Footprint (measured at Ground)** | | **NA** | | | **Total: Footprint (measured at Ground)** | | **147.6** | | |
| | Total: Volume | | NA | | | Total: Volume (Approximate $m^3$) | | | | |
| | Below Ground Plane ($m^3$) | | NA | | | Below Ground Plane ($m^3$) | | | | |
| | Above Ground Plane ($m^3$) | | NA | | | Above Ground Plane ($m^3$) | | | | |
| | Building Height (Ground FFL to highest point) | | NA | | | Building Height (Ground FFL (middle) to highest point) | | | | 2 storeys |
| **Project 9.1 (West Cemetery)** | **North Lodge (Gardener's Mess)** | **Level** | **m²** | **Use** | **Notes** | **North Lodge (Gardener's Mess)** | **Level** | **m²** | **Use** | **Notes** |
| | Sub-Total: Useable Area | | **11.2** | | | Sub-Total: Useable Area | | **11.2** | | |
| | Storage | G | 7.3 | G | Ref.WSA | Mess Space | G | 7.3 | G | Ref.WSA |
| | Mess Space | G | 2.8 | G | Ref.WSA | Vestibule / Benches | G | 2.8 | G | Ref.WSA |
| | WC | G | 1.1 | G | Ref.WSA | WC | G | 1.1 | G | Ref.WSA |
| | **Total: GIA** | | **12.0** | | | **Total: GIA** | | **12.0** | | |
| | **Total: Footprint / GEA (measured at Ground)** | | **19.0** | | | **Total: Footprint / GEA (measured at Ground)** | | **19.0** | | |
| | Building Height (Ground FFL to highest point) | | NA | | No Change | Building Height (Ground FFL to highest point) | | NA | | No Change |
| **Project 9.2 (West Cemetery)** | **South Lodge (Vol. Mess & Office)** | **Level** | **m²** | **Use** | **Notes** | **South Lodge (Visitor WCs)** | **Level** | **m²** | **Use** | **Notes** |
| | Sub-Total: Useable Area | | **34.0** | | | Sub-Total: Useable Area | | **34.0** | | |
| | Volunteer Mess | O | 20.7 | O | | Female Toilets | V | 20.7 | V | 4 No. |
| | Sexton Office | O | 12.0 | O | | Male Toilets | V | 12.0 | V | 4 No. |
| | WC | O | 1.3 | O | 1 No. | MEP / Clean Store | V | 1.3 | V | |
| | **Total: GIA** | | **36.5** | | | **Total: GIA** | | **36.5** | | |
| | **Total: Footprint / GEA (measured at Ground)** | | **48.6** | | | **Total: Footprint / GEA (measured at Ground)** | | **48.6** | | |
| | Building Height (Ground FFL to highest point) | | NA | | No Change | Building Height (Ground FFL to highest point) | | NA | | No Change |

| **Area Break-Down by Use (Aggregated Totals)** | **Existing** | **Proposed** | **Uplift** |
|---|---|---|---|
| **Useable Areas:** | **424.2** | **827.5** | **403.3** |
| Operations | 160.3 | 252.2 | 91.9 |
| Gardeners | 178.1 | 211.6 | 33.5 |
| Visitors | 85.8 | 363.7 | 277.9 |
| **GIA:** | **395.7** | **868.4** | 472.7 |
| **GEA:** | **637.0** | **1246.4** | 609.4 |
| **Footprint:** | **409.3** | **727.9** | 318.6 |

## 6.2 MATERIALITY

The intent for the proposed buildings is to tie these new elements together with a constrained palette of materials - a theme which has been guided by studying the work of Scarpa and by the feedback received during the PPA process and DRP.

A tamped concrete is an architectural material known for its textured surface, achieved by compacting layers of wet concrete. This method creates a rugged, striated appearance, emphasizing the material's raw, natural qualities; it adds depth, tactility, and a hand-crafted aesthetic. The resulting finish of subtle tones and 'robust' feel is suited to the sense of permanence for the new buildings. It is also a material which can sit comfortably and subserviently beside the extensive use of brick and stone at the Cemetery, without detracting from it. The construction technique of the material gives it a gentle horizontal grain.

**The Weston, Fielden Fowles:**

West Bretton, United Kingdom

The layered concrete finish uses 3 types of locally sourced stone: sandstone, Leicestershire granite and magnesium limestone. The grain sizes vary between 10 and 30mm and the thickness of the coursing varies from
220 - 400mm. This gives a varied texture and relief.

To achieve the desired finish, they experimented with different types of rock, granulation, and pigmentation - as well as different pressures of jet washing to expose the aggregate. We like the texture and horizontal nature of the finish which embeds itself into the landscape.

*The Weston at the Yorkshire Sculpture Park*

**Bushey Cemetery, Waugh Thislteton:**

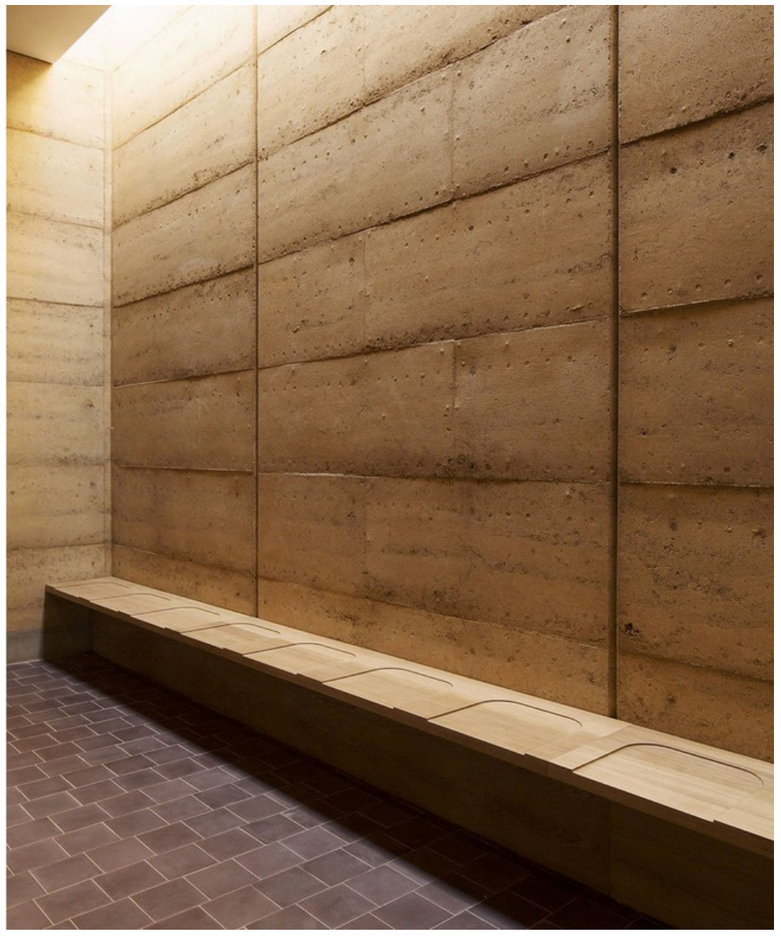
Hertfordshire, United Kingdom

This stabilised rammed earth (SRE) materiality combines soil from the cemetery site, sand, aggregate and heavier clay soil from adjacent site - bound together by cement seasoning (2% cement).

The moistened mixture is then compacted into blocks consisting of 6 tampered layers compressed to a height of 150mm. Each block measures at 2.2m long by 400mm thick.

After mock-up testing to assess for colour, strength and surface finish, they decided on a max particle size of 20mm.

We like the monolithic nature of the material, which creates cavernous spaces within. The horizontal proportions of the blocks enforce this.



*New Buildings at Bushey Cemetery, Waugh Thislteton*

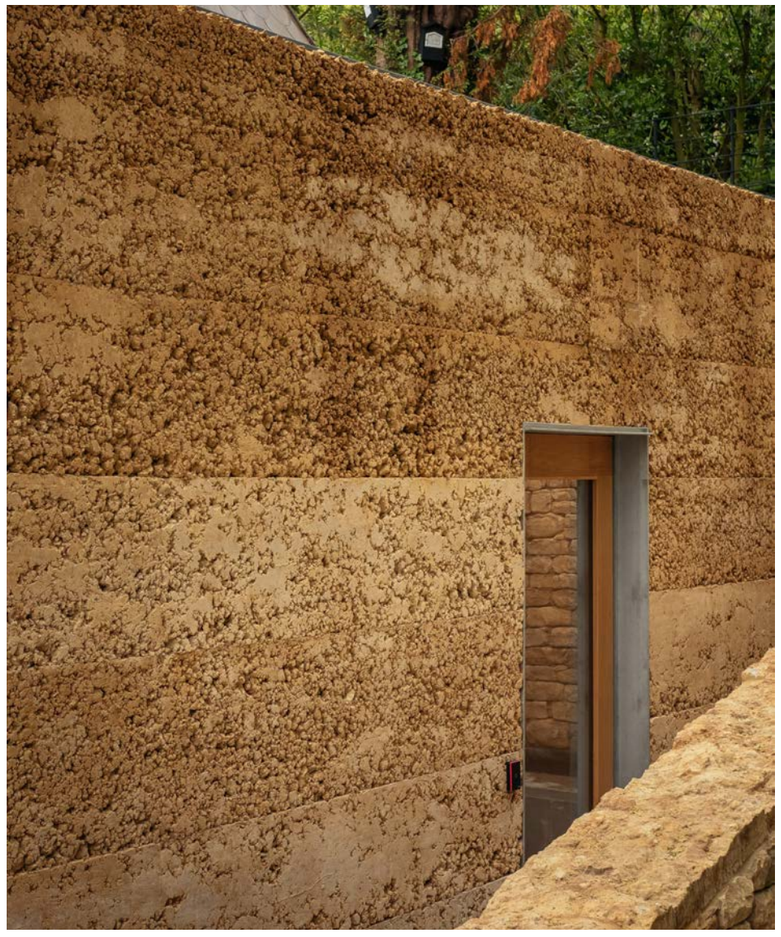
**Yoga Studio, Invisible Studio:**

Somerset, United Kingdom

Yoga Studio uses local Hadspen limestone in the aggregate which has a distinctive red hue. No sand is added to the mix, just a small amount lime/GGBS/cement as binder. The rammed earth walls are set out using a 600mm lift, with approx. 4-6 'pour' layers in every lift. The stone was mixed on site, and poured into formwork in-situ.

There are stainless steel tubes within the wall build-up to ventilate a cavity behind. The external skin is tied back through permanent formwork to a ply sheathing fixed to an internal studwork wall.

We like the tactile richness of the open texture. They variation in finish helps it sit harmoniously in its surroundings. The warm tonality also complements the beech slatted interior.



*Yoga Studio, Invisible Studio*

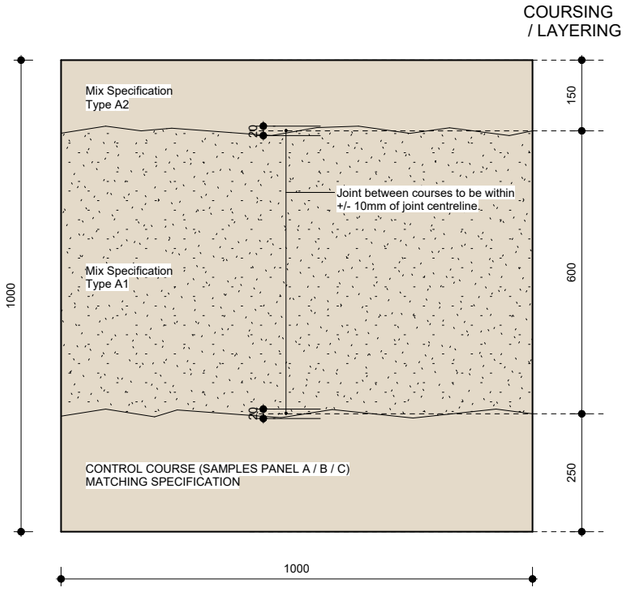
## 6.2 MATERIALITY

It is important to note that although some of the visuals shown may appear visually similar to a rammed earth wall, the composition of this layered aggregate is more akin to a durable aggregate concrete and stone wall. We therefore would not expect to see any degradation or wear in the external surfaces as one may expect with a rammed earth approach.

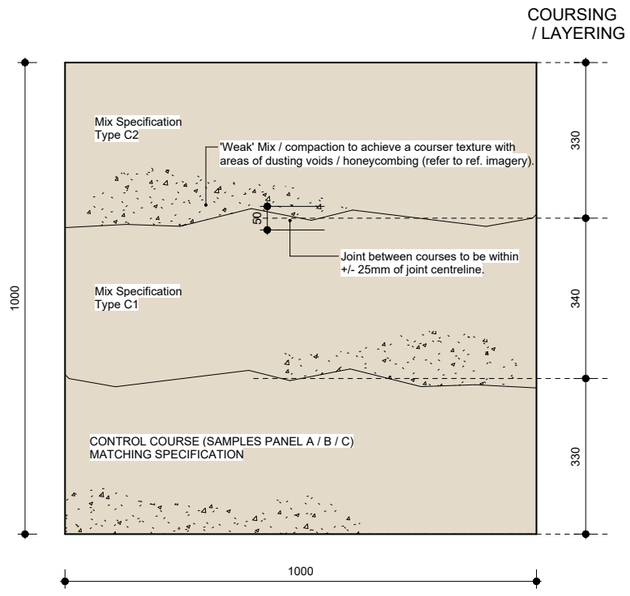
The brief was to create buildings that could last 100 years, this requirement necessitated reinforced walls made from a layered pigmented concrete which is formed into a weak mix and cast in short horizontal sections. This method gives it a distinctive look with a texture and colour in harmony with the Chapel, Colonnade and boundary walls. These walls will also aim to incorporate recycled material from the demolition works. Hopkins Architects and Webb Yates will be testing mixes which also consider traditional lime as well as making several mock-ups with contractors during later stages. The aim is to create a material authenticity with a rustic and imperfect 'aged feel' from the outset rather than something homogeneous and new.

Secondly, we will be providing stone capping pieces to these walls with overhangs and drip cills to throw water away from their edges; window and door openings will also be set into deep reveals to protect them along with overhanging stone canopies, all of which reinforce a character of solidity and durability. However as mentioned above, we feel a weathered look complements the ability of the new buildings to blend into the existing older fabric and therefore given they will not degrade, we see staining and weathering as something that will add rather than detract from the character of these buildings over time.

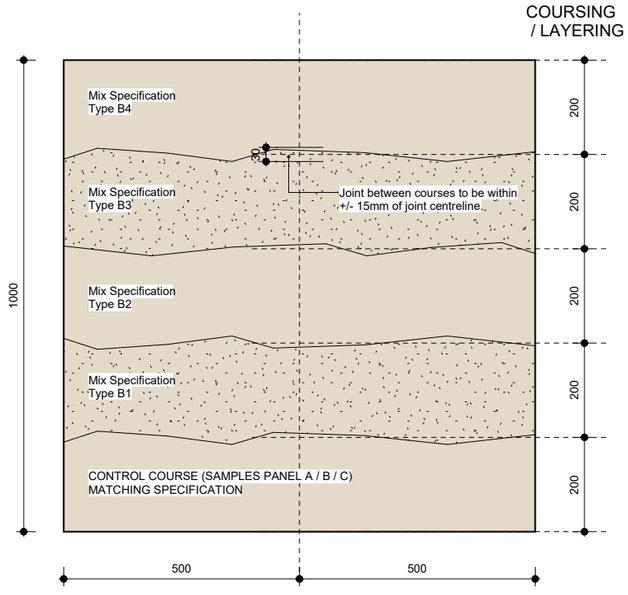
We are mindful that this is a process of investigation, to determine the visual characteristics and structural requirements of the material. Due to the widespread use of this material we are also conscious of its embodied carbon and the next steps include research into how this can be de-carbonised (please refer to the Embodied Carbon Assessment in the Appendix). Prior to the selection of layered aggregated concrete, extensive discussions were held with LBC & HE in regards to alternates of which natural stone and brick - both of which could be specified / finished to create the coursed, textured, colour, tone and monolithic appearance of the layered aggregated concrete.




*Stage 1 : Sample Panel A (subject to development)*




*Stage 1 : Sample Panel C (subject to development)*




*Stage 1 : Sample Panel B (subject to development)*

In RIBA Stage 4 we will be developing a series of 1:1 mock-up panels with specialist contractors to producing panels to review the visual appearance through varying the following characteristics: coursing depth, pigmentation, aggregate (source & size) and compaction & shuttering.

We also intend to test post-applied finishes to panels such as jet-wash or grid-blast. The mix and specification is to be developed with the structural engineer.


*Intended Finish*

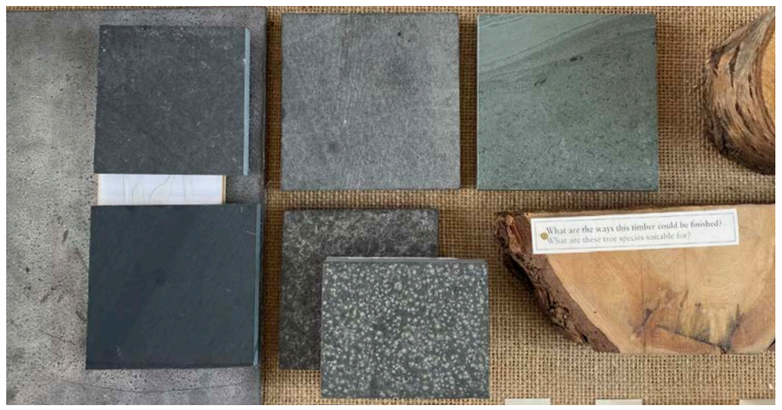
## 6.2 MATERIALITY

**Slate**

Slate is a key material through the projects for use on roofing, coping and canopies - with these elements detailed to strengthen the visual connextion between the 'family' of buildings proposed. Slate has a connection to the roof to Highgate Cemetery's Chapel Buildings and on structures throughout the Cemetery.

To create a sense of permanence the intent is to specify thick, large format slate tiling - expressing edges and the natural qualities of the material.

*Slate shingle roof to Highgate Chapel.*




*Burlington Slate Samples, Highgate Cemetery Model at the Royal Academy Exhibition.*

*Caithness Large Format Stone Slab Roof, Hoy, Orkney*

*Large Format Split Stone Roofing Slabs, Orkney, Scotland*

*Large format slate tiles to roof of the Education and Community Building*


*Slate canopies to Visitor and Operations Building.*

*Slate canopy to sentries.*

## 6.3 WC PROVISION

The Cemetery's current WC provision is inadequate it does not meet the requirements of visitors, staff and volunteers. Part of the architectural brief was to improve these facilities to increase the provision, availability, accessibility and improve the visitor experience. The following

- Lack of accessible WCs (currently only one on site).
- Problems with queues forming a peak times (group arrivals).
- Lack of dedicated Staff / Volunteer WCs.

As part of the Trust vision they seek to increase visitor, staff and volunteers numbers as well as:

- Catering to new user groups (such as visiting school pupils & community events).
- Improve the provision of accessible/ambulant WCs.
- Align with the aspirations to activate the Courtyard as a public (un-ticketed) space and the addition of a cafe.

Existing WCs:
- 1 Accessible WC
- 8 Fixtures
- (9 Total)

Proposed WCs:
- 5 Accessible WC
- 14 Fixtures
- (19 Total)

(2 showers)

As there are a number of different user groups and activities across a large site; a pragmatic approach has been taken in determining the number of WCs and their locations. This has meant locating WCs close to key areas where users are likely to gather and making best use of existing buildings.

Where possible and practical, WCs have been planned to allow them to interchangeably switch between gendered and uni-sex facilities to allow for future flexibility.


*Site Plan showing proposed location and number of WCs (for further details please refer to detailed project descriptions and layouts in section 4.0).*

## 6.4 RATIONALE FOR DEMOLITION

The submitted scheme proposes the demolition of a limited number of small structures. The rationale for why it is not possible to either retain, refurbish or refit these buildings; and the intent for the reuse of the demolished material is set out below.

**1. Gardeners' Compound, East Side**

The construction of the Gardeners' Compound in the 'capped' the historic coffin tunnel and created a poorly performing basement. It currently accommodates a small gardeners mess space and partial storage for some of their equipment.

Demolishing this building frees up a rare opportunity in the cemetery to replace this with a new, purpose-designed building which is both environmentally efficient and can re-establish a connection to the historic tunnel; capitalise on a larger basement; and improve the significance of the setting of the Chapels and Cemetery entrances proximate to this location.

**2. Ticket Booth, East Side**

The existing ticket booth (constructed first decade of 21st century) is of a pre-fabricated 'cabin-type' construction - a design ill-suited to the significance of this location at the cemetery entrance. It will be replaced with a new Sentry, of a similar footprint, it's high-quality crafted design will be in keeping with the character of the entrance and visitors first perception of the East.

**3. Toilet Block, West Side**

The existing toilet block (constructed in the 1950s) is a small building sitting south of the Chapel and adjoining the boundary wall to No. 81 Swain's Lane (John Winter House). It detracts from the significance of the setting and is proposed to be replaced with a more subservient volume which will read as part of the boundary wall.

**4. Dissenters' Chapel**

Partial demolition of the internal building elements to reverse the 1980s refurbishment to improve layout & fabric performance.

**5. Gardeners' Containers**

Demolition of the steel shipping containers used to accommodate gardeners' equipment; these are inadequate and in poor condition.


*Site Plan showing proposed demolition.*

# 6.0 SUPPORTING STUDIES & INFORMATION

## 6.4 RATIONALE FOR DEMOLITION

There have been several additions to the site since the 1980's and this proposal identifies 5 buildings where demolition has been determined as the most suitable approach rather than refurbishment. This is primarily on the basis of:

- The building in question is not fit for purpose (insufficient space for occupants and storage space).
- The visual language of the building in question is contradictory to the Cemetery's heritage status as an architecturally significant area - the buildings are either cluttered or unsightly and deemed harmful to the site's significance.
- Poor environmental performance and the desire for long-lasting, flexible and sustainable buildings.

**1. Gardeners' Compound, East Side**

The building fabric is beyond its design life, its fabric is poor and its energy consumption unsustainable. In its current form, it would not satisfy the Trust's need for education and community uses. It still does not satisfy the gardeners' needs as the vehicle storage is still remote from their equipment. A new building can rectify all these issues and help improve the significance of the setting of the Chapels and Cemetery entrances proximate to this location.

**2. Ticket Booth, East Side**

The Ticket Booth's pre-fabricated cabin-type construction means that it may be viable to dismantled and relocated. It has a footprint of ~6m$^2$ with no step-free access. It is not currently anticipated that it can be re-used on-site and local re-use / recycling options to be reviewed. It will be replaced with a new fully-accessible sentry, designed appropriately for this location.

**3. Toilet Block, West Side**

WC Block is undersized / under-provisioned with poor access and does not meet the current requirements for the Cemetery. It is agreed that in its current form to be detrimental to the heritage setting of the site. Due to the constraints of the boundary wall, tunnel cutting and nearby monuments it cannot be extended sufficiently to meet the new provision.

**4. Dissenters' Chapel, West Side**

Demotion is largely contained to the stripping out of the interior modern decorative plaster finishes and some interior partitions. Whilst changes to the design of the mezzanine to cut it back will require it to be dismantled - it is intended that the existing joists will be re-used to reduce the amount of new materials required.

**5. Gardeners' Containers, West Side**

The poor condition of the 3 No. steel shipping containers suggests the only viable option is to recycle these units. Steel widely recycled and they are not thought to have significant foundations. Fixtures & fittings (such as storage racks, lighting) maybe be recoverable for re-use in the new Gardener's Building.

## 6.4 RATIONALE FOR DEMOLITION

The re-use of material resulting from the proposed demolition has been considered in the designs for the new buildings. The key material groups have been identified and their quantities estimated to assess opportunities which avoid these materials being deposed of in landfill.

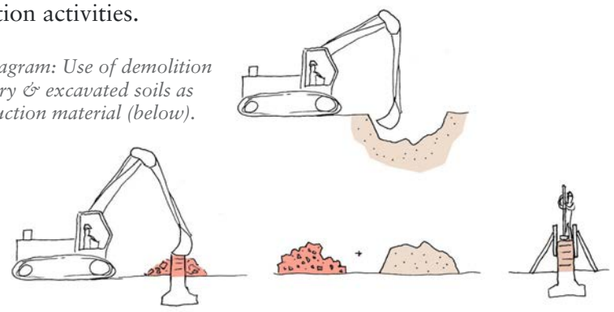
***The London Plan policy SI7 expects 95% of construction and demolition waste to be diverted from landfills (reuse, recycle, recovery) and 95% of excavation waste to be put to beneficial use.***

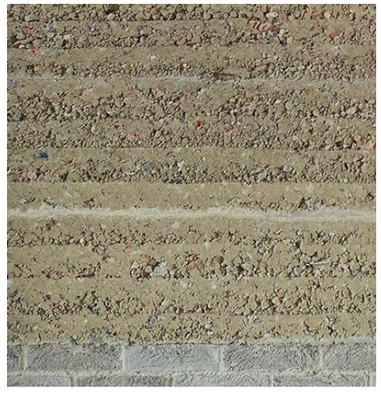
In parallel with the types of materials available to reclaim, in order for this to be completed successfully it is important to note the following criteria:

**Time:** The programme should allow for sufficient time.
**Space:** Salvage materials require suitable storage space on and/or off-site.
**Safe Access:** To support a safe environment of operative and the general public during demolition and reclamations activities, and

Hazardous Materials and Health & Safety: all hazardous materials (such as those containing Asbestos) are removed in advance of demolition and reclamation activities.

*WYE Diagram: Use of demolition masonry & excavated soils as construction material (below).*





Brick & concrete rubble is expected to form the bulk of the demolished material by both weight & volume.

The proposal is that this will be crushed and integrated into the layered aggregate concrete proposed for the new buildings - creating a connection between old & new. The viability of this both technically / visually with be explored in Stage 4 with mock-ups and testing.

*Reference Project: Rammed Earth House by Webb Yates Engineers*

| Item | European Waste Catalogue | Quantity | Comments |
|---|---|---|---|
| Concrete Foundation Footing | 17-01-01 | 5.90m3 | Intent is to investigate if this material can be crushed be used in the mix for the layered aggregate material proposed for the exterior of the new building. Should this not be viable Material could be crushed on site for backfill. |
| Brick (Exterior/Interior Walls) | 17-01-02 | 35.06m3 | High Potential for Re-Use, subject to:<br>• Type of mortar used (unknown, covered).<br>• Condition (unknown, covered)<br><br>Intent is to investigate if this material can be crushed be used in the mix for the layered aggregate material proposed for the exterior of the new building. Should this not be viable Material could be crushed on site for backfill. |
| Concrete Floor Slabs / Lintels | 17-01-01 | 12.30m3 | Intent is to investigate if this material can be crushed be used in the mix for the layered aggregate material proposed for the exterior of the new building. Should this not be viable Material could be crushed on site for backfill. |
| Structural Timber | 17-02-01 | 3.34m3 | Roof Supporting Structure<br><br>High Potential for Dismantling and Re-Use, subject to:<br>• Quality & Condition (unknown, covered)<br>• Size Suitability / Stress Grading<br>• Any timber deemed unfit for re-use can be recycled.<br><br>Opportunities to be Assessed:<br>• https://www.communitywoodrecyling.org.uk<br>• https://www.reuse-network.org.uk<br>• Local Material Bank / https://www.salvoweb.com |
| Steelwork | 17-04-05 | 0.77m3 | High Potential for Re-Use, subject to:<br>• Condition (unknown, covered)<br>• Sizing not deem viable for proposed new building design.<br>• Widely recycled / opportunities for local-reuse. |
| Insulation, Foam | 17-06-04 | Unavailable Assess on Site | Ground / Roof Level Build-up. Cannot be readily recycled. |
| Insulation, Mineral Wool | 17-06-04 | Unavailable Assess on Site | First Level Floor<br><br>High Potential for Re-Use, subject to:<br>• Condition (unknown, covered)<br><br>Opportunities to be Assessed:<br>• Re-use within proposed new replacement building.<br>• Recyclable. |
| Timber | 17-02-01 | 1.70m3 | Including: doors, carcassing, linings, finishes etc.<br><br>High Potential for Re-Use, subject to:<br>• Condition / Dismantling<br><br>Opportunities to be Assessed:<br>• Re-use via local networks.<br>• Items not suitable for donation will be recycled into biomas. |
| Windows & Exterior Glazed Doors | 17-02-02 | 7.90m2 | High Potential for Re-Use, subject to:<br>• Condition / Dismantling<br><br>Opportunities to be Assessed:<br>• Re-use via local networks. |
| Roof Tiling | 10-12-08 | 1.50m3 | Intent is to investigate if this material can be crushed be used in the mix for the layered aggregate material proposed for the exterior of the new building. Should this not be viable Material could be crushed on site for backfill. |
| Ceramic Tiling | 17-01-03 | 18.79m2 | Bathroom Floor & Wall Finishes<br>Low Potential for re-use, to be recycled. |
| Sanitary Fittings & Building Services / Systems | Various | 5 X Toilets<br>5 X Sinks<br>2 X Urinals | Including heating systems, electrical fitting, lighting, WCs, sinks, piping, appliances, etc.<br><br>Not surveyed but potential for Mid-Low Potential for Re-Use, subject to:<br>• Condition / Dismantling<br><br>Opportunities to be Assessed:<br>• Re-use via local networks.<br>• Items not suitable for donation will be transported to an appropriate facility for further processing and recycling. |

*Pre-Demolition Audit (DRAFT - to be completed in Stage 4), High-Level Assessment Based on Site Visit & the Survey Information available*

## 6.5 SITE WIDE STRATEGIES. MAINTENANCE

This report presents an overview of the proposed potential access strategies for maintenance and cleaning. This strategy has been developed by the Design Team with input from suppliers. This will be further developed during RIBA Stage 4 to reflect the technical design and specification of the Project.

**External Facade Access and Window Cleaning:**

The proposed buildings are a maximum of two storeys, surfaces can be pole cleaned by an operative from ground level. Temporary scaffolding can be erected for roof access. Ladder ties will also be fixed on façades.

For repair and maintenance, Mobile Elevated Work Platforms (MEWPs) can be used. For the Community Building, there is access via hard-standing in front of the entrance. For the Visitors and Operations Building, access is via West Carriage Drive and for Gardeners' Building, access is via the lower and upper path.

**Roof Access:**

Access to the roof will be available for cleaning and maintenance via ladder ties to the facade with a man-safe roof restraint system is proposed for the flat roofs. For the pitched roof, of the Community Building, MEWP can be used.

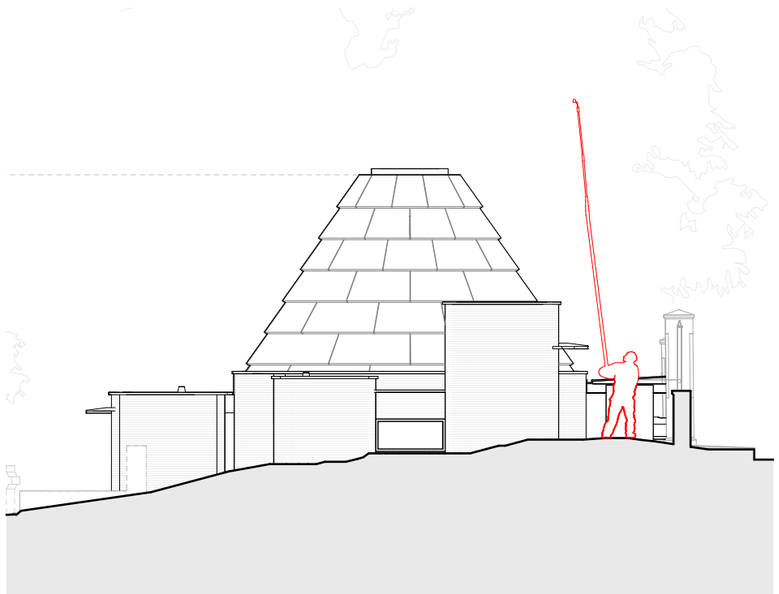
**Internal Maintenance and Cleaning:**

For ceiling and lighting maintenance and double height spaces such as in the Dissenters' Chapel and the Community Building, a Peco Lift-type can be used. It is assumed that specialist access equipment will be either hired or works are to be undertaken by a specialist contractor. Cleaning stores are situated in each proposed building to house general cleaning equipment.

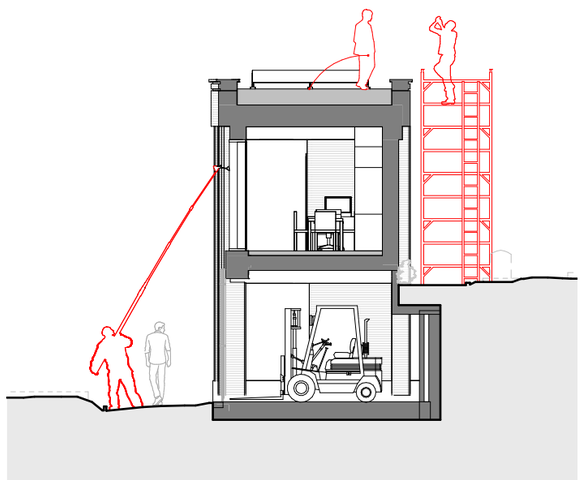
*Peco Lift*

**Small Building Maintenance:**

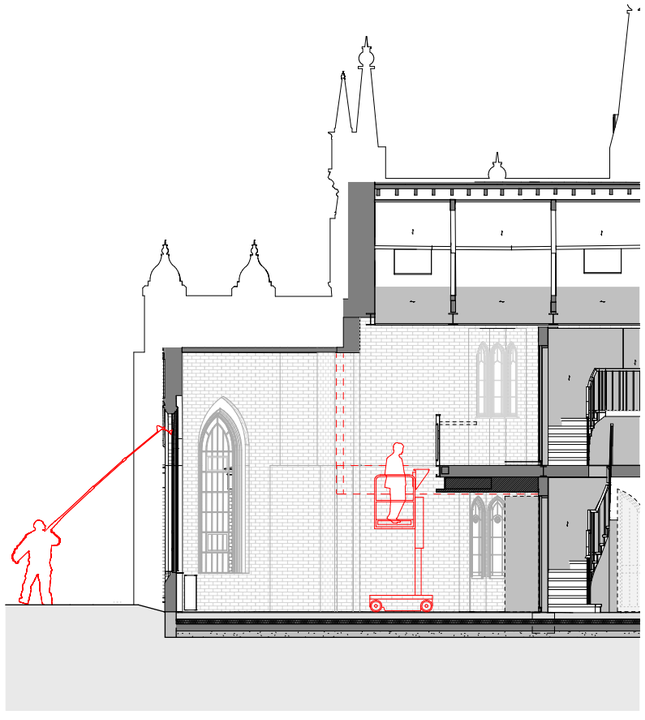
Smaller single storey buildings, such as the East side Sentries and the Utility Block, can be accessed from the ground for window cleaning and facade maintenance. For any work at high level, temporary scaffolding could be used.



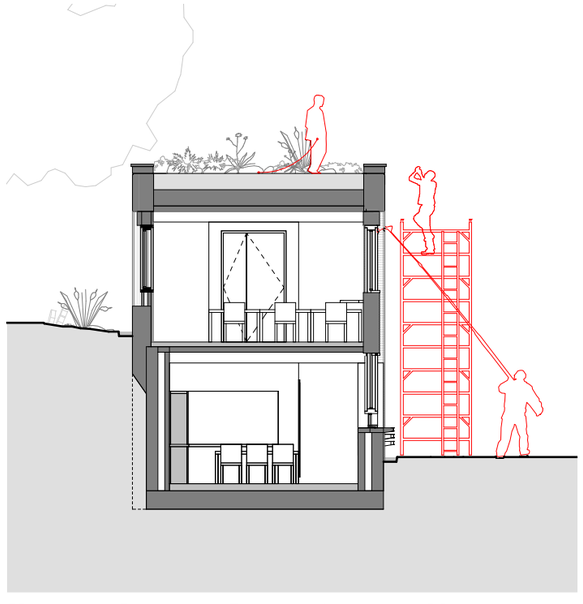
*Community Building Access and Maintenance*



*Gardeners' Building Access and Maintenance*



*Dissenters' Chapel Access and Maintenance*



*Visitors & Operations Building Access and Maintenance*