

SOUTHERN HIGHLANDS BOTANICAL GARDEN

BOWRAL CONSERVATORY

VISITOR CENTRE



John Wardle Architects

7 View from the meadow across the parterre.

Sited at the edge of the proposed Southern Highlands Botanical Gardens *The Bowral Conservatory* is a sensitive architectural response that respects the conceptual principles of the landscape sequence established by TCL. As the primary arrival point to the Botanical Gardens the architectural proposal nestles into the stone wall to spatially complete the Parterre garden, integrating a sequence of internal and external spaces that are intended to heighten a sense of anticipation, akin to entering a secret garden. Drawing inspiration from the Orto Botanico di Padova and the history of Botanical Gardens as places of learning and observation the design is centred around moments of exploration and discovery across the seasons, zones of inhabitation at the edge of the garden, an internalised greenhouse and views into the Parterre. Conceptually, the building engages with the long lineage of garden structures and evokes the formal and material characteristics of a conservatory nestled within the garden wall. As a light-weight structure set above an earthy, brick base the expression of materials in the building is both poetic and rooted in the local history of Bowral.



ORTO BOTANICO DI PADOVA



BRUNY ISLAND VIEWING PLATFORM

EARTH, SKY AND GARDEN

Drawing inspiration from the work of contemporary Australian artist, Rosemary Laing, the design mediates the tension between landscape and architectural form and emerges as a skeletal portal frame structure, perched on the edge of the Parterre. This structure further draws upon the tradition of agricultural buildings within the Bowral landscape, referencing the local history of the 'Skin Shed' that was formerly located on the site. Materially, the masonry plinth grounds the building to the earth, forming a protective enclosure at the north-western road frontage, whilst to the south is gently eroded on the garden edge, offering views across the Parterre. The design plays with varying levels of transparency alluding to the distinctive lightness typically associated with greenhouses, orangeries and conservatories.



ROSEMARY LAING - "EDDIE"



THE SKIN SHED



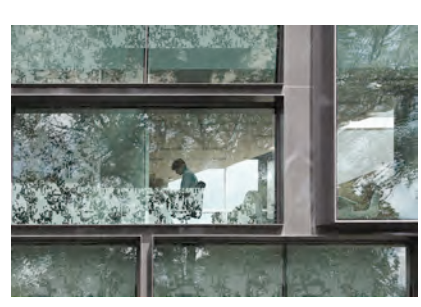
L'ORANGERIE DU JARDIN MASSEY

A CURATED VISITOR JOURNEY:

As the main arrival point at the entry of the gardens the building is arranged around a highly curated visitor journey, combining carefully choreographed glimpses with panoramic vistas that facilitate views across the gardens. Strategically located at the edge of the garden the interconnected spaces of the Gallery, Hall and Café allow for programmatic flexibility across a range of modes, whilst the Winterdoor synthesises the flow of people between the forecourt and the garden viewing platform. To the rear, the design positions the meeting rooms with an internalised greenhouse, a controlled micro-climate that houses a productive vegetable garden and provides food for the adjacent café. Combining learning, gardening and food the building intends to serve as a place of education around conservation and botany.



BOWRAL TRACHYTE MINING



MELBOURNE GRAMMAR SCHOOL



LAKE WENDOUREE HOUSE



DIAMOND BAY HOUSE



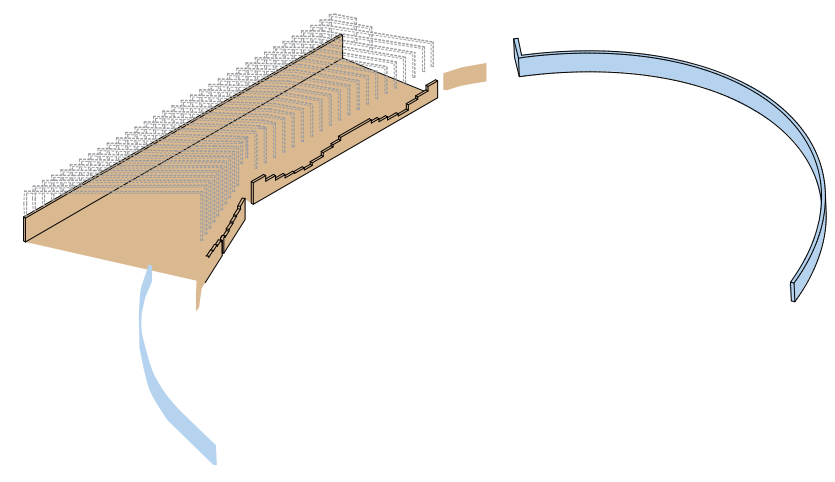
FORMS OF GARDEN ENCLOSURE



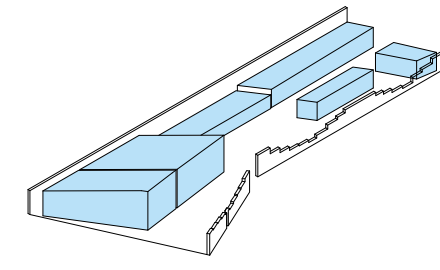
TANDERRUM BRIDGE

1 Upon entering the garden path, the building appears within a break in the stone wall.

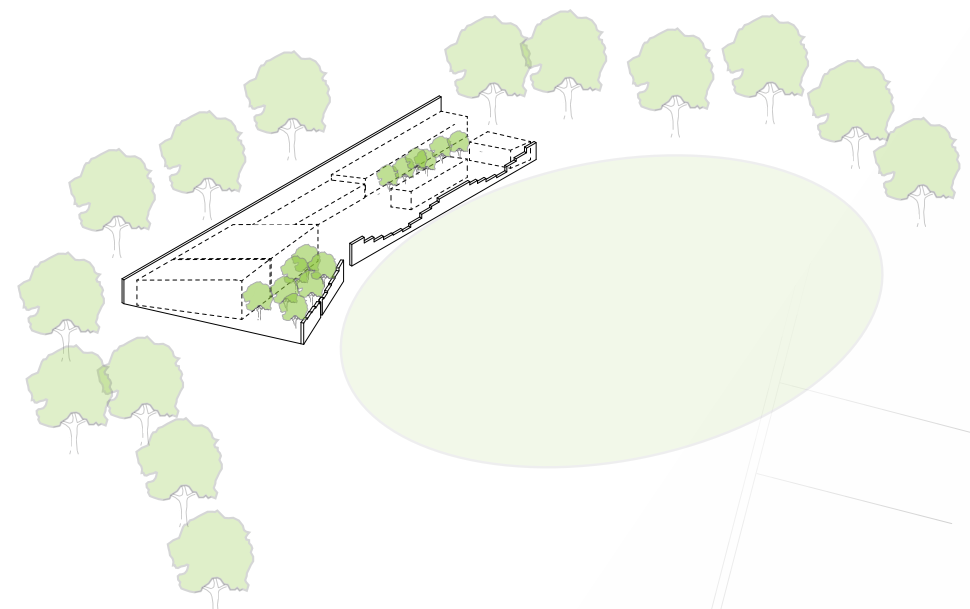




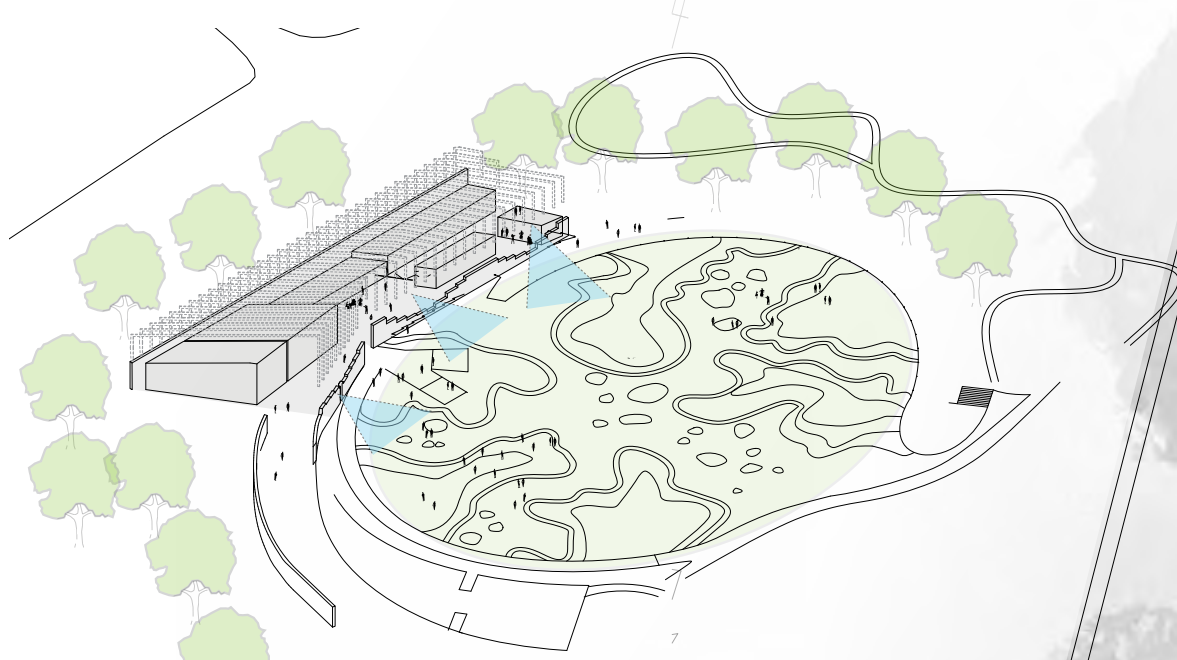
THE BRICK PLINTH GROUNDS THE BUILDING TO THE SITE AND THE GARDEN



A SERIES OF GARDEN PAVILIONS CONTAINED WITHIN



DRAWING THE GARDEN INTO THE BUILDING



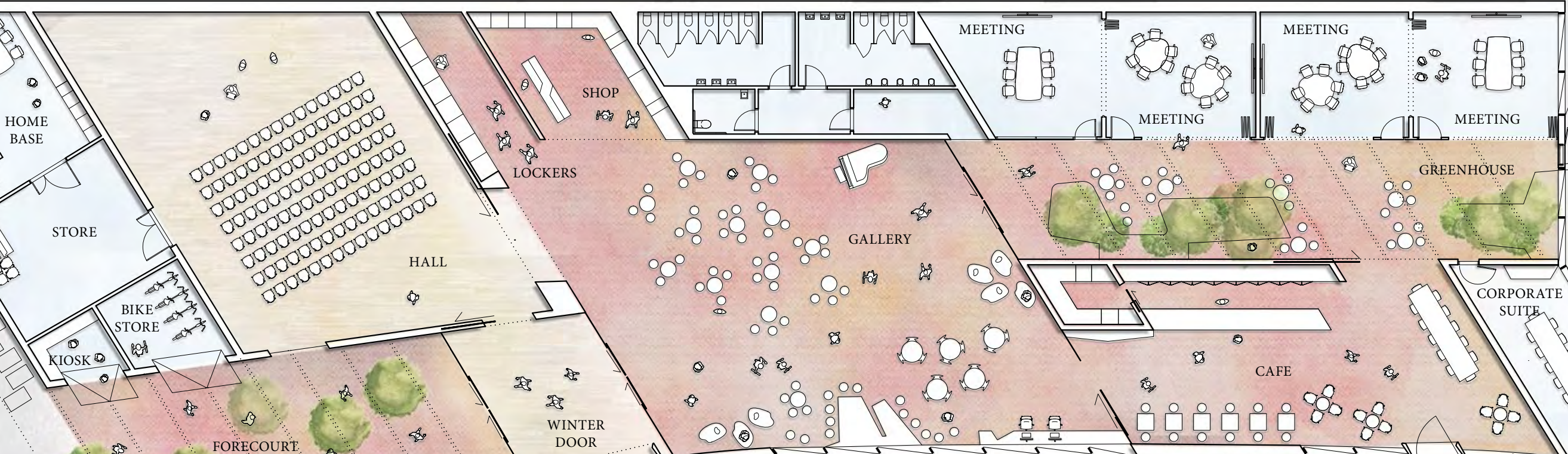
CURATED VIEWS

GARDEN ENTRY

CHILDREN'S GARDEN

LOADING AND PARKING

STORAGE AND BINS

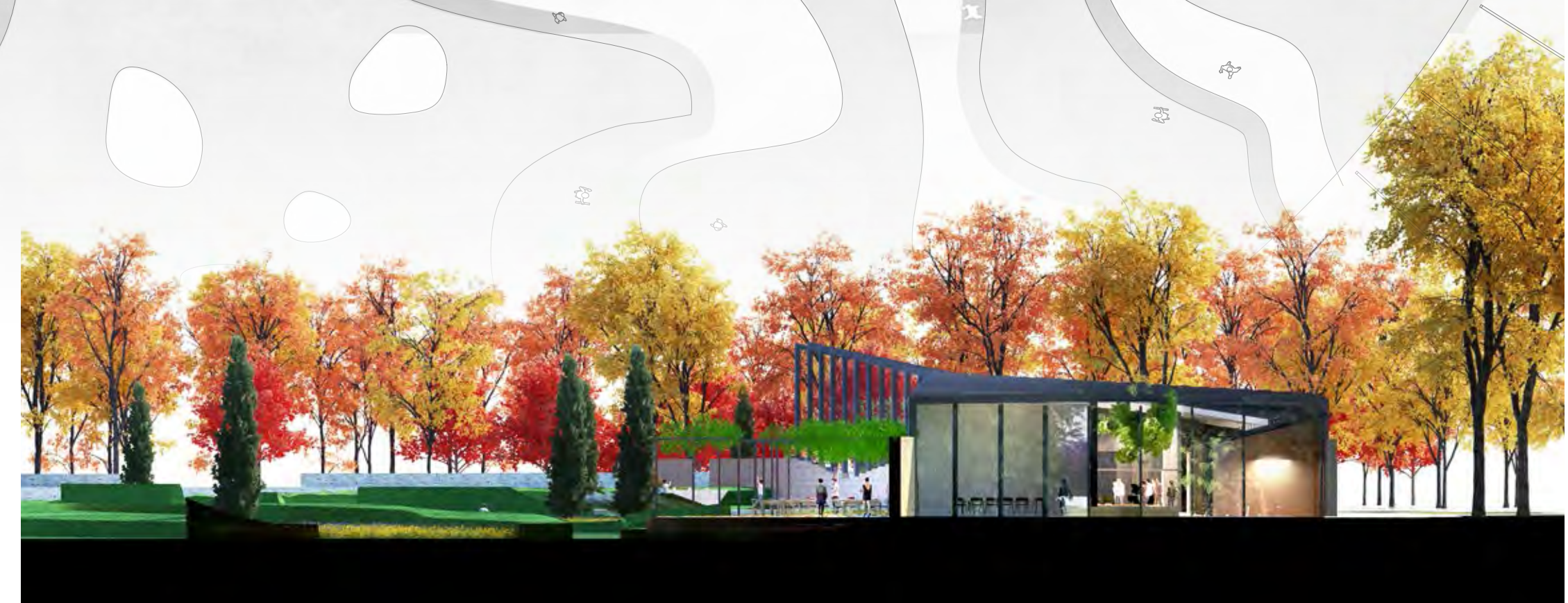


GARDEN ENTRY
GARDEN VIEWING PLATFORM

PARTERRE

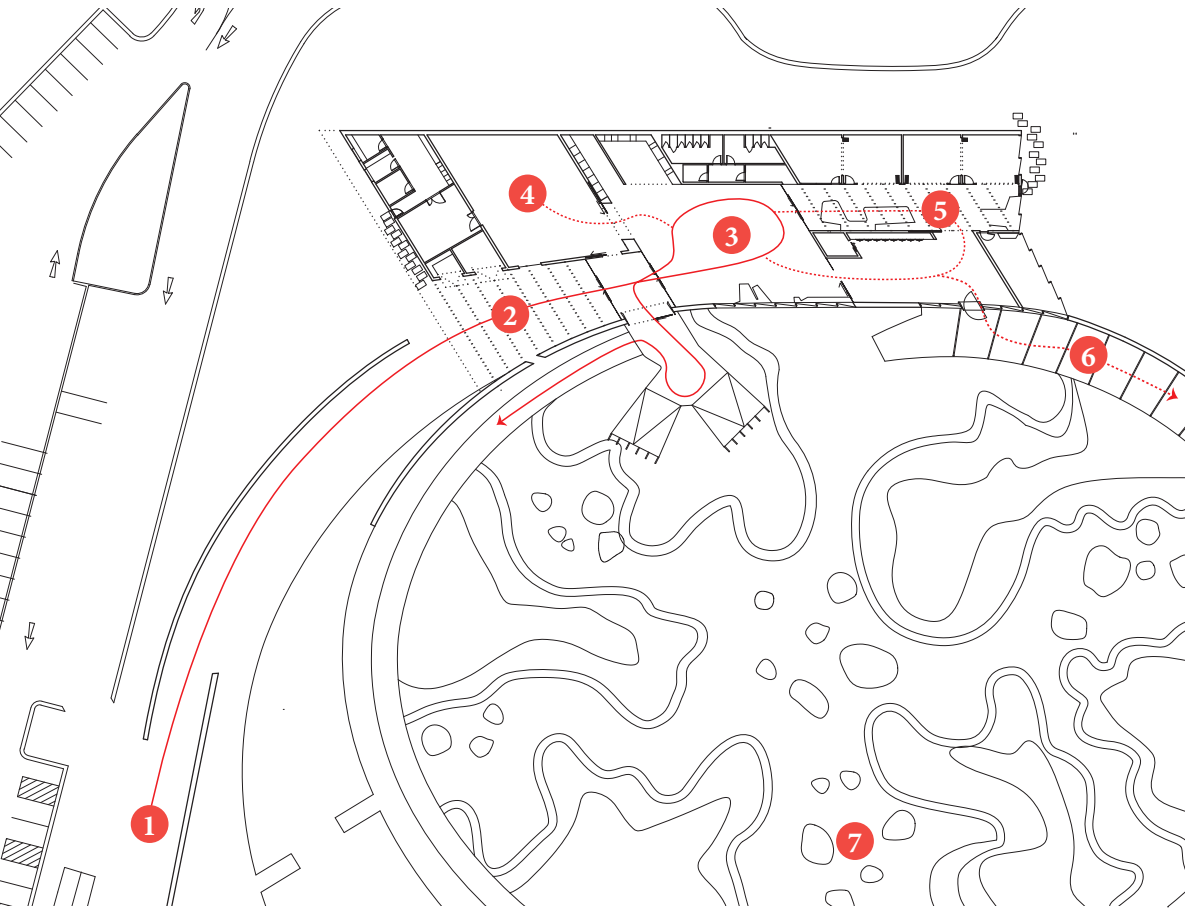


SOUTH ELEVATION - 1:200



EAST ELEVATION - 1:200

A CURATED VISITOR JOURNEY



ENTRY SEQUENCE DIAGRAM AND KEY VIEWS



3 Within, the gallery is the main point of orientation and opens out to provide expansive views across the Parterre. Directly connected to the hall and the café, the three central spaces allow for programmatic flexibility and a range of event/function modes.



3 View from within the gallery across the parterre.



2 View to entry forecourt.



4 Views from the arbour across the parterre.



5 Internalised greenhouse with a controlled micro-climate that houses a productive vegetable garden and provides food for the adjacent café.



NORTH ELEVATION - 1:200

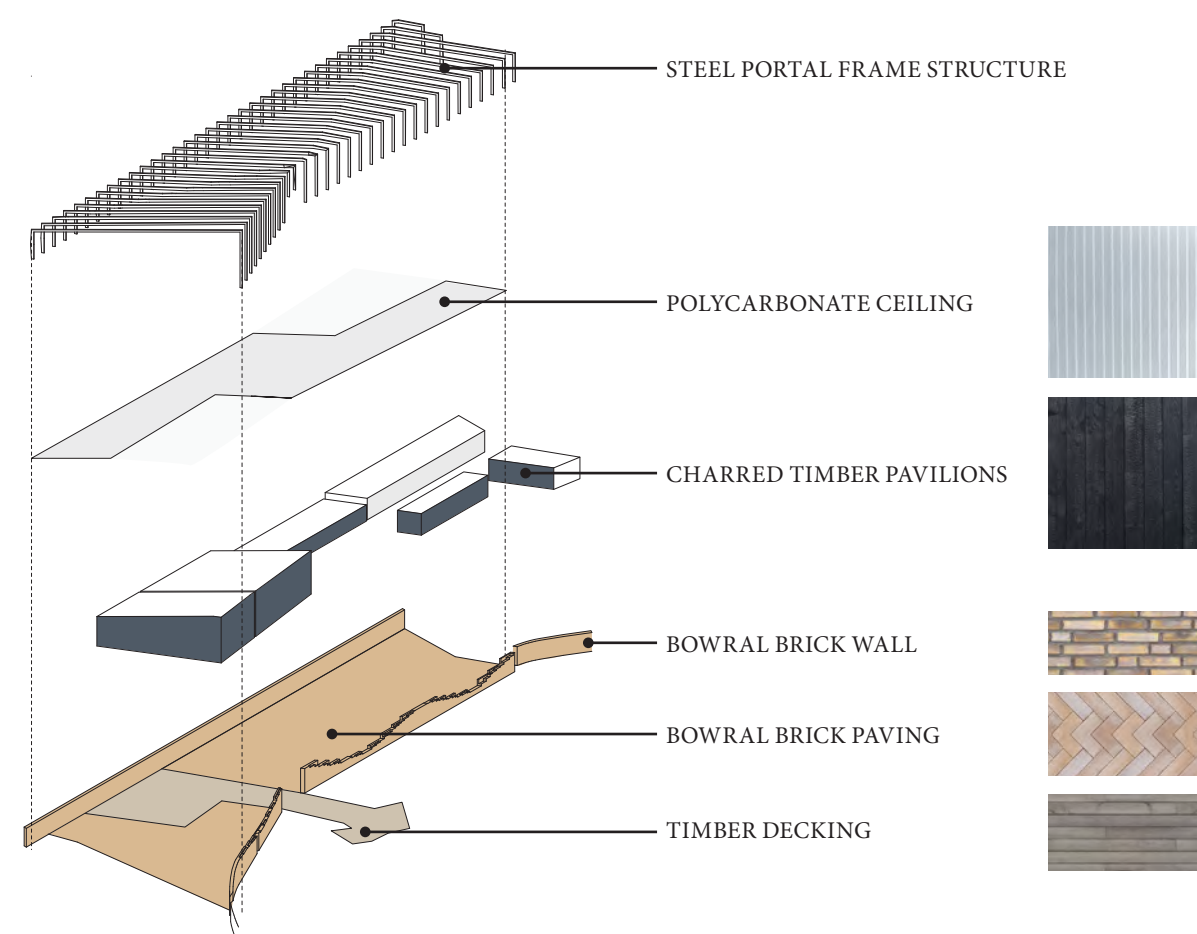


WEST ELEVATION - 1:200



3 View from within the gallery to winter door, hall and shop

MATERIALITY



4 View from within hall

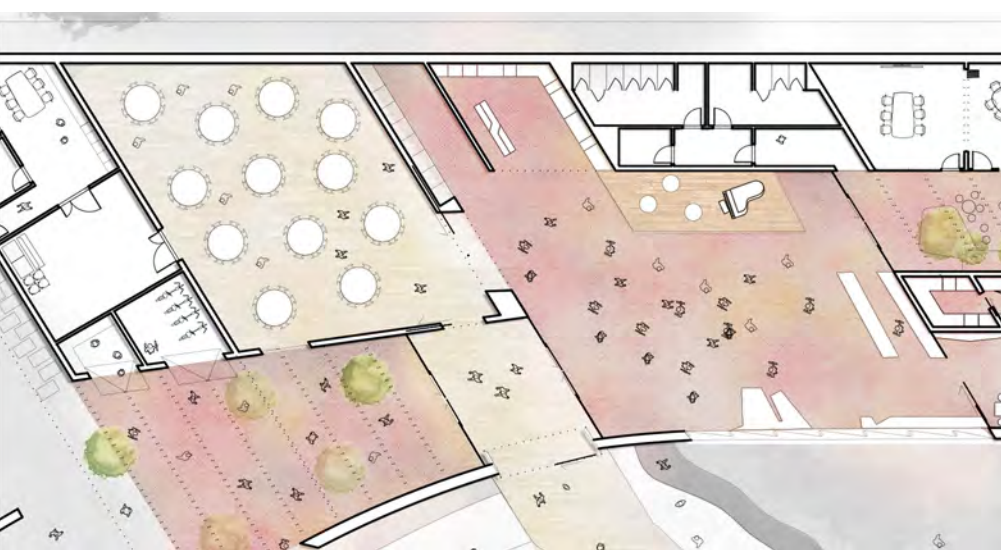


SECTION THROUGH HALL AND FORECOURT

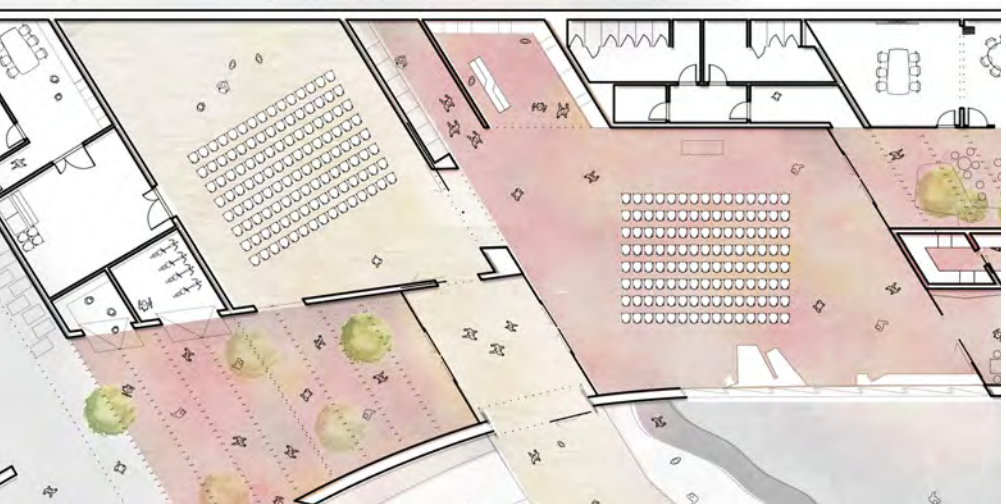


SECTION THROUGH HALL, SHOP, GARDEN ENTRANCE AND GALLERY

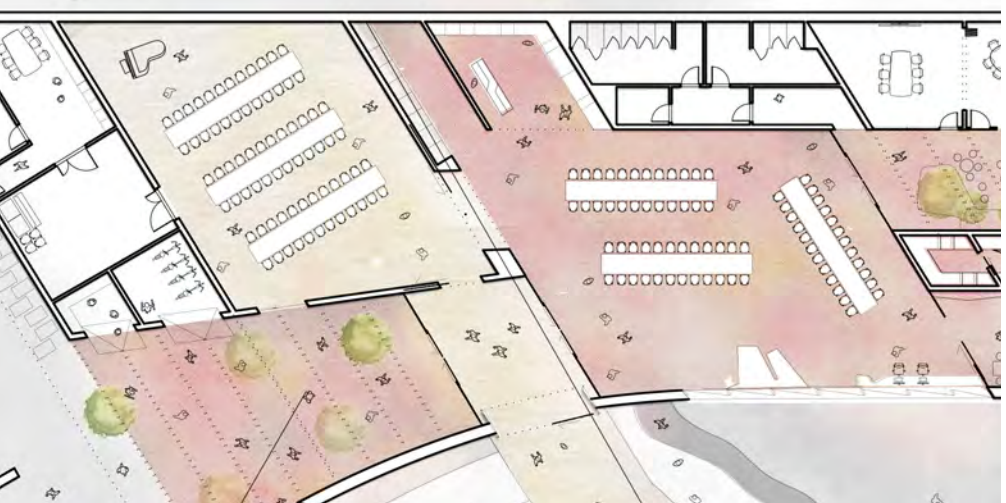
MODES OF OPERATION



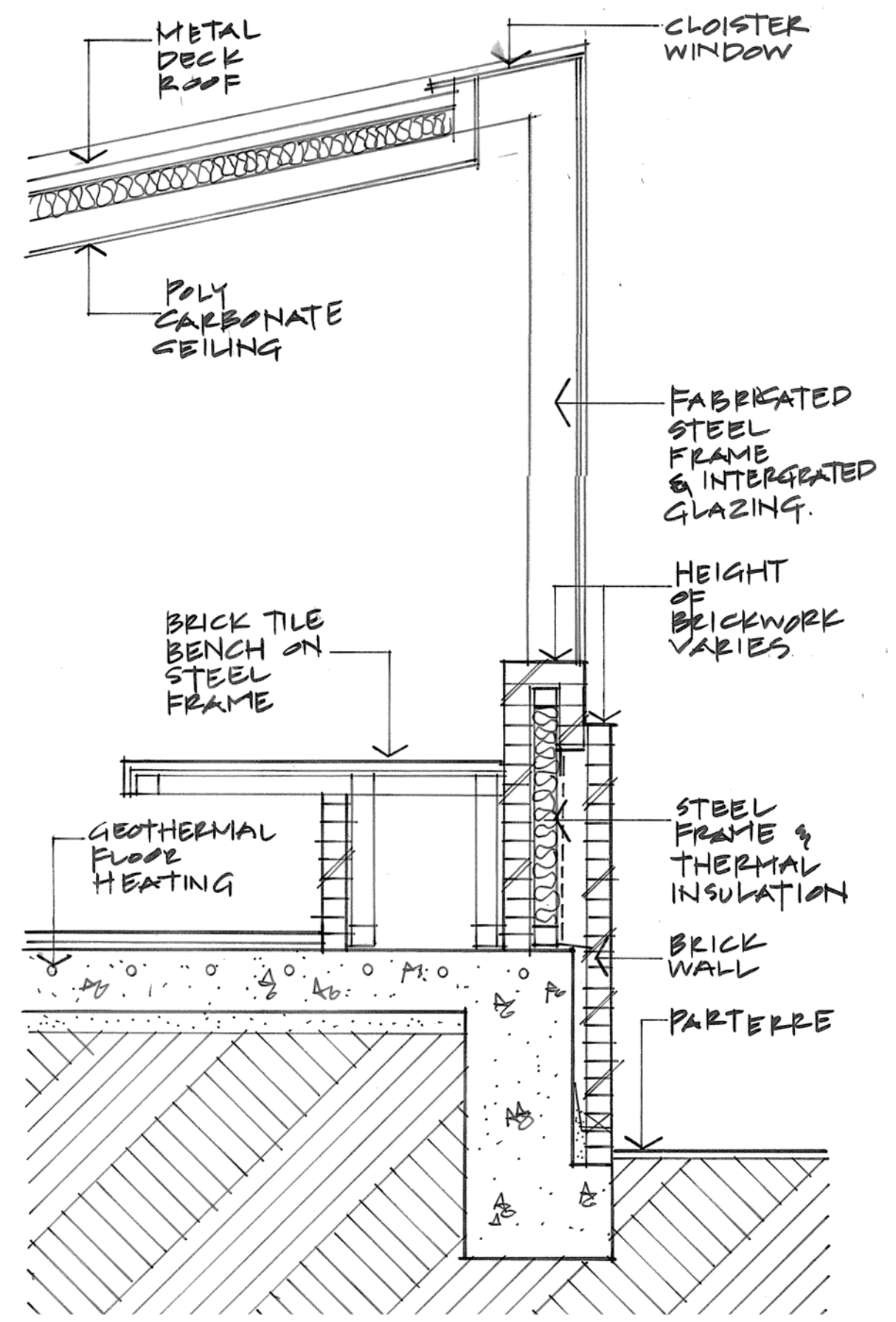
Reception



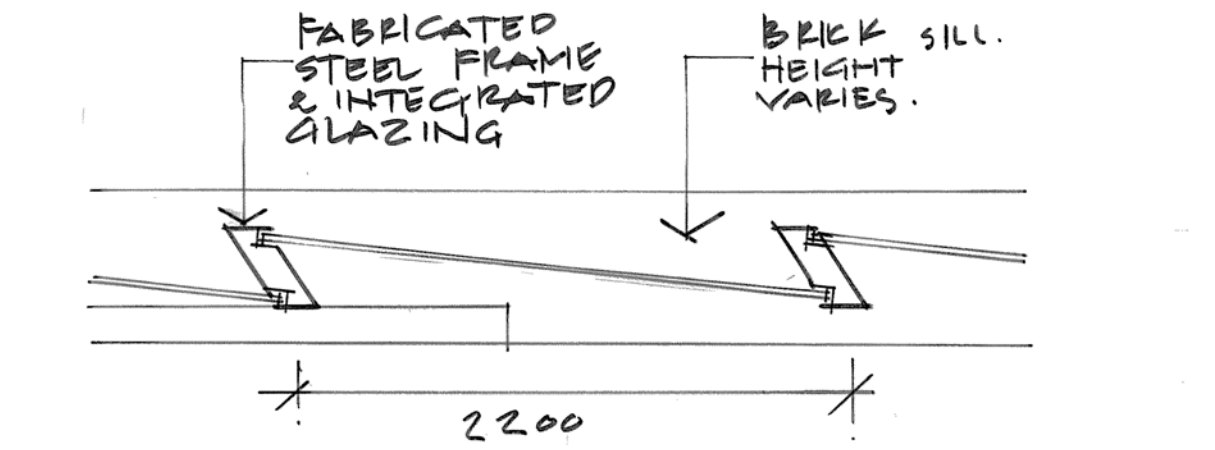
Conference



Catered Event



SECTION DETAIL SOUTH FAÇADE - 1:25



PLAN DETAIL SOUTH FAÇADE - 1:25

MICROCLIMATE

The design of the conservatory is more akin to design of a biome where the desire is to create a specific microclimate. The general biome climate is tuned to a climate typical of the warm temperate climate. The proposed conservatory internal climate is targeted to be 16- 22 in winter and similar to shaded outdoor conditions in summer.

FACADE

The building envelope uses a variety of technology measures to establish the microclimate through the following heat balance principals:

Heat loss is minimized in winter using insulated glass skin including ETFE quad skin for the roof.

As the design develops the southern façade may use strategically located translucent panels to control heat loss on the south. These panels would include translucent insulation material to insulate yet provide light.

To the north, a reverse brick veneer construction creates a mini Trombe wall in the opaque areas providing cooling in summer and heating in winter.

Angled internal shading slats are used to shade key areas in summer yet allow sun in through winter.

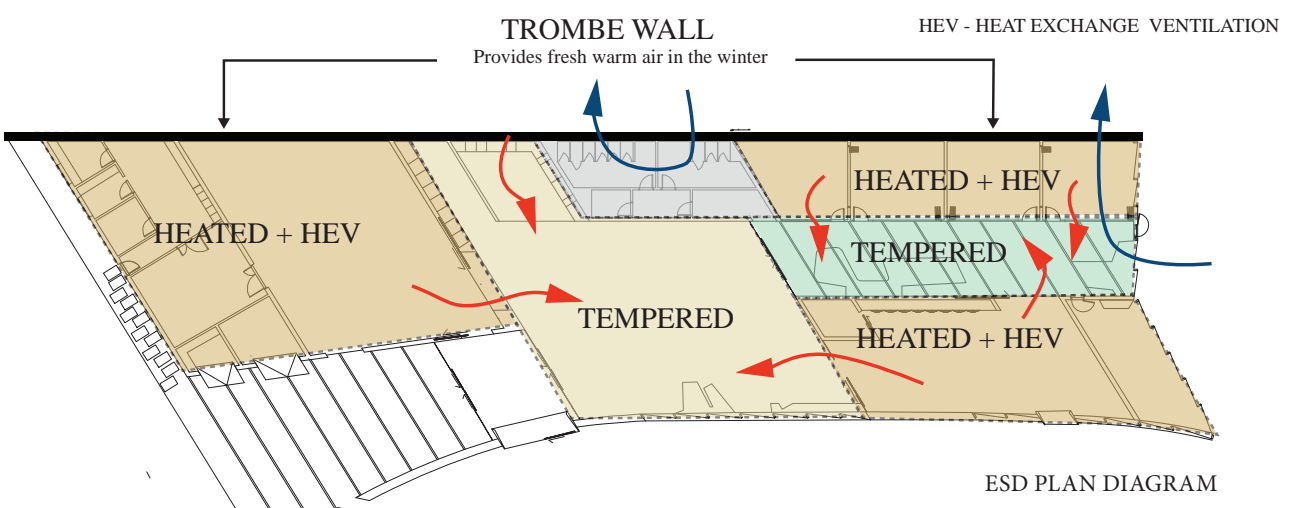
ACTIVE SYSTEMS

The summer temperatures are further controlled by evaporative cooling using misters and natural ventilation, no additional cooling is required. In winter, additional heating is provided by a ground source geothermal heat pump system.

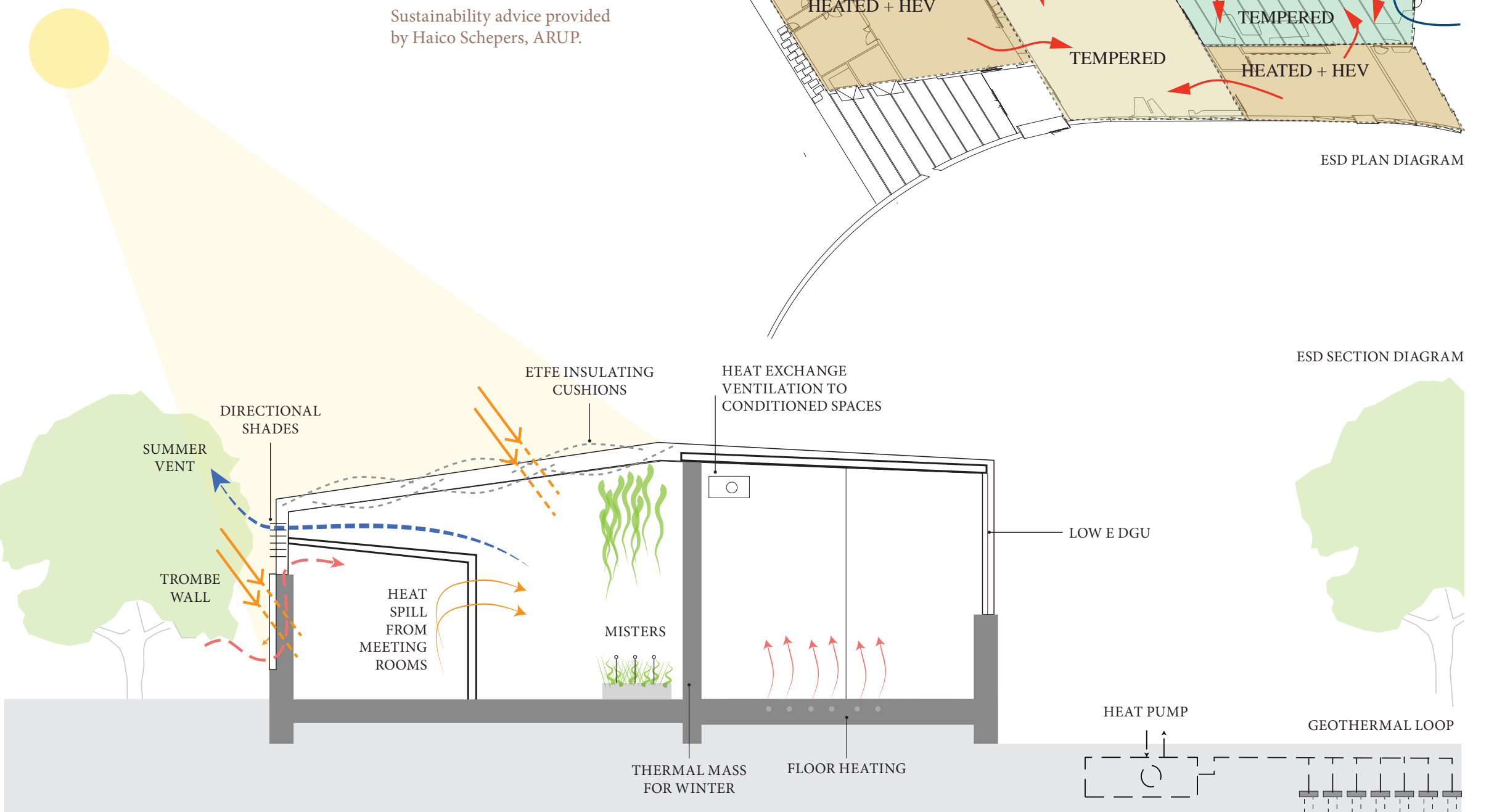
Sustainability advice provided by Haico Schepers, ARUP.

STRUCTURE

The proposed structure is a simple portal frame supporting the self-spanning glass panels directly. The glass panels are in a thermally broken frame with opening windows using linear actuators to open them to fixed location.



ESD PLAN DIAGRAM



ESD SECTION DIAGRAM