



7 TECHNICAL DEVELOPMENT

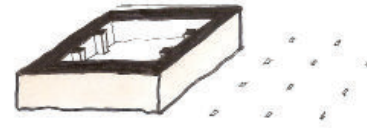
goal 4 : transformation

It has been discussed earlier that architecture is as much an integral part of expressing living culture as art, film, music and creative speech. The technological development of the project embodies the representation of **TRANSFORMATION** as seen in Figure 7.1. As the structure is sunken below ground, a masonry construction was chosen to represent the heavy, load bearing nature of the retaining function of the boundary walls (Figure 7.2). The use of masonry is also reminiscent of the existing technologies used in the heritage structures bordering the site and serves as a point of departure from the historic sandstone buildings. The outer shell is comprised of off-shutter concrete as a protective retaining feature with embedded services.

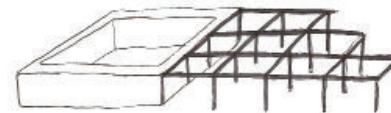
This shell disintegrates into a lightweight steel skeleton, expressed outside the building. The steel structure used for shading and flexible or temporal spaces represents an open support system which allows for user manipulation to suit changing needs. Where the building may function as programmed most of the time, there is opportunity to construct temporary shelter using the steel framework in order to extend into auxiliary gallery or conference spaces. The structure can also be manipulated to form a stage or multiple smaller spaces to cater for the existing vendors as a weekly market.

The filtering of spaces embodies the concept of layering and **EXHIBITION**. Pedestrian entrances are through gardens and widely accessible spaces, becoming increasingly formal and culminating in the programmed internal space of the building. Much of the first basement level is shaded from above by timber and steel pergola sections. The pergola is also used to differentiate between different qualities of the outdoor space in order to provide some sense of scale and hierarchy to the public realm. Several screens between the external and internal environments are created in order to modulate the sensory experience of the succession from open public space to more intimate enclosed areas. By manipulating light, visual access, and volumes, the notion of transparency becomes dynamic as a pedestrian moves around and through the structure.

The exposed concrete and steel structure, separate from the building envelope, serves to modulate the facades by creating diverse materiality. Services to basement levels below are housed within the retaining wall structure and expressed on ground floor level as urban landscaping, providing seating, lighting and planting on street interface (Figure 7.4). A lightweight skin on the gallery wall is comprised of panels made by artists of the area. This ever changing skin represents the transformation of social concerns and also forms another aspect of exhibition to passers by.



PROTECTIVE SHELL



ADAPTABLE SKELETON



TEMPORARY FILTERS

Figure 7.1: Abstract diagram of architectural intentions
Author 2010

j u n e

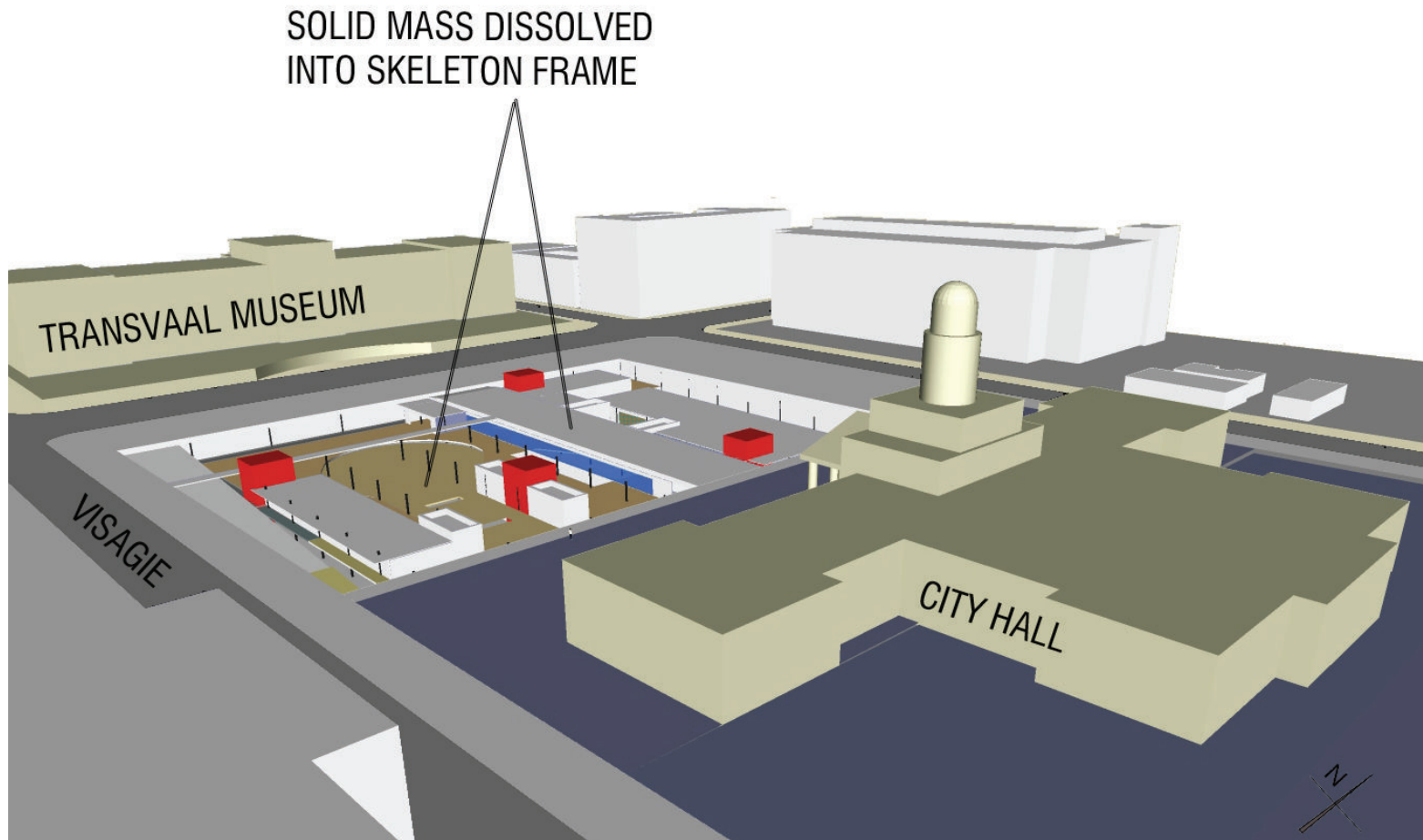


Figure 7.2: Conceptual Approach - Transformation from solid to light structure

Author 2010

august

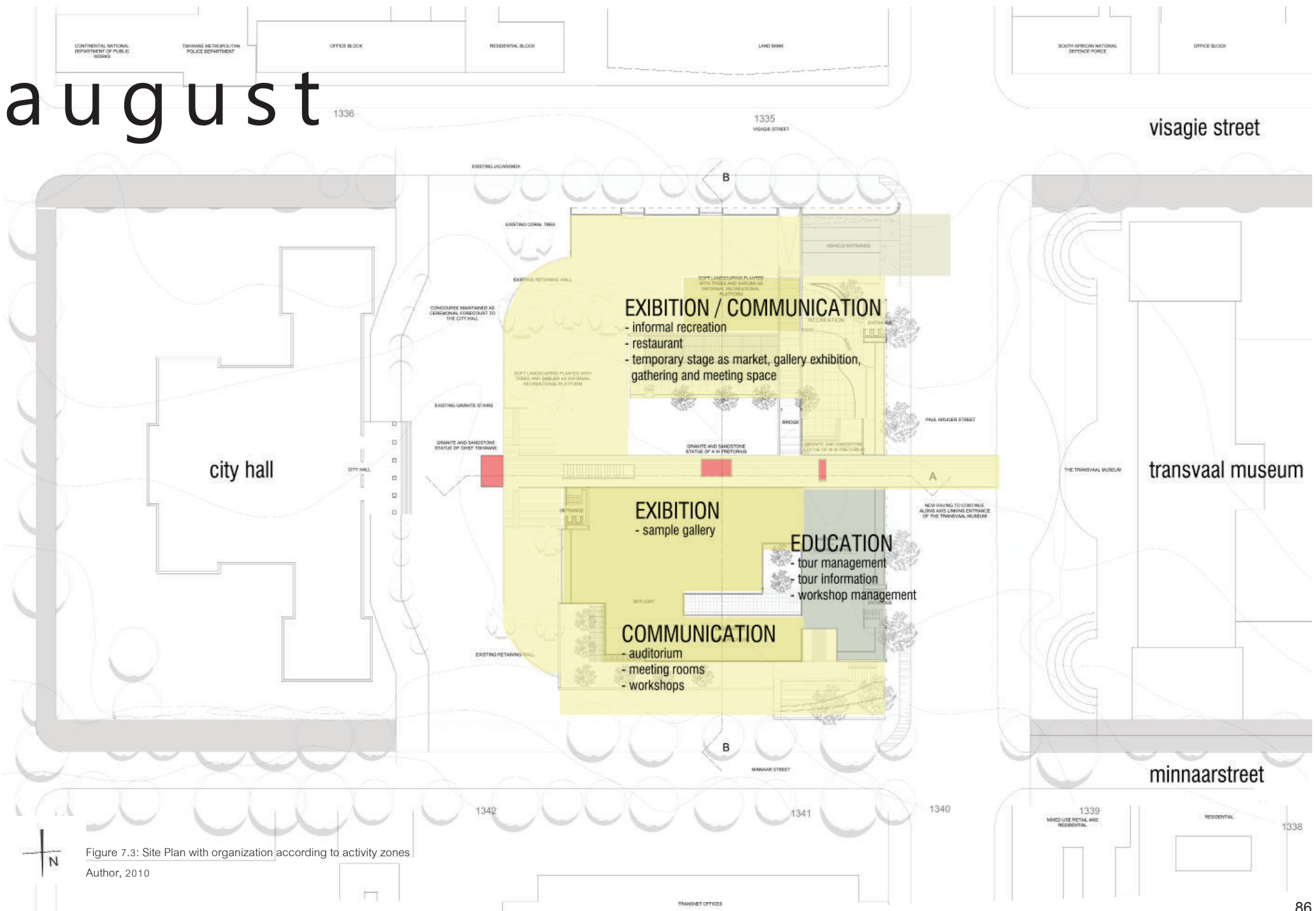


Figure 7.3: Site Plan with organization according to activity zones
 Author, 2010

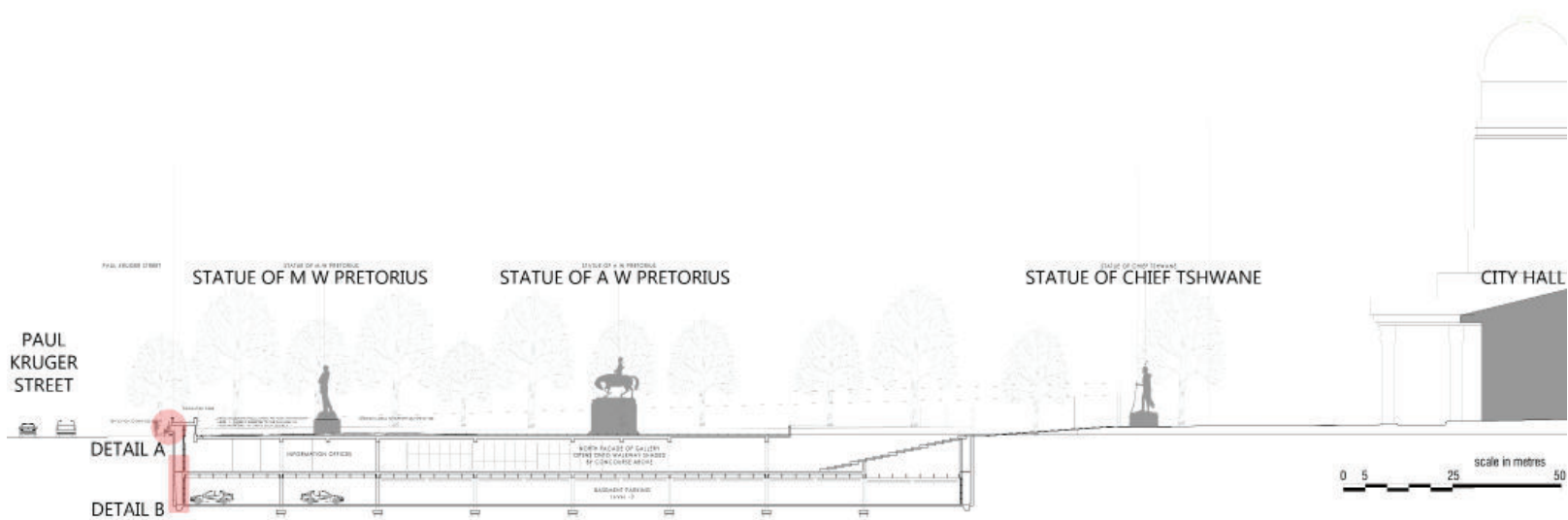


Figure 7.4: Site Section A with statues in original positions
 Author, 2010

The site organization shown in Figure 7.5 and 7.6 conveys the relationship between the existing solid and new void. Public access onto the roof of the building allows for the unrestricted movement connected street level, indicative of the original square as a public space. The original parking lot once housed on ground level has been moved to Basement -2 in order to reclaim the space for pedestrian activity.

The central courtyard allows visual access from the ground floor level into activities housed in Basement Level -2. Integrated skylight and seating benches over the gallery roof provide transparency into the activities below.

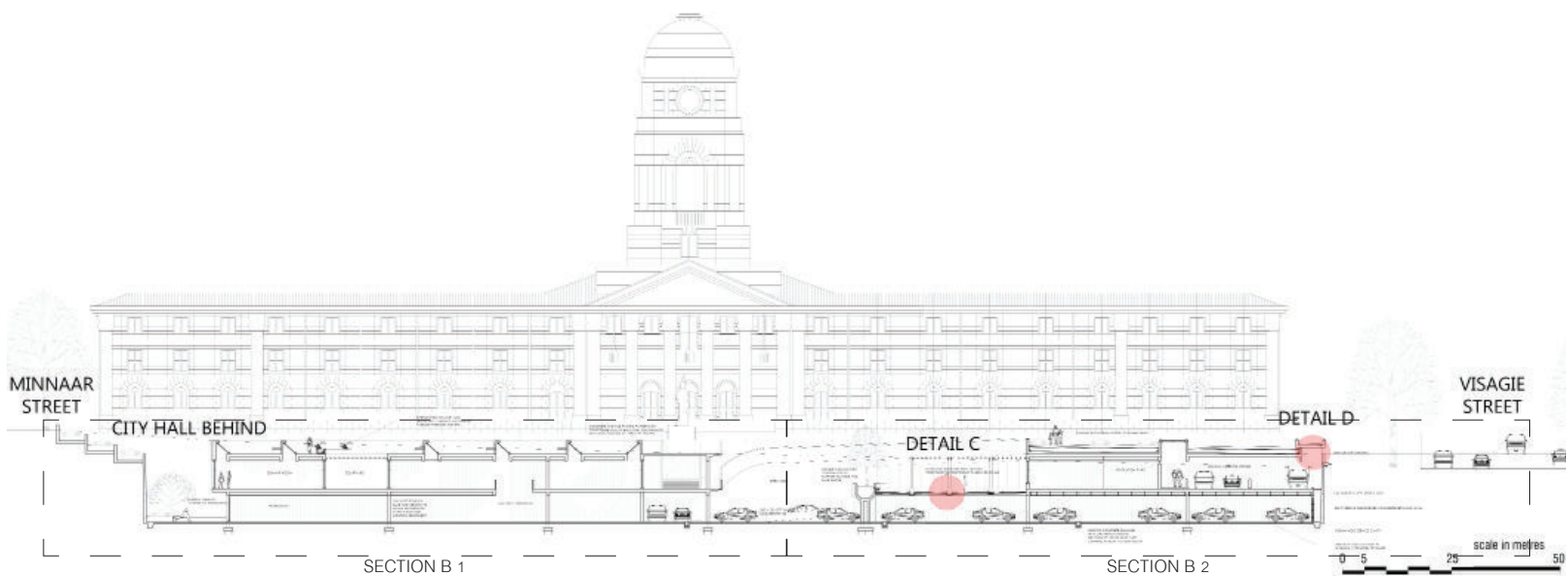


Figure 7.5: Site Section B with City Hall in background
 Author, 2010

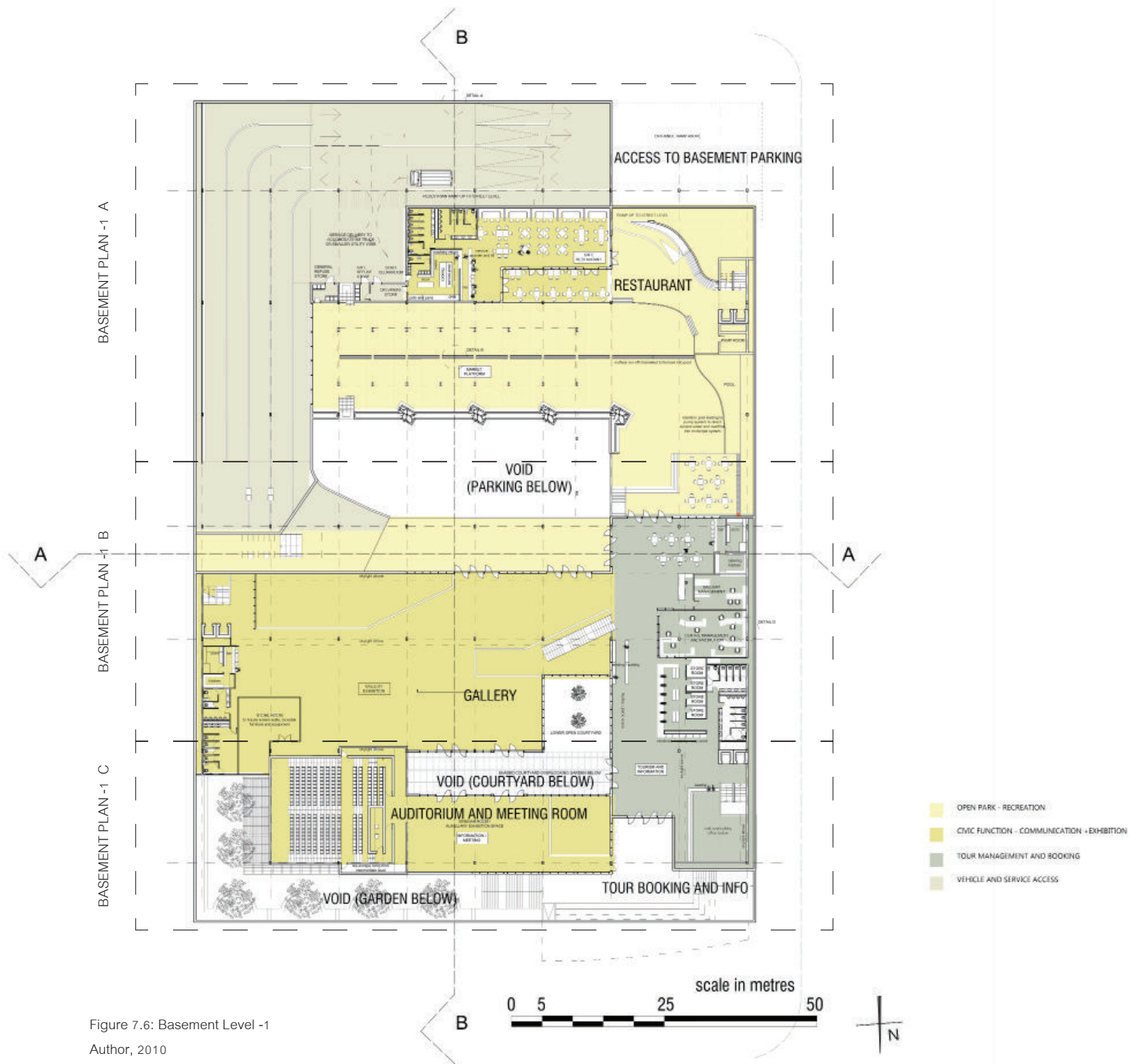


Figure 7.6: Basement Level -1
 Author, 2010

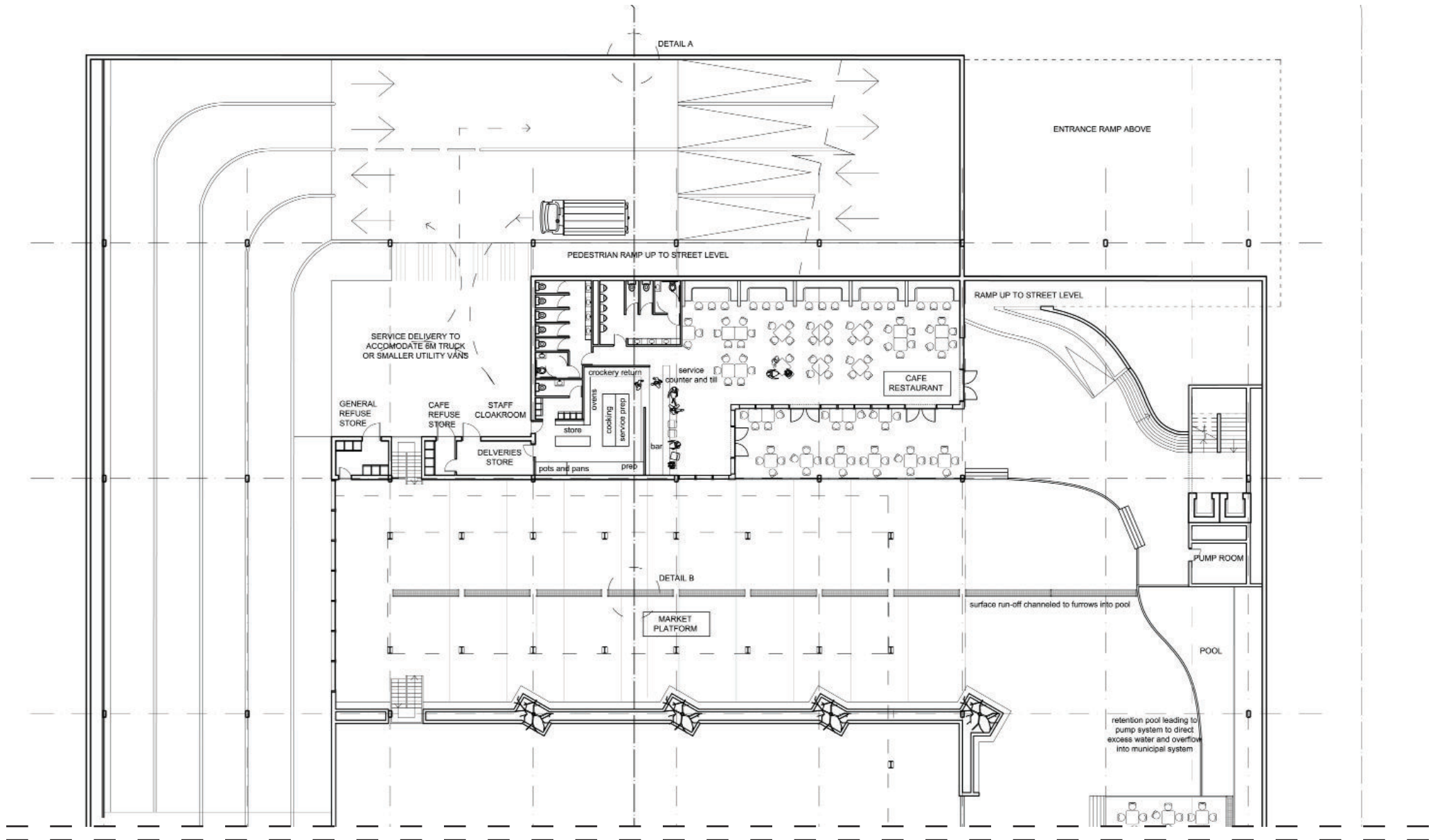
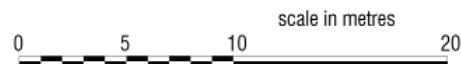


Figure 7.7: Basement Level -1 : Plan A
 Author, 2010



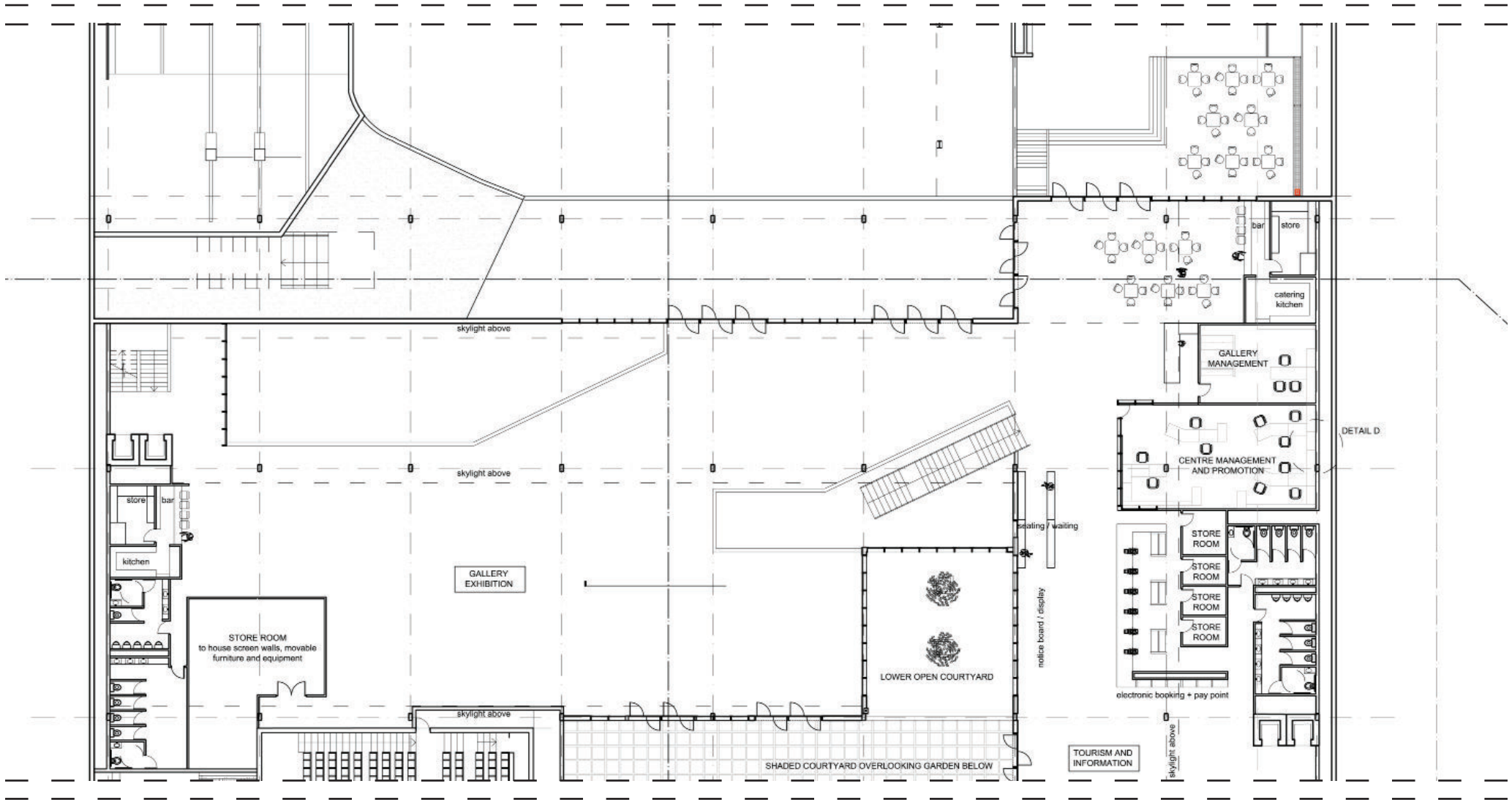
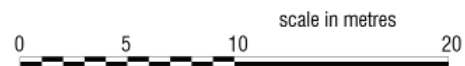
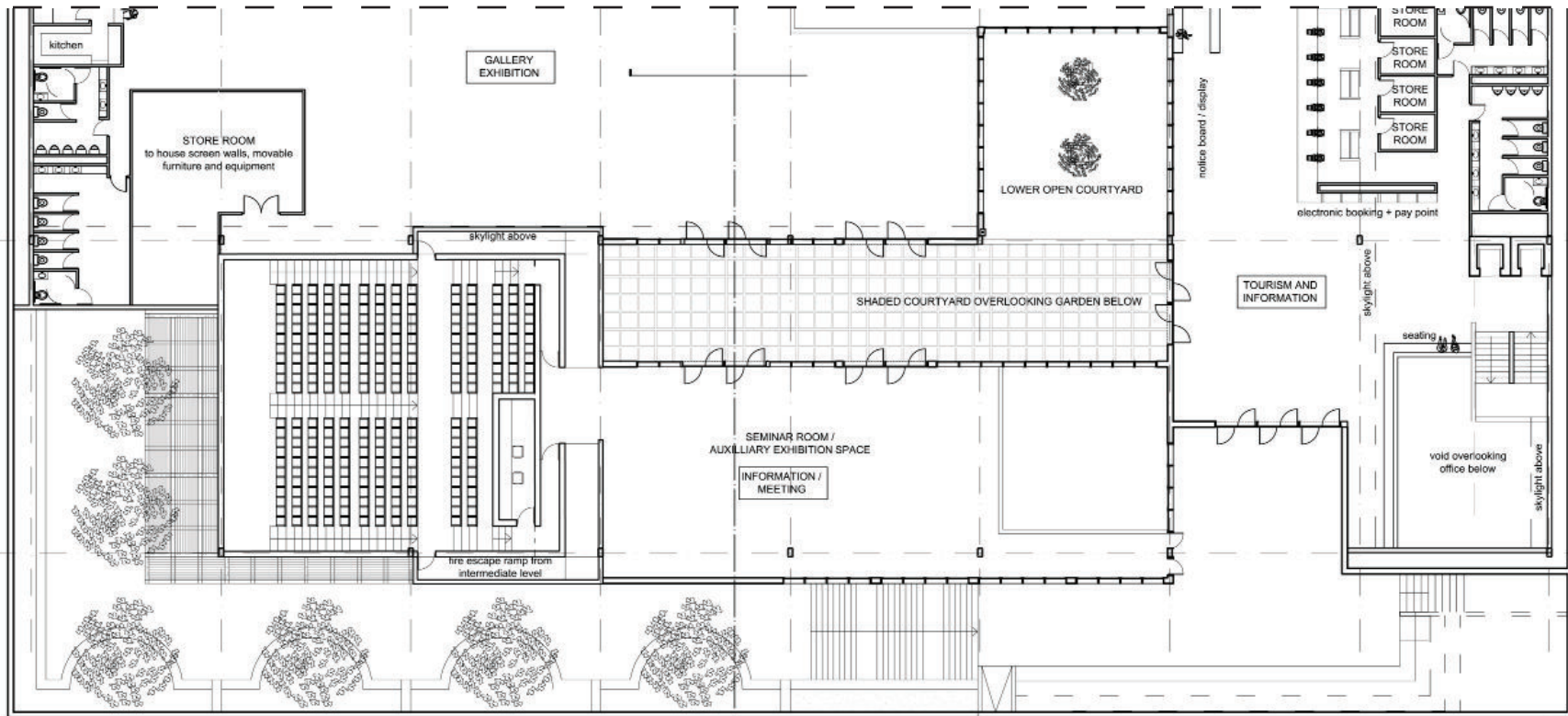


Figure 7.8: Basement Level -1 : Plan B
 Author, 2010





B

scale in metres

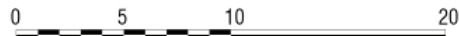


Figure 7.8: Basement Level -1 : Plan C
 Author, 2010

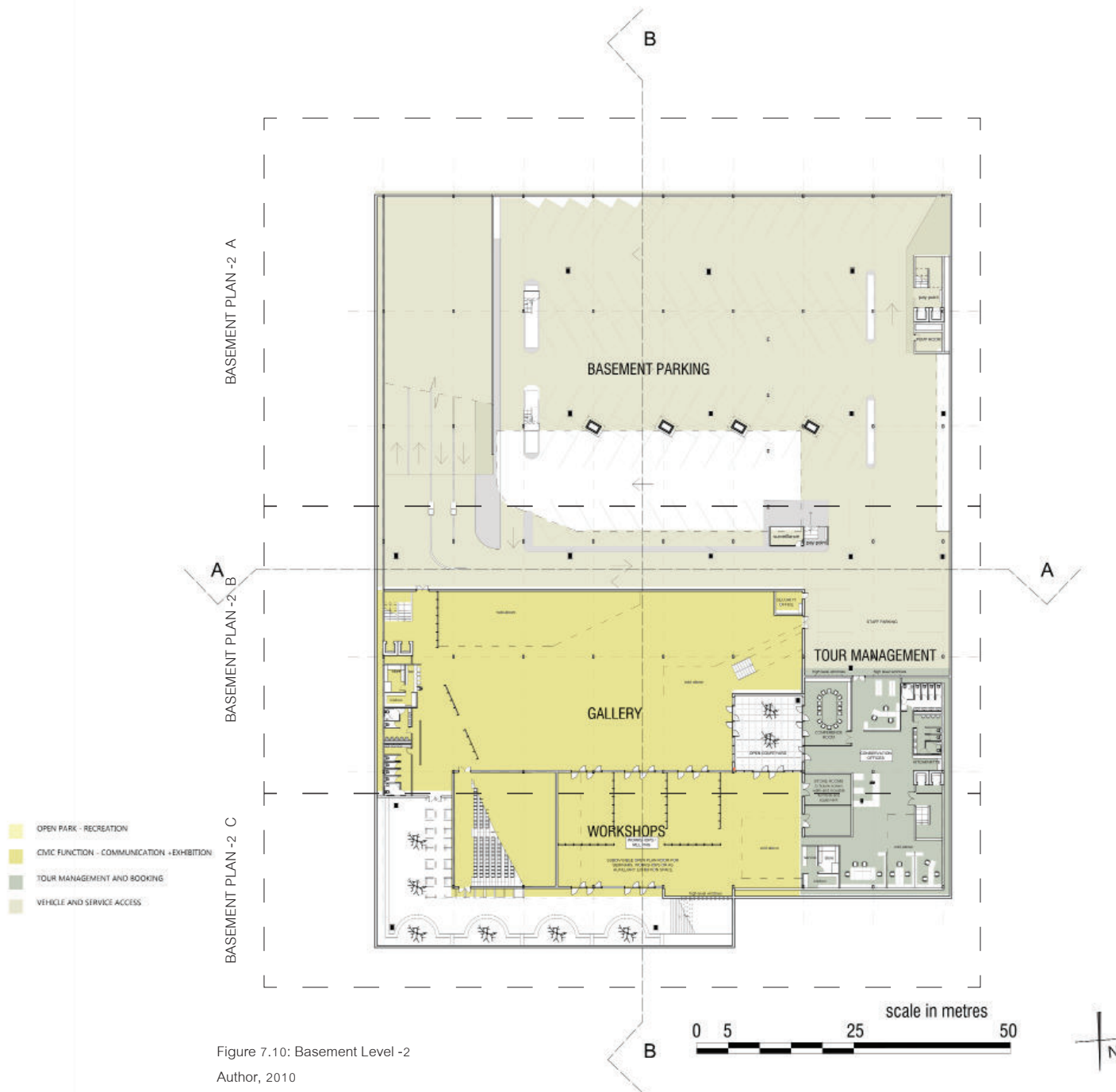


Figure 7.10: Basement Level -2
 Author, 2010

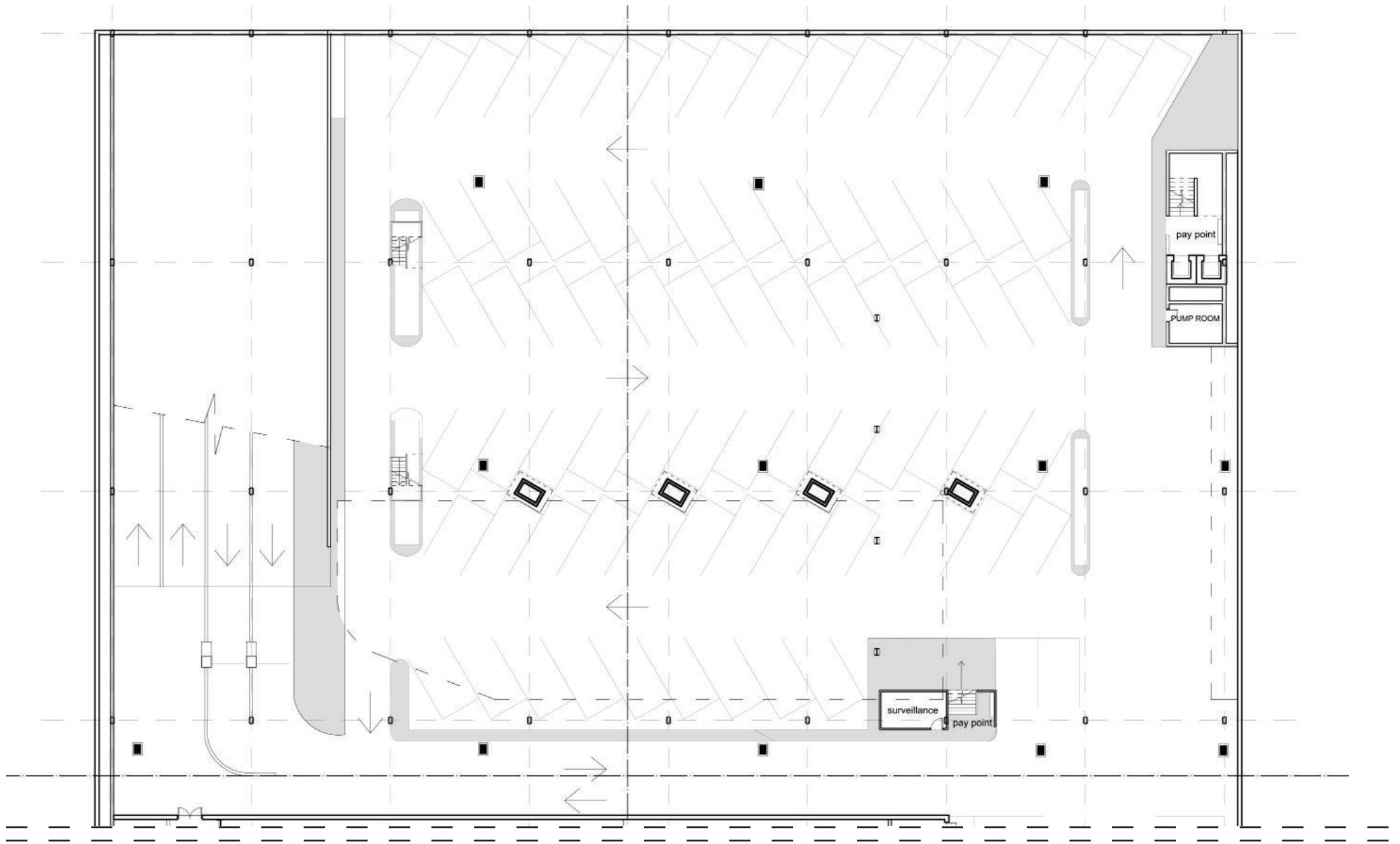
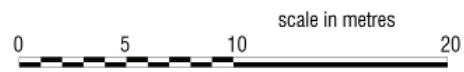


Figure 7.11: Basement Level -2 : Plan A
 Author, 2010



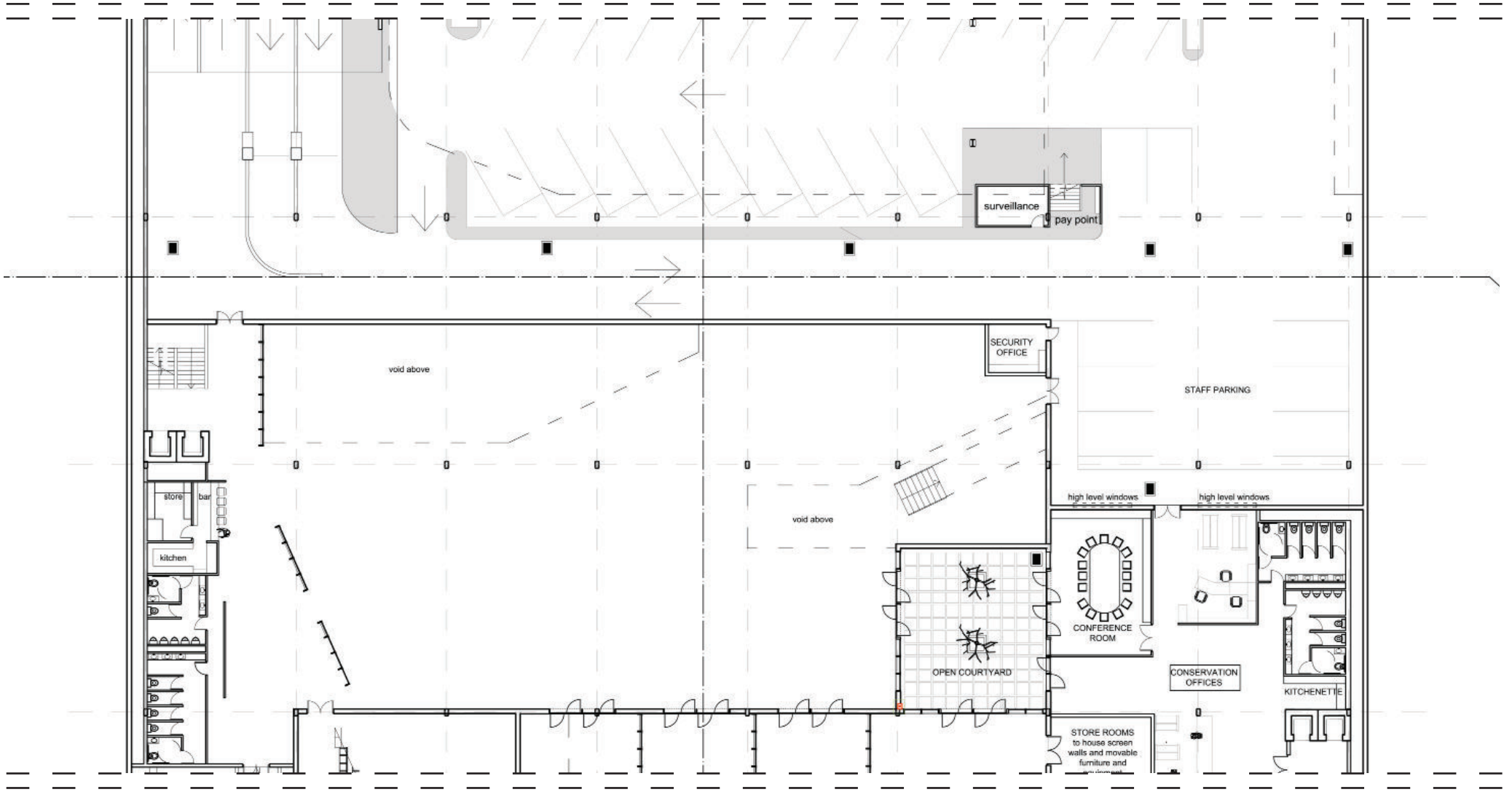


Figure 7.12: Basement Level -2 : Plan B
 Author, 2010



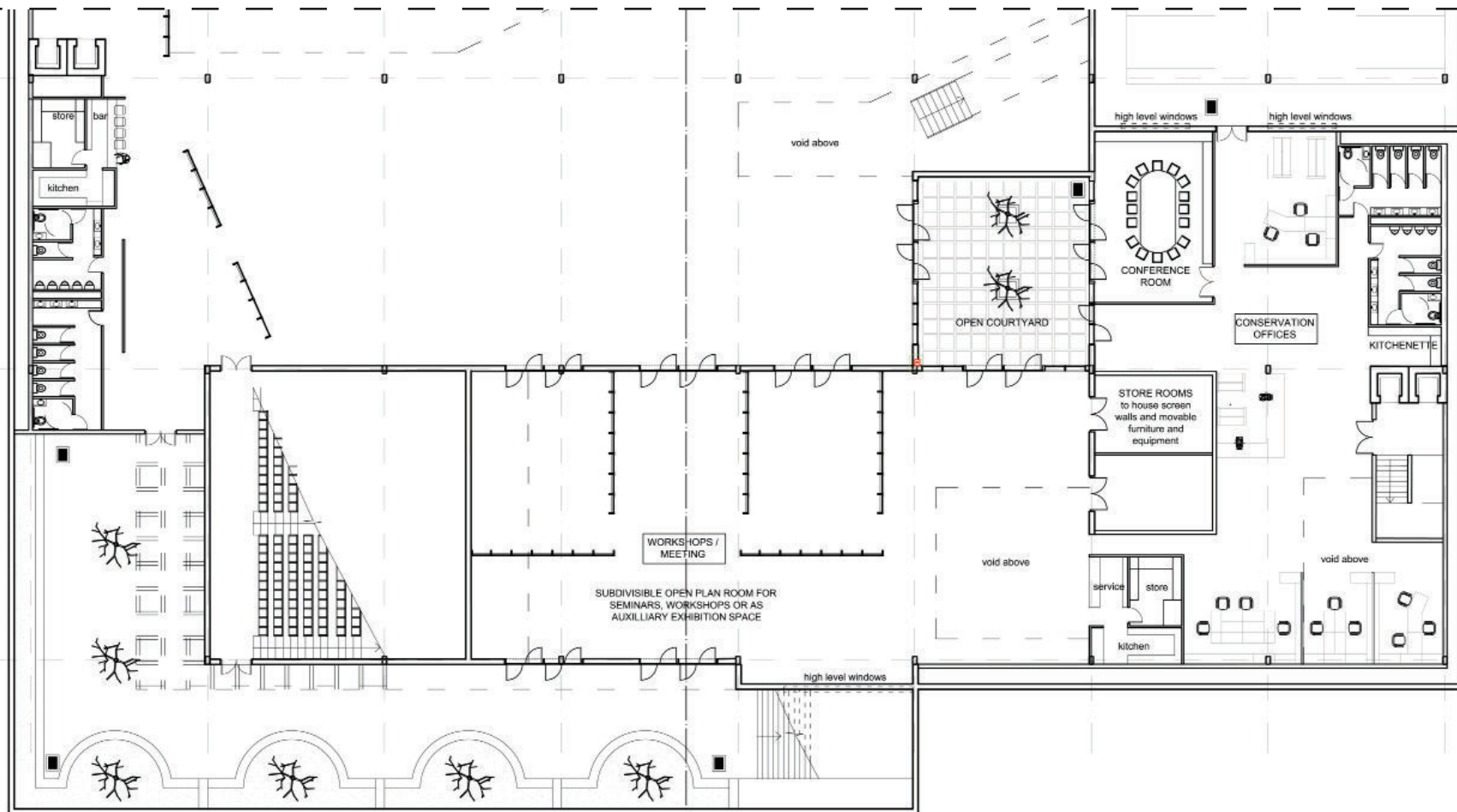
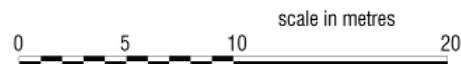


Figure 7.13: Basement Level -2 : Plan C
 Author, 2010



september

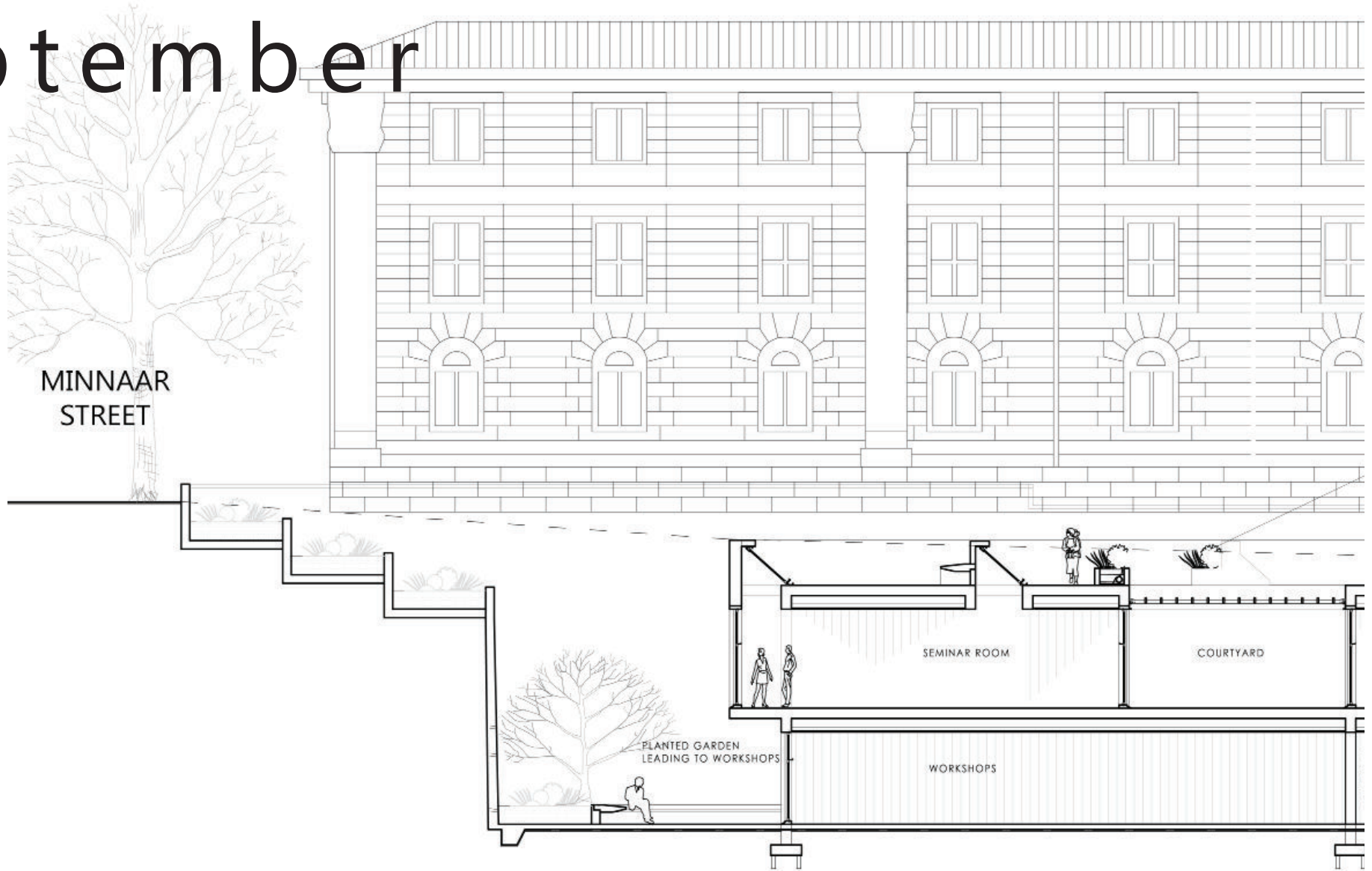
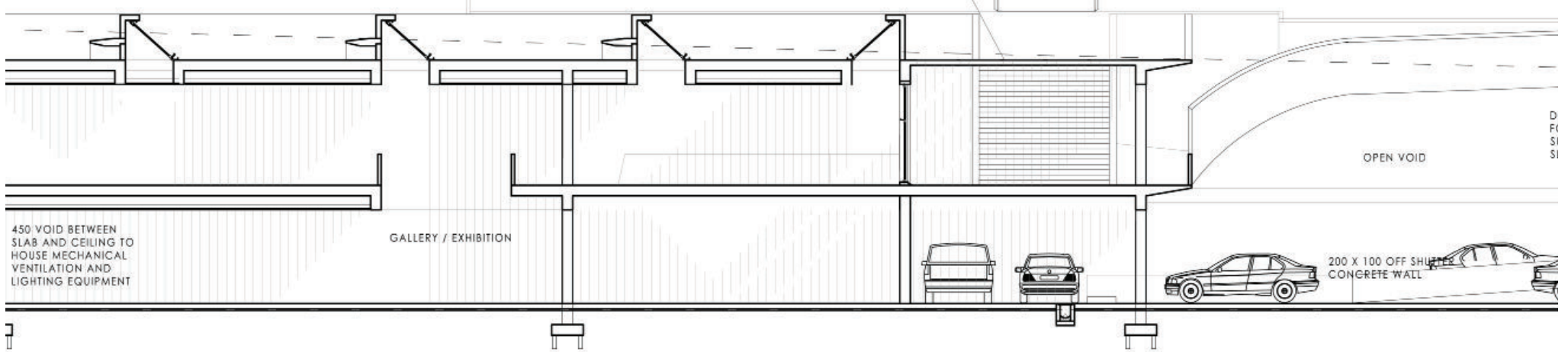


Figure 7.14: Section B 1
Scaled to Fit
Author, 2010



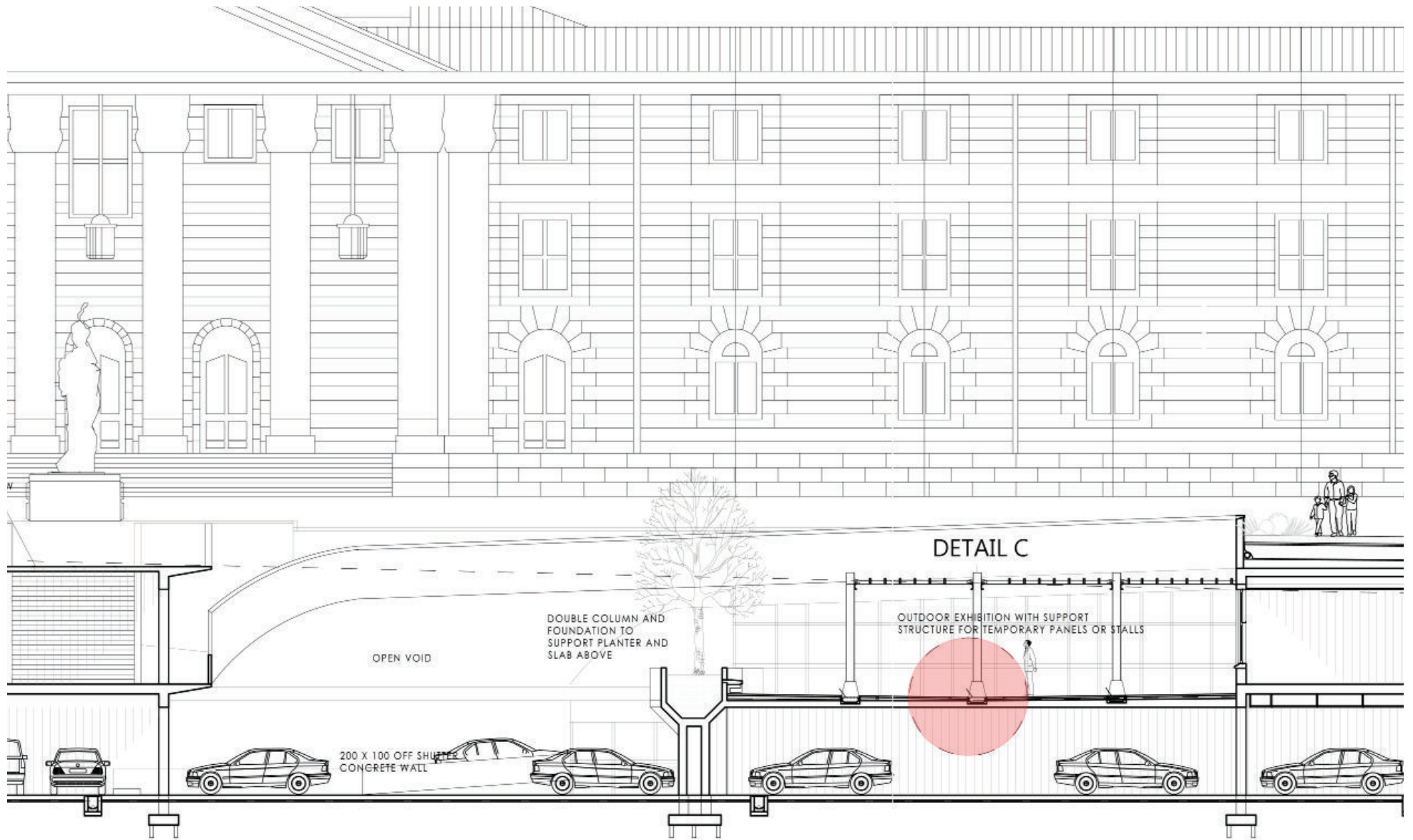
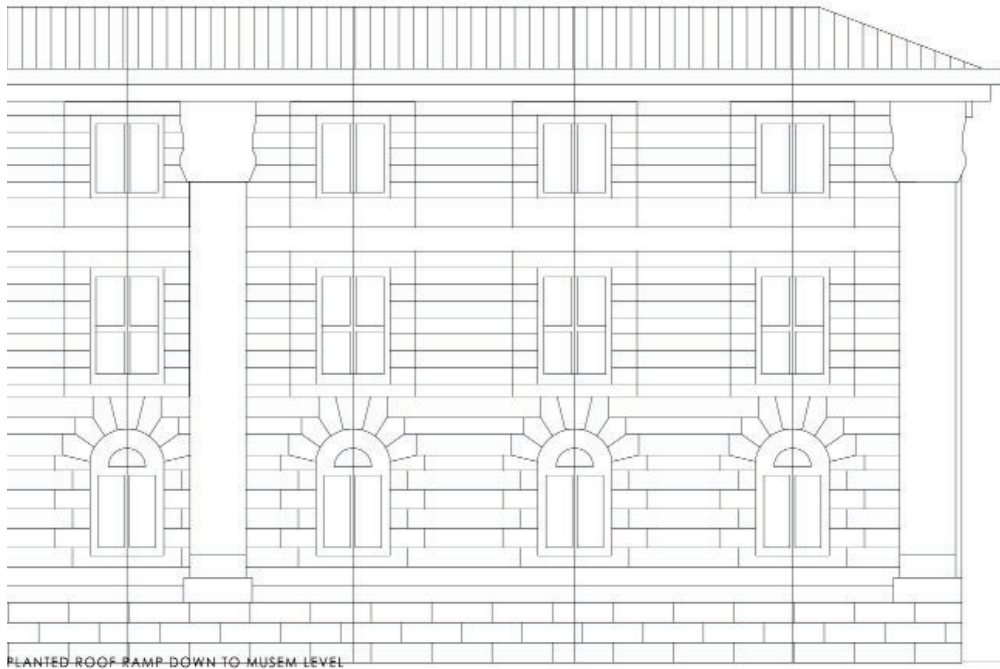
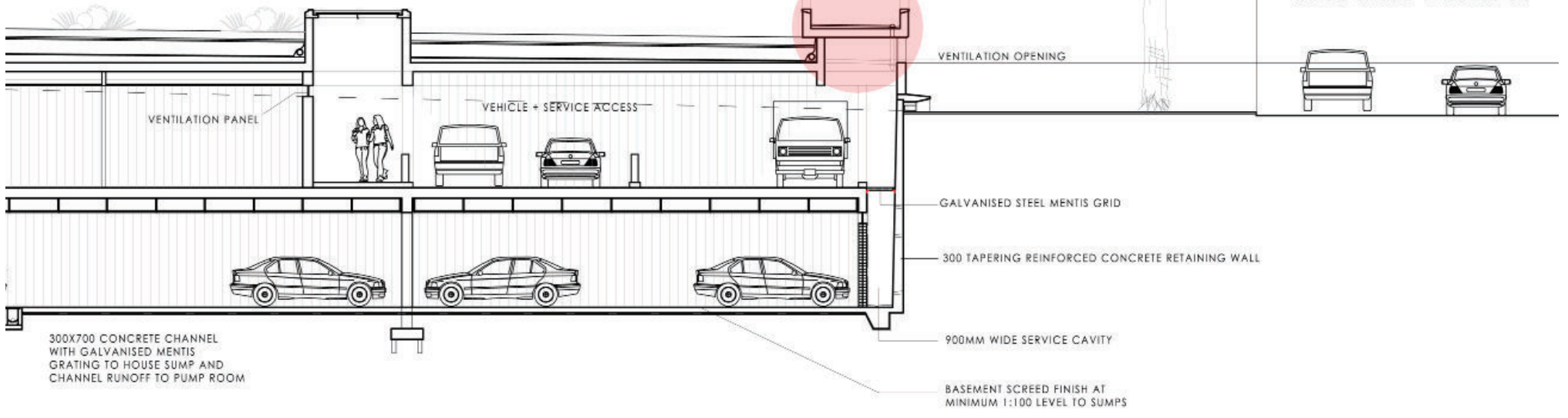


Figure 7.15: Section B 2
 Scaled to fit
 Author, 2010



PLANTED ROOF RAMP DOWN TO MUSEM LEVEL



DETAIL D

VISAGIE STREET

VENTILATION PANEL

VEHICLE + SERVICE ACCESS

VENTILATION OPENING

GALVANISED STEEL MENTIS GRID

300 TAPERING REINFORCED CONCRETE RETAINING WALL

900MM WIDE SERVICE CAVITY

BASEMENT SCREED FINISH AT MINIMUM 1:100 LEVEL TO SUMPS

300X700 CONCRETE CHANNEL WITH GALVANISED MENTIS GRATING TO HOUSE SUMP AND CHANNEL RUNOFF TO PUMP ROOM

systems : ventilation and daylighting

The Cultural Centre's systems and services have been implemented to require as little mechanical aid as possible. This is due to a low maintenance approach to the building and is also beneficial to the environment as a sustainable option instead of complete mechanical lighting, ventilation, heating and cooling. The retaining wall system is embedded with vents drawing air from street level. Distribution occurs across the ceiling void to deep internal spaces or closed systems where it is needed.

Most internal spaces are passively lit diurnally and rooms have a linear orientation to receive north or south day light. The use of an internal courtyard to light the adjoining office, workshop and gallery space on Basement Level -2 also provides users access to natural ventilation. Similarly, the void between the recreational park and gallery platform of Basement Level -1 allows for natural daylighting of the basement parking below.

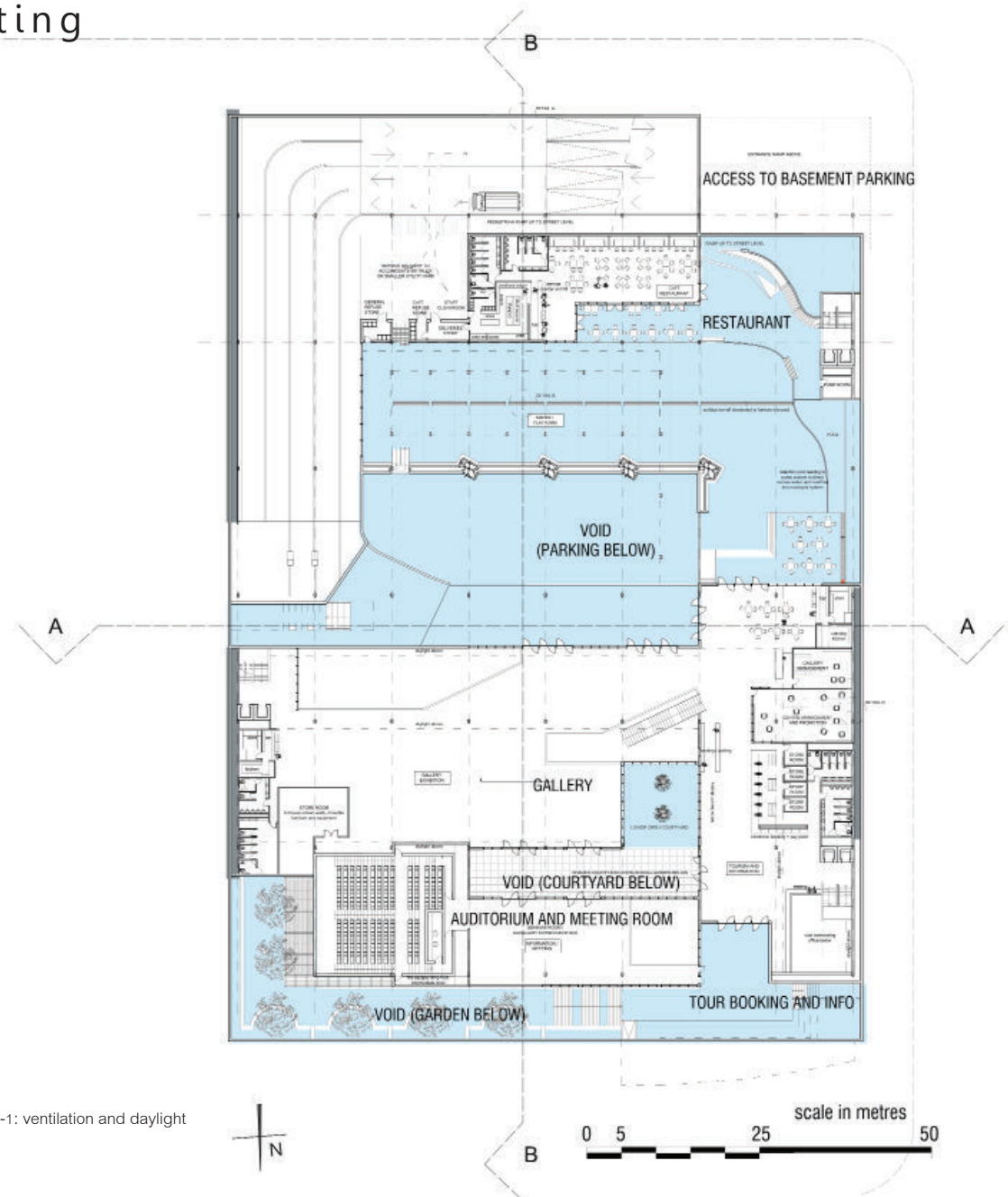


Figure 7.16: Basement Level -1: ventilation and daylight
Author, 2010

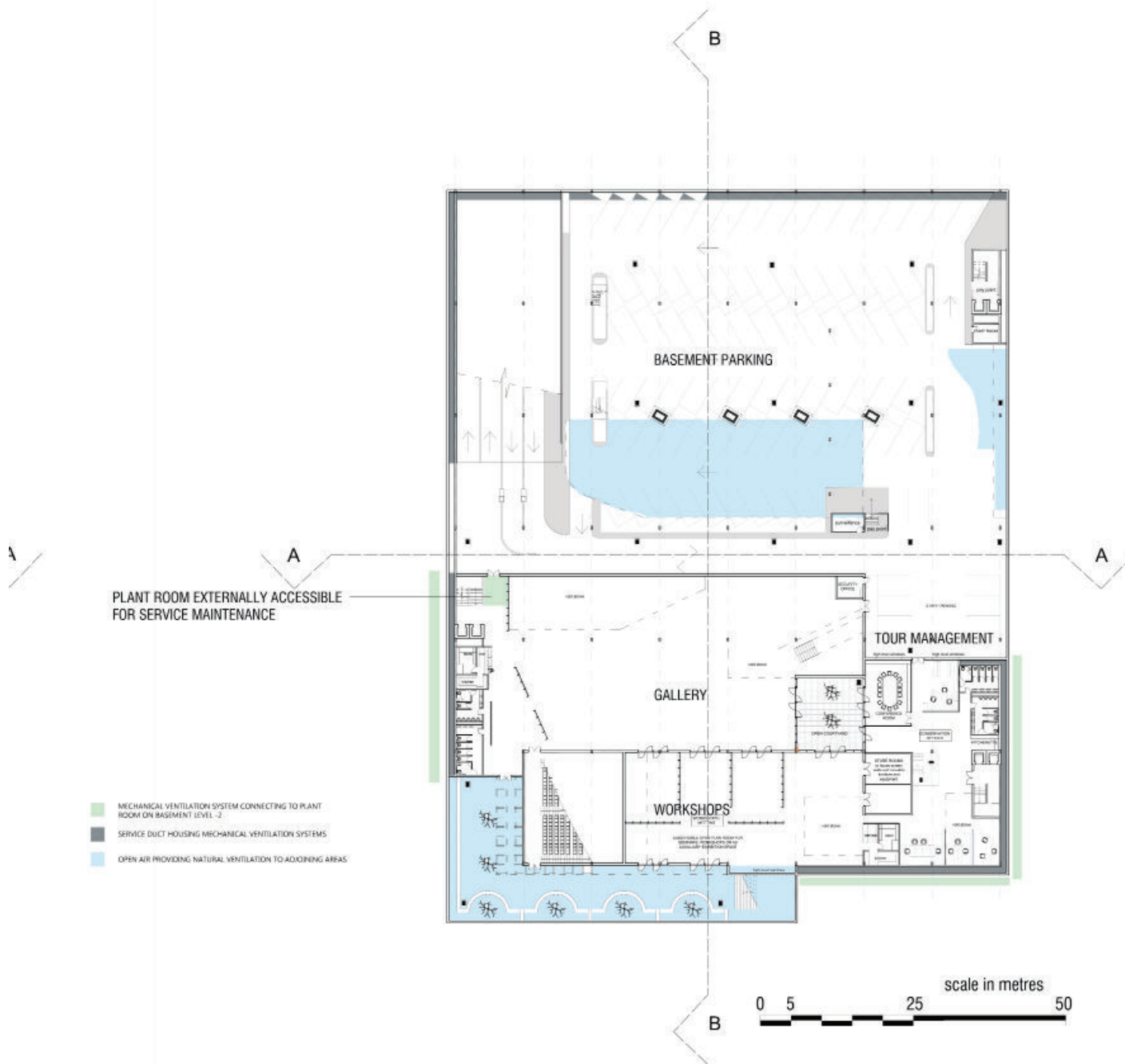


Figure 7.17: Basement Level -2: ventilation and daylight
Author, 2010

systems : water and service access

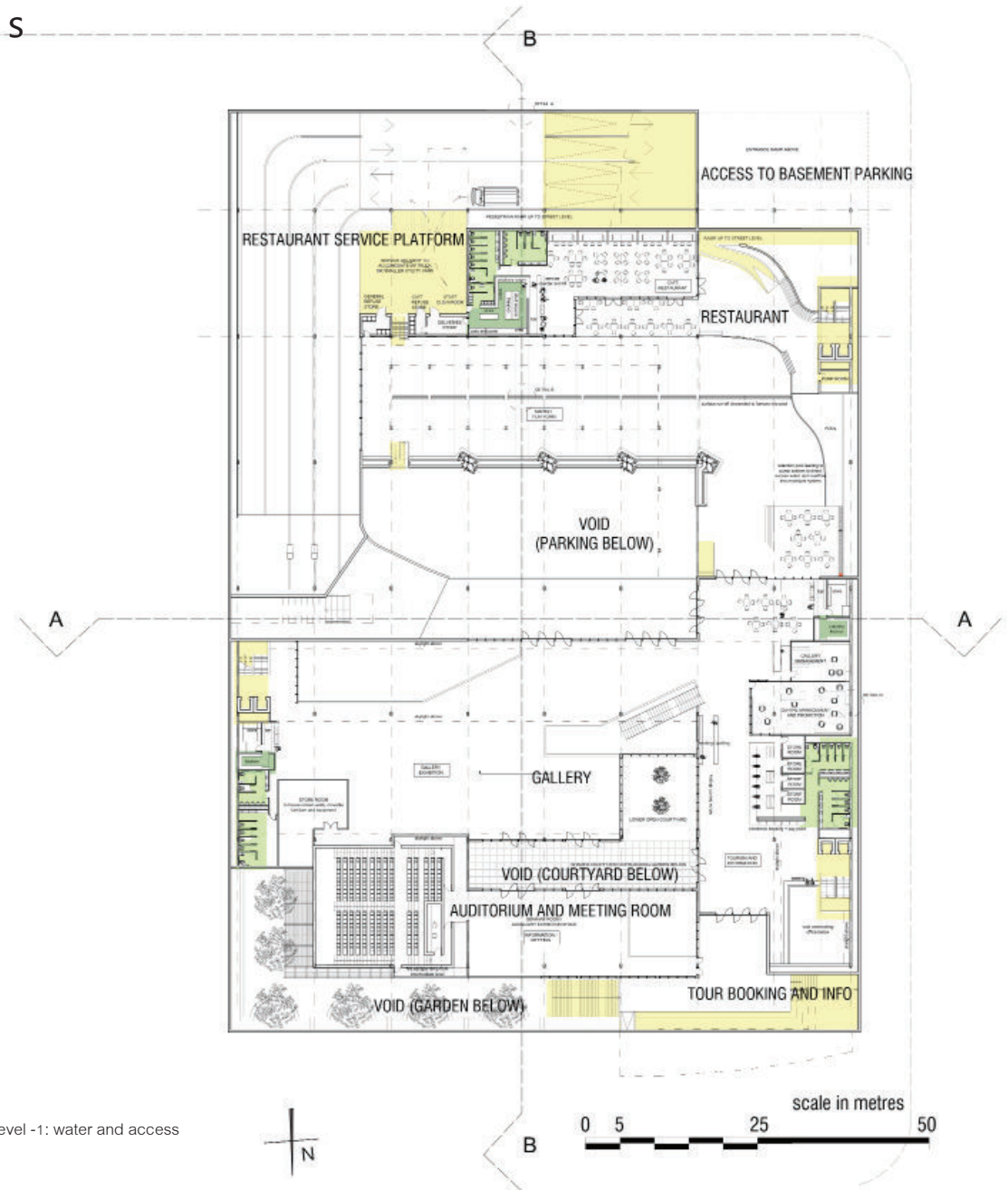


Figure 7.18: Basement Level -1: water and access
Author, 2010

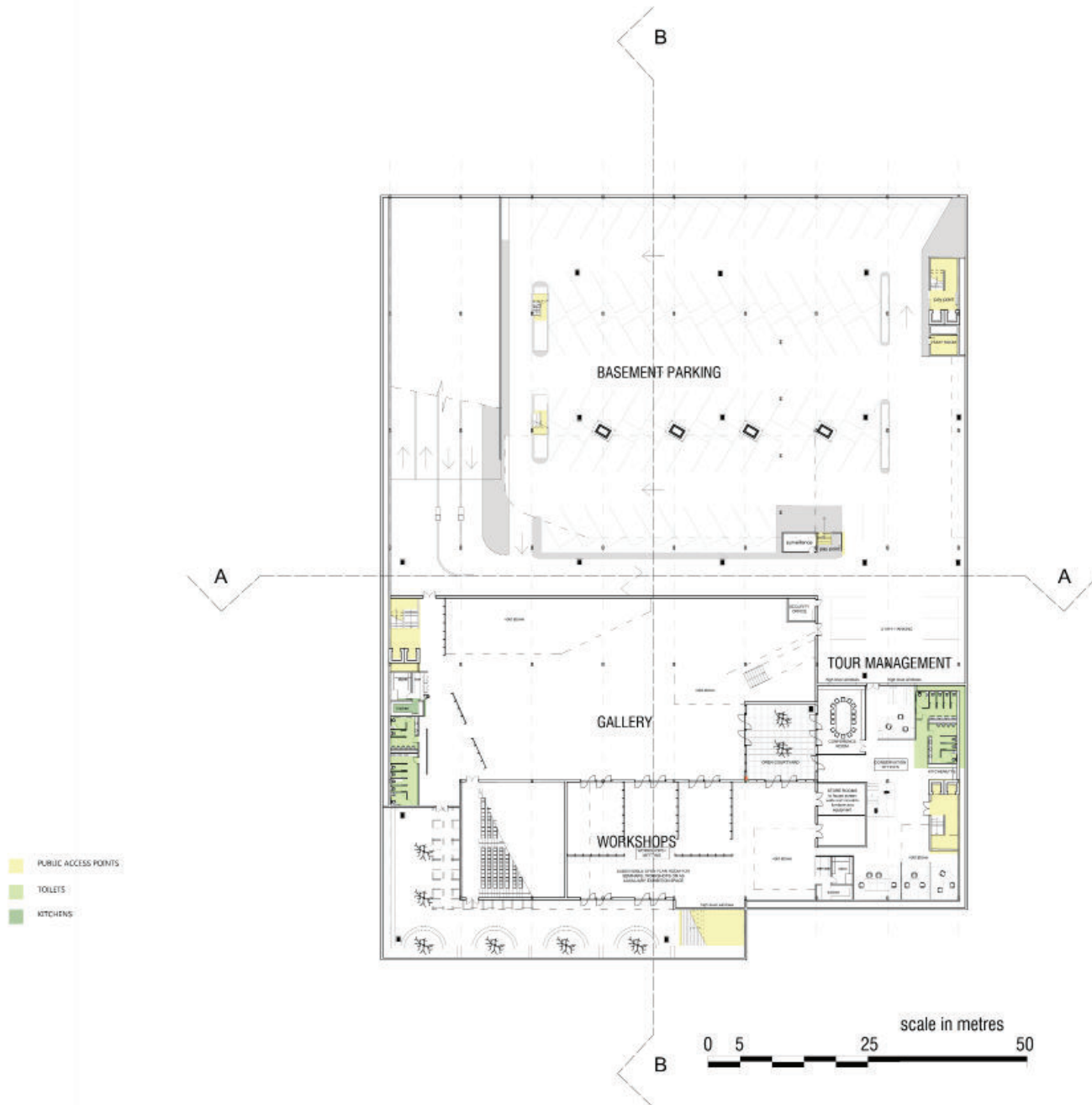


Figure 7.19: Basement Level -2: water and access
Author, 2010

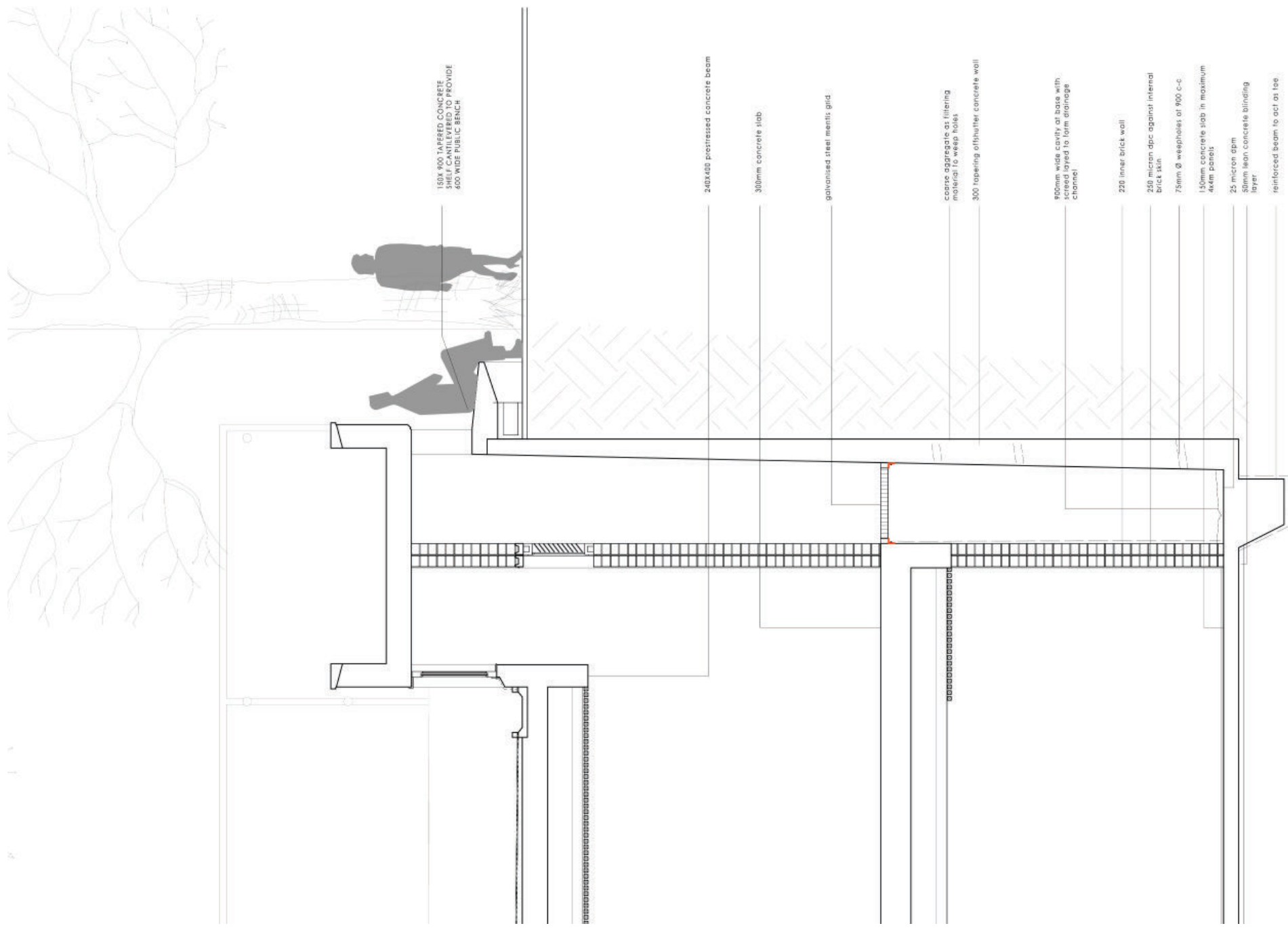


Figure 7.20: Detail A - Integration of services and pedestrian interface
(Reduced scale to fit)
Author 2010

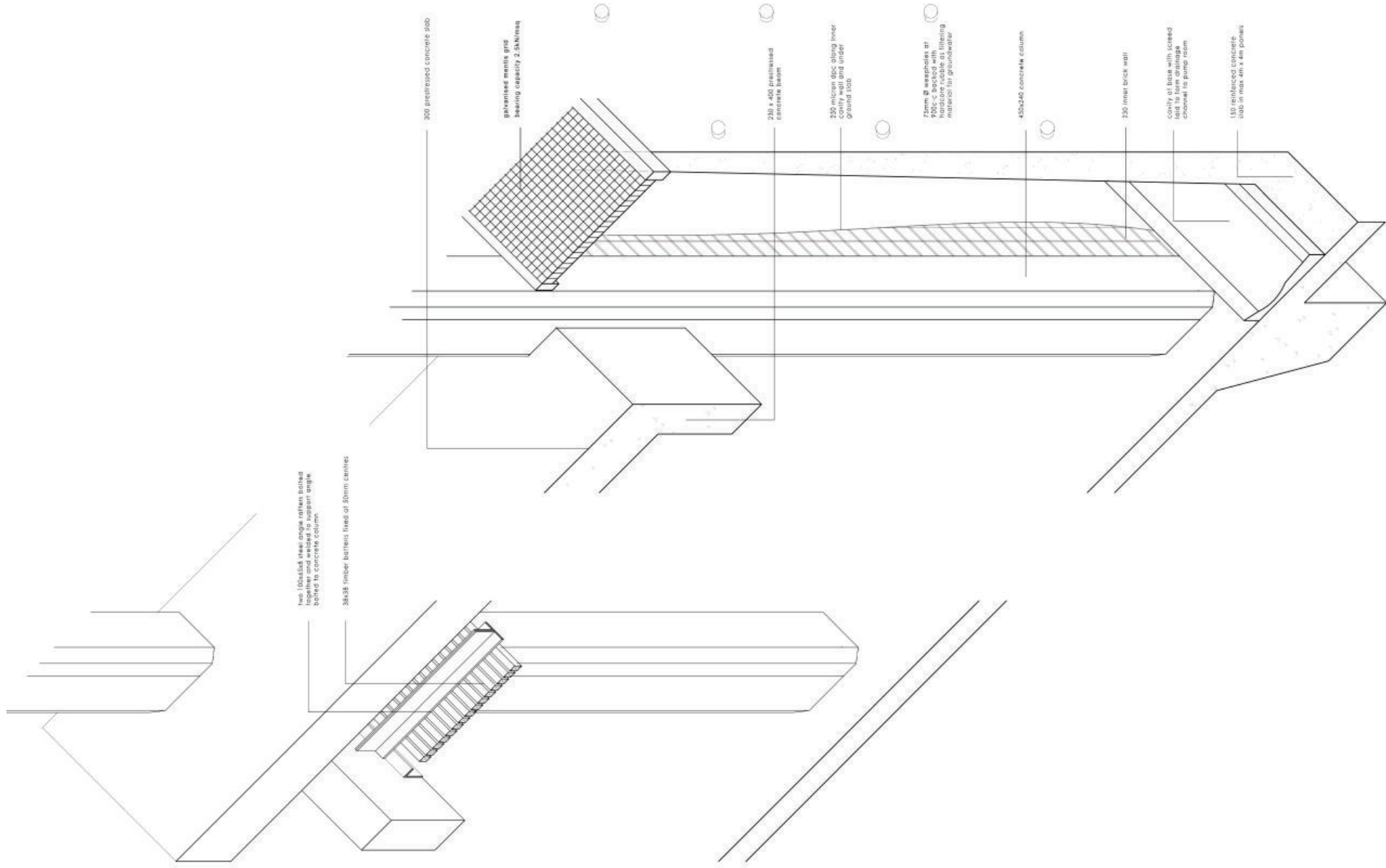


Figure 7.21: Detail B - Axonometric projection of the concrete structure and retaining wall (Reduced scale to fit)
 Author 2010

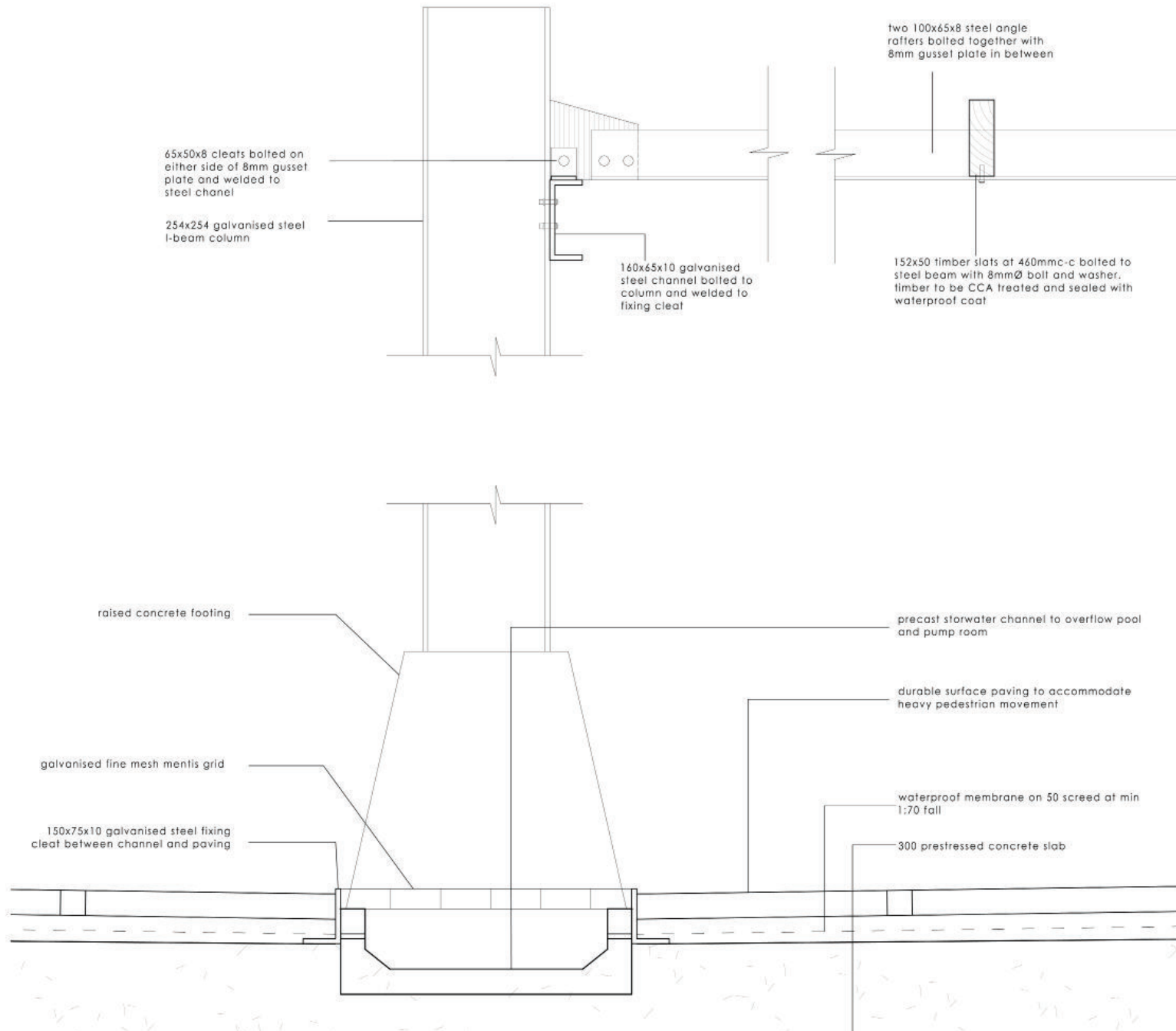


Figure 7.22: Detail C - Lightweight steel and timber pergola rising from solid masonry base (Reduced scale to fit) Author 2010

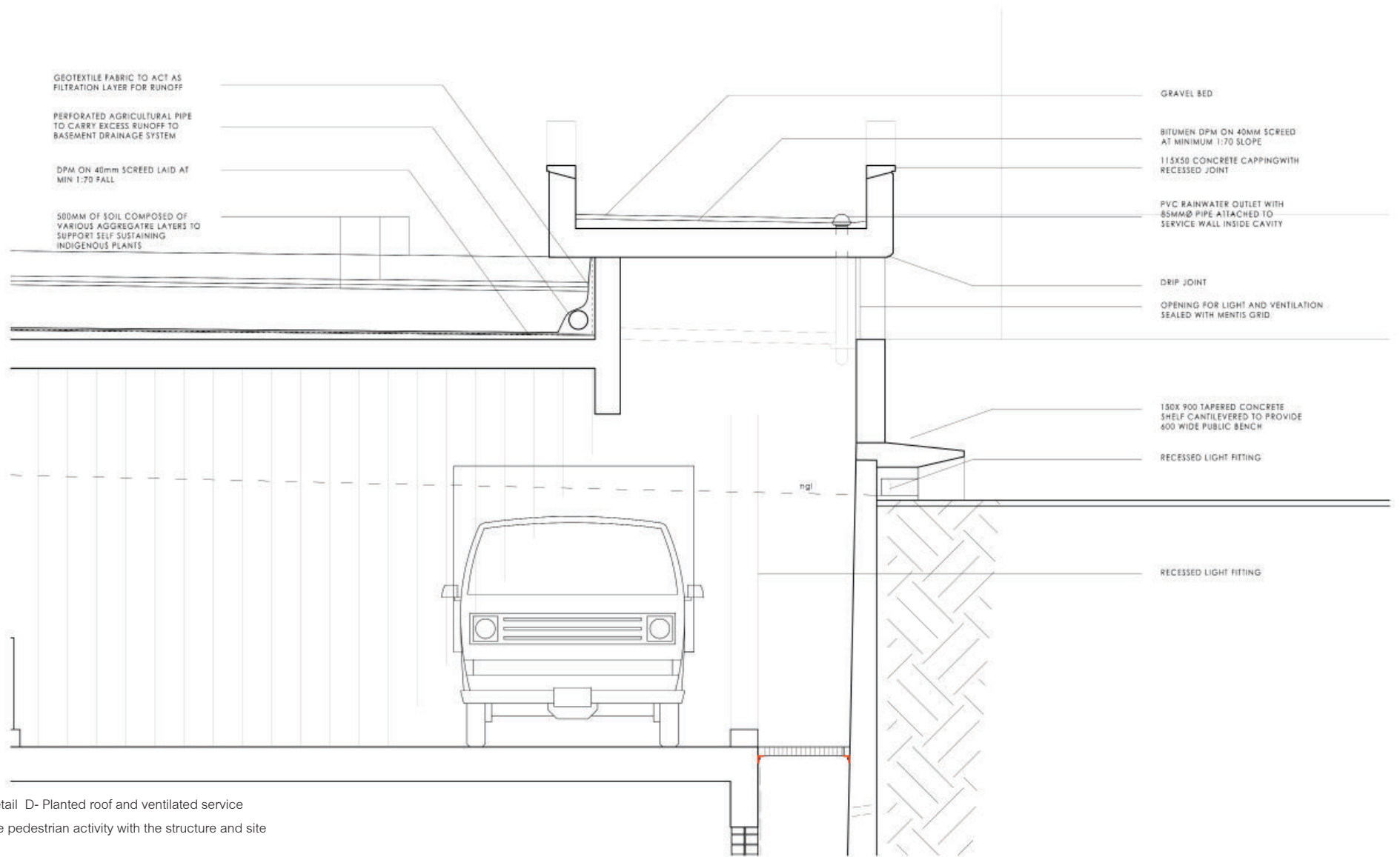


Figure 7.23: Detail D- Planted roof and ventilated service cavity introduce pedestrian activity with the structure and site
 Author, 2010