

CHAPTER NINE

Composition
Technical Resolution

COMPOSITION

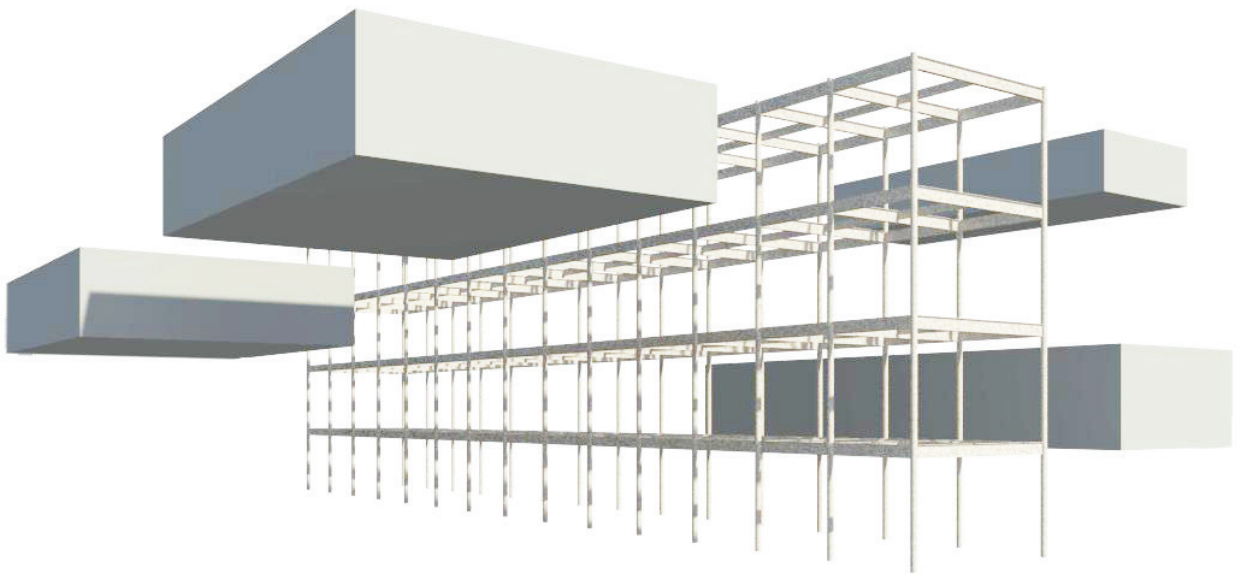


Figure 9.1 Technical concept: A rigid grid as organising structure for solid volumes. The leftover space becomes the in-between/social space.(Source: Author)

COMPOSITION

TECHNICAL CONCEPT

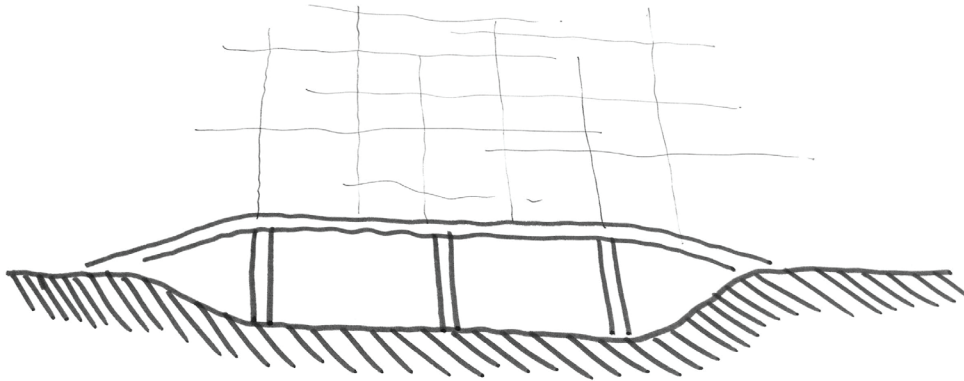


Figure 9.2 Lightweight steel structure grounded on concrete public surface.
(Source: Author)

The surrounding context of the Women's Forum presents an oppressive, dominant identity. The architecture of the Women's Forum needs to contrast this hegemonic character.

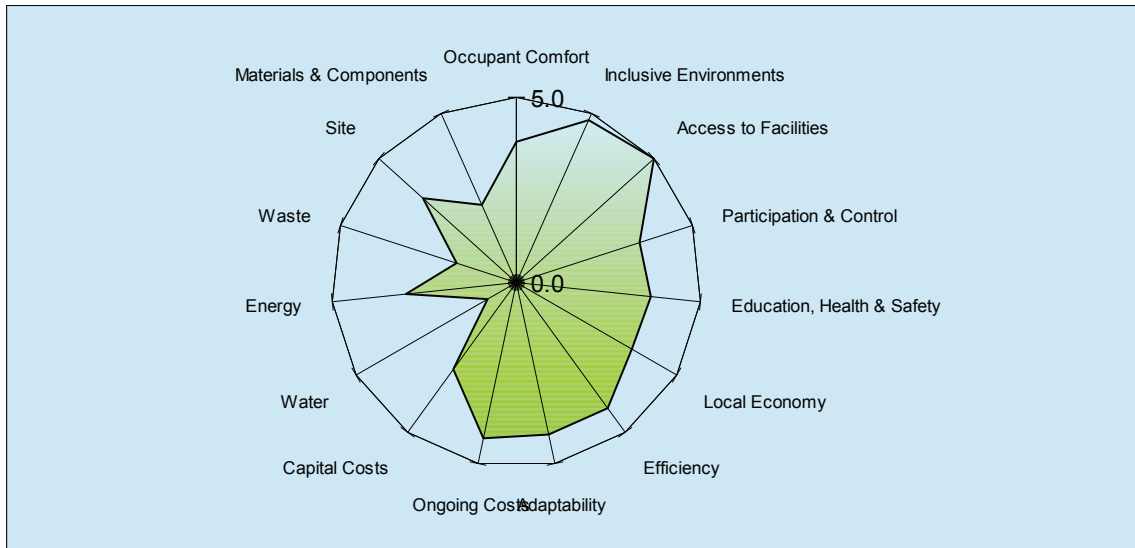
The technical resolution for the Forum needs to convey a light and bright contrast to the surrounding context while still accommodating a language of boxes 'inserted' into the structure, allowing in-between spaces to be created.

A lightweight steel framework is inserted into void, creating an alternative to the heavy contextual materiality while behaving as the organising structure for solid

boxes of program. The 'voids' created in between the solid program boxes form a network of social spaces within the building. Material difference between solid and void is to be expressed through a range in opacity and transparency of material. Solid materials are chosen to express solid program boxes while varying opacities of glass as well as screens are used in the voids. Assembly methods consider the expression of secondary structure, the exterior and interior walls, to the primary structural columns. Steel beams and columns are expressed where possible, and are used to express the edges of solids in relation to the void.

COMPOSITION

INITIAL ASSESSMENTS:
SBAT RATING



Social	4.2	Economic	3.8	Environmental	2.3
Overall		3.4			

An SBAT (Sustainable Building Assessment Tool) Rating was done on the building.

Due to the nature of the design, and to the fact that social interaction forms a fundamental aspect to the building, the rating is high for social performance.

As can also be expected, the energy consumption score is low. This is predominantly due to the nature of the site and the

difficulties that come along with its awkward proportions and hard edges. These restrictions make it difficult for natural light and ventilation, which will have to be artificially supplemented.

As the technification evolves, these scores will improve slightly but it is not possible to achieve a large change in rating due to the implicit restrictions of the site.

COMPOSITION

SHADING ANALYSIS

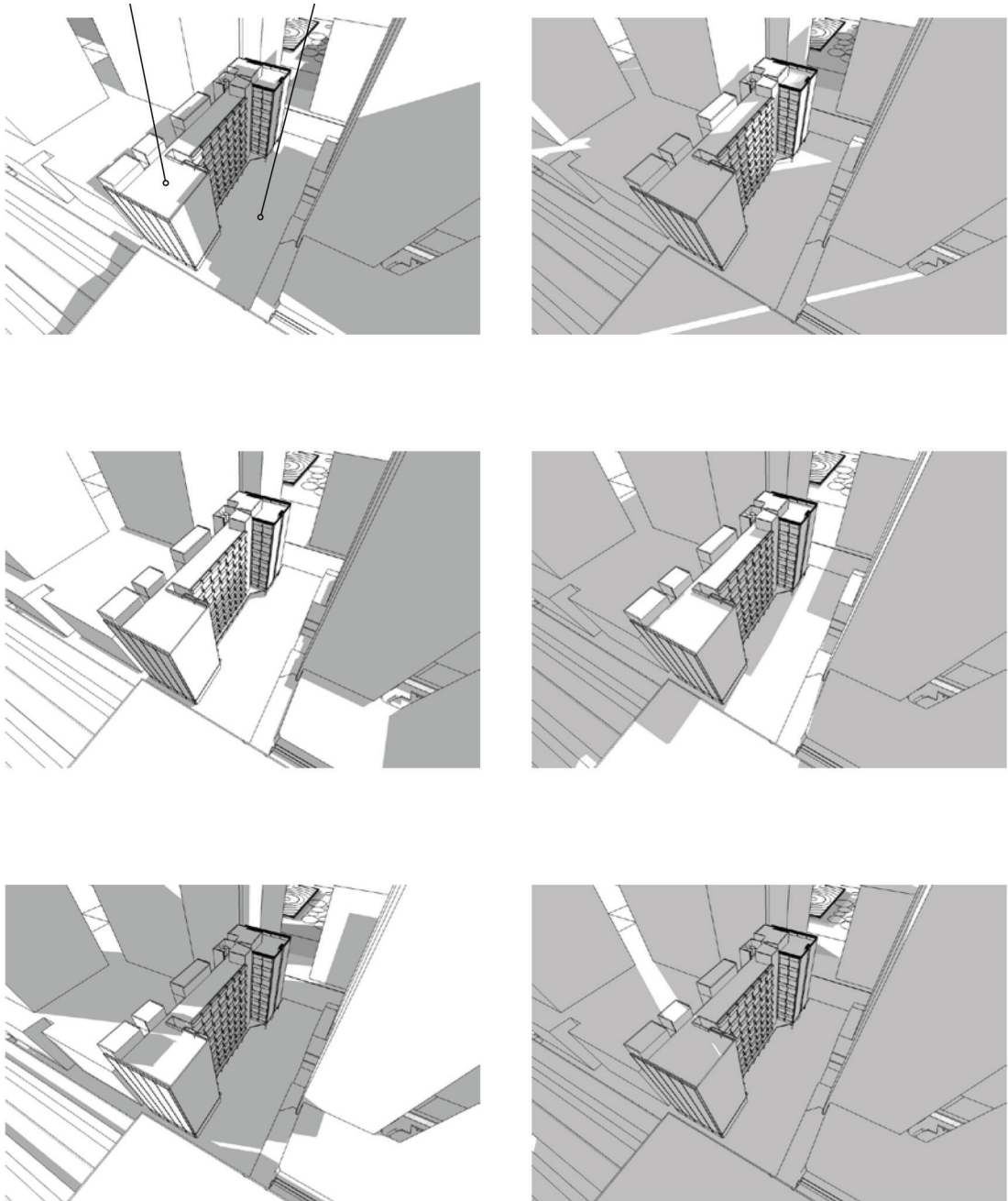


Figure 9.3 Sun Studies indicate that the site receives very little direct sunlight.

COMPOSITION

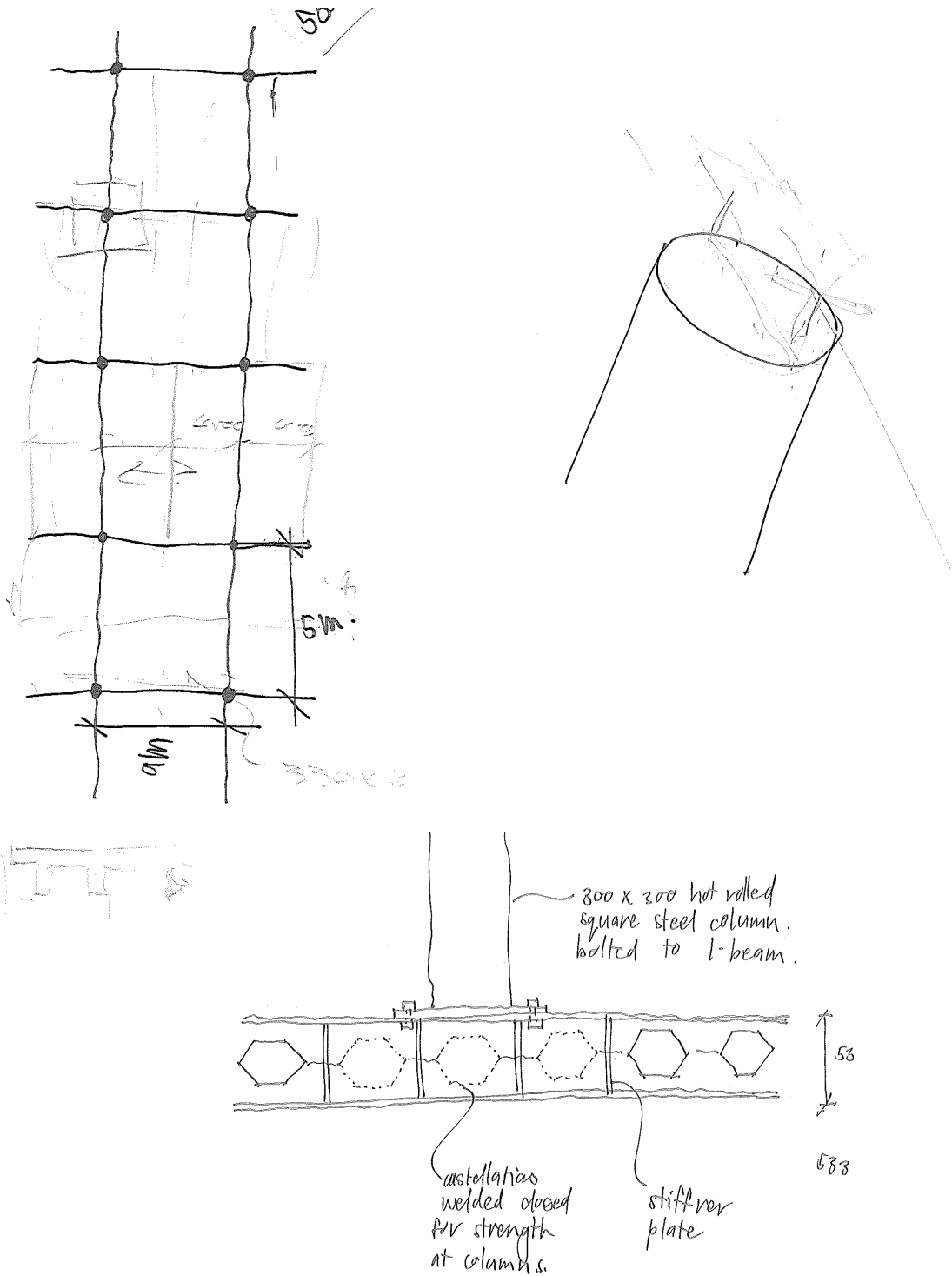
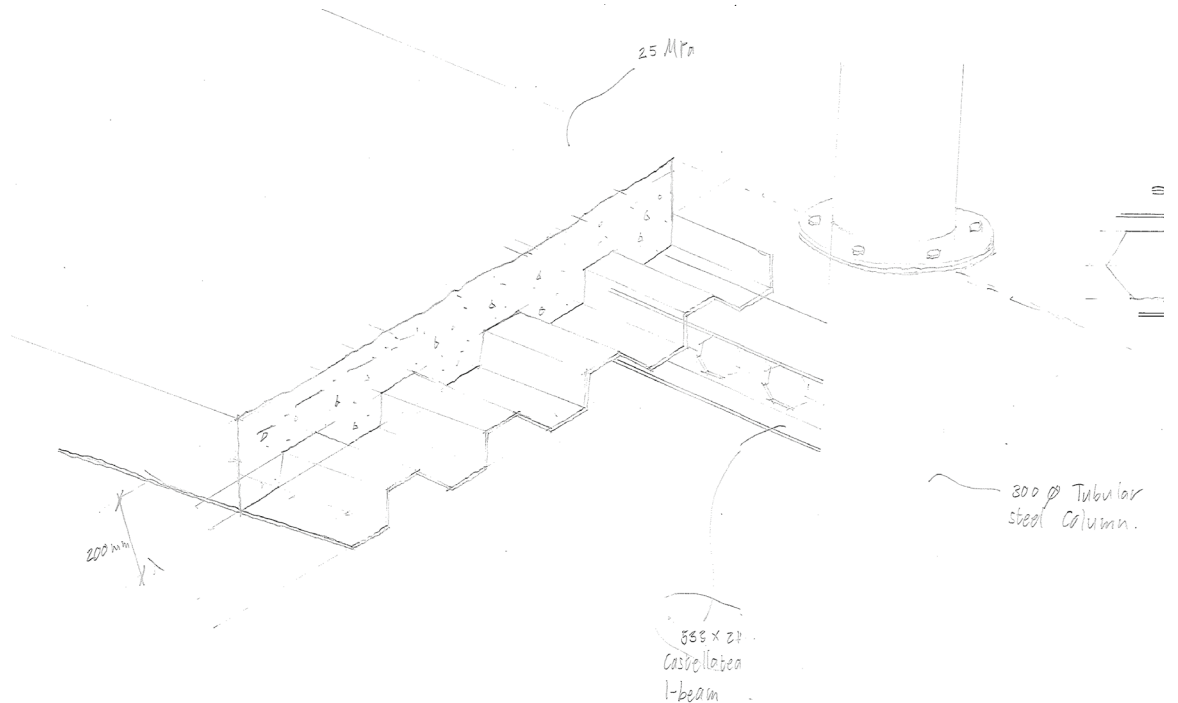
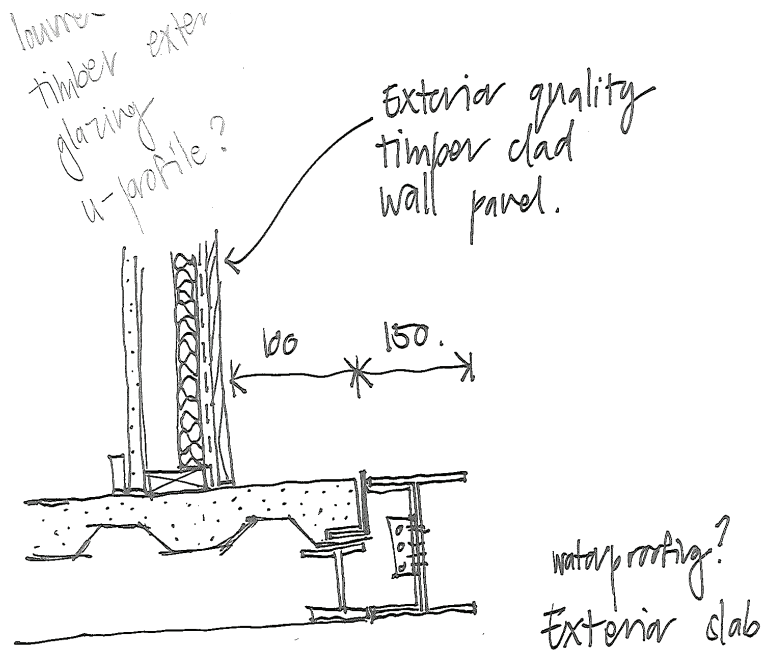


Figure 9.4 Exploration of structural connections

COMPOSITION

EXPLORATION



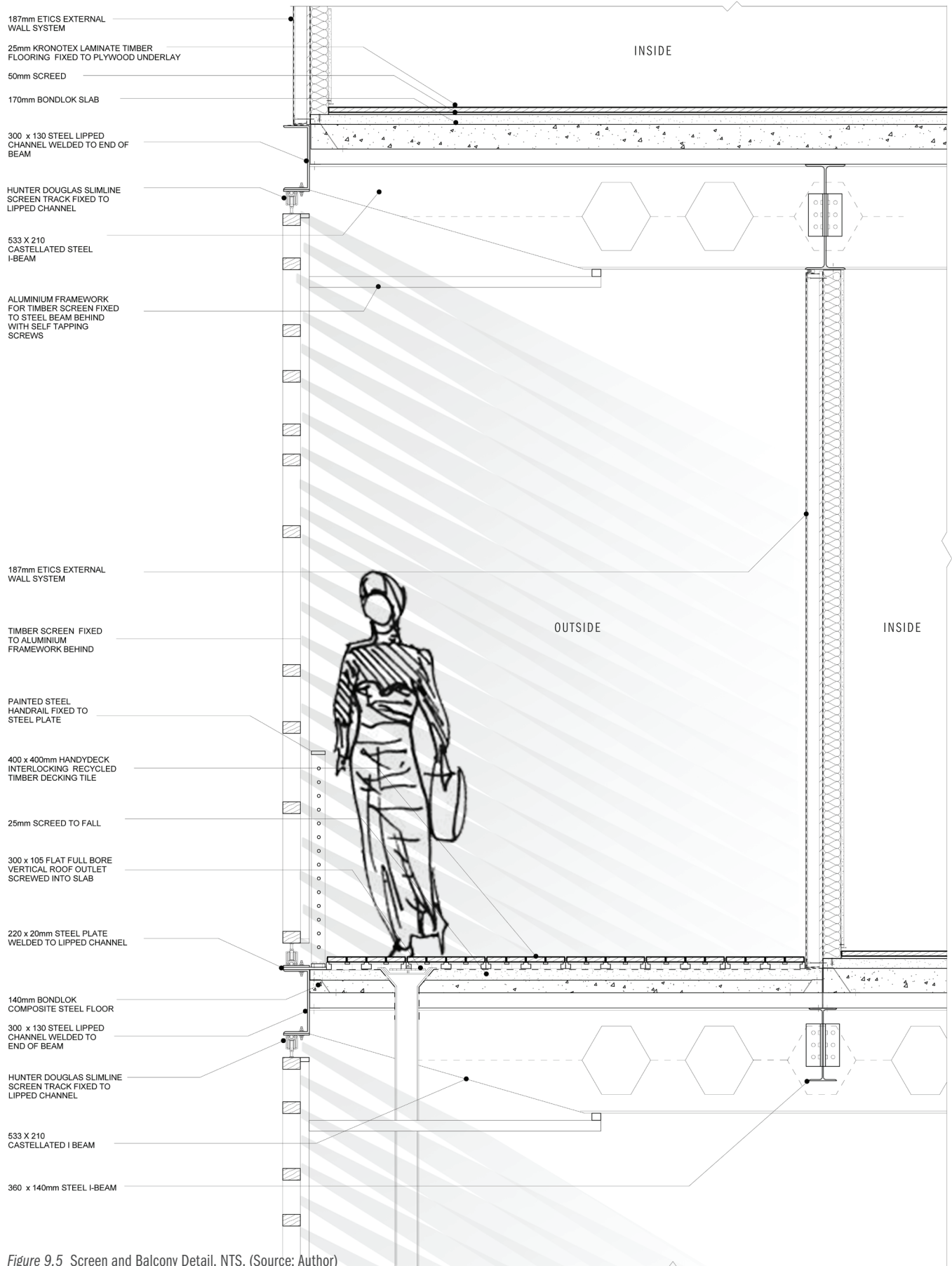


Figure 9.5 Screen and Balcony Detail. NTS. (Source: Author)

COMPOSITION



Figure 9.6 Existing Materiality. (Source: Author)

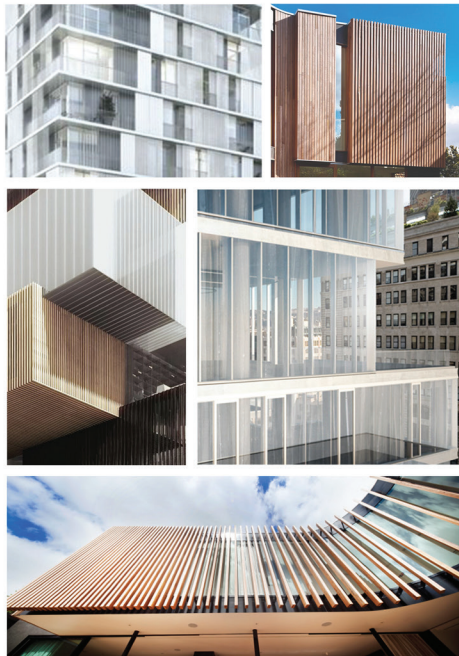


Figure 9.7 New Materiality. (Source: Author)

COMPOSITION

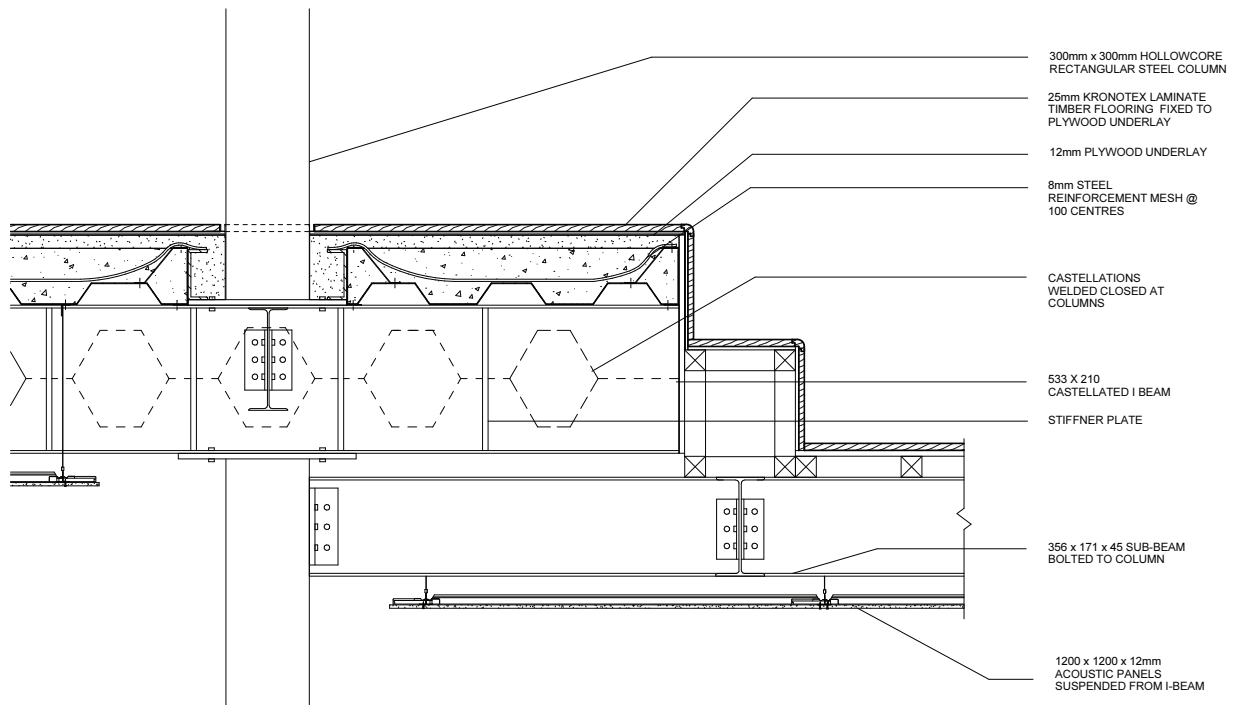


Figure 9.8 Detail of Lowered Library Seating. NTS. (Source: Authior, 2015)

COMPOSITION

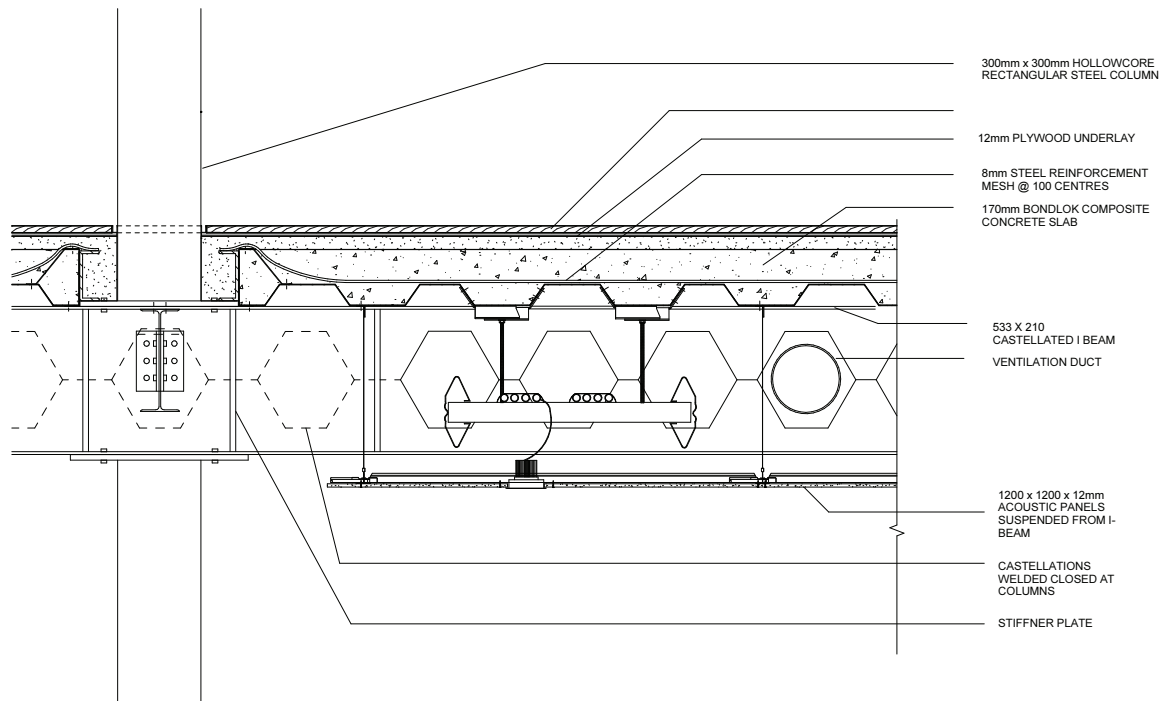


Figure 9.9 Detail of Cloumn to Beam Connection and Ceiling Void. NTS.
(Source: Authior, 2015)

COMPOSITION

Ventilation

A cavity is created on the western edge between the new facade and the existing secondary facade of the Pretmed building. This cavity allows for natural ventilation on the western edge of the building. Natural ventilation is not possible in all parts of the building and is thus supplemented with hybrid systems: Geothermal strategies make use of temperatures below ground to cool or heat fresh air which is then circulated through the building.

Fresh air is pulled in through

The main consideration for ventilation in the building is in the program boxes which contain small office spaces. In section, the interstitial social spaces in the building are connected, creating one continuous space where stack ventilation principles can be used to assist in ventilation.

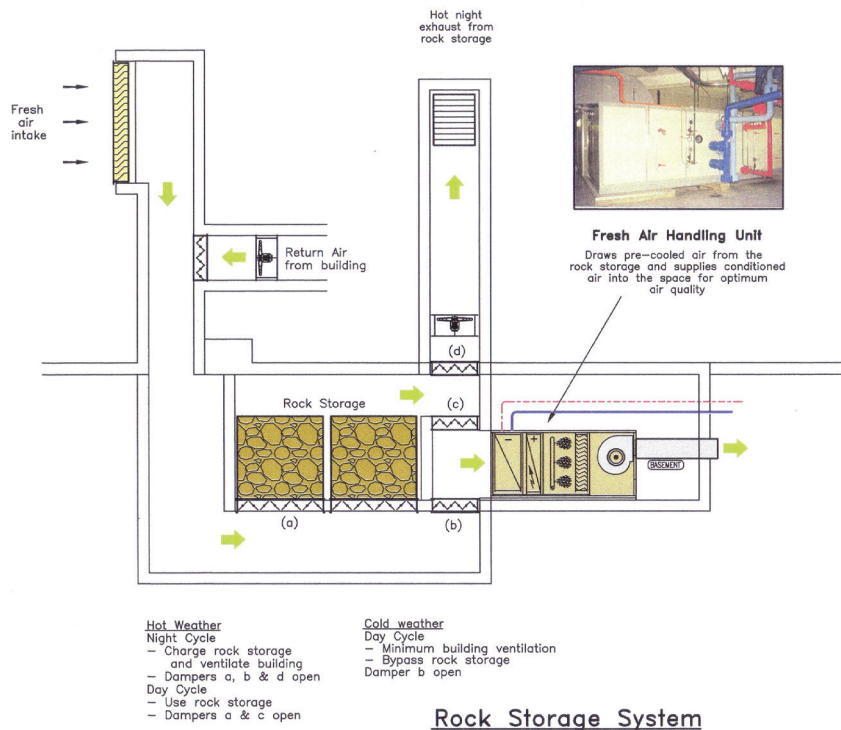
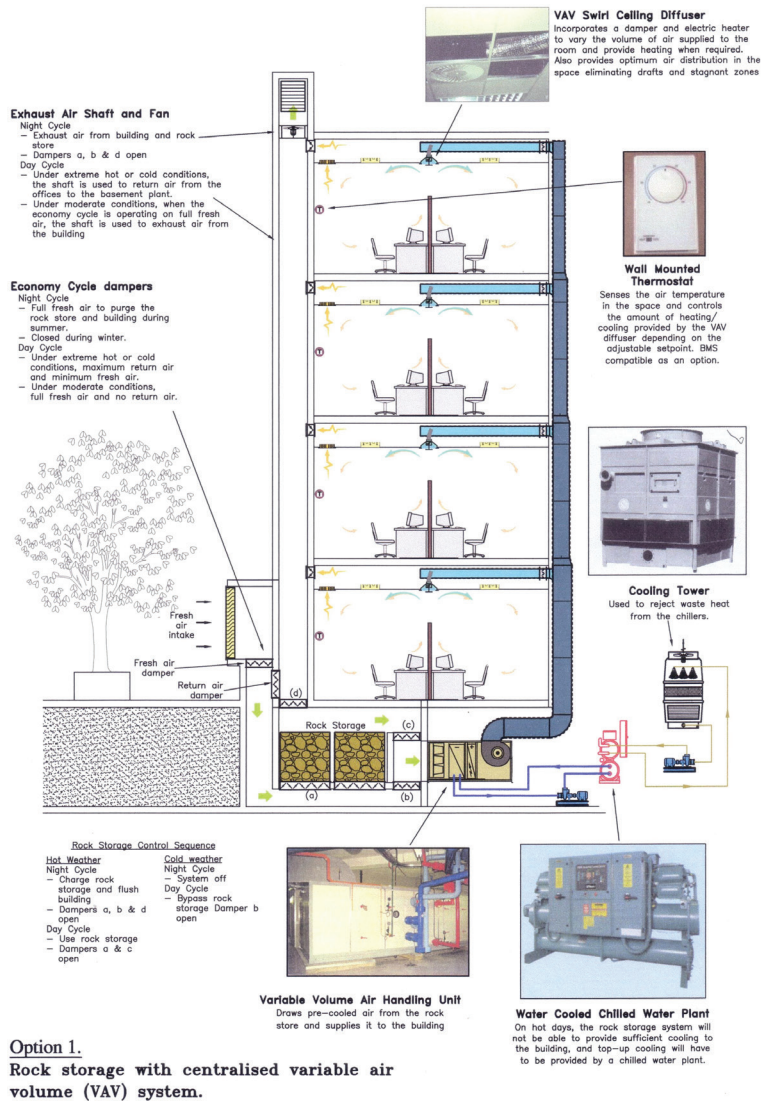


Figure 9.10 Rock Storage Principles (Source: Dieter Claasen, 2015)

COMPOSITION



Option 1.
Rock storage with centralised variable air volume (VAV) system.

Figure 9.11 Hybrid Ventilation system using rock storage. (Source: Dieter Claasen, 2015)

COMPOSITION

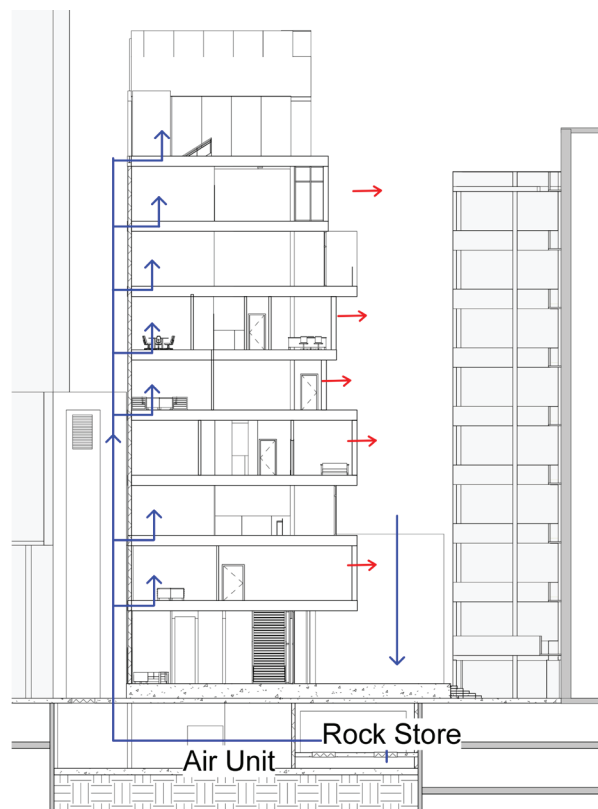


Figure 9.12 Short Section Indicating Fresh Air distribution (Source: Author, 2015)

COMPOSITION

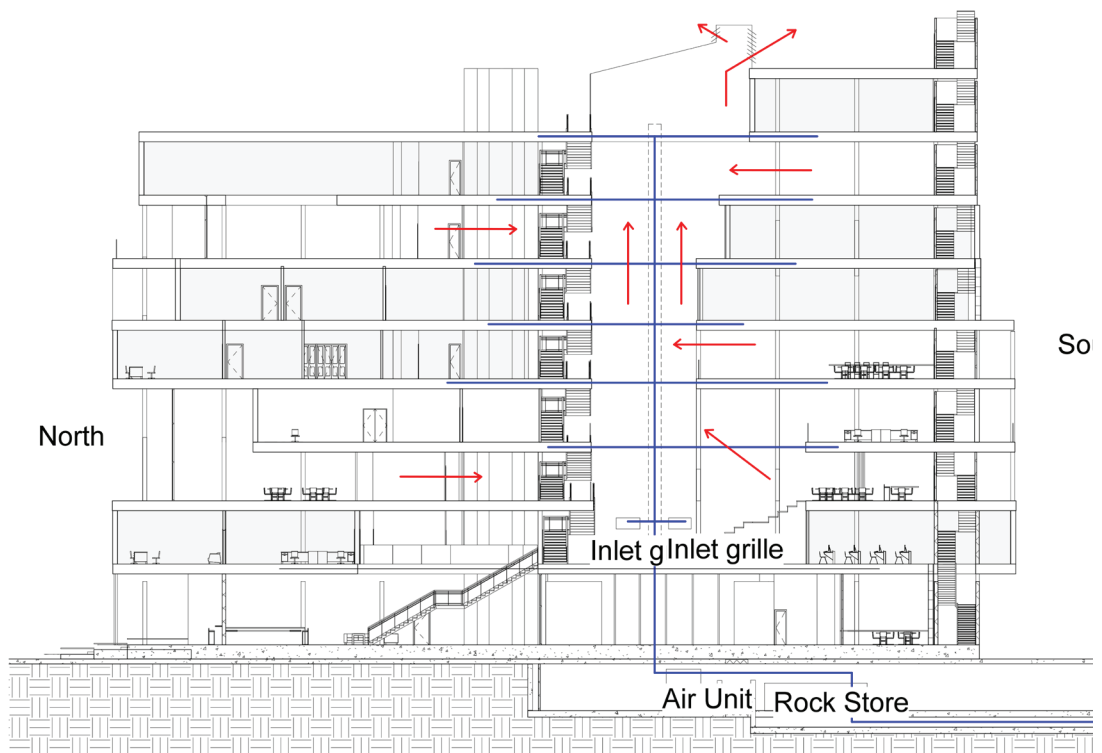


Figure 9.13 Long Section Indicating Fresh Air distribution (Source: Author, 2015)