

Legend

Windows

tempered glass fixed with double-sided tape to 5 mm galvanised steel angles
1)

New roof

90 mm cast in situ reinforced concrete slab, with min. 25 mm concrete screed at min. 1:60 fall, bituminous waterproofing layer, 90 x 90 mm upstand edges and a 25 mm thick small stone layer, on 203 x 203 x 46 galvanised steel H-beams fixed to existing concrete slab and existing concrete beam
(see detail 7)

Exhibition space

New primary exhibition

New rotatable and stackable exhibition

Heavy cotton canvas fixed to galvanised steel frame in sliding channel
(see detail 9)

Windows

tempered glass fixed with double-sided tape to 5 mm galvanised steel angles

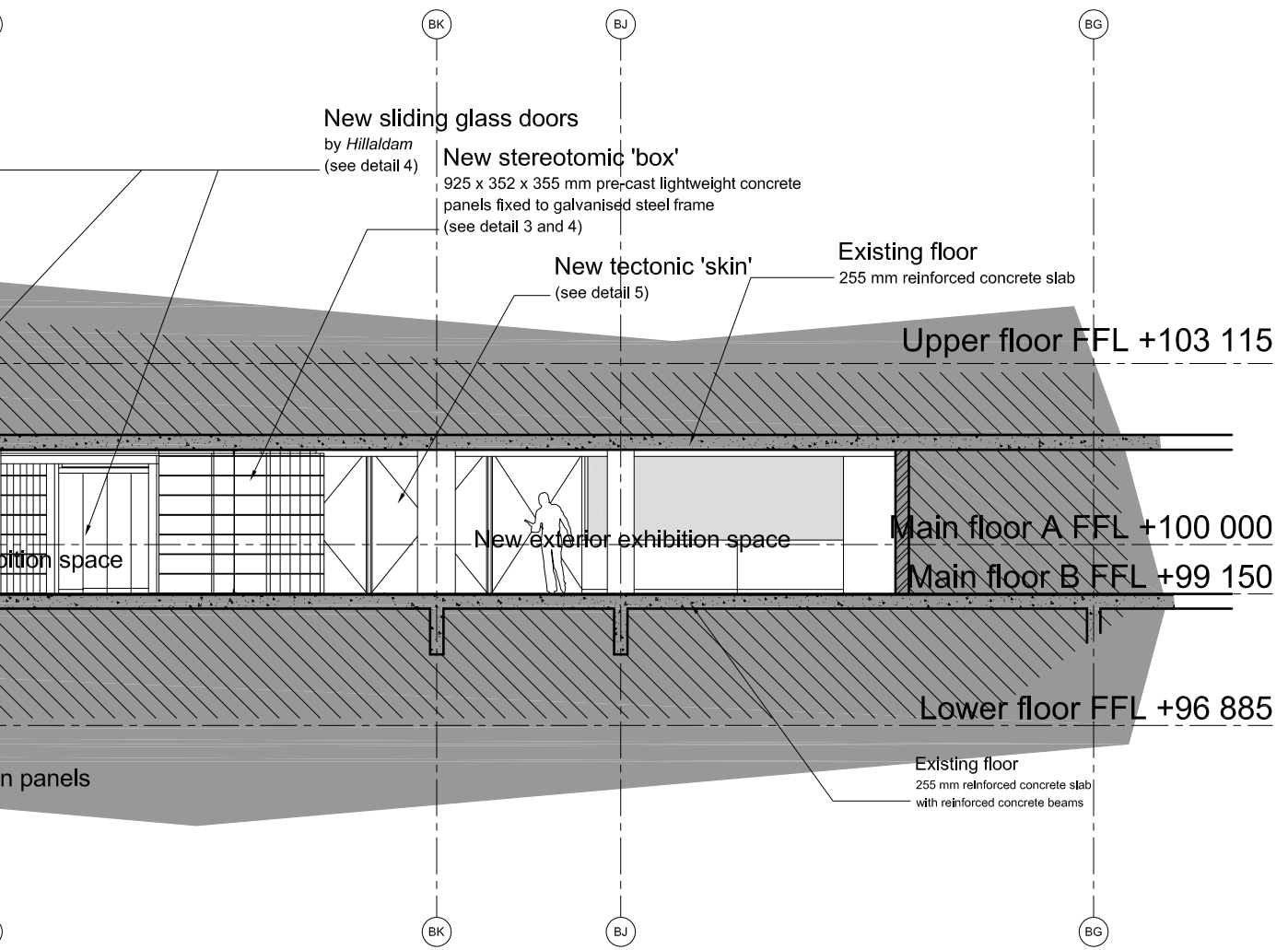
MINI Space Gallery

Section A-A

Scale as shown

Figure 8.66





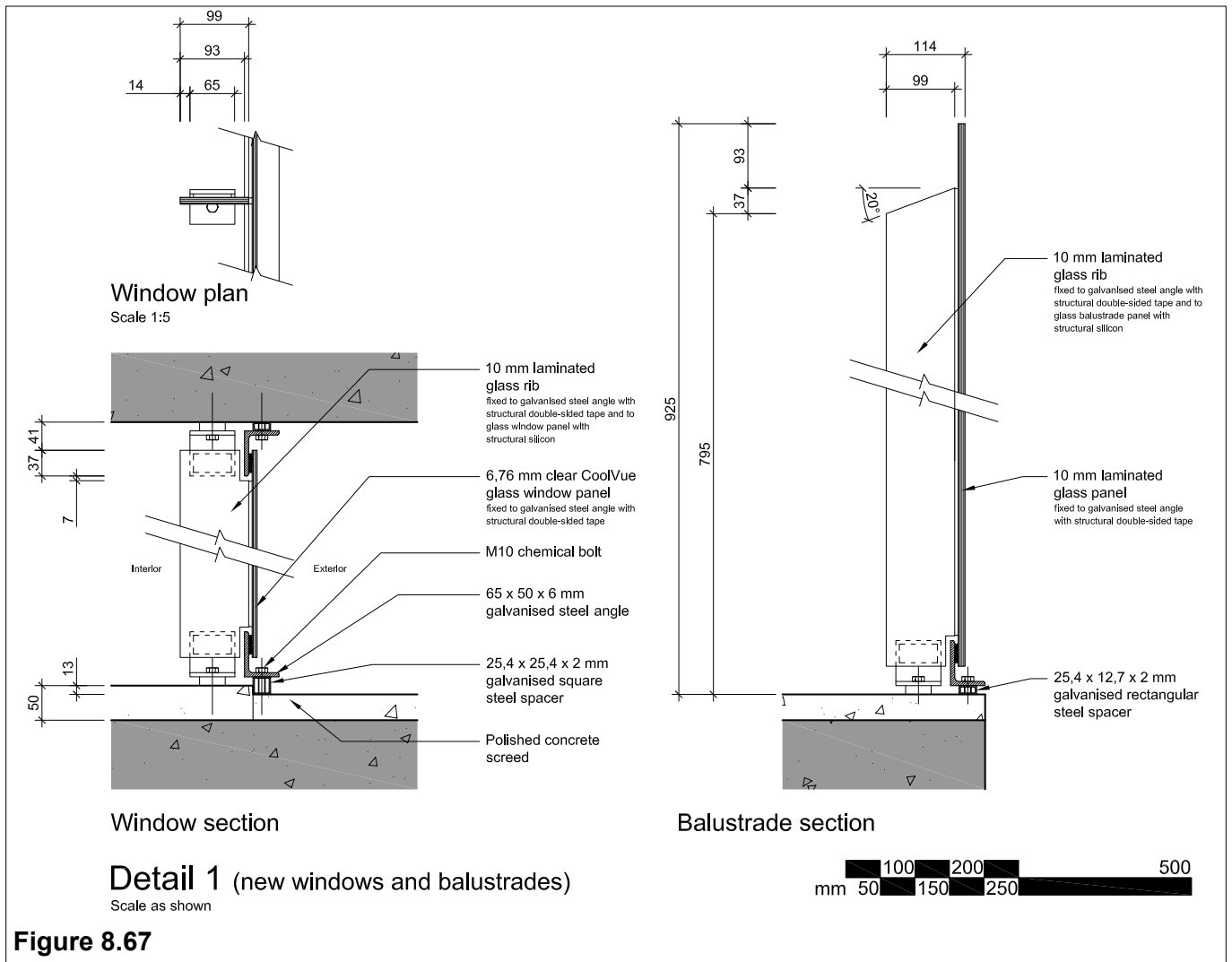


Figure 8.67

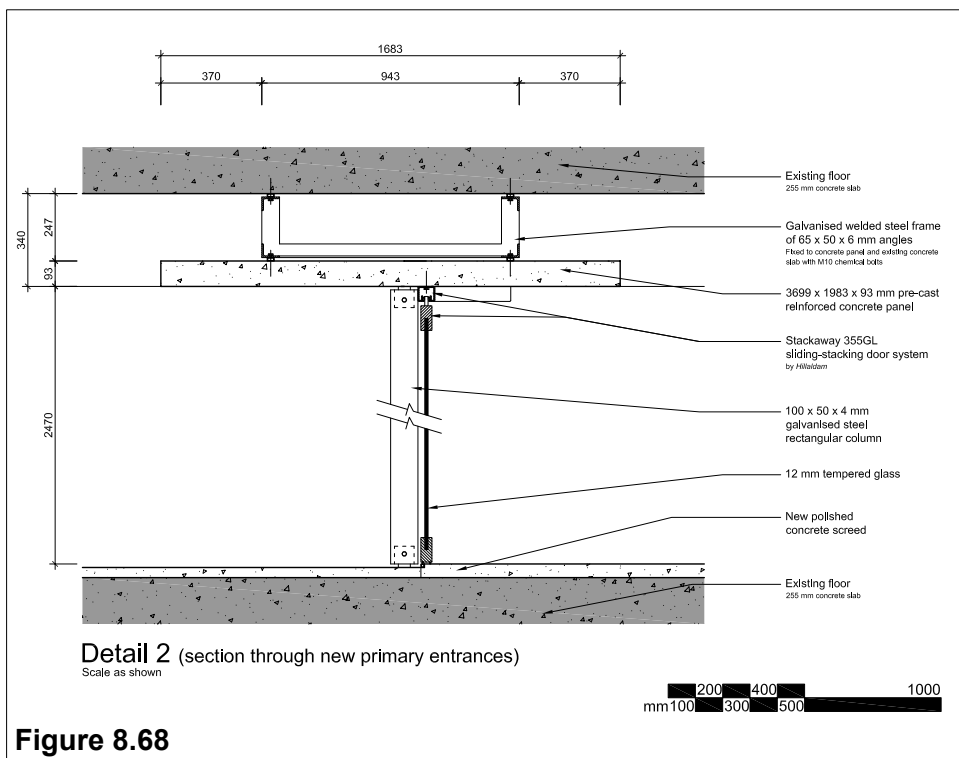
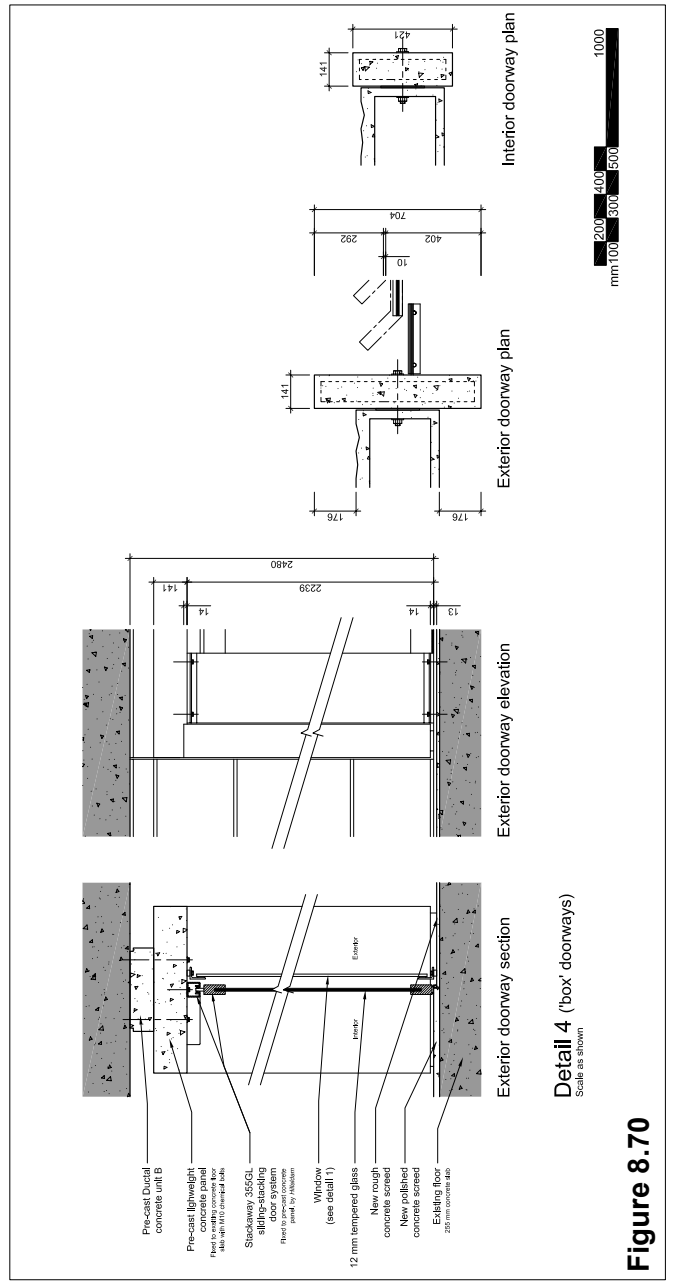
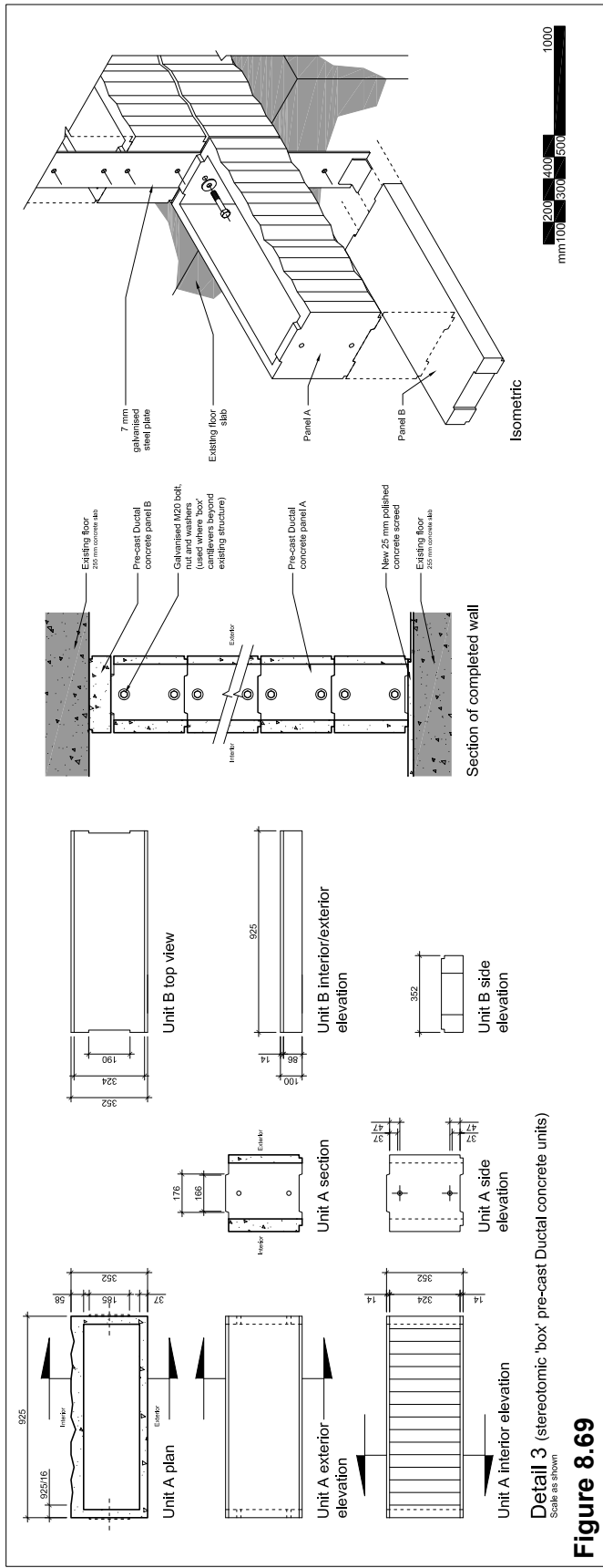
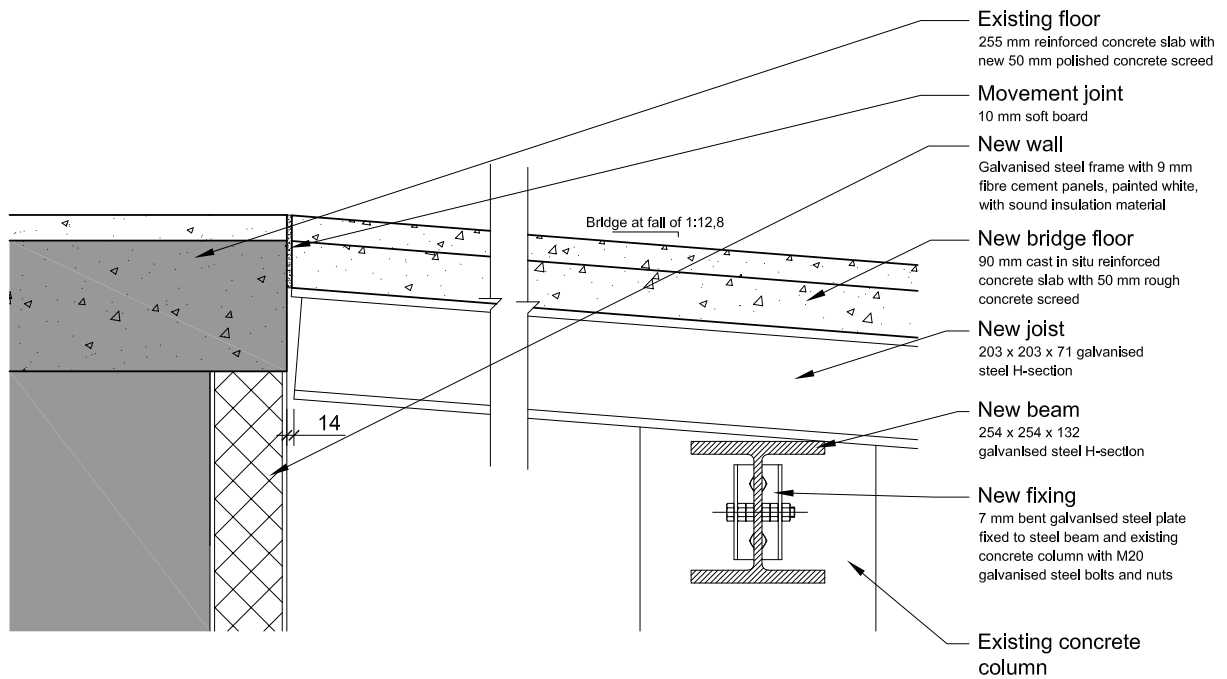


Figure 8.68

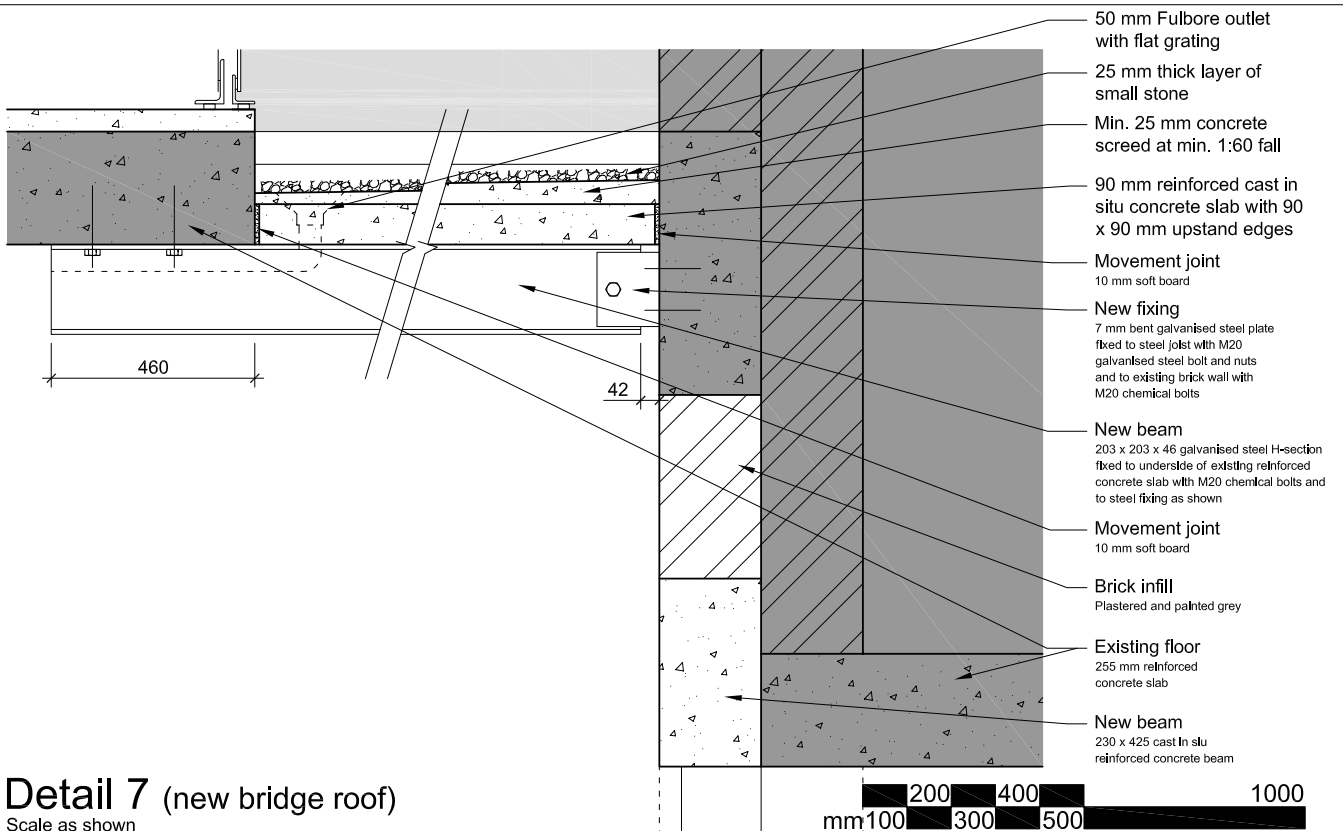




Detail 5 (new bridge connection)
Scale as shown



Figure 8.71



Detail 7 (new bridge roof)
Scale as shown



Figure 8.72

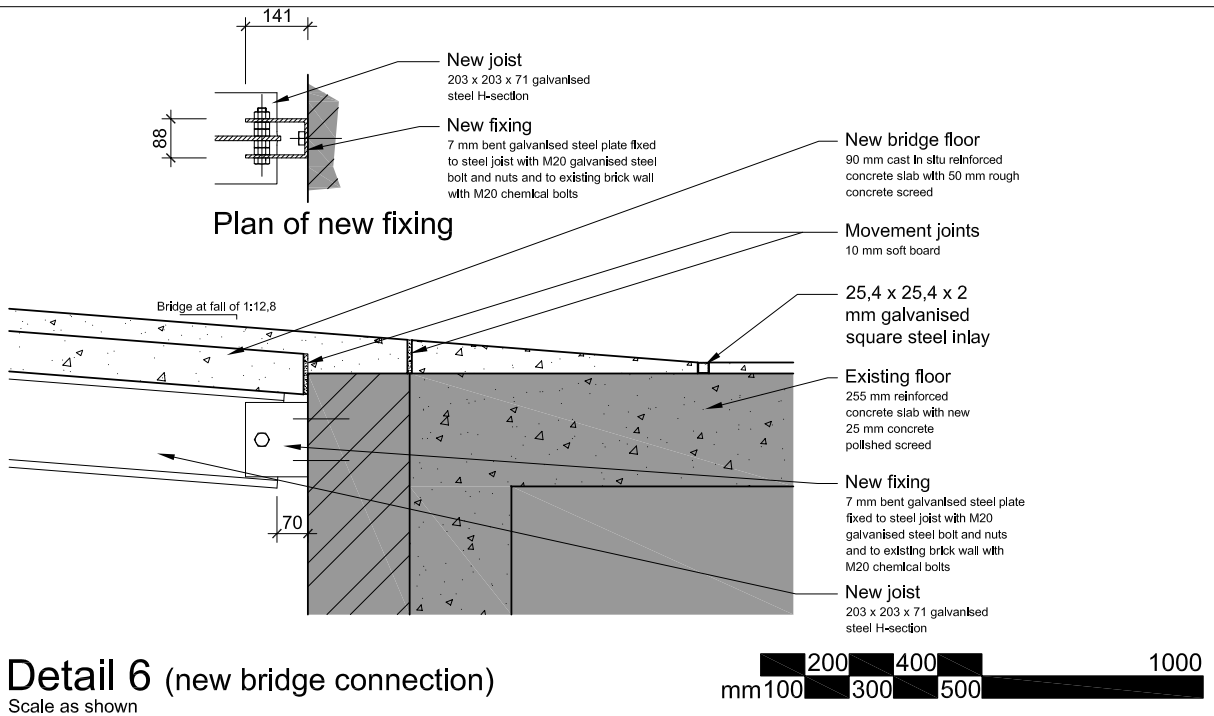


Figure 8.73

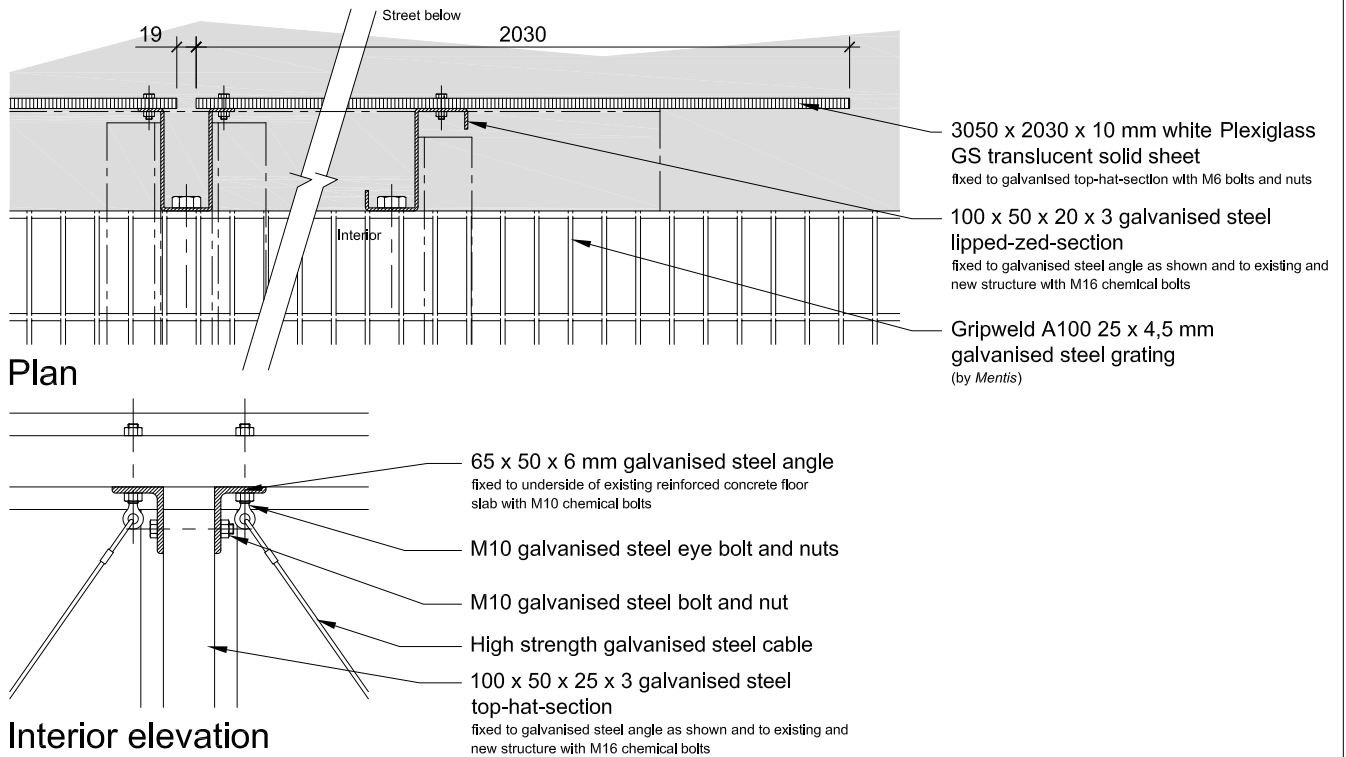


Figure 8.74

Figure 8.75

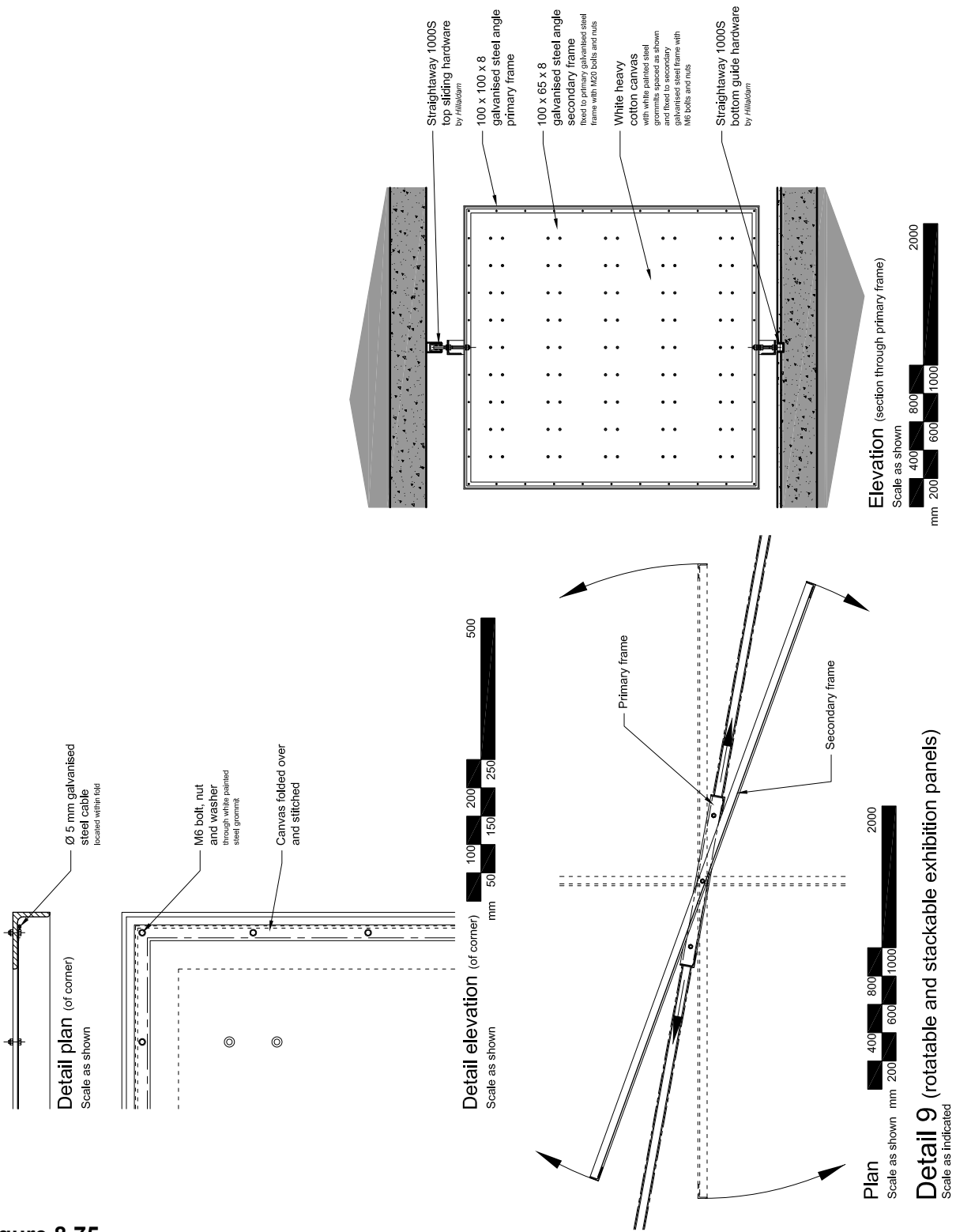


Fig.8.76 - Development sketches of the window details.

Fig.8.77 - Development sketches of the 'box' details.

8.4.1. Gallery function/programme

The function/programme is determined by the existing structure, thus the division of the large exhibition space was laid out according to the existing column spacing (fig.8.60). Spaces were extended according to the module discussed previously. These spaces are primarily defined by clear CoolVue glass planes, fixed as to create the illusion that they are floating above the floor (figs.8.4, 8.67 and 8.76). This product, supplied by SmartGlass, transmits “more than 70% of visible light while blocking more than 50% of solar heat” and “also reduces sound transmission, increases safety and security, and filters up to 99.5% of damaging short-wave UV radiation” (www.smartglass.co.za).

8.4.2. Gallery form/beauty

The stereotomic 'box', one of the form/beauty components, is composed of precast Ductal concrete blocks, to emphasise mass, and which are then bolted to each other with a steel plate spacer in-between (figs.8.69 and 8.77). These blocks are used structurally, to support the 'box' cantilevering over the display platform. Their interior is completely different from their exterior, enhancing the difference between being outside the 'box' and being inside.

Plexiglas GS white (10 mm thick, translucent) panels are implemented for the tectonic 'skin', the other form or beauty component. These lightweight units, used in the standard size of 3050 x 2030 mm (www.plexiglas.net), are bolted to galvanized steel top-hat-sections, which in turn are fixed to the existing structure via galvanized steel angles

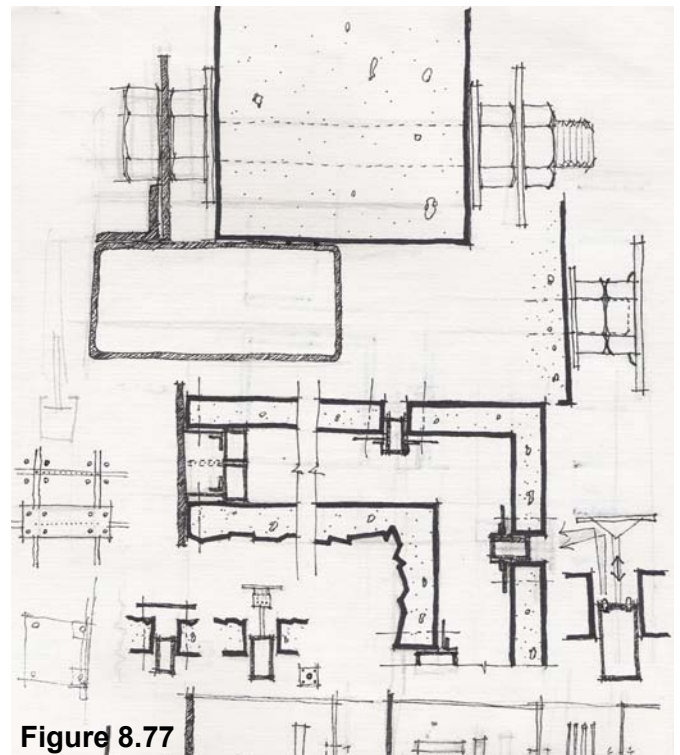
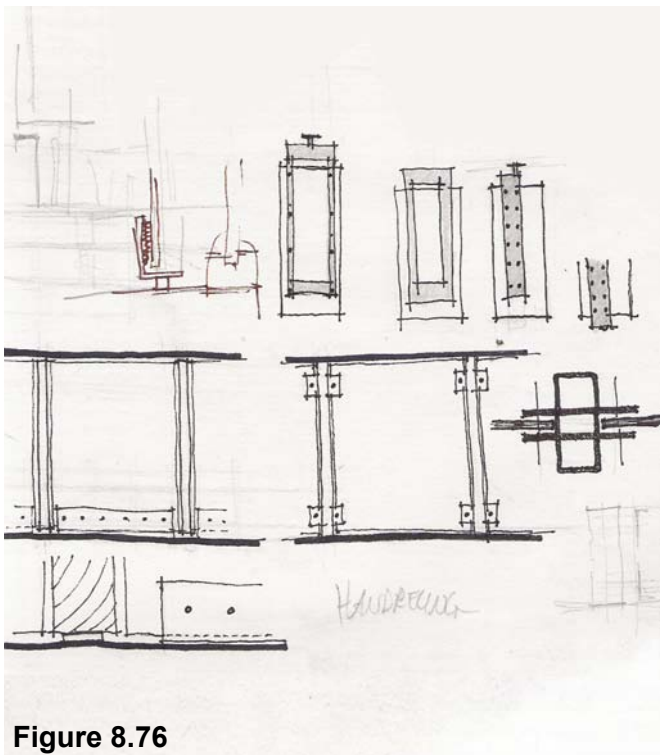


Figure 8.76

Figure 8.77

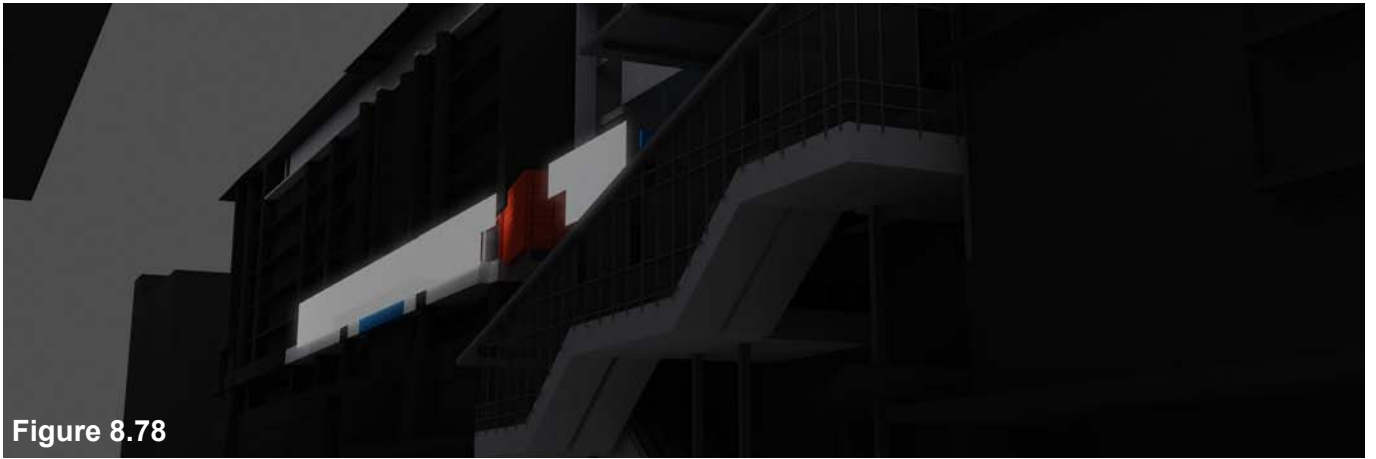


Figure 8.78

(fig.8.74). Cross-bracing steel cables strengthen the steel frame. This element is lit from within at night, its glowing appearance promoting the gallery to pedestrians and vehicular traffic below (fig.8.78).

8.4.3. Gallery tectonics/structure

Existing columns are treated as the tectonics/structure components of this phase of the project. None of the new elements ever quite touch these supports, except where necessary and then only lightly (fig.8.60).

8.4.4. Environmental control

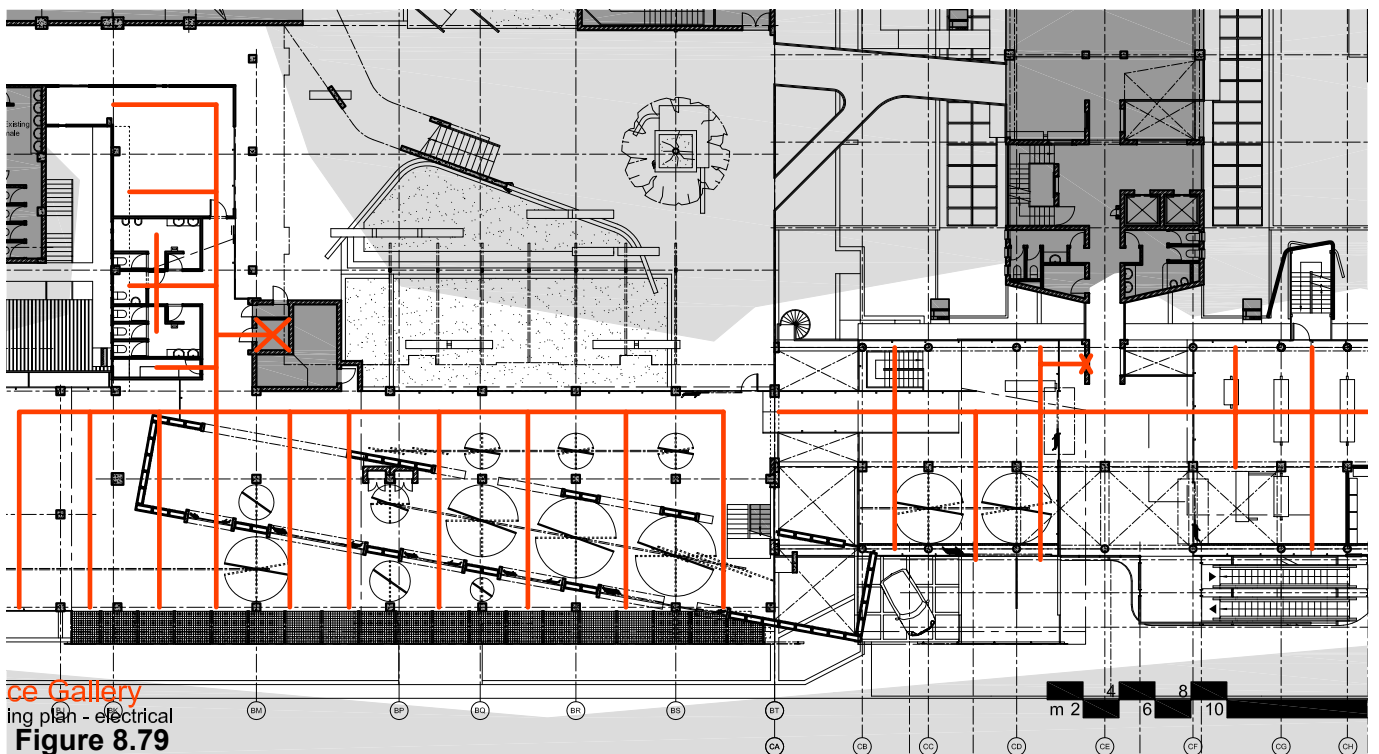
Electrical duct work is fixed to the underside of the existing overhead concrete floor slabs (fig.8.79). All these services are exposed, and galvanized

steel conduits are used.

The ventilation system designed for the previous phase of the project is implemented for the spaces in the City Centre building. For the gallery spaces in Die Meent building copper pipes are fixed to the underside of the overhead concrete structure (fig.8.81). Water is cooled by means of a chiller unit and then sent through these pipes. This causes the air at the top of the interior spaces to cool down and gradually fall, providing comfortable levels of air temperature. Large glass doors are provided for natural ventilation of these spaces.

8.4.5. Other components

The new bridge connecting the spaces of the two existing buildings is composed of a steel beam and girder frame on which a reinforced concrete slab is



ce Gallery
ing plan - electrical
Figure 8.79



Fig.8.78 - Perspective of the gallery at night, viewed from Pretorius Street.

Fig.8.79 - Ceiling plan of the gallery's main floor, with the electrical system highlighted.

Fig.8.80 - Canvas panel precedent.

Fig.8.81 - Ceiling plan of the gallery's main floor, with the cooling and ventilation system highlighted

**west: new chilled beam system
east: existing stack ventilation and evaporative cooling.**

cast (figs.8.71 and 8.73). The roof over this has a similar construction method (fig.8.72).

All new walls are made of galvanized steel rectangular studs clad with fibre cement boards and painted white. The cladding material was chosen for its durability and its ability to be used on interior and exterior surfaces. These walls are fixed to galvanized steel top-hat-sections on the top and bottom, emphasising the connection between new and old. A lightweight construction method was chosen for two reasons:

- these components are easily removed, thus allowing for future change;
- services, especially waste water pipes, can be hidden within the walls.

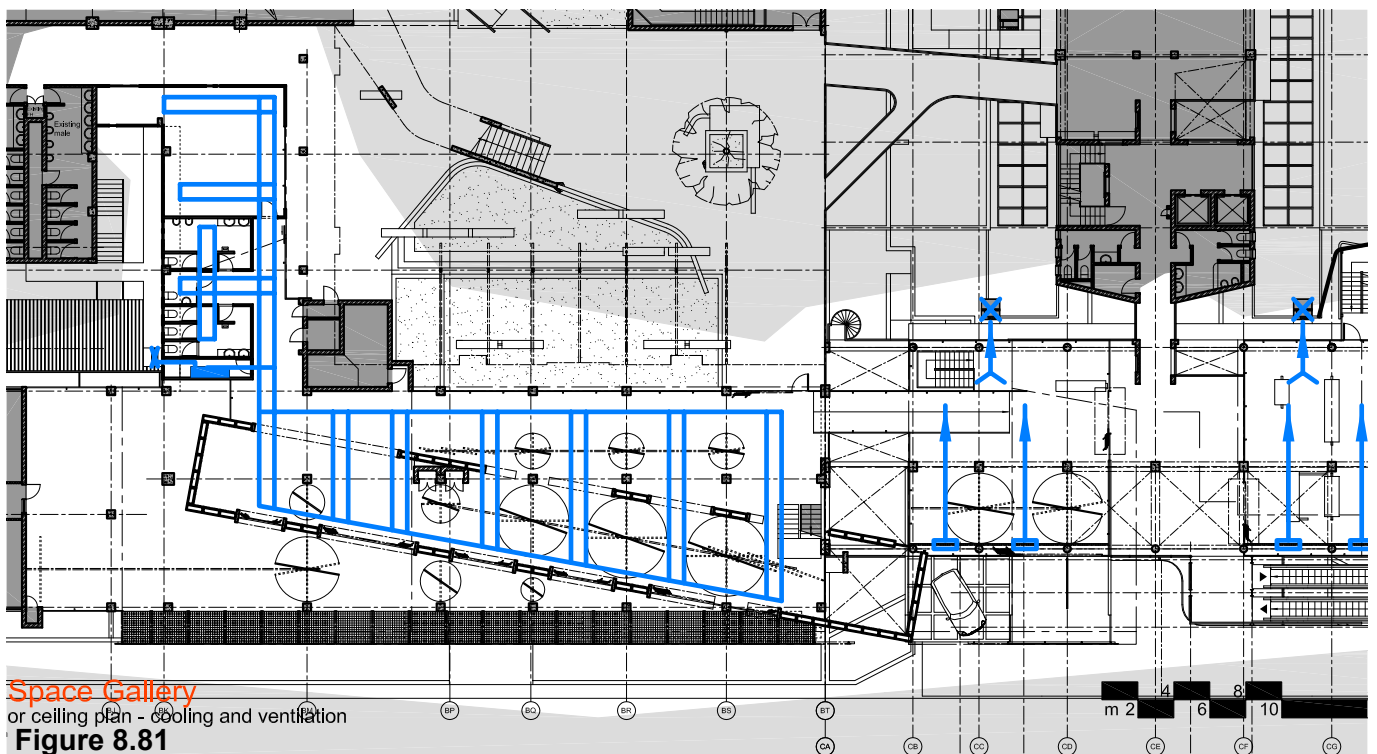
Steel frame windows are used in walls, with custom sizes based on the chosen module. Standard sections are used and the frames are

finished with dark grey enamel paint.

There are three types of exhibition panels, all based on a design by Pasanella + Klein Stolzman + Berg Architects (fig.8.80): the first can be rotated and stacked away according to the curator's needs (fig.8.75); the second can only be rotated; the third is fixed. All consist of white heavy cotton canvas, with white painted brass grommets for hanging art, stretched in an unequal angle galvanized steel frame. The difference is that in the first, the frame can be rotated within a primary equal angle galvanized steel frame, which is fixed to Hillaldam Straightaway 1000S sliding hardware.

Main entrances through the glass panels are highlighted by means of a precast Ductal concrete panel 'floating' over the Hillaldam Stackaway 355GL doors (fig.8.68).

The components for the coffee shop and the



Space Gallery
ceiling plan - cooling and ventilation
Figure 8.81

Fig.8.82 - Detailed rendering of the gallery's exterior exhibition space, looking towards the east.

Fig.8.83 - Detailed rendering of the gallery's interior exhibition space, viewed from the west end.

store are all designed using the same materials as above, making reference to the gallery design and therefore creating a harmonious whole. These elements include the sales counter, merchandise display units and the bar-counter.

8.5. Conclusion

The technical resolution of both phases of the dissertation project is grounded in the theory of deconstruction and consequent parti-diagrams. New and conventional construction methods are applied to create dynamic spaces.

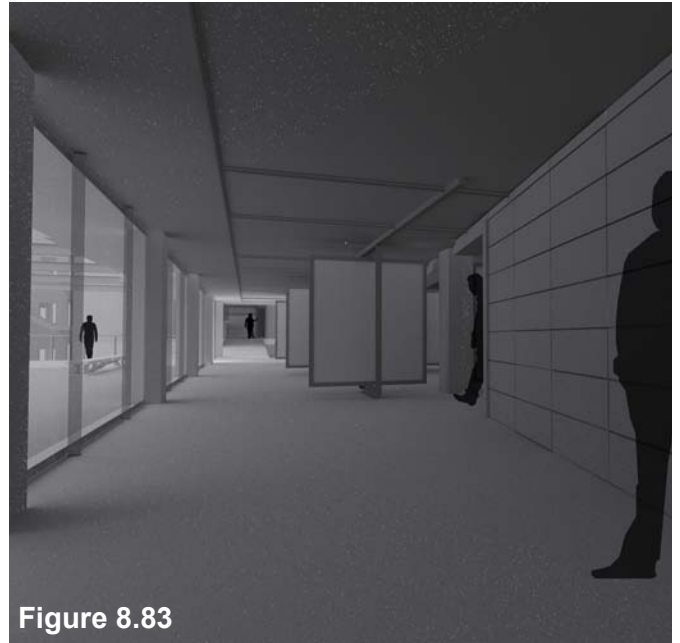


Figure 8.83



Figure 8.82