Chapter 7 - Building design development

7.1 Introduction

Now that an urban strategy has been designed, the focus shifts to the implementation of a new program in the city block. Sport and the related facilities were identified in the theoretical premise as having the potential of uplifting and uniting a community, along with potential education facilities. Thus the new program is determined by the need of the above- mentioned facilities and the ideals of the urban strategy.

Architects should at all times consider the vital element of safety, even more so in the design of public spaces. The need of passive surveillance results in the incubator retail spaces and housing developments that are suggested in the urban strategy. The manual for social crime prevention, published by the WNNR (Kruger, Landman & Liebermann, 2001:42); suggests the need for mixed land use, ideally with 24-hour use of facilities. People present at all times will also curb or limit illicit activities, such as illegal dumping. From the precedent studies it is also clear that unprogrammed space, if not adequately served with public infrastructure, ceases to be viable, sustainable or functional.

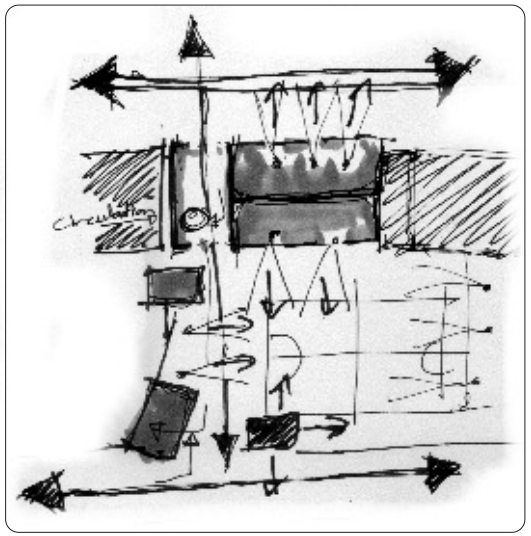


Fig. 7.1 Diagram of the building

7.2 A sense of community

The mention of community building usually brings to mind bland community halls and recreation centres, with restless or homeless individuals meandering around in a stupor. The precedent studies suggest the possibility of combining these buildings with an urban park to create more responsive environments, as in the case of the Landshaftspark, where introducing new functions into existing structures results in spaces that comfort and provide a feeling of well-being.
In a study on community buildings Pearson (2002:76); reveals that designers often mistake the role of the community building. The building should be a connection point in the city, it should reach out and strengthen urban elements in the environment. But how does one pull together the fabric of the city? Pearson (2002:78); comes to the conclusion that one needs to either create new outdoor spaces or reshape existing ones, adding an architectural interface that acts as a hinge between the old and the new. A community building needs to enhance the neighbourhood, placing architecture of meaning within. This can be done by recalling shapes or material or building styles in the area.

Saunders (2006:3); in an article on successful community buildings, identifies compatible diversification in use of buildings as an integral element and states that "...key to the process is determining which types of facilities are best suited to mixed uses and what type of functions are compatible". As shown above in the discussion on the program of the building, the intervention reflects sufficient diversity. Short and Lees (2006:4), in an article on South African community buildings, warn that the approach to community buildings is often standardization. While this approach allows for time and professional fee-savings, the disadvantages are significant as buildings are often unresponsive to their site and one falls into a mindset of using a single approach to solving different problems. "These buildings are often located at centres of new growth and thus provide the ideal opportunity of establishing a communal identity in form and expression" (Short & Lees, 2006:4).

The above arguments recognize the need for identity and integrity in community orientated buildings. Openness and transparency are characteristics that come to mind. The building needs to be inviting, warm and accessible. It should establish a connection with its surroundings, present the public with to a "living room". The building was conceived with this idea in mind.

7.3 Building edge and entrance

The placement of the building as investigated in the urban design proposal provides several opportunities relating to the final placement.

Firstly, the building needs to define the urban edge, reinforcing it while respecting the neighbouring buildings and the urban edge of the block as a whole. This results in the building placed a slight distance away from the edge of the street, picking up the edge defined by its neighbour to the west (see fig 7.2). This decision to respect the neighbour is reinforced by the informal gathering space that currently exists in front of the building, creating a threshold on the city street. The space becomes the ideal location to replace the ill-defined bus stop a few metres up the road. This will also provide an ideal drop-off point when masses of people arrive to partake in events in the public precinct. This newly defined threshold also reinforces and acknowledges the importance of the neighbouring entertainment precinct towards the north of the site.

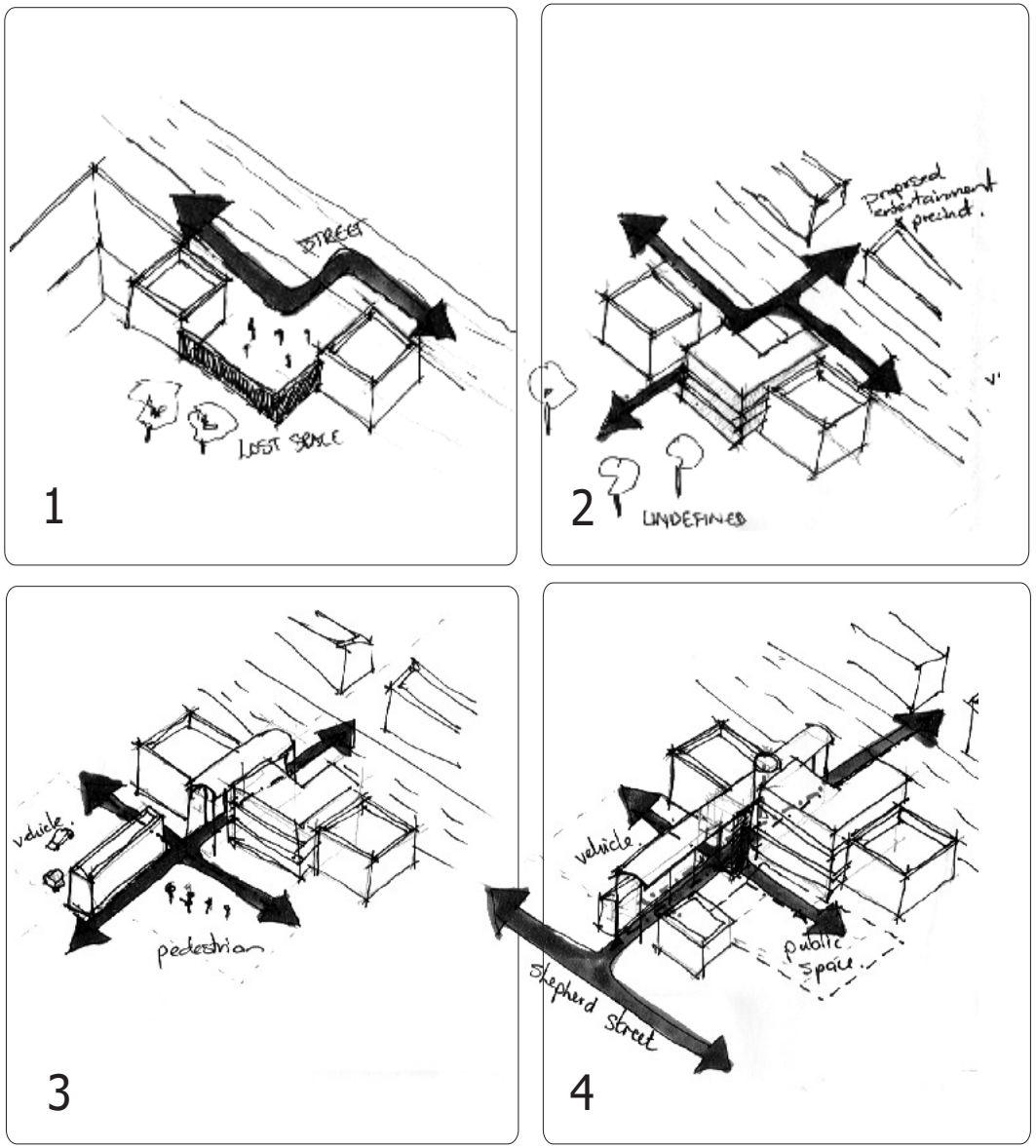


Fig. 7.2 Diagram illustrating the positioning of the building, and how the design influences the flow of pedestrians.


Fig. 7.3 Ttransition to the park

7.4 The Kunsthall

The Kunsthall by OMA provided effective food for thought. The building is a transitional building, creating a connection to lost space. The space in contection is a park six metres below a the pedestrian street frontage (Koolhaas & Mau, 1995:440). The building reinforces the connection between the two, becoming a threshold whilst exposing the individual passing through the building to activities occurring within the building. It is a building that explores circulation through space where little distinction is made between circulation and exhibition space. The building is cut by a ramp which provides the circulation and connection between the road and the park. OMA thus reprogrammed the area by creating a connection whilst informing.

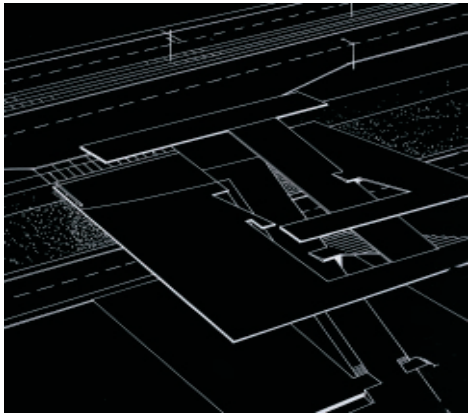


Fig. 7.4 Diagram of the Kunsthall, showing the movement through the building


Fig. 7.5 Kunsthall at streetlevel

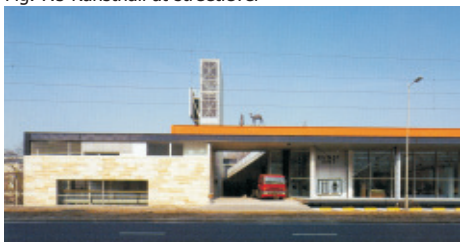


Fig. 7.6 Street Elevation

7.5 Architecture of transition

Thus, the building needs a transitional space that functions as a threshold whilst exposing the individual passing through the building to activities occurring within the building. This space can then serve as a focal point around which the building hinges, being the foyer of the building.

The foyer is a space that informs the public passing through of the opportunities presented to them by the building, as well as showcase previous success stories of individuals who have aspired to become great success in society. As a starting point this would be the celebration of previously disadvantaged individuals using sport to uplift themselves. The idea is to inspire and motivate, reinforcing these ideals every time the individual passes through this foyer into the public space.
The foyer also adds the necessary measure of security to the building with all the circulation occurring at this point. This can also act as a control point to this particular entrance to the site. The building thus symbolises the moving from the chaos and confusion of the city to the more secure public precinct.

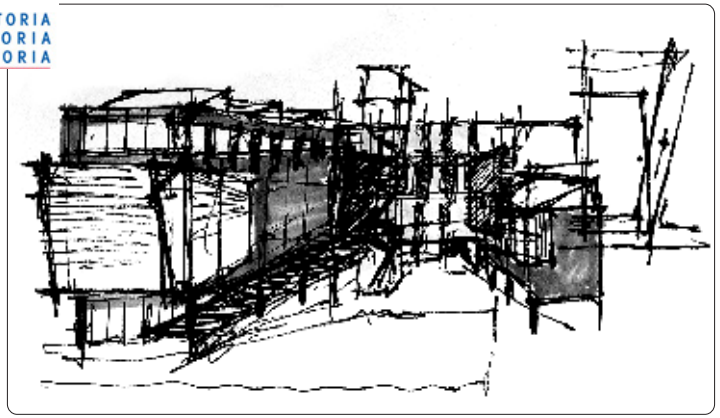


Fig. 7.8 Exploring the form of the building as inviting

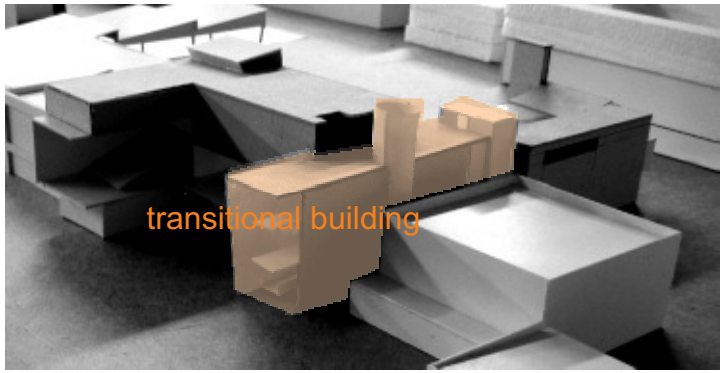


Fig. 7.9 Model exploring the concept of transition

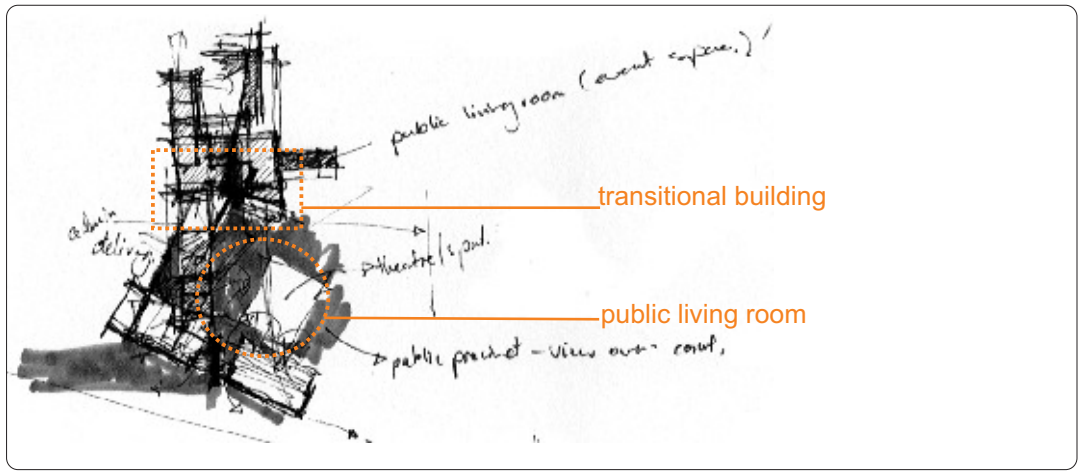


Fig. 7.7 Diagram illustrating the concept of the living room space behind the building as a foyer

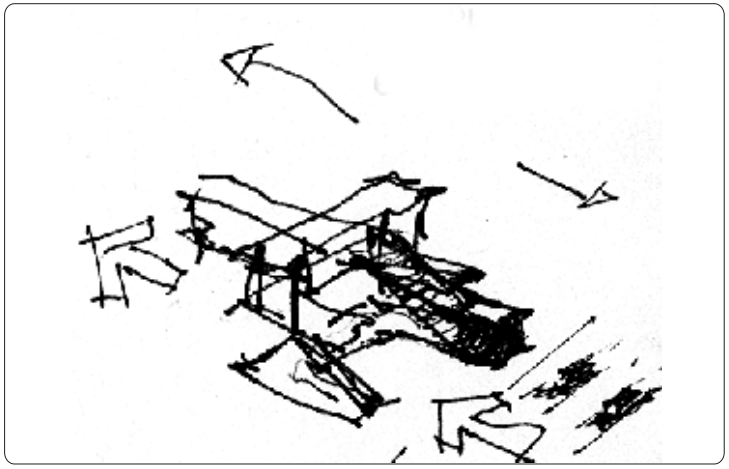


Fig. 7.10 Diagram of movement from street to precinct through the building

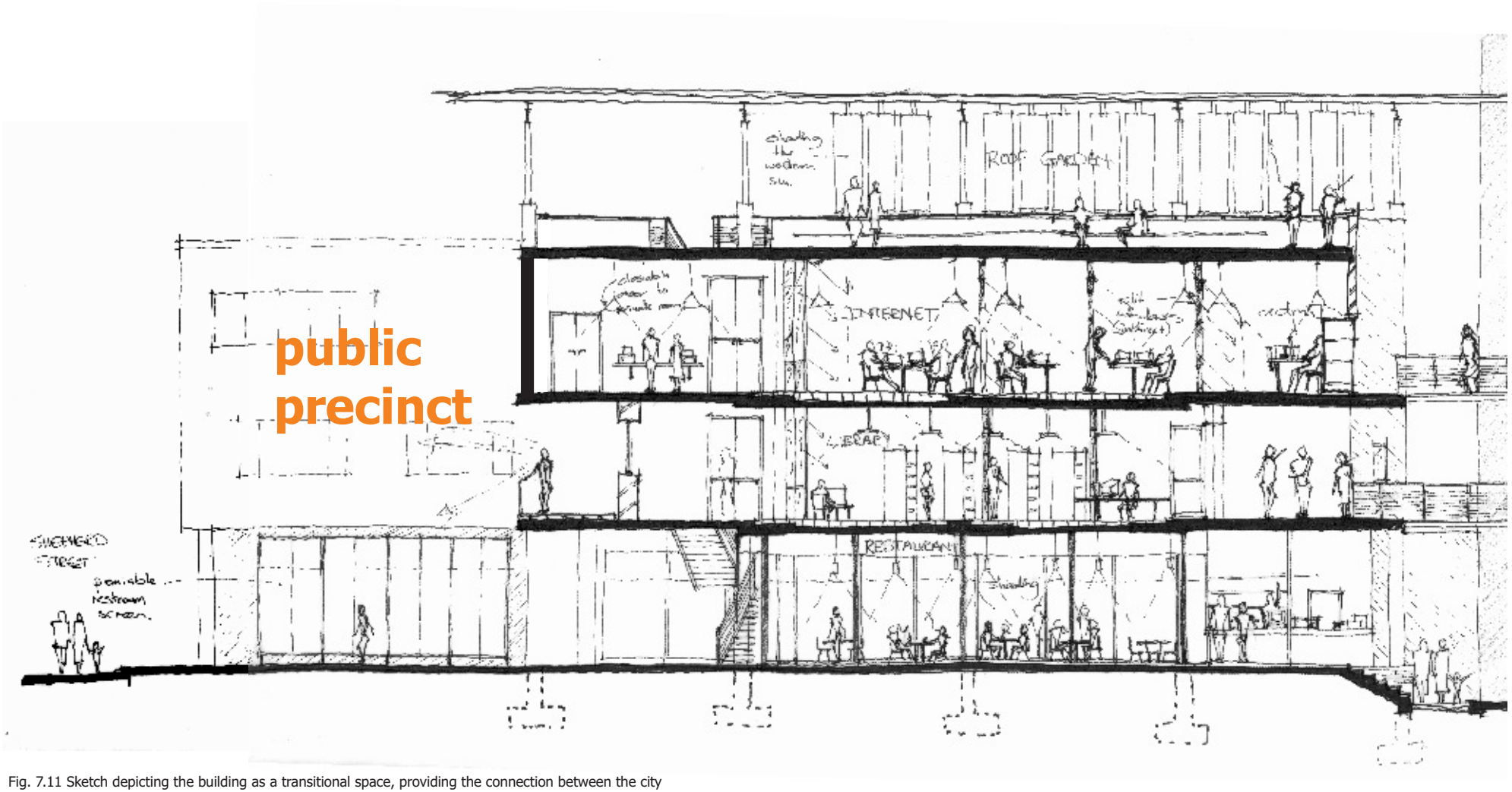
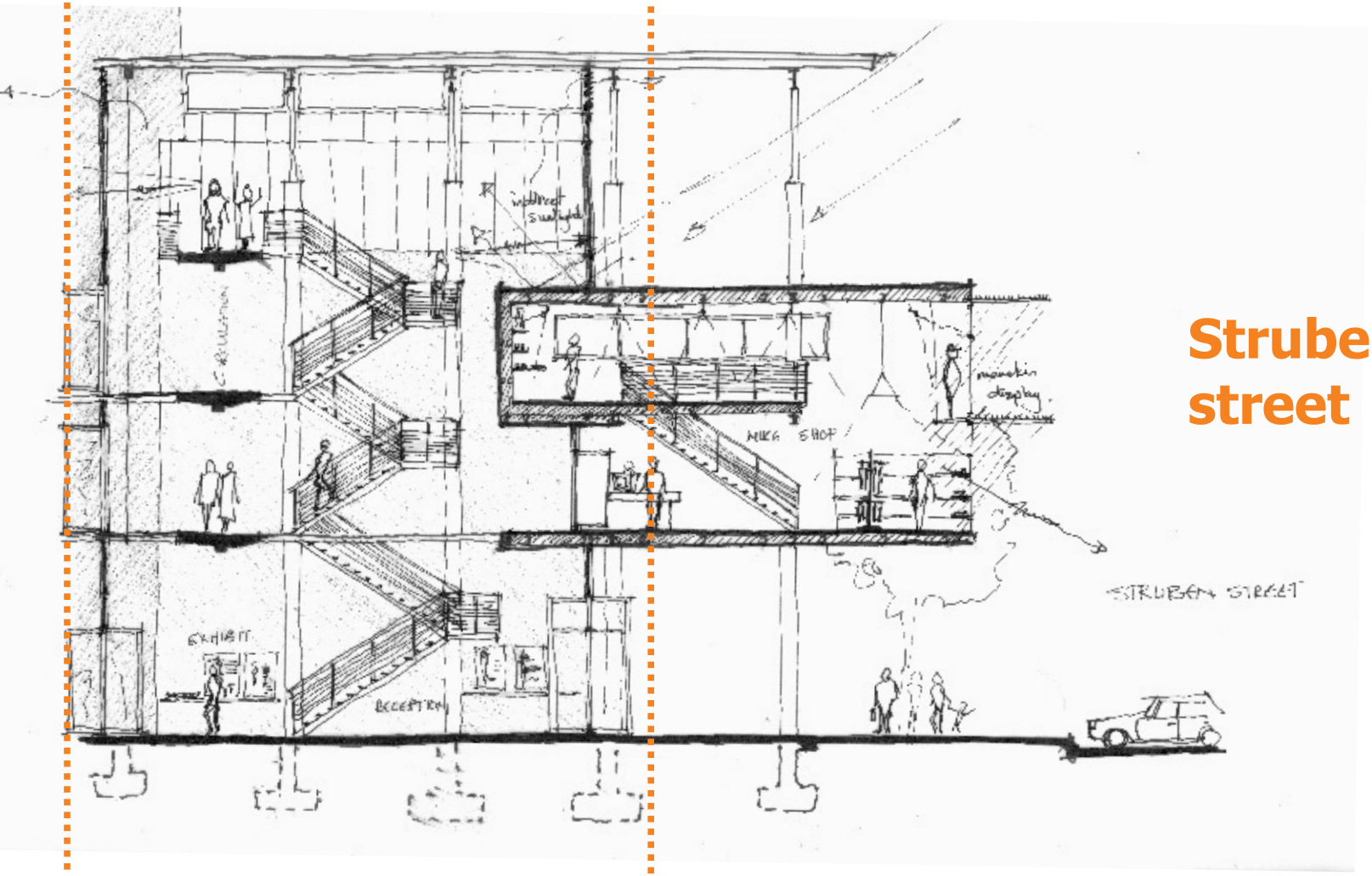


Fig. 7.11 Sketch depicting the building as a transitional space, providing the connection between the city and the public precinct.

Foyer = Transition



Struben street

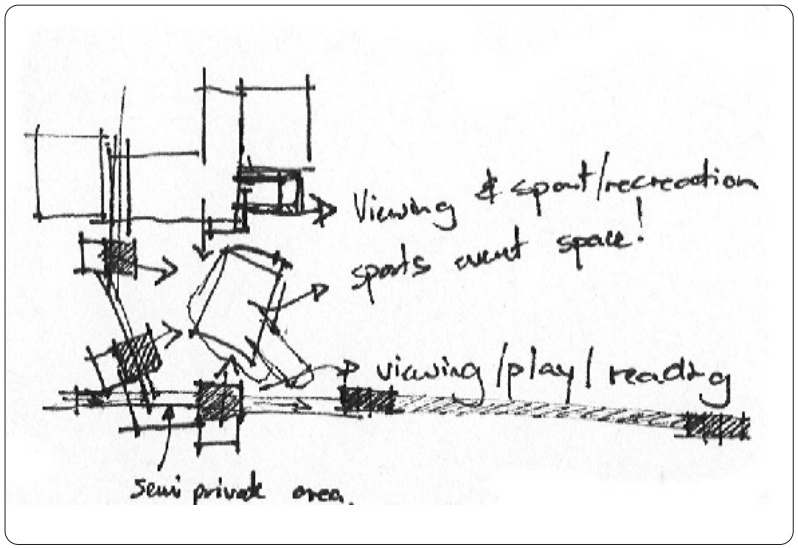


Fig. 7.12 The building explored as a viewing platform

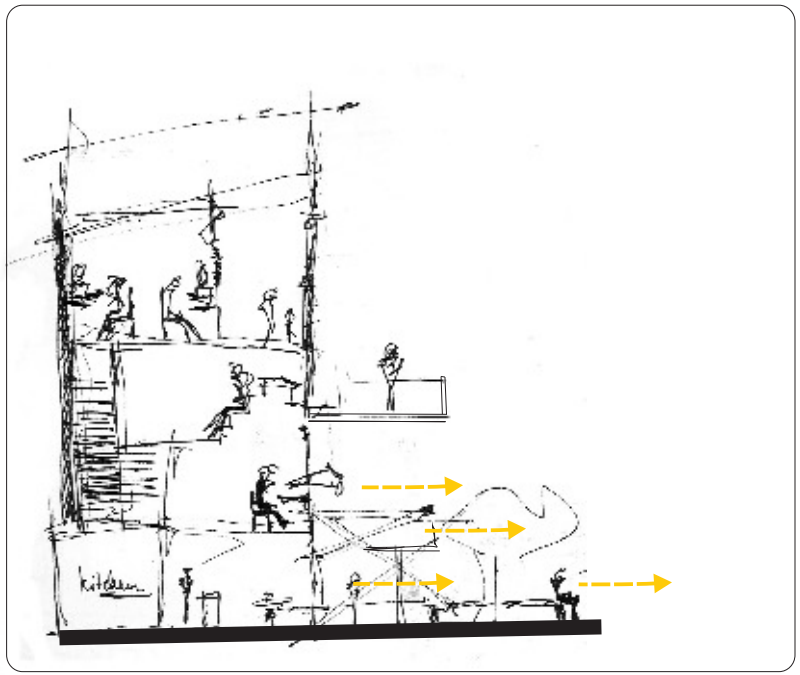


Fig. 7.13 Views onto the public precinct from inside the building.

7.6 The viewing platform

The building is conceived around an event space. As discovered in the research of sport as a community builder, the social interchange as a result of sports events became a recurring theme. The opportunity arose to use the building to define the event space and at the same time become a platform from which to view the action. Thus again, one has the opportunity to fuse the different elements of the building programme together. Cyclists in the gym are able to observe the public in the event space, while a viewing platform on the first floor in front of the library will provide prime seats for events. Again, the possibility is there to expose individuals to information and opportunities available to them. A roof garden allows for spectacular views, while the bar, aerobics hall and dance floor are all exposed to whatever is happening in the public precinct. The whole building thus becomes a viewing platform for events, without resorting to obvious stadium typology.

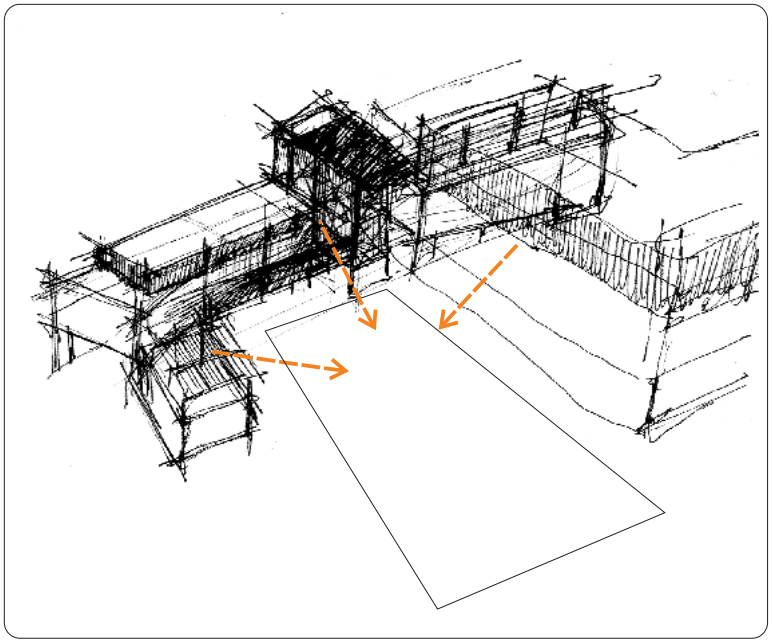


Fig. 7.14 Exploration of building mass generated by the concept of the viewing platform

Fig. 7.15 Stadium typology of Sumo wrestling

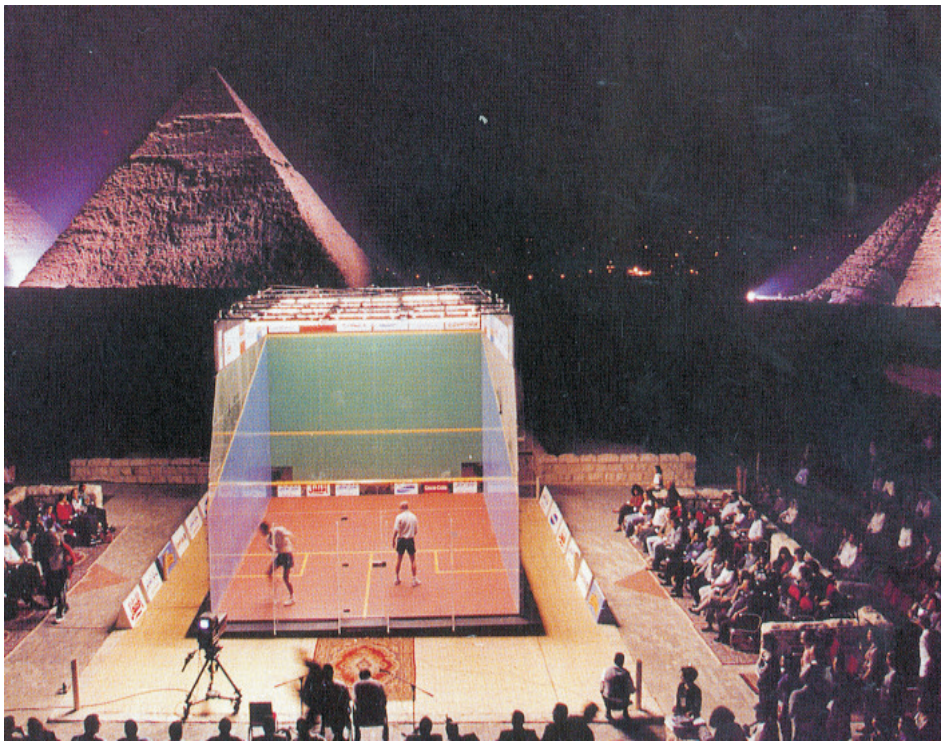


Fig. 7.16 Squash in Egypt

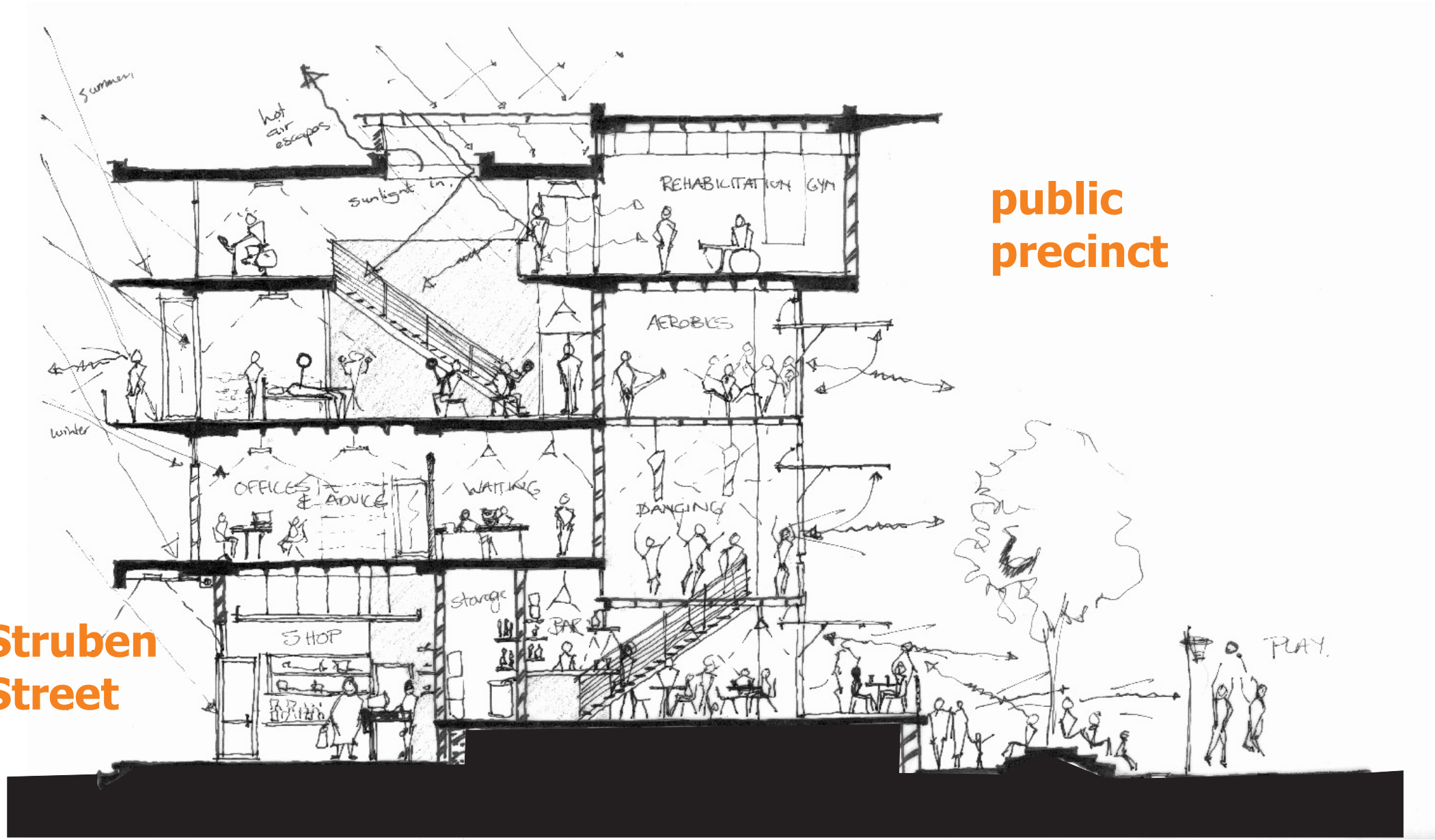


Fig. 7.17 Drawing exploring the building as a viewing platform towards the street and the precinct

7.7 A question of identity

As mentioned above, a good community building provides identity drawn from the environment around it. The precedent studies revealed that public acceptance of a project is more readily given if there is a connection with the past, an element of palimpsest. Thus, whether good or bad, memories promote acceptance. Older generations will be able to remember a time when they either worked in the city centre or came to it for recreational purposes. Younger generations will be educated about a world that never belonged to them, with past successes and errors out in the open. These all serve as a link to community identity and that of the region. Thus the decision is made to use the identity inherent to the city centre of Pretoria to give identity to the project.

7.8 Pretoria and the Modern

As a prophet is seldom honoured in his home country, so the modern movement found most of its support outside the European countries that defined its origin (Gerneke, 1998:198). In South Africa, the movement was embraced and infused into the local architecture.
Most of the tenets of the Pretoria regionalism style originated in the Modern Movement. The architecture of the 30's and 40's in Pretoria resemble the Modern Movement, yet are tempered by local circumstances. Protagonists of the style include McIntosh and Eaton, members of the Transvaal group of architects. Elements that characterize Pretoria regionalism include traditional plan forms, low-pitched iron roofs, sun-shy windows, deep eaves and verandas, and above all sensitivity to the site and climatic conditions (Fisher, 1998:125).
Regarding material use, importance was placed on the use of local materials, being mostly brick and influences of Germany and the Netherlands, most significantly the work of Le Corbusier, resulting in the use of new materials such as steel, glass and concrete (Fisher, 1998:130).

Fig. 7.18 Transvaal Provincial Administration Building , Pretoria, 1962, Brise Soleil present on facade

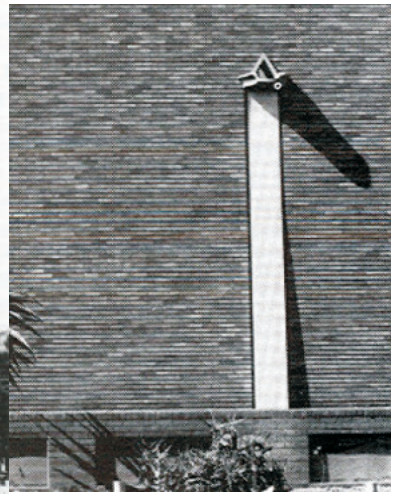


Fig. 7.19 Pretoria brick vernacular

Fig. 7.20 College of Nursing, Pretoria, 1965 - Freestanding auditorium

Fig. 7.21 High Performance Centre, Pretoria, 2005, the modern in a contemporary manner

It was the availability of these materials and their applications, combined with the local availability of cement during the early 1900's in Pretoria, which most challenged and shaped Pretoria Regionalism. The flat concrete roofs so popular in the modern movement were used in conjunction with a more cost effective local approach; flat tin roofs (Fisher, 1998:131).
The Afrikaner settlers who founded the city of Pretoria, had always felt special connections to the land they inhabited, due to their agricultural history. Fisher (1998:137); describes them of having a strong sense of dwelling and direct ties to the land, as defined by Heidegger's concept of "wohnen". Climatic conditions dictated the need for deep overhangs and the stoep became an element that came to epitomize Pretoria regional architecture, combined with climate control in the form of Le Corbusier's brise soleil (Fisher, 1998:136). It is worth elaborating that the wide scale uses of Brise soleil (sun controlling shutters used in conjunction with bold reinforced concrete) occurred in Brazil, and the subsequent use by Modern architects extended to Pretoria (Gerneke, 1998:210).

Oscar Niemeyer, the Brazilian architect had a wide-spread influence. This influence is reflected in the first building in South Africa, which is the Ministry of Transport building in Pretoria, designed by Norman Eaton. The facades with fins on a grid, adjustable Brise Soleil, sculptured lift towers and flexible office space are all typical of this school of thought (Gerneke, 1998:213). Further qualities of the Brazilian movement include roof garden spaces with flowing forms and exterior spaces that compliment the building. The separately articulated auditorium, a regular feature of Pretoria institutional buildings, was first used in the Meat Board building in 1950 (Gerneke,1998: 216).

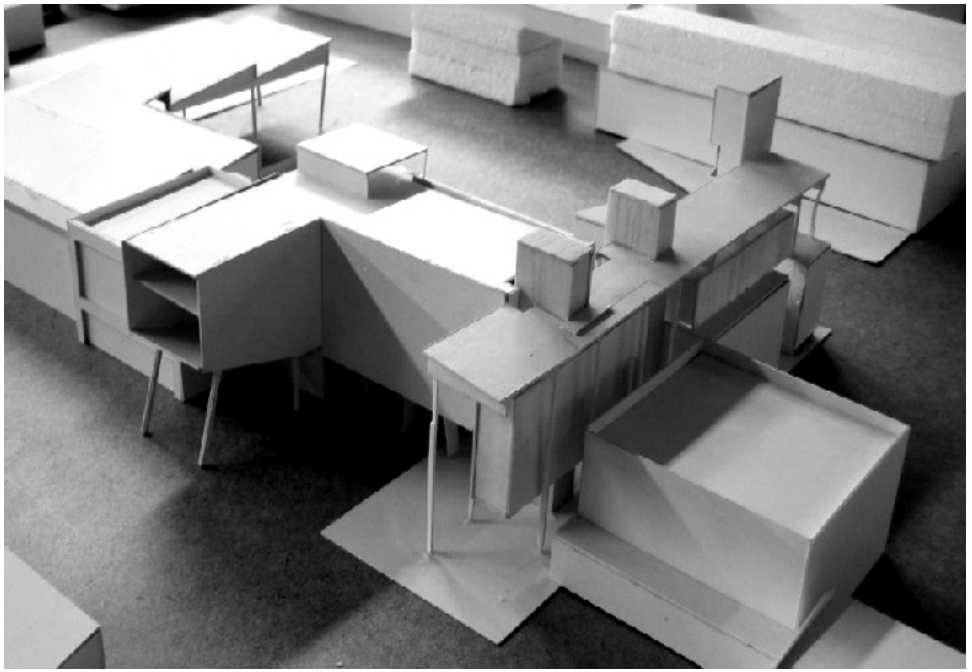


Fig.7.22 Exploring the building masses and geometry.

7.9 Integrating the modern

The intention is not to design a modernist building, but rather to introduce elements characteristic of the Pretoria vernacular into the building. The sensitivity to the site has been illustrated in the context analysis and urban design proposal. The use of a plinth, mid-section and floating roof are common throughout Pretoria and are apparent in the education wing of the building. The flat concrete roofs, so popular in the modern movement, are combined with the locally preferred flat steel sheet roof.
Regarding material use, material use is mostly limited to products locally available, such as brick, steel, glass and concrete. A focus was placed on the use of pure geometric shapes and there is a extensive use of floor-to-ceiling glass, to ensure visibility between the building and the site. Shading in the spirit of Brise Soleil is applied on eastern facades and the roof garden space is dominated with flowing forms.
Finally, the separately articulated auditorium is used to give the building a strong identity in the urban context. The auditorium functions as an additional light box by having a glazed facade looking onto Struben Street, adequately protected from sunlight yet revealing the presence of activities in the building.

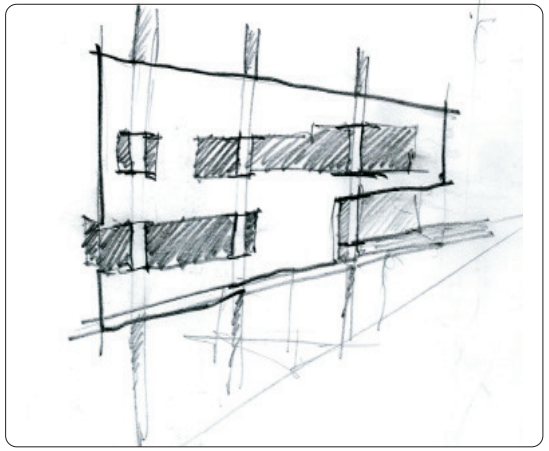


Fig. 7.23 Drawing showing the response to round columns in the building. The building reflects the use of a plinth, mid-section and a floating roof.

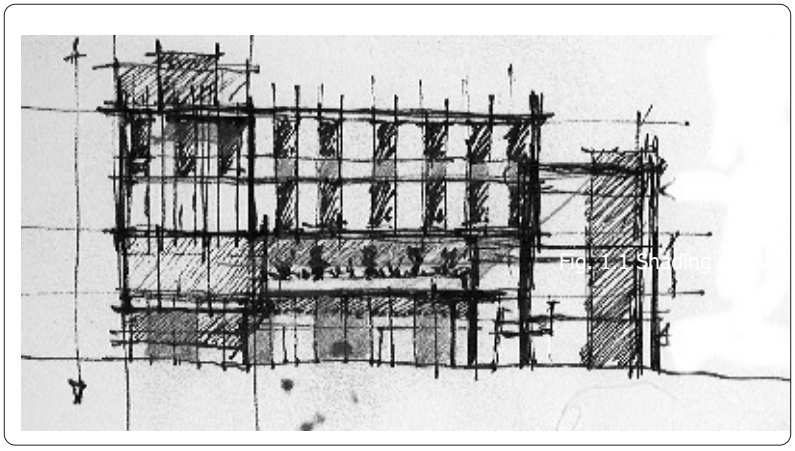


Fig. 7.24 Study of street elevation with floor-to-ceiliing glazing

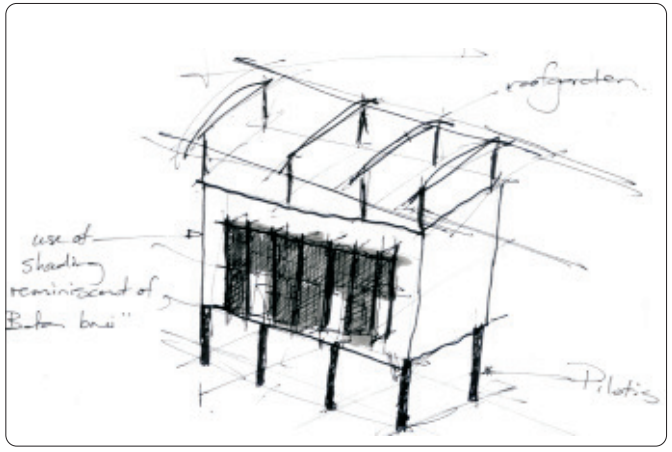


Fig. 7.25 Study of Brise Soleil shading elements

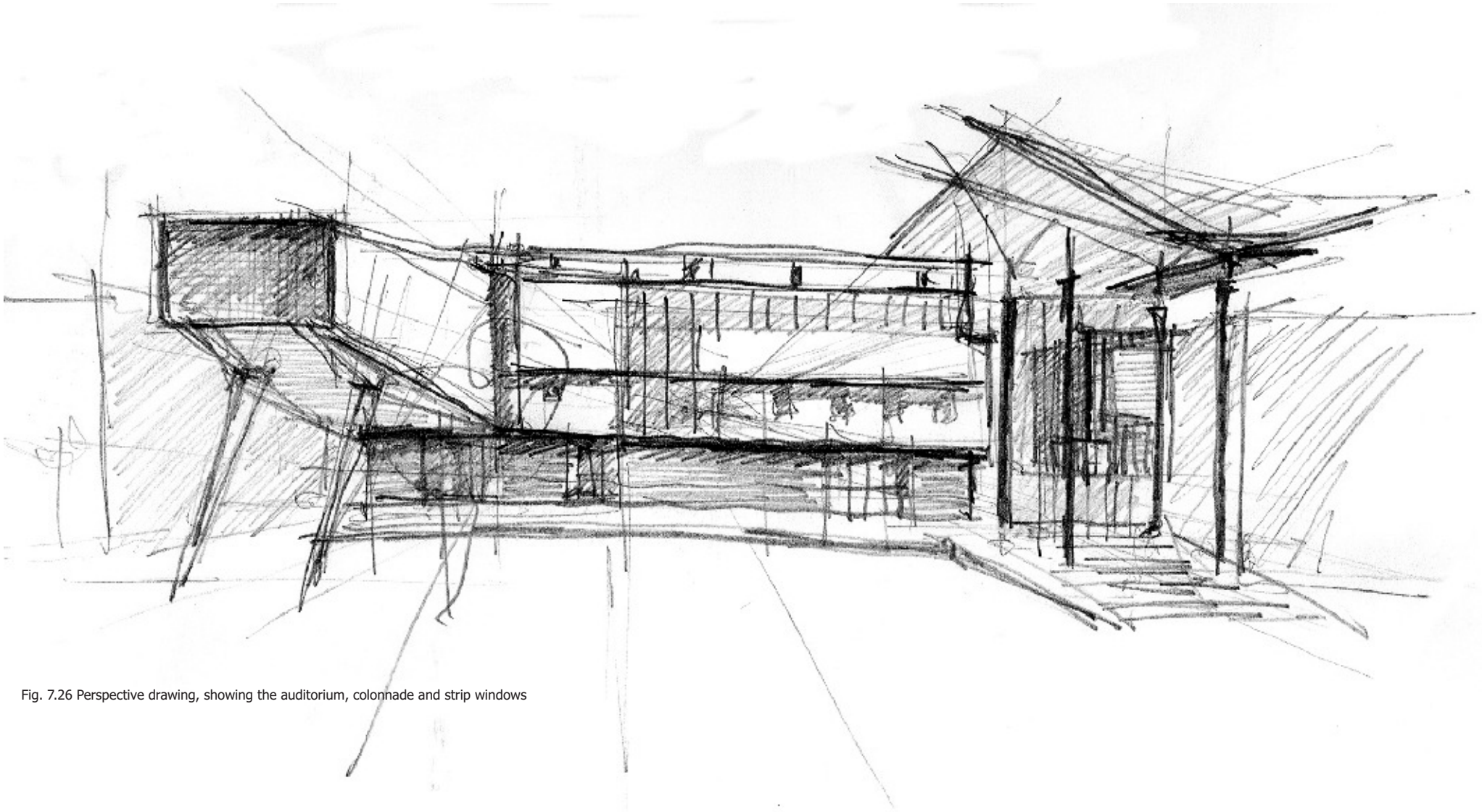


Fig. 7.26 Perspective drawing, showing the auditorium, colonnade and strip windows

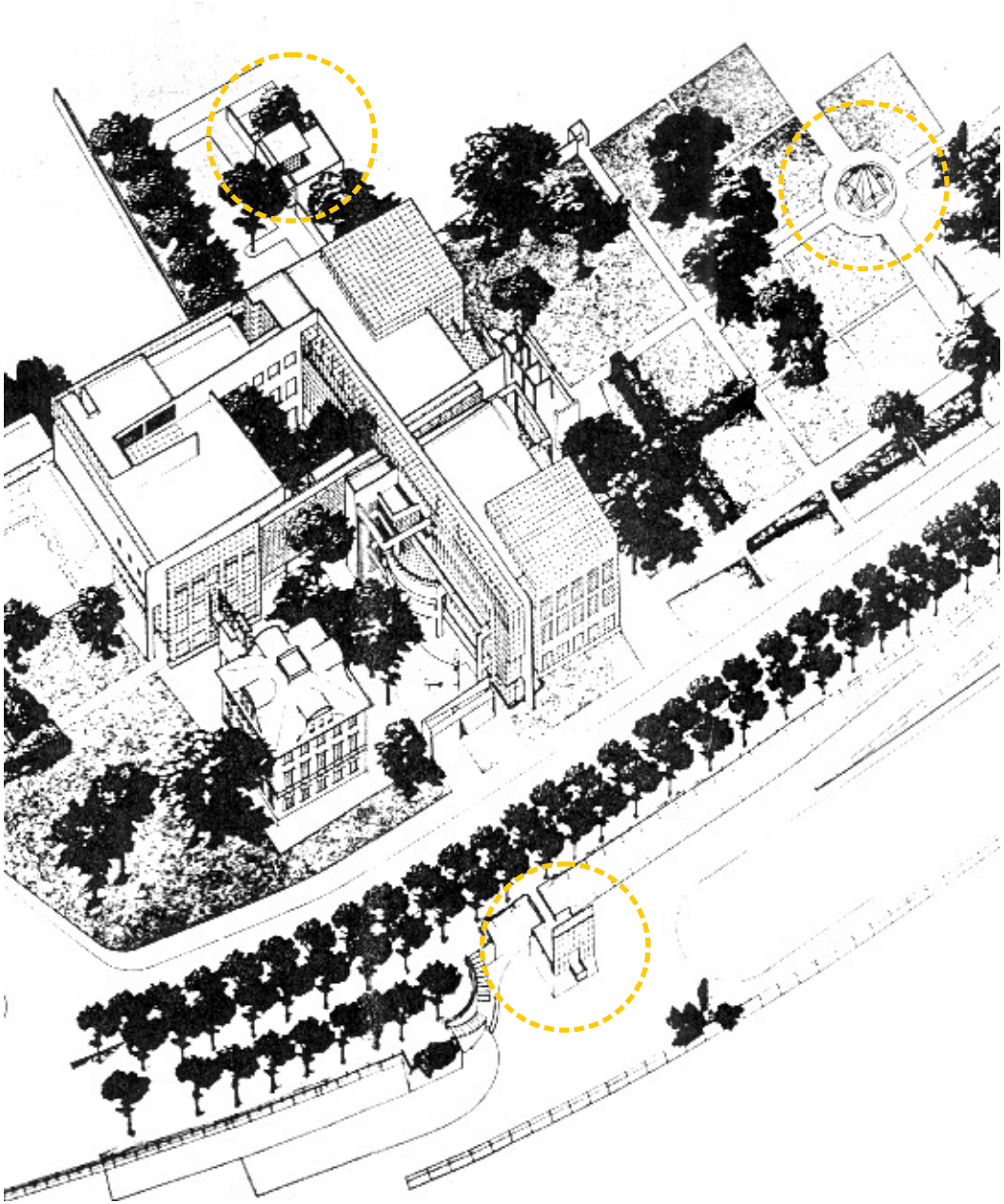


Fig. 7.27 Frankfurt Museum, Richard Meyer, 1985. Follies in the landscape, reflecting the building in their appearance.

7.10 Adding a new layer

With the historic meaning now attached to the building, the regeneration of the city block as a whole presents the opportunity of introducing a new element into the design that informs the urban intervention. While this addition will correspond to the architectural identity that has been established, it is to present aunifying element in the block as a whole, an element that can serve as a beacon to indicate to the pedestrian that he has entered a public precinct.

The new element finds its origin in the need for safety in the city. Instead of fencing the public space off, to try and ensure safety, small surveillance towers are introduced into the design. These towers will further strengthen the identity of the block, an idea used by Richard Meyer in his design for a museum in Frankfurt (Murrey, 1985:23). Meyer installs 4 different follies into the landscape around the building, reflecting the material and form found in the building itself.

The program of these light towers must include some form of surveillance, ideally 24 hours if possible (e.g. a study centre for the students or police crime prevention unit). They will be placed at all entrances to the city block, and an additional central one next to the main building in the centre of the public precinct.

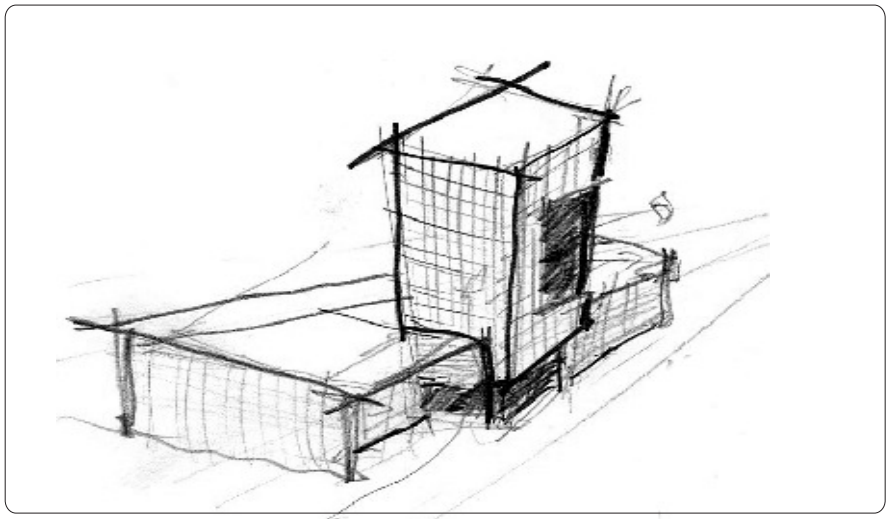


Fig. 7.28 Appearance of the towers

Fig. 7.29 Location of the towers

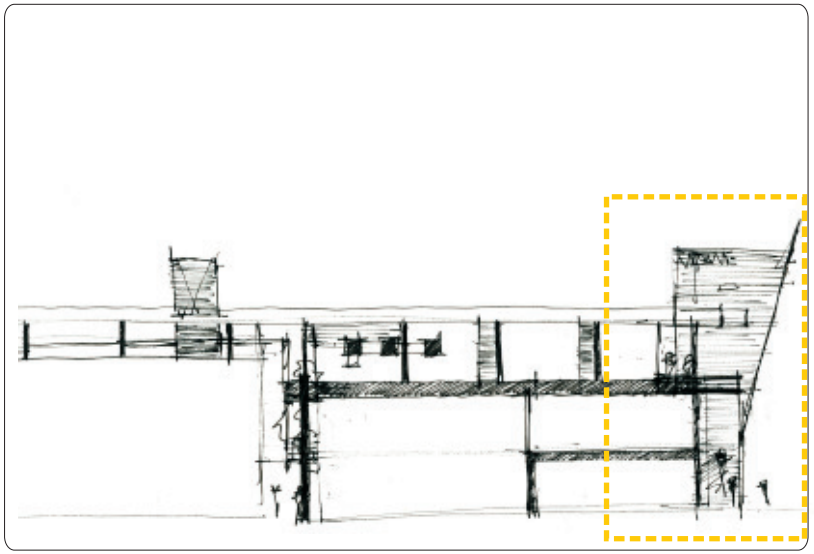


Fig. 30 West elevation study, showing the relation of the tower to the building

7.11 Symbolism

The towers' appearance is associated with light, symbolic of guiding people. This is a common element in most cultures, the concept of wanting to move towards a light source. To emulate this appearance of a light box the boxes are concrete structures, clad with punctured Kor-ten plates. At night light emanating from the structures will give the appearance of lanterns throughout the city block.

The material is also employed in the main building, where an exposed steel frame is used wherever the Kor-ten cladding comes into play, producing a more lightweight appearance to a building that has a predominantly bulk mass. The cladding is a indicator of passive surveillance throughout the design.

Further, the light boxes placed throughout the design are an opportunity to reflect the industrial shed-like existing appearance of the site, by using the metal sheeting from the demolished buildings as shuttering for the concrete facades. The result will be the concrete frame visible in places behind the Kor-ten plates, resulting in a dual layer of time and significance. In time the Kor-ten will weather and create a symbolic merging between what was and what is.

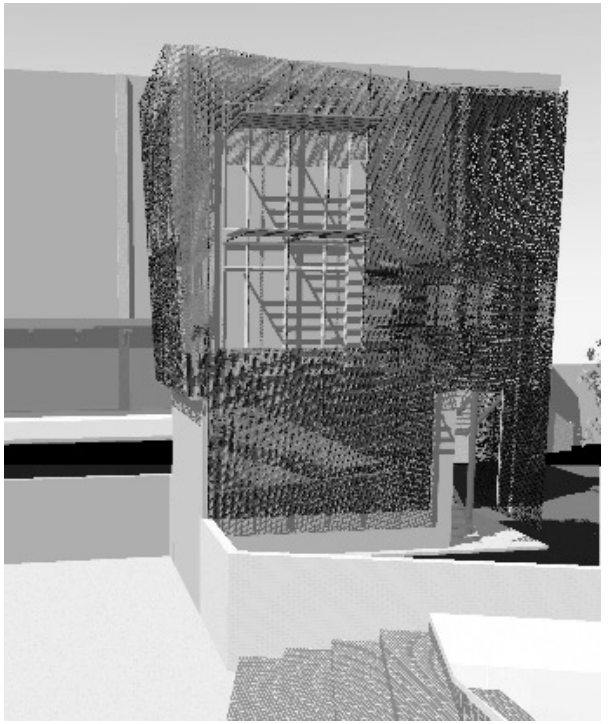


Fig. 7.31 The materials of the light box

7.12 Including the layer in the intervention

In addition to the lightboxes, a horizontal light box is introduced into the foyer of the main building, pertruding into the street space. The idea of this box is to create a safer environment in the street, while thrusting the presence of the intervention into the existing fabric of the city centre. The program will be a shop due to the effective advertising space, ideally a sports shop to reinforce the program introduced into the area.

The structure of the horizontal light box is important as it needs to be suspended between the concrete columns that carry the roof, creating the appearance of the box floating in the glass façade that is the main entrance of the building. The structural system is primarily a ring system of steel I beams, connected to one another with verticle I sections, providing the necessary stability. channel sections are fixed to the I-beams onto which the composite panels are fixed.
The box cantilevers quite significantly towards the northern side, thus cross bracing is used between the I – sections. Although the current program of the box does not require soundproofing, it is never the less employed to retain the argument of the building having a longevity factor inherent in its structure. Thus sound absorption materials are fitted into composite walls.

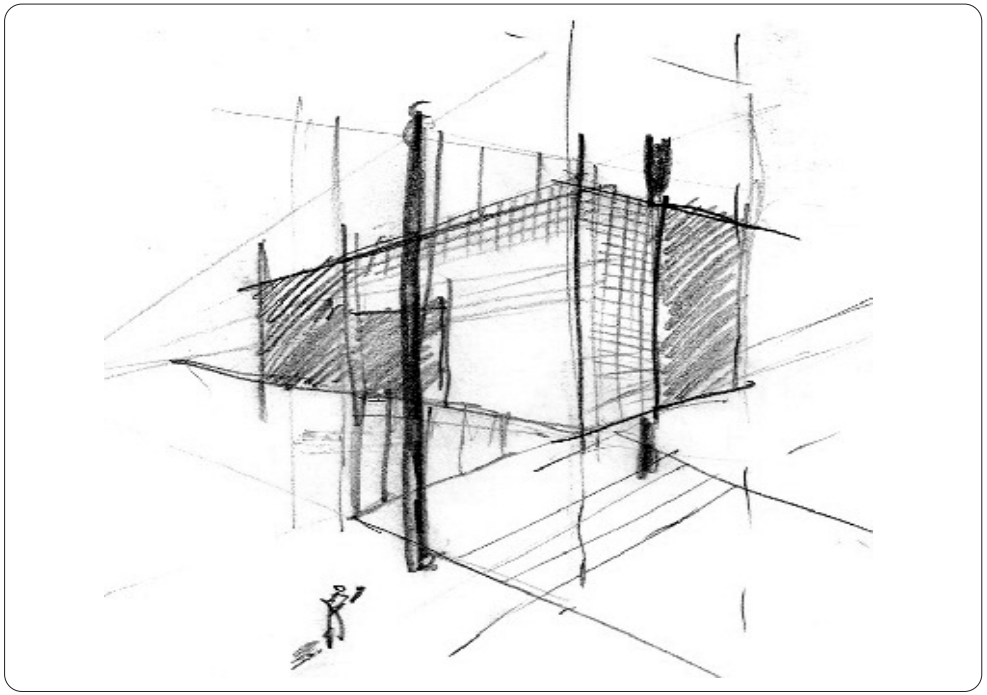


Fig. 7.35 Concept of the horizontal box

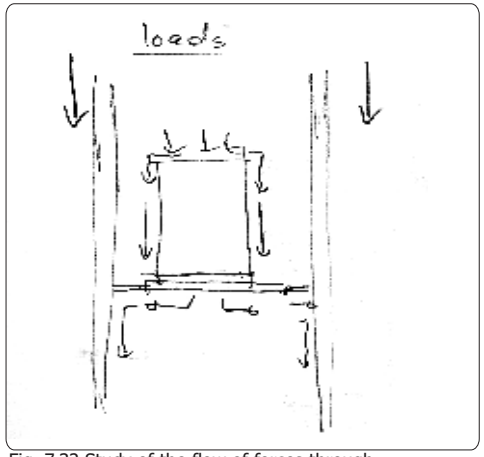


Fig. 7.32 Study of the flow of forces through the structure

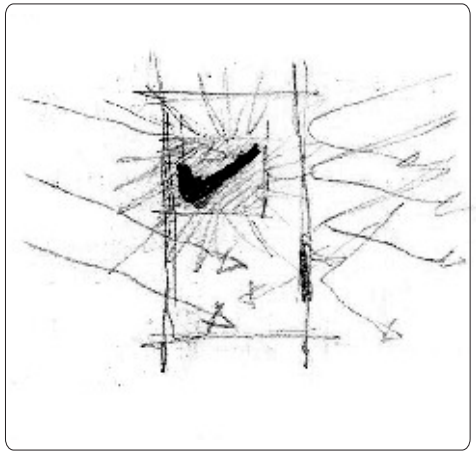


Fig. 7.33 Exploring sun angles and the box as advertisement

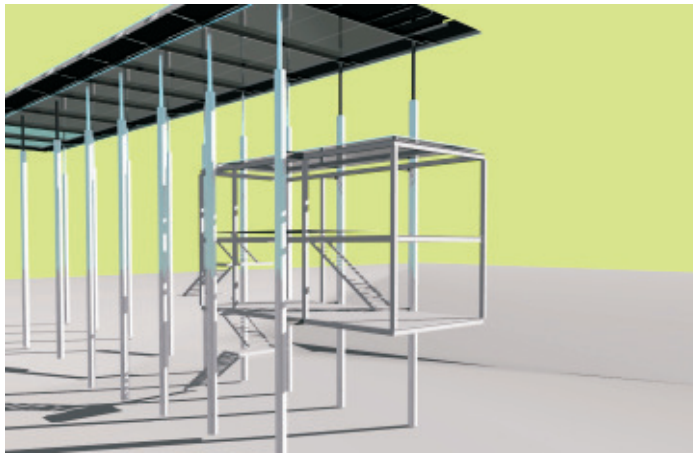


Fig. 7.34 Structural system of the box

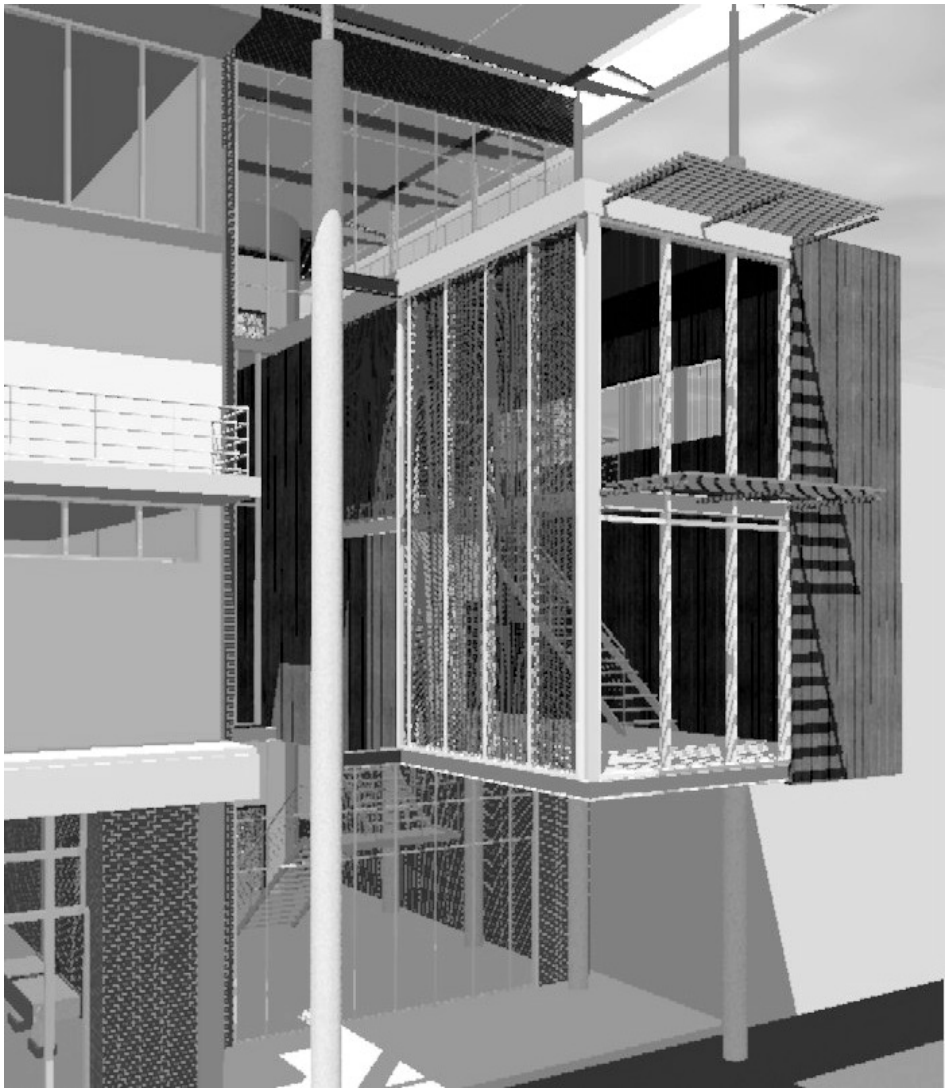


Fig. 7.36 Three dimensional representation of the box

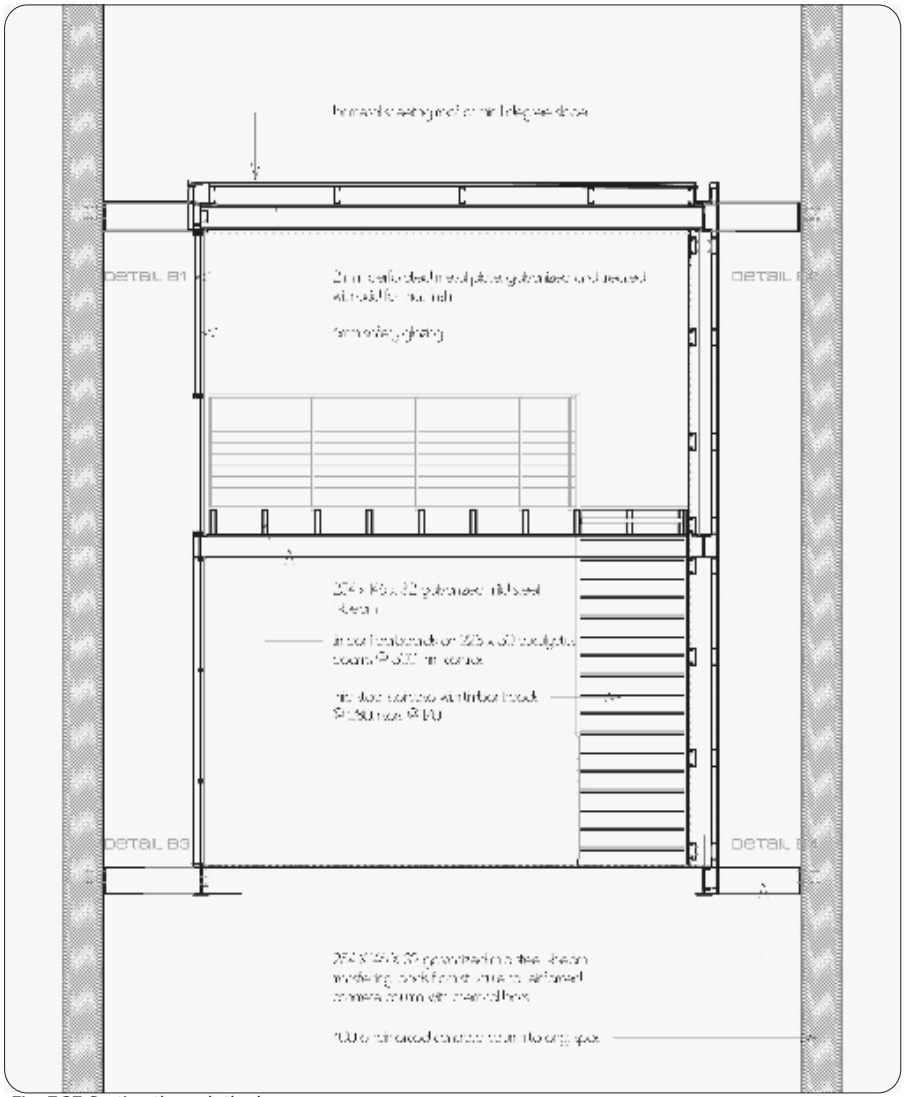


Fig. 7.37 Section through the box

7.13 Programme

This vision for the building entails that in its essence it will not necessarily fit the mould of any particular building typology, the building will thus accommodate the following programme:

Public restrooms and showers – Public restrooms are a rare luxury in the Pretoria city centre, and the showers would be able to cater for individuals participating in the event space. The restrooms are placed strategically at the junction of the pedestrian walkway and the buildings main axis.
Offices – Flexible office space consisting of partition walling in a single floor, catering for related educational and sports organizations. The ideal behind these offices is to inform individuals of options available to them, regarding financing for studies and sporting opportunities. Agents that are suggested to use these offices as a starting point are the Umsubumvu youth fund, a government funded organization specializing in youth upliftment by providing funding for education and entrepreneurs, the Sports Trust who manage the precinct, and the Ali Bacher Sports Fund. The offices will include some hot office space, allowing entrepreneurs to receive effective support while running their businesses. This will work hand in hand with the incubator stalls that are available in the site. There is a shared meeting room that can be used as necessary, or as a VIP area during important events, as it looks directly onto the sports facilities below.
Bar and club – The nature of such an event space automatically identifies the potential of eating and drinking places.
Retail – In any public precinct there is a need for efficient retail facilities. The retail faces the street, to ensure maximum exposure. The horizontal retail space has already been disussed in detail.
Library– To support the currently active institutions in the area, as well as provide these relevant facilities to the immediate community.
Internet facilities - With a seperate instruction rooms to allow for extra-curricular instruction.
Gymnasium - Allowing for exercise, dance, aerobics and other forms of expression, with its own shower and restroom facilities. The gym will be marketed to a wider target market than the immediate community, to ensure the financial viability and is able to function as an individual entity. A gymnasium is a proven popular facility under students and young people. Equipment can be moved up to the second floor with the mechanical lift of the building.
Medical centre – The centre will focus on sports related injuries, it is not a local clinic.
Kitchen and restaurant facilities – Able to cater for the events and day-to-day customers.
Auditorium – Able to be used for conferences, business school facility for Bethesda church, Upliftment programs etc.
Roof garden – Additional viewing space for the events.
Light box – As mentioned above, the central light box will be a 24-hour study centre.

As many of the facilities are used in different time frames, the facilities can be unlocked as they are needed.

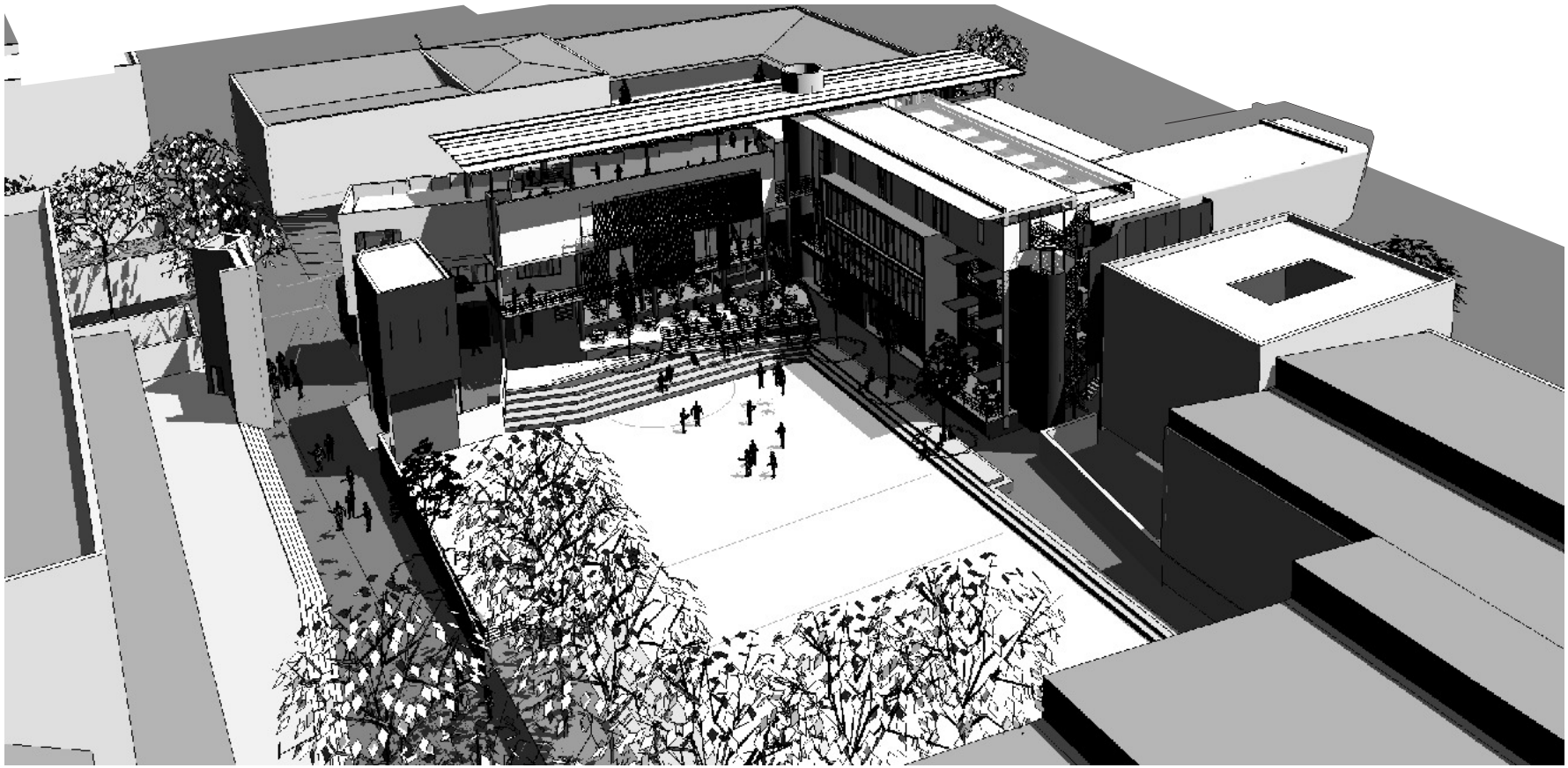


Fig. 7.37 Aerial view, depicting the building around the central public space

Fig. 7.38 The site used at different times of the day


14:00


20:00

Fig. 7.39 Approaching the building entrance from the north