

# precedent studies



# The Point

## Project team

Client: Darts: Doncaster Community Arts

Architect: Groundworks Architects

Structural Engineer: Price and Myers

Quantity Surveyor: WT Partnership

Services Engineer: Leeds Environmental Design Associates

Project Manager: The Uccello Partnership

Main Contractor: Weaver Construction



Darts has been a registered charity since 1992. At first it employed outreach programmes, but in order to reach more people and host a wider variety of workshops a building was needed. Darts consists of a team of young artists and performers whose aim is to make the arts available to the whole of the Doncaster community, with emphasis on accessibility. Recent ventures include visual/writing sessions for children with interrelational problems, music workshops for children with physical impairments, a “quirky choir” for those who thought they could not sing, and dance classes for the over 50's.

Groundworks Architects is a Nottingham based practice, doing a lot of community and volunteer projects. To ensure the project's future financial feasibility and sustainability, income is generated through renting space to tenants such as a bookshop, a café and office accommodation.

The Point consists of three elements: two converted early Victorian houses, a glazed atrium and a new-build rear extension. The existing houses on the south Parade are listed. Doncaster has very few heritage buildings, and is extremely protective of what it does have (Singmaster, 1999; 31). Entrance to the building is through the Victorian houses, accentuating their importance. Their domestic scale and character is preserved. The comfort of wheelchair users is of utmost importance in this building because of the high percentage of disabled users. Introducing eight lift stops solved a difference of 1m in the adjacent floor levels.

The glazed atrium forms the link between the houses and the rear extension. The the glazing of the atrium is coated on the inside with a low-E coating to avoid overheating in summer. The connections to the existing fabric are very subtle. The atrium looks out onto a small courtyard, which merges exterior with interior. A glass bridge leads to the studio on the upper level of the extension, while stairs take one down to the floor of the atrium and the café below the studio.

The rear extension is lower than the existing houses in order for it not to compete with them in scale. The planning authority requested a pitched roof. The extension consists of a double height gallery space and a crèche. The studio is fitted with lighting and sound equipment to a professional standard, and has a changing room and shower/WC attached. Seen from the rear, the extension appears as a plain brick-faced building with a shallow pitched roof.

The project is a good example of utilising the constraints inherent in a listed building to enrich the design through the creative use of form and materials.

## Applicable principles

Community involvement

Balance between old and new

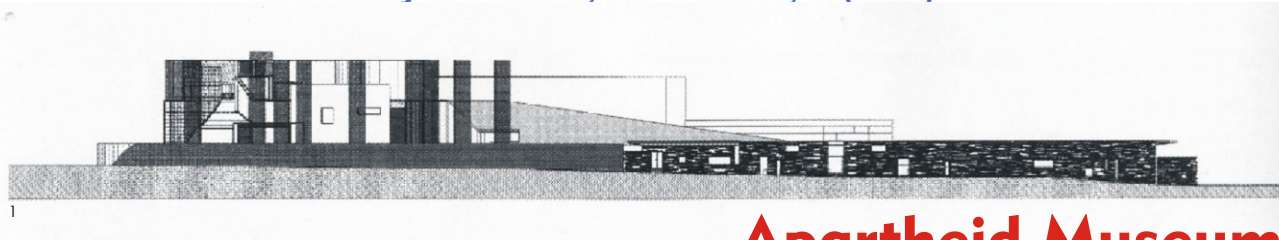
Connection between old and new

Letting of spaces to ensure financial sustainability

Merging of exterior and interior spaces

1 Glazed atrium link

2 Converted Victorian houses



## Apartheid Museum

### Professional team

Client: Akani Egoli (Pty) Ltd

Project architect & co-ordinator: Sidney Abramowitch Architect

Architects: GAPP Architects & Urban Designers

Mashabane Rose Architects

Britz Roodt Project Association

Linda Mvusi Architecture & Design

Landscape architect: Patrick Watson Landscape Architect

Quantity surveyors: Schneid Libera (Pty) Ltd

Thabo Senyolo & Partners cc

Structural engineers: Pure Consulting

Electrical Engineers: Monty Miller Associates cc

Claassen Auret Inc

Mechanical engineers: Richard Pearce & Partners

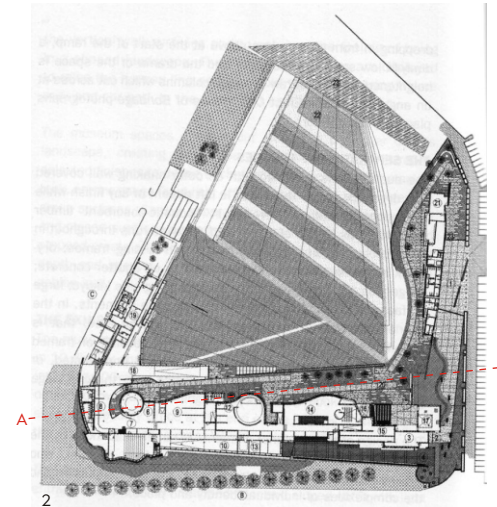
Traffic engineers: PD Naidoo & Associates

Curator: Christopher Till

Audio-visual consultants: Electrosonic

Fire consultants: Specialised Fire Technologies

Main contractor: Murray & Roberts.



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The museum is located between the Johannesburg CBD and Soweto, in a semi-industrial zone that also accommodates office and retail facilities. Its juxtaposition to the indulgent frivolity of the adjacent casino and theme park, while considered by some as a potential negative, in effect reinforces the notion of separate realities that was at the core of the apartheid system; it accentuates the seriousness of the museum and a quality of stillness that is created in the newly built complex (Leigh Darrol, 2001;24).

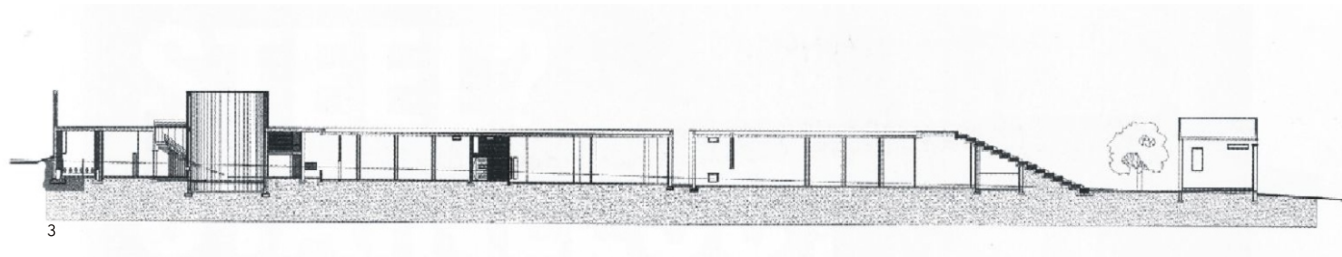
Elements of the spaces associated with apartheid, like separate entrances, the pass office, and security police cells, remind visitors of the dark side of apartheid. The building is greatly influenced by its function as well as context.

### Influenced by context

The unique material qualities of the surrounding physical landscape are present inside and outside the building: rock-filled gabion baskets in rusting steel frames recall nearby mining structures and activities, while large planted earth mounds recall the planted mine dumps partly concealing and revealing the "dark world" of apartheid within.

The main body of this single-storey flat-roofed structure is partially submerged in the slope of the site, reducing the height relative to grade and allowing the large ramp to reach the roof comfortably.

Lowering the bulk of the structure also allows the building to merge with the landscape that is shaped upwards to reduce further vertical wall surfaces and to enhance the feeling of being in a shaped landscape. The important fill berms are deployed to raise the horizon line and block out the neighbouring theme park and car park to the north and east of the site.



### A walk through space and time

The museum spaces are laid out along the perimeter of the landscape, creating long linear wall surfaces with carefully selected finishes to define each space: gabion walls, dry- stacked rock walls, narrow-gauge facebrick, off-shutter concrete and indigenous grass surfaces. Spatial separation, surface breaks, open-ended and closed surfaces sometimes de-materialised, separated and stepped create a layered sequence of finishes generating spatial depth and interest. This is especially noticeable on the south gabion wall.

The museum consists of 5000m<sup>2</sup> of exhibition space laid out in 10 display spaces along a concrete service duct or “spine”. It includes 500m<sup>2</sup> of administration/archive space and a detached low-slung building that houses the bookshop, coffee shop and security office at the end of the journey overlooking the 100m-long “slimes dam” lake.

The 40m long and 4m wide space under the concrete entrance ramp is a dimly-lit low space. It has a sloped floor and soffit, and light drops in from nine metres above at the start of the ramp. At the other end the drama of the space is heightened by a line of raw concrete columns which cut across at an angle and by the Ernst Cole House of Bondage Photographs.

### The separation of finishes

The auditorium is designed with an outer snaking wall of dry-stacked stone. The inside is left without any finish while the opposite wall is covered in acoustically-absorbent timber wall panelling. This theme of separated finishes are expressed through the museum details: galvanized gates in rusting frames; dry-stacked stone adjacent to red-brick walls or off-shutter concrete; indigenous “rooigras” long grass banded alongside kikuyu; large surfaces of gravel beds and smooth concrete elements. In the interior the theme continues with the use of steel that is galvanised and suspended above the steel exhibit of framed cage-like structures which are left unprotected; timber panelling adjacent to smooth concrete, or benches made of folded steel plate with thick on-edge timber slats.



Applicable principles  
 Relationship with the context  
 Selection of materials  
 Separation of finishes

Form influenced by function  
 Definition of space  
 Coherence between interior and exterior  
 Journey through the building

1. East elevation
2. Groundfloor plan
3. Section A-A
4. View from the roof
5. Walkway along the north of the building
6. The exhibition space on the roof

# South African Jewish Museum

## Project team:

Client: South African Jewish Museum  
Architect: Dennis Fabian Berman Hackner Architects  
Project Partner: Michael Hackner  
Design Architect: Paul Brislin  
Quantity Surveyor: Chandler Hofmeyr Quantity Surveyors  
Museologist: Reneé Sivan  
Museum Designer: Harel Designers  
Structural and Civil Engineer: Ninham Shand (Pty) Ltd  
Mechanical and Electrical Engineer: Lewis & De Kroon cc  
Landscape Architect: Tarna Klitzner  
Contractor: Slingsby & De Jager (Pty) Ltd



The South African Jewish Museum project forms part of a larger simultaneous redevelopment of the historic Company Gardens Great Synagogue site and Albow Centre. The purpose of the museum is to celebrate the role and contribution of the Jewish Community within South African life and culture, as well as to focus on and act as a vehicle for dialogue with the broader South African community.

The site has particular historical and religious significance, both in terms of the Jewish Community and the larger South African Community. It is located in Cape Town, in the precinct of the Great Synagogue of Hatfield Street. It falls within the historical "museum belt", centered on Van Riebeeck's Company Gardens. The site was also subject to Road Widening Regulations, parking Restrictions, and a change of zoning. Fruit bearing trees on the site were protected by religious edict, and the local authority protected all the existing palm trees.

The museums form part of a unique and non-exclusive campus of related community activities, such as the separate Holocaust Centre and Gitlin Library. A restaurant, museum shop, community centre and conference centre are also located on the campus, as well as a number of religious buildings including a Succah, the 1905 Great Synagogue, and the historic Old Synagogue of 1863. The campus has two edges that relate to the public, one facing onto the Company Gardens and the other onto Hatfield Street. The intention was that an internal square would be the "oasis" beyond the solid and formidable front presented by the two buildings: the renovated Albow Centre and the museum.

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## Architectural parameters

- The project must reinstate the centrality of the existing synagogue and not compete with it in height or detail
- When viewed from within the site, the structure must express the contemporary spirit of the museological programme
- Viewed from Hatfield Street, the building should be simple and dignified, and appropriately scaled to its neighbours
- The building should also be completely without historical pastiche
- The new museum should help the entire campus of related community facilities to act as a unified whole, by using courtyards to allow movement through the buildings, all the way from Hatfield Street to the Company Gardens

(Architect & Builder, March/April 2001;28)

Both these buildings have clean, simple lines, so as not to compete with the richness in style of the existing two synagogues. Their scale and proportions were also influenced by this fact so that the existing buildings do not dominate. In order to achieve this a basement was created for the museum.

## University of Pretoria, etd - Human, M (2003)

The museum is a marriage between old and new. The old synagogue has been refurbished and forms the entrance to the museum. The synagogue houses the Judaica exhibition and is an exhibit in its own right.

The old synagogue is connected to the new building by way of a glass bridge spanning a reflection pond courtyard. Other than its function of connecting the two buildings, the structure is an architectural metaphor of bridging the old land to the new, across the water.

The new building has two levels, a basement and ground floor. A continuous view to Table Mountain can be attained from both these levels. The ever-present sight of Table Mountain was seen as the connection of the community to their new country. The building is essentially a box made up of planes that give it its detail, both in the treatment of the façade and the ground floor. The box curves out slightly towards the courtyard between it and the old synagogue. This not only adds a dynamic form but also leads the eye of the visitor from the entrance between the palms beyond and opens up a vista to the old synagogue.

The ground floor has been raised to just over a metre above the courtyard level. This achieves continuous horizontal glazing down to the basement level. The slab was stopped short of the Hatfield Street edge by the same distance, thereby creating the continuity of the space connecting the two levels. The glazing strip turns vertical at the ends, joining a horizontal strip at the top. This forms a continuous glass border on four sides, creating the feeling that the façade facing the main courtyard is floating. The street façade on Hatfield Street is solid, with the only relief a depressed rectangular plane that displays the museum signage and logo.

Jerusalem stone was imported to clad the building. As a contrast to the warm natural stone finish, stainless steel is used for the canopy at the exit above the floating ramp, and also for indoor and outdoor handrails. The bridge has floors of rusted metal panels, which have been heavily varnished.



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### Project information:

Building Cost: R9 million  
Site Area: 1643m<sup>2</sup>  
Built Area: 1227m<sup>2</sup>  
Old Synagogue Renovation: 240m<sup>2</sup>  
Commencement: April 1999  
Completion: August 2000

### Applicable principles

Bringing educational facilities into the city centre  
Internal square/courtyard  
Coherence between old and new  
New complementing the old without competing  
Using form to lead the eyes  
Contrast between finishes  
Different functions so that the project is sustainable

- 1 old synagogue and Albow Centre
- 2 courtyard
- 3 link between the synagogue and Museum
- 4 facade facing Hatfield Street

# Munich Reinsurance Centre



## Project team:

Client: Munich Reinsurance Company of Africa  
Project manager: EC Harris South Africa (Pty) Ltds  
Architects: Stauch Vorster MOM Architects  
Project architect: Carlyn Winch  
Quantity surveyors: Walters & Simpson / HOA  
Structural and civil engineers: Ellmer Partnership  
Mechanical engineers: Spoomaker & Partners Inc  
Electrical engineers: Claasen Auret Inc  
Fire consultants: Morgado & Bagus  
Plumbing consultants: SJ Franklin & Associates  
Acoustic consultants: Dr E Smith  
Landscape architects: Landmark Studios  
Interior design: SV MOM Architects in association  
with Marion Allen Interiors  
Town Planners: Steve Jaspan & Associates  
Landscape contractors: Real Landscapes

The building is located in Johannesburg, at 47 Empire Road, which is one of the large vehicular movement spines of the city. The Parktown Ridge forms a large landscape reserve on the northern side of the building and this area is gradually being returned to its natural state. This presented a great opportunity in that when the building was orientated to the north for climatic reasons, with the majority of social areas located on this side of the building, the facade could open up onto this area. The southern side of the building, facing the busy Empire Road, is more solid, and set back quite a distance from the road. This not only aids noise control but also privacy, because this is not a public building. Double glazing and a large water feature that celebrates the entrance also helps to mask traffic noise.

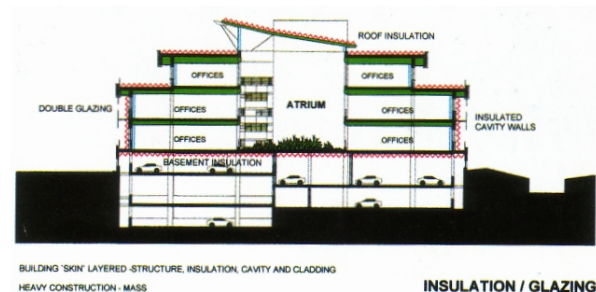
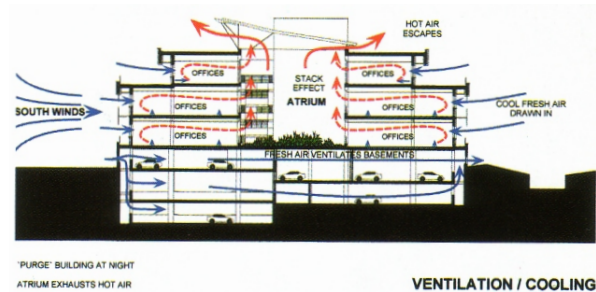
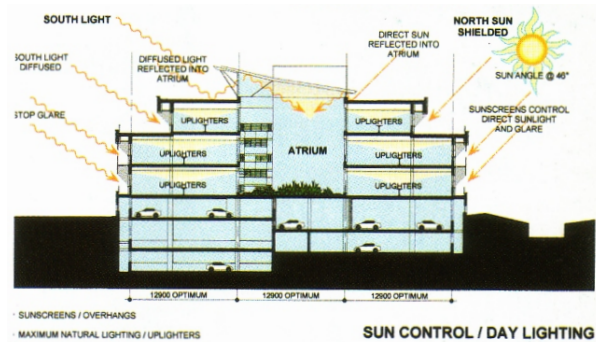
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The company's slogan is "tradition with innovation". The architect expressed exactly this idea by specifying natural sandstone cladding with a steel and aluminium sunscreen and balustrade detail. In this case the client was really committed to building a green building, which meant that an integrated approach was followed.

The building design philosophy took into account orientation, mass, shape/form, fenestration/sun control and insulation (Knoll, 1999; 17). The building has a true north/south orientation that takes advantage of optimum natural light. On the south facade small overhangs diffuse light before it enters the offices. On the third storey terrace light is bounced from white pebbles into the clerestory to the atrium. The north facade is protected with sunscreens calculated by using a 46° sun angle, with a small amount of sunlight reflected into the atrium. The east/west facades are solid except for a few small north and south facing viewpoints at the ends of the main east/west corridors, providing natural light to the circulation corridor.

Heavyweight construction, in the form of concrete with brick infill and stonework facades, is used to mitigate the temperature fluctuations on the highveld. High thermal mass means that heat stored in the material during the daytime is only released at night time, so that a more constant temperature on the inside of the building is achieved. All the roofs and basement floors are fully insulated and all external walls are insulated with 25mm isoboard in the cavities and behind the stone cladding.

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### Applicable principles

- True north orientation of the building
- No persons further away than 6m from natural light
- Use of sunscreens and overhangs
- Sourcing of local materials and craftsmen
- Insulation of the roof and exterior walls
- Use of water to mask vehicular noise
- Use of heavyweight construction for thermal comfort
- Creation of heat stacks to draw out stale, hot air

- 1 Main entrance
- 2 Passive design principles

The plan is rectangular with two 12.9m wide atriums flanked by two office wings, each also 12.9m wide. This was calculated by deciding that no employee should be further than 6m away from natural light and basement parking. The primary functions of the windows in this building are to provide views to the outside, particularly to the natural ridge, and to allow natural diffused light to enter the building. Window sills are just above workstation level to provide workers with a clear view. The continuous strip fenestration is double glazed to prevent re-radiation and loss of heat in the winter. Air-conditioning could not be done away with completely but is reduced to the minimum.

An attempt was made to source material and craftsmen locally. The boardroom table was carpentered by a two-man local business. Workstation lamps for direct/indirect lighting were custom designed by a local manufacturer in Gauteng. Partitioning was locally made in the Cape. Stone cladding was sourced from local quarries, and the large terracotta planters were locally made (Knoll, 1999; 19).

Because natural light is utilised through the orientation of the building and the atria, artificial lighting has been minimised. All lights are connected to dual switches, which allows occupants to make use of "half power".

Fresh air is introduced into floor voids to function as flushing at night, with hot stale air escaping through the atria, which acts as heat exhaust stacks. Cooling is by means of air cooled chillers through ceiling mounted fancoil units, while heaters in the same units provide for winter. The air-conditioning is designed so that it won't be affected by the opening of windows. Energy usage in the building is being monitored through a Building Management System (BMS) which will, over time, report on how efficiently the building is functioning. Aspects such as air conditioning, lighting, plumbing, security and the operation of the irrigation system and the pumps for the water feature are monitored electronically (Knoll, 1999; 19).

The site is divided by a stormwater culvert running between the building and the ridge, which is demarcated by the Johannesburg City Council as a landscape reserve. The parkland is connected to the building with a bridge spanning the culvert. Immediately to the north a small lawned area was created for use by the Munich staff. The rest of the land is in the process of being returned to its natural state. The reserve has been cleared of most of the invasive exotic vegetation except for the bluegum trees that are retained until the indigenous trees have matured.



# Velocity Films

Professional team

Client: Velocity Film Productions

Architect: Jo Noero Architects

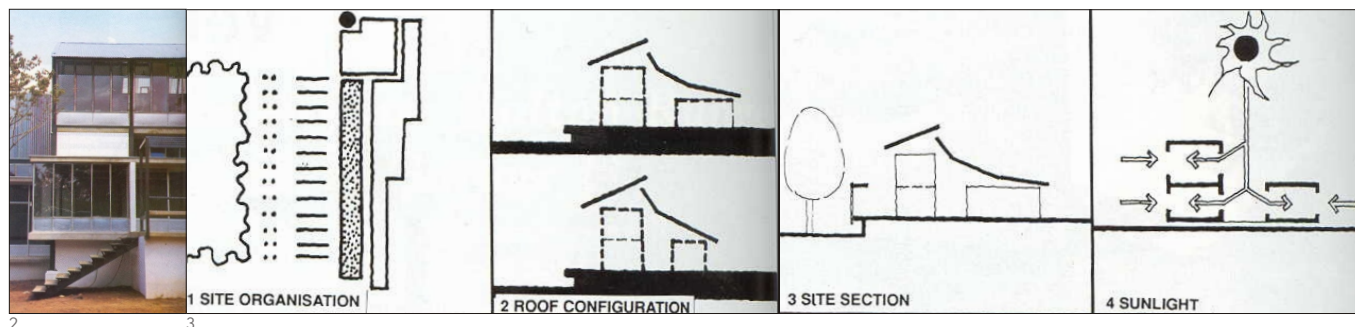
- 1 East facade
- 2 Detail showing materiality
- 3 Concept diagrams
- 4 Typical section
- 5 Site plan
- 6 Concept diagrams
- 7 Internal street



The building is situated in the northern Johannesburg suburb of Rivonia. It accommodates the headquarters of Velocity Films, one of South Africa's leading film production houses.

The site is wooded and slopes downhill from west to east. The building is positioned on the southern edge of the site, so that as much as possible of the site to the north is left open. This allows the building to borrow from the landscape and take advantage of the existing trees. Three large jacaranda trees on the north side become an integral part of the elevation of the building, and at the same time filter the north light. As the trees are deciduous they shade the building in summer and allow north light into the offices in winter. Along the north side of the building is a continuous terrace, running the length of the building. On elevation the terrace becomes the datum of the building, registering the horizontal of the building against the slope of the site.

The external facades of the building are each treated differently in response to site, climate and use. Overhangs are used on the north façade as sun protection, whilst the rest of the façade is visually transparent to allow the landscape into the building. The roof on the south side slopes sharply down to a height of 2.2 metres, responding to the domestic character and scale of the neighbouring house.



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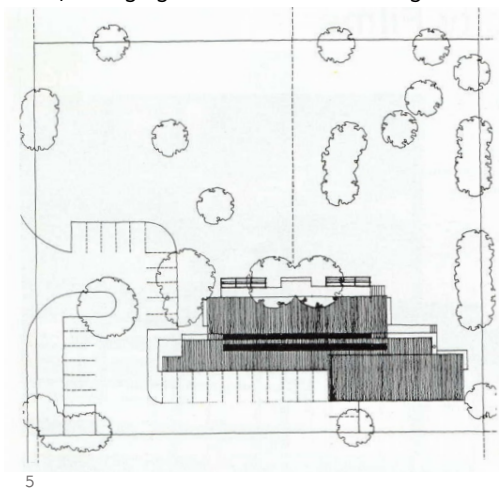
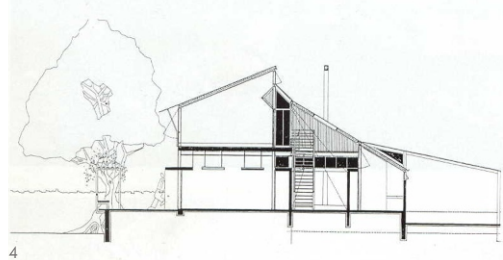
The building is arranged around an internal street that forms an axis, which acts as binding space for the accommodation on both ground and first floor. Furthermore, the street acts as a conduit to draw people into the building. Cross ventilation is achieved through ensuring that every room opens up to the outside while its opposite side opens to the internal street. Hot air is drawn from the offices into the street from where it is drawn out by two mechanical fans at the ends. This space is double volume and allows the first floor offices to be reached by a gallery.

"The order of the structural steel grid is maintained throughout the building. However, the order is disrupted where needed so that whilst the rules for the building are apparent in the structural order and the order of the street, it also becomes apparent throughout the building where these rules have been broken and for what purpose. In the words of Colin St John Wilson, 'once order has been established, vitality resides in the careful disruption of that order to accommodate those uses which by their nature requires special consideration' (Architecture SA, 1996; 19).

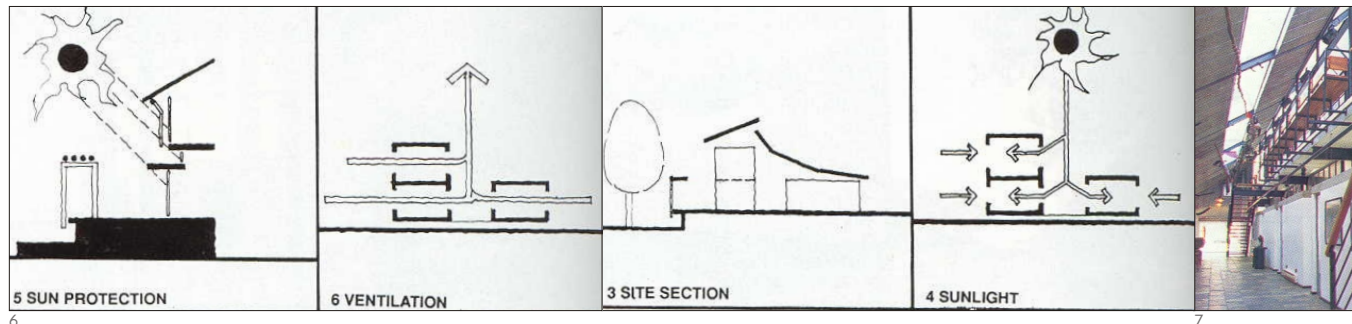
Materials were limited generally to steel, brick, timber and concrete and left unfinished where possible. The structural steel frame is left visible throughout the building, both inside and outside. The other materials are all expressed independently from the structural frame. Brick and concrete boxes housing film equipment protrude into the street, changing the scale of the building and animating its edges.

### Applicable principles

- Simplicity of form influenced by function
- Honesty and selection of materials
- Visual and physical connection between interior and exterior
- Relationship with the context
- Sustainability principles



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# Stable Theatre

Professional team

Architects: OMM Design Workshop



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One of the most noticeable features of South African cities is the lack of public facilities for their citizens. Not only did apartheid planning ensure the removal of public gathering places such as town squares, pavement cafés and city markets, which were so much a feature of public life, but this draining of the city's life blood continues today within our new democracy (van Wyk, 1999; 116).

One of the biggest problems we need to address in the Pretoria CBD is the way that introverted buildings distance themselves from street life. We need to respond to the demographic and socio-economic realities in our cities.

The author is of the opinion that the Stable Theatre is a step in this direction. A limited budget was provided by national RDP funds, through the conduit of the Kwazulu Natal Department of Education and Culture. Much emphasis is placed on creating spaces for the community instead of creating a defensive building.

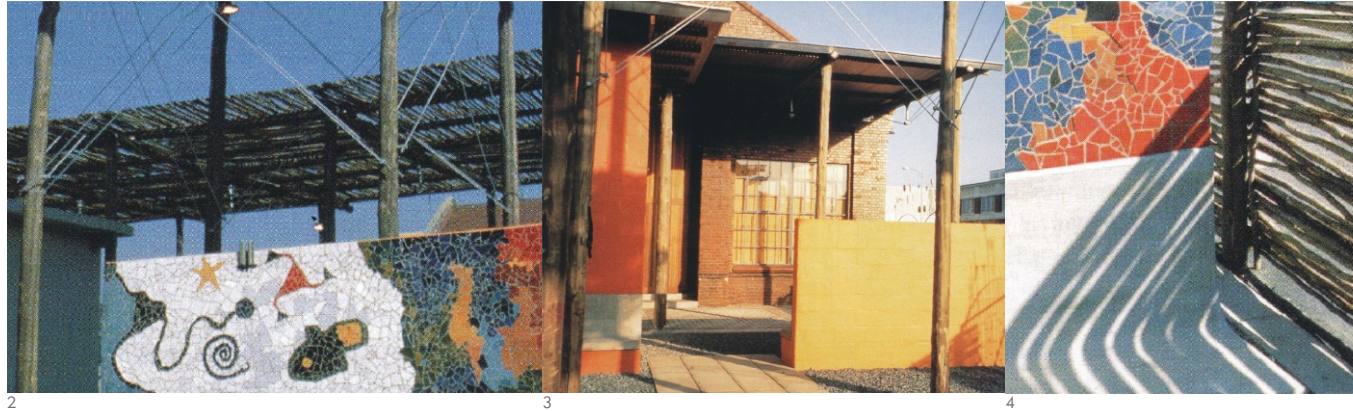
The building is located on the route from the Durban CBD to the central train, taxi and bus station interchange in Warwick Street. People gather here to listen to live music, have a drink, watch boxing, basketball, or dance theatre. The site is easily accessible from the CBD and the Berea residential precinct.

The building is centred around a collection of courtyards, some roofed, some shaded, some open to the sky. Every internal space, whether it is a rehearsal room, a restaurant or a large performance space, opens onto one of these courtyards. The building responds very well to the climatic conditions in Durban through providing a variety of outdoor spaces, so that no matter what the weather conditions are, a suitable outdoor space is provided

The building caters for a variety of community activities during the day as well as in the evenings. Spaces are generously sized to ensure that they are multi-functional. Robustness is especially important in community projects like these to ensure that they are financially feasible and cater for as large a part of the community as possible.

In a time where sustainability has become a catch phrase, this building is a good example of how a project with a low budget can make a difference through innovative, simple design. All the materials were locally sourced and local labour was used. Through this not only skills transfer was introduced, but it also gave the community an immediate sense of responsibility and ownership towards the building, which is very important where public buildings are concerned. Detailing is simple but well resolved, for instance the way the gumpoles are

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connected to the floor, to ensure that the timber won't be in contact with water at floor level. A system of cables and ties is used in the roof structure, which means that the rest of the structure can be very light. Robust finishes, for instance the stones in the screed, are specified in order to keep maintenance costs to a minimum.

Space inside as well as outside are layered through the use of materials, strong colours and other elements such as wattle lath screens, mosaics and short walls.

The architects believe that: 'if more people were to live in the heart of Durban - say in the same proportion as live in downtown Paris, and there were as many facilities in the CBD performing the same role as the Stable Theatre as there are pubs in London, then Durban would be on its way to becoming a city that serves its ordinary people well. This is surely the purpose of architecture' (van Wyk, 1999; 120).

### Applicable principles

Sourcing of local materials, labour and skills

Robust forms and finishes

Catering for different activities

Simple detailing

Responding to context

Creating places for the public

Using colour to create depth

- 1 Horizontal wattle lath screens
- 2 Lightweight roof structures
- 3 Layered space
- 4 Vertical wattle lath screen