



# SILENT WOUNDS OF THE FAMILY

An architectural response, addressing the current family crisis' in South Africa, through the proposal of a Tshwane Family Court.

Submitted in fulfilment of part of the requirements for the degree of Magister in Architecture (Professional) in the Faculty of Engineering, Built Environment and Information Technology. University of Pretoria, Department of Architecture, November 2007.

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# INTRODUCTION:

## BACKGROUND:

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In many social orders of the world the broken family core is an unfortunate and common reality, leading to an ever growing presence of homeless children, mothers, or fathers. South Africa is not a stranger to this phenomenon, despite the fact that it is viewed as a country with one of the most progressive constitutions regarding gender equality.

Daily shocking statistics show a lack of family values, guidance, and respect for the human race, further emphasising a society where people and families feel no restraint in harming a child, woman or man. The South African society as a whole is losing touch with itself and government is not realizing the impact of their conveyed message of disregard, when “for every 400 rapes reported last year- 17 became official cases, 1 perpetrator was convicted and for every perpetrator convicted, 1 case docket was lost or sold.” (Internet: <http://www.powa.co.za/Display.asp?ID=2.html>. Access 13February) This type of social degradation affects us all when the offenders and victims become the next string in our complicated lattice of a social fabric.

If one is to see the family dynamic and children as a whole as being bound to us through the familial concept of Ubuntu, creating the link between social and family factors affecting the population as a whole, then we are all responsible in the struggle against the all too typical cycle.

## ARCHITECTURAL INTERVENTION

The first points of intervention in the fore mentioned cycle are family courts, child courts and sexual abuse trauma centres allowing the victim a real chance to rehabilitation and healing. It is the foremost encounter in which architecture plays a vital role. Accelerating the healing process and opening up the platform to educate South Africans of all that is absent in our society.

Through an appropriate architectural intervention in these facilities, the struggle to altering common perceptions of family and human interactions can be correctly addressed and eventually revolutionized. Consequently the intent of this dissertation is to be able to reflect the essentiality of an architectural environment of inclusion and healing, allowing for rehabilitation, reconciliation and support.

## REAL WORLD PROBLEM:

After lengthy debates and several commissions in June of 1996 the Department of Justice (D.O.J.) recognised the need for specialist family courts to be set out. However, due to insufficient time and financial resources it was considered that to have an ‘ideal’ family court would be impossible as an immediate outcome. In response to this the minister of Justice established five pilot family courts in terms of legislation, as an attempt to speed up the pace of reform. It was stressed that the pilots should be an interim measure and a source of information for the creation of a permanent family court structure. (Mills 2003: 5-7)

## REAL WORLD PROBLEM CONTD:

Of the five pilots dealing with their respective provinces, only one was located in Gauteng the most densely populated.

The pilots are situated correspondingly in: Johannesburg, Durban, Cape Town, Port Elizabeth and Lebowakgomo.

The proposed design is aimed to challenge this lack of facility and permanent structure, specifically in the Gauteng province by proposing an appropriate multi functional and permanent family court located in Tshwane Pretoria. This Tshwane family court will be designed through a close analyses of the factors plaguing the current Johannesburg pilot court. Working in solidarity with the afore mentioned court it will greatly alleviate the increasing workload in Gauteng.

In addition to emphasising on a more humane architectural interface for a public building of its stature, the facilities will be extended into dual functional courtrooms for children abuse , further enabling a movement in greater governmental efficacy.

### LOCATION:

The site chosen is situated between Paul Kruger street to the west and Proes street to the south. directly adjacent to the old Synagogue and flanked by a rite of way servitude to the west of the new National Library. The proposed Family court will allow for a much needed form of identity in the current vacuous spirit of place by further restoring the old Synagogue to its former glory and introducing it to a new generation through the re-use of this historic building as a tribunal court room and community hall.

Contextually the site's history with the treason trials's is another instigating factor as to why the spirit of civic duty is to be upheld and furthered. In conjunction with the Tshwane Inner City Project (TICP) framework of semi pedestrianising Paul Kruger street the site will be easily accesible to the people the family court would be serving .

### METHODOLOGY:

The research method and application will consist of a hybrid of historical analysis ( specifically the sites historical context and perceived context), philosophical analysis (focused on current normative positions in architecture) and grounded theory (a systematic evaluation of analysis of the contextual data, deductively discovered, bounded and confirmed).

### DESIGN OBJECTIVE:

The intention of the architecture is to be accessible to all, regardless of culture. It must be equally accomodatory to the different users of the building, from victims to detainees. The design should not be overpoweringly institutional and comfort levels should be taken into consideration.

The complex as a whole should be legible and provide for different journey's or pause areas for choice and interest in the complex.

Through courtyard design along with evaporative cooling and internal cross ventilation the design will be mainly passively ventilated while based in an urban context.

## FINANCIERS AND CLIENTS:

A total sum of R51 billion has been set aside to courts and their resources for this year alone. This project could be seen as one of those very worthy proposals to be funded by that budget .

As is currently the case at the Johannesburg pilot family court the Department of Justice would be dually the main benefactor and primary financial backer. Another financier could be the Heritage Council of South Africa pioneering the redevelopment of the old Synagogue. The site and its surrounds can thus be viewed as one important heritage anchor integrating it with the rest of the inner city initiative.

The clients will be split into categories of judicial bodies, victims, accused, and counsellors.

## DESIGN GOAL:

The proposal aims at developing an intermediary level of conversation with people of all walks of life throughout the city and enhancing a civic identity. It will be designed inclusively to the city, the old Synagogue, and to the end-users from both legal and social parameters. Concern will be taken on the designing of entrances to victims, detainees, and magistrates as the highly private nature of each must be taken into account. An appropriate study will take precedence in relating the language of the building so as to accommodate all cultures

The building and a surrounding square will function as an interactive heritage information centre to all types of people, namely; pedestrians mediating through the square, children coming to and from school, lawyers, magistrates and government officials.

As is the case with the old Synagogue, which at the present lies in a limbo without identity , so too are the victims visiting the facilities stuck in their own intermediate state. The proposal will strive to transform this plethora of inadequacy by converting the old Synagogue into a new significant entrance reflecting the past injustices of the treason trials and indicating a path to a new identifiable and sympathising future.

# Chp 1

## CONTEXT:

- Site
- Historic Timeline
- Proposed Frameworks
- Site Parameters
- Land Usage
- Movement
- Site Perception
- Site Context

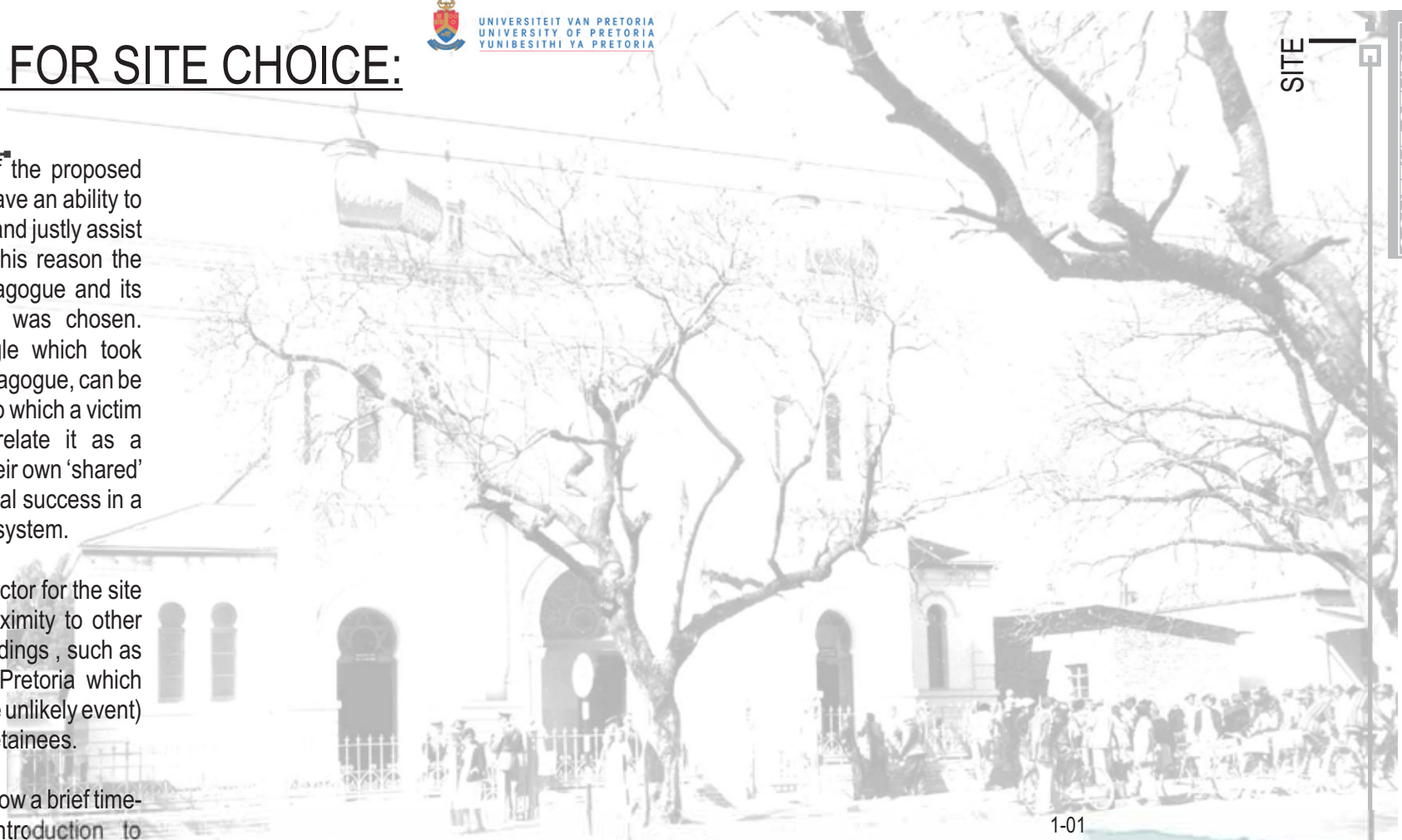


# REASONS FOR SITE CHOICE:

The primary aim of the proposed Family Court is to have an ability to sympathise, listen, and justly assist its end users. For this reason the site of the old Synagogue and its southern periphery was chosen. The historic struggle which took place within the Synagogue, can be seen as a medium to which a victim reflects and can relate it as a stepping stone to their own 'shared' struggle and eventual success in a more humane legal system.

Another deciding factor for the site was the close proximity to other legally affiliated buildings, such as the High Court of Pretoria which could be used (in the unlikely event) as an overflow for detainees.

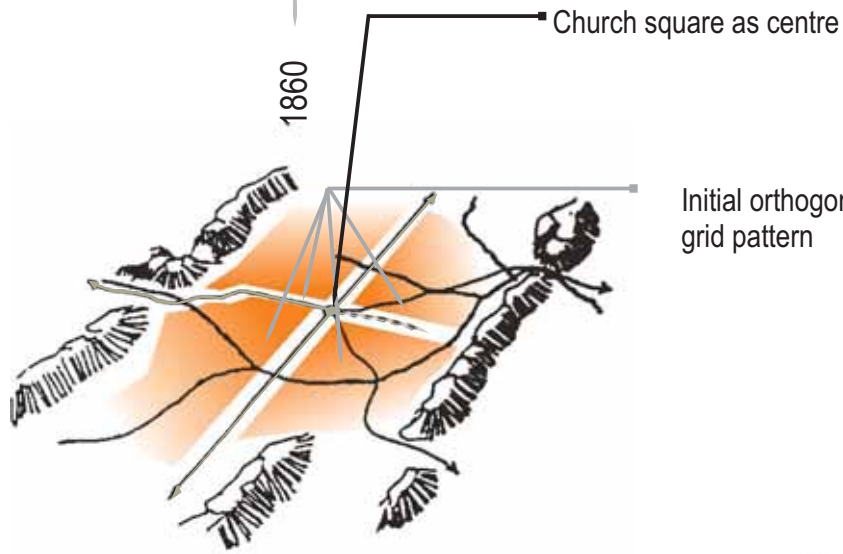
In the pages that follow a brief time-line study and introduction to Pretoria, the site and the Synagogue will give added perspective to the site.



1-01  
Supporters of Congress  
Alliance Leaders in front of  
Synagogue, Pretoria. 1958-  
1961

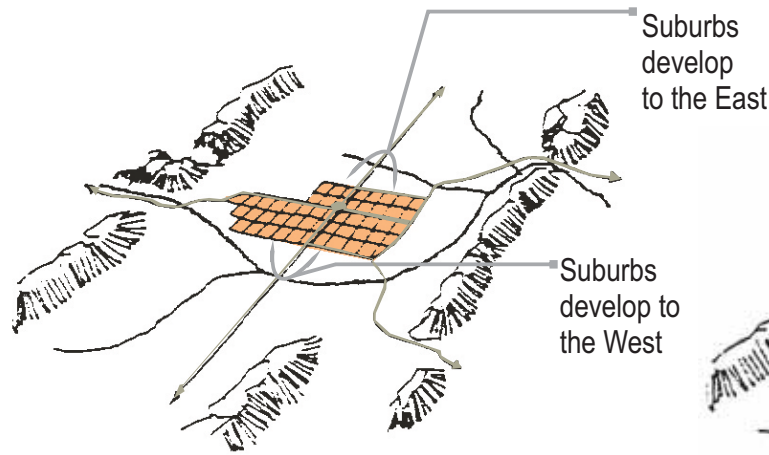


1-02  
Fish eye perspective view of  
site.

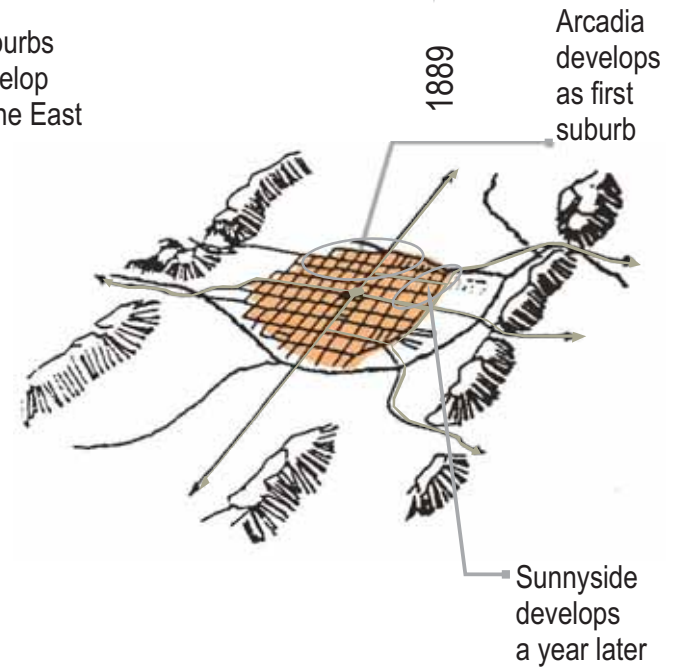


1-03  
Development of Pretoria  
1860

POST FIRST ANGL  
BOER WAR



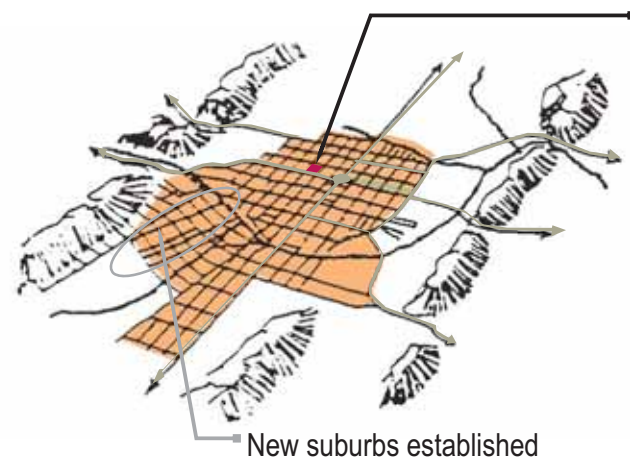
1-04  
Development of Pretoria  
post First Anglo Boer War



1-05  
Development of Pretoria  
1889

HISTORIC TIMELINE

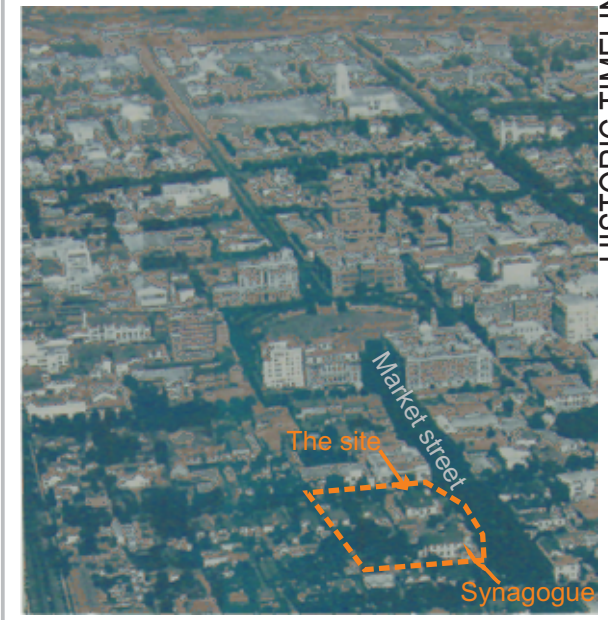
1899



New suburbs established

- 1895 Erf 103 bought for Synagogue commissioned by Iyer and Beardwood
- 1897 construction commenced

1-06  
Development of Pretoria  
1899



1\_07.1  
Aerial photograph showing the then Market street (now Paul Kruger) and Church square. 1935

1900's



Old Jewish Synagogue

The historic significance of the old Synagogue on Paul Kruger street's historic significance lies deep in the Jewish community of Pretoria and Sammy Marks. Marks, who having strong connections with the Jewish community donated the bricks, electrical installations and often saved the Synagogue from bankruptcy.

1\_07  
Artists impression of the Old Jewish Synagogue





1\_08  
Photograph of Synagogue  
before alterations.

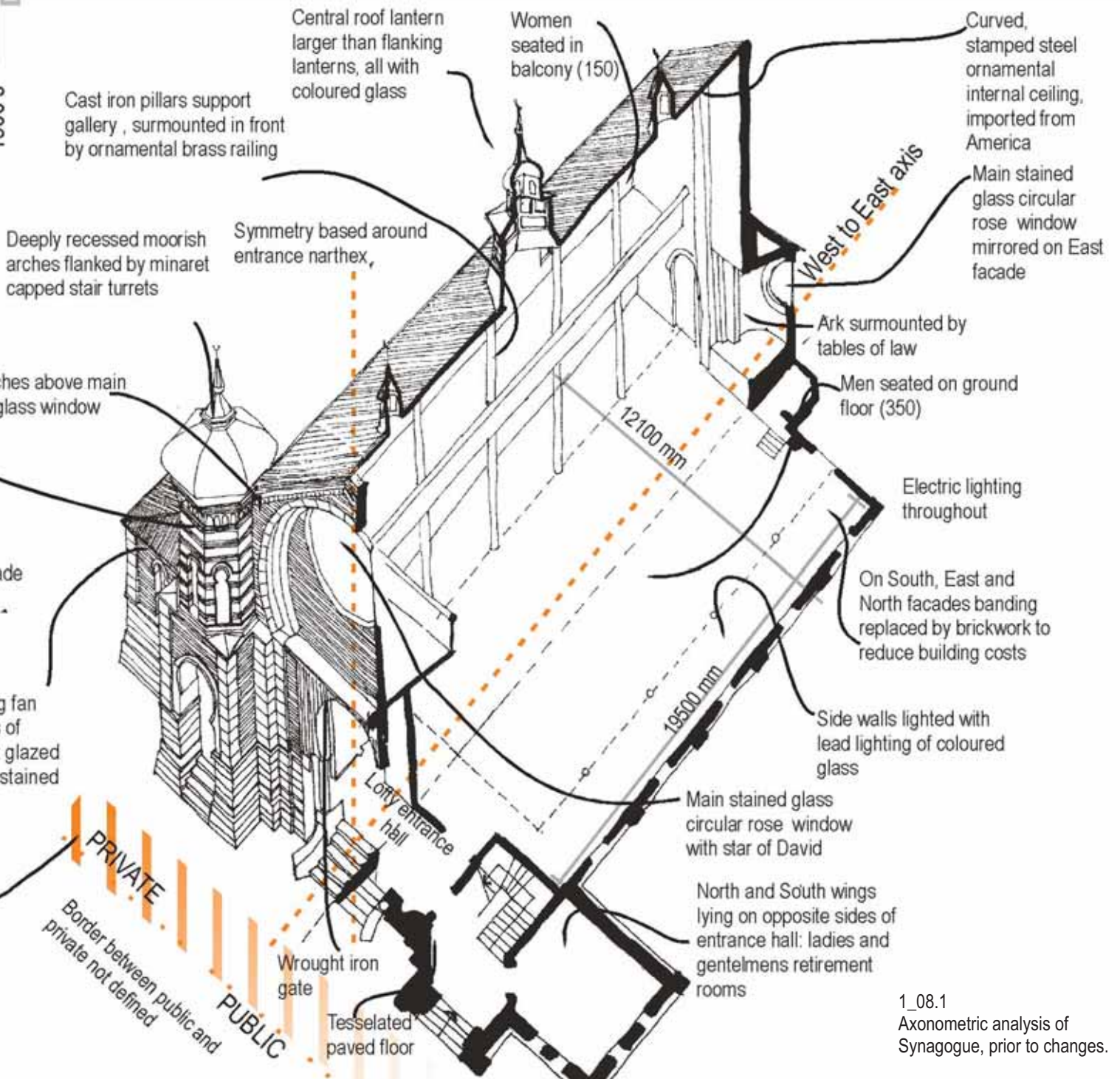
Face brick and sandstone  
banding

Byzantine theme well  
executed on western facade

All stained glass  
windows including fan  
lights and sashes of  
large lantern light glazed  
with imported art stained  
glass

1901 Wrought  
iron fence on  
stone coping  
erected

1900's



1\_08.1  
Axonometric analysis of  
Synagogue, prior to changes.

1952

Department of Public Works expropriates the land on behalf of the government for the purpose of erecting a new Supreme Court. In view of the deteriorating situation through opposing, (banned) organisations of apartheid, the government decides to adapt the Synagogue into a Special Supreme Court



1\_09  
The Synagogue in 1971 when still a fully functioning Supreme Court.

Painting of external facade including brickwork and sandstone in a PWD cream

The keying and plastering of the original sandstone plinth which deteriorated and crumbled

Application of acoustic board to large percentage of inside walls

Addition of judges chambers, toilet and ante rooms.  
Corrugated roofed conventional single level brick structure

Removal and bricking up of apse stained glass circular rose window

Alteration of Ark to judges bench

Conventional single brick structure used as police facilities and holding cells on either sides of Synagogue

Removal and replacement of all original timber top hung windows with side opening timber windows, including stained glass windows on Southern and Northern facades

Removal and bricking up of main stained glass circular rose window

HISTORIC TIMELINE

CONTEXT STUDY

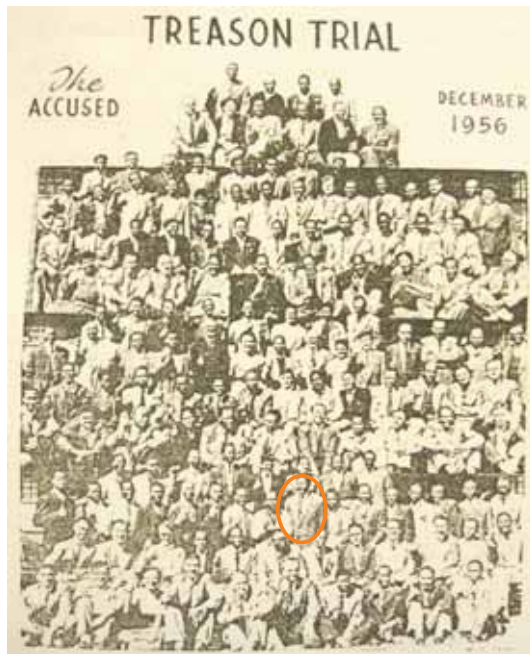
1\_09.1  
Axonometric analysis of alterations made by the Department of Public Works



1959-1961

### The Treason Trial:

The Treason Trial was the first trial to be held in the old Pretoria Synagogue after the completion of its conversion into a Supreme Court. The trials preparatory examination started on the 19th December 1956 in the Drill Hall in Johannesburg. On the 29 March 1961 judgement was passed, where all the accused were acquitted of both charges. The judgement and release of the defendants were followed by scenes of wild euphoria outside the Synagogue where a large crowd had gathered



1\_10  
Original Treason Trial defendants  
with Nelson Mandela shown in  
the third row centre.

19 Months later

### The State vs Mandela :

The second appearance of Nelson Mandela in the old Synagogue was as historic as the treason trial. The ANC policy of non- violent opposition to government policies had been revised during the latter part of 1961. He was charged on incitement of the black community to strike and on accounts of leaving the country without travel documents. On the 7th of November he was sentenced to a total of 5 years in prison with hard labour. In 1963 he was again to appear as an accused in The Rivonia Trial, the result of which was a life sentence of hard labour.

1977

### The Steve Biko Inquest :

On the 14th of November, the inquest into the death of Steven Biko began in the Synagogue. Biko's death resulted in an international outcry as it was wrongfully declared that he died of a hunger strike. On the 2nd of December it was found that the cause of death was rather due to head injuries sustained in a scuffle in the security Police offices of Port Elizabeth.

Currently

The Old Pretoria Synagogue is in dire need to regain its identity. It is a significant landmark in South African history and heritage, embodying the idea of architecture as both a life giving and life suppressing force. It has been lost and abandoned in a foreign urban tapestry to which its Genius Loci has been left intangible. The underlying questions thus stand:

- How does one recapture the spirit of place restoring it in such a way as to complement the currently incompatible surroundings?
- How does one relate the current populous to it's historical past and meaning in our Country?
- How does one integrate such a building into a greater architectural and urban framework?



1\_11 Synagogue today showing state of deterioration.



1\_12



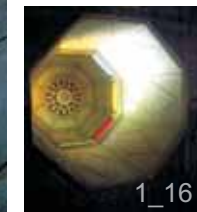
1\_13



1\_14



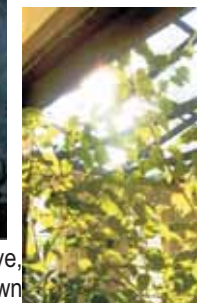
1\_15



1\_16



1\_17.1



1\_17



1\_18

HISTORIC TIMELINE

CONTEXT STUDY

Figures: 1\_12 Old Germitol antiseptic holder found in dilapidated toilets, 1\_13 Internal view looking at what was the old ark with and old coat of arms looming above, 1\_14 Internal view of columns, 1\_15 Damage to balcony caused by fire, 1\_16 Stained glass central skylight, 1\_17.1 & 1\_17 Old magistrates chambers overgrown and open to outdoors, 1\_18 Wrought iron entrance gate



THE CURRENT FRAMEWORK FOR PAUL KRUGER STREET AND THE SYNAGOGUE IS AS FOLLOWS:

TICP SDF Phase 2  
Spatial Development Framework Executive Report  
summary for the Paul Kruger North Precinct  
(GAPP Framework proposal)

1. Synagogue Square is to be the focus of the precinct.

2. Paul Kruger street will be dedicated to public transport and to pedestrian movement.

- Trading to be limited between Proes and Bloed streets.
- Major negative impact on intersections in favour of pedestrians
- Integrate hard and soft spaces ie. Transport facility and Road
- Accommodation mostly Governmental Departments
- New 295 bay parking facility on cnr of Proes and Paul Kruger street - allowing for transfer station due to its central location
- New ring road = Proes-Bosman-Vermeulen-Andries street.
- Preserve holistic quality: urban with vegetation
- Preserve buildings with architectural quality

3. Pedestrian Improvements to Proes street  
(link to school grounds)

Struben street

( Link to Library)

Bloed street

(Link to Taxi Rank)

Boom street

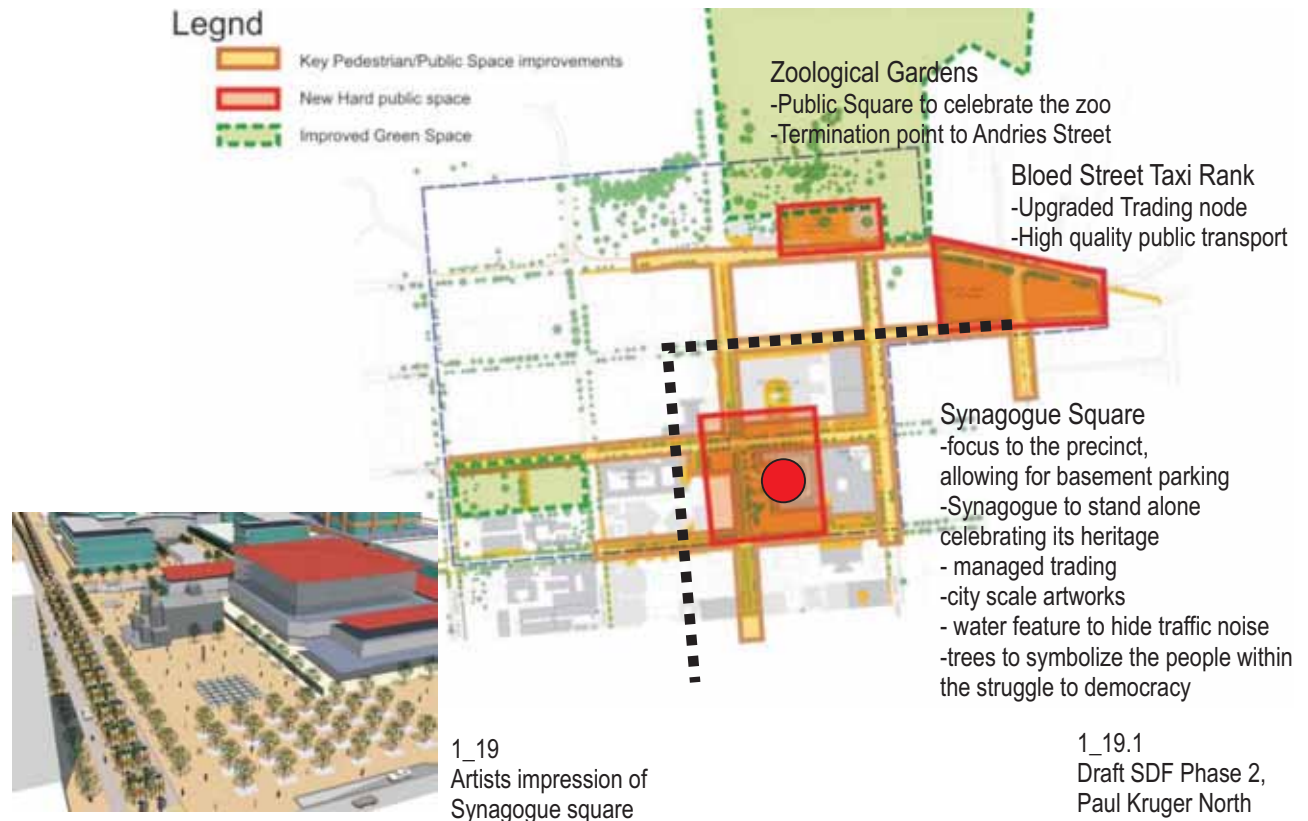
(Link to Zoo and to Belle Ombre)

4. Due to the lack of Public space, all of these must be accentuated

- school grounds (must be multi-use and could be a flagship model for a new type of schools that share their grounds with the city.)

Building guidelines:

- no high rises
- ratio: 3-4 high /1 wide
- incorporate building into surroundings
- allow for accessible courtyards.

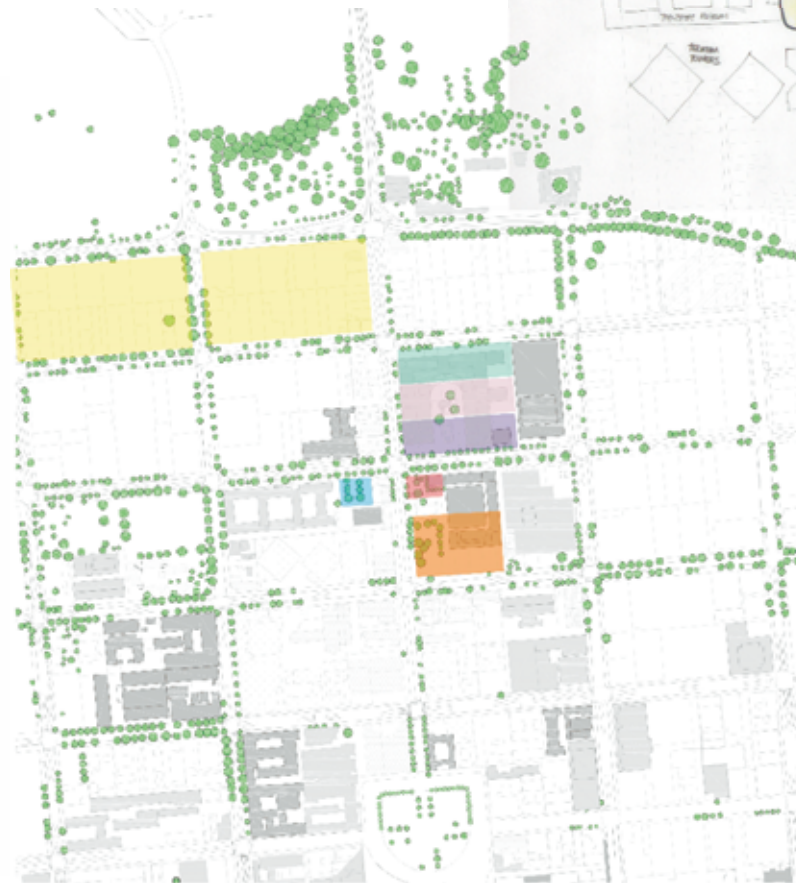
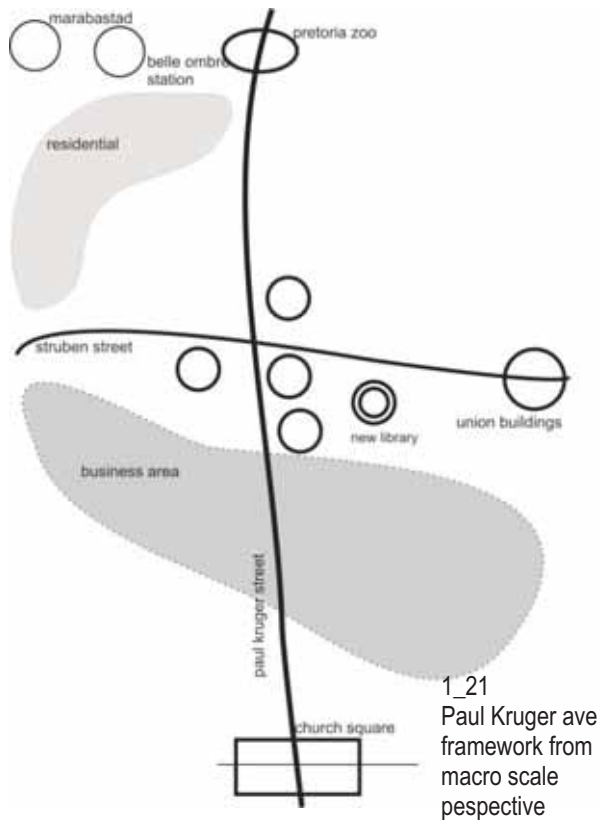


1\_19  
Artists impression of  
Synagogue square

1\_19.1  
Draft SDF Phase 2,  
Paul Kruger North  
Precinct, public space.

THE PROPOSED FRAMEWORK FOR  
PAUL KRUGER STREET AND  
THE FAMILY COURT  
BY UNIVERSITY OF PRETORIA STUDENTS :

The framework previous will be the basis for  
the urban design proposal .



- 1\_20 Paul Kruger ave framework
- ↑ N
- Not to scale
- Formalised Transportation Interchange
- Public Based Proposal
- Tram Station
- Music Centre
- Temporary Accommodation
- Family/ Child Court
- Children Orientated Chocolate factory

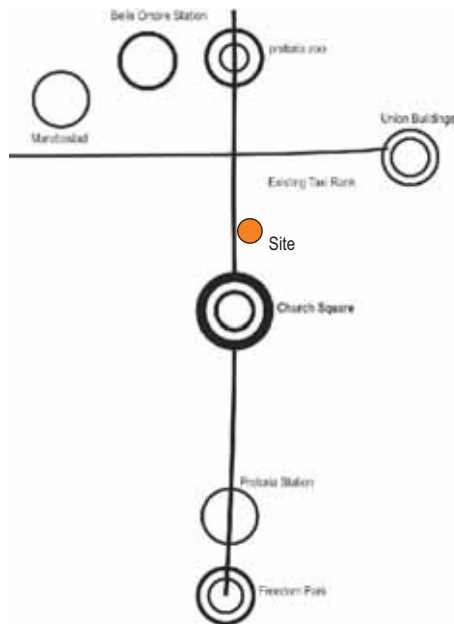
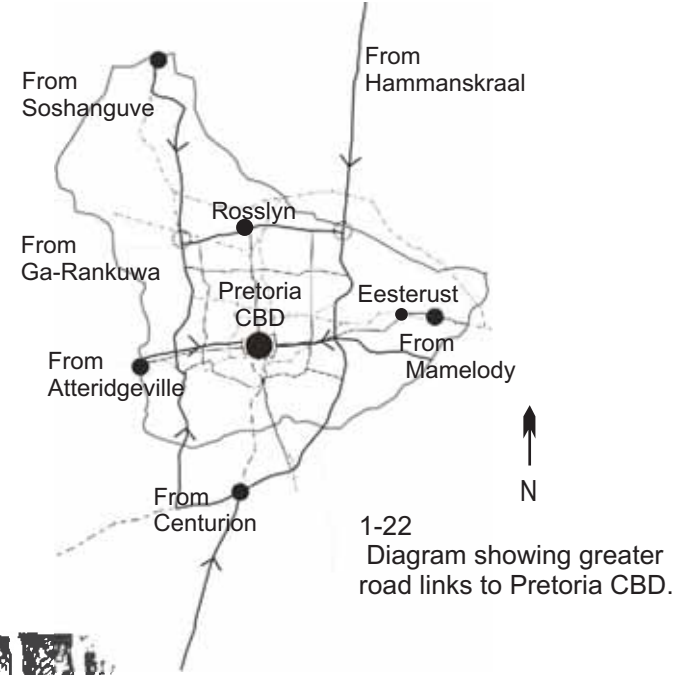
PROPOSED FRAMEWORKS



# THE PHYSICAL CONTEXT:

## LOCATION:

The site is located in the northern part of Pretoria's Central Business District (CBD), (Tswane). flanked by main vehicular routes it is accessible from Pretoria station to the south and the northern suburbs via Paul Kruger street, from Arcadia to the east via Proes street and from Pretoria West via Struben street. In fig 1-24 one can see how Church Square links the proposed site as a major node where the majority of people congregate and disperse from.



1-23  
Diagrammatic sketch  
of city links



1-24  
Site location sketch

1m 145 290 580





CLIMATE:

Biophysically the area lies in a valley between the Wiatersberge mountain range to the north and Salvokop to the South.

Temperatures

Characterized by generally high temperatures due to thermal mass of the environment which has been built up.

Relatively high local humidity can combine with high afternoon temperatures to cause uncomfortable heat.

Lowest min.: -5,5 °C ; Average 12,1 °C

Highest max.: 36,3 °C ; Average 24,8 °C

Humidity

Minimum: 57% @ 08h00 – 29% @ 14h00 [September].

Maximum: 75% @ 08h00 – 48% @ 14h00 [March].

Rainfall

An average of 674mm rainfall per year.

Summer rainfall region, between October and April.

Precipitation occurs mostly during thunderstorms with rates of 90 – 100mm / hour.

Severe hailstorms have occurred (In 1949 stones of 142g in weight were recorded).

Sun

Summer sun angle: 88 ° altitude.

Winter sun angle: 44 ° altitude.

Cloud Cover

Average 33%

Varying from 13% in July to 54% in December.

Wind

Prevailing winds are calm, blowing from a NE, E direction.

Occasional winter cold snaps bring winds from the south.

Turbulent wind patterns accompany summer thunderstorms.

It can be expected that the Daspoort Ridge will lessen the effect of morning winds, which will have a negative effect on the dispersion of air pollution.

Micro Climate

The proximity of the Apies River and Daspoort Ridge may influence the site-specific conditions.



Not to scale

1-25  
Diagram showing current green structure in Tshwane

Frost recorded 60 days/year @ Pretoria weather bureau.  
Diurnal range of temperature difference of nearby Marabastad exceeds Pretoria average.

(Meyer Pienaar Tayob 1999: 49)  
(Schulze 1986, part 8).

SITE PARAMETERS

# ZONING:

## Town Planning:

Use zone: Government  
 FSR: 2,5  
 Coverage: 60 %  
 Building lines: 4,5m from streets  
 3,5 m from other boundaries  
 Building Height: 25 m

The site is central state owned land, it slopes 2m from South to North, with a Right of Way servitude on the East periphery.

“ We need to build buildings and places of life-renewing, soul-nurturing, spirit-strengthening qualities”(Day 1990: 187)  
 In seeking to maximise the building one tends to lose the human perspective of scale.  
 The Family Court proposed will thus be designed as a lower and wider structure, suggesting a more welcoming environment. It will not over shadow the Synagogue in any way, thus addressing its importance on the site and so creating a symbiotic relationship.

The SITA building obstructing the site proposed, neglects the physical context around it. It is completely ignorant in its relationship with the historic Synagogue.

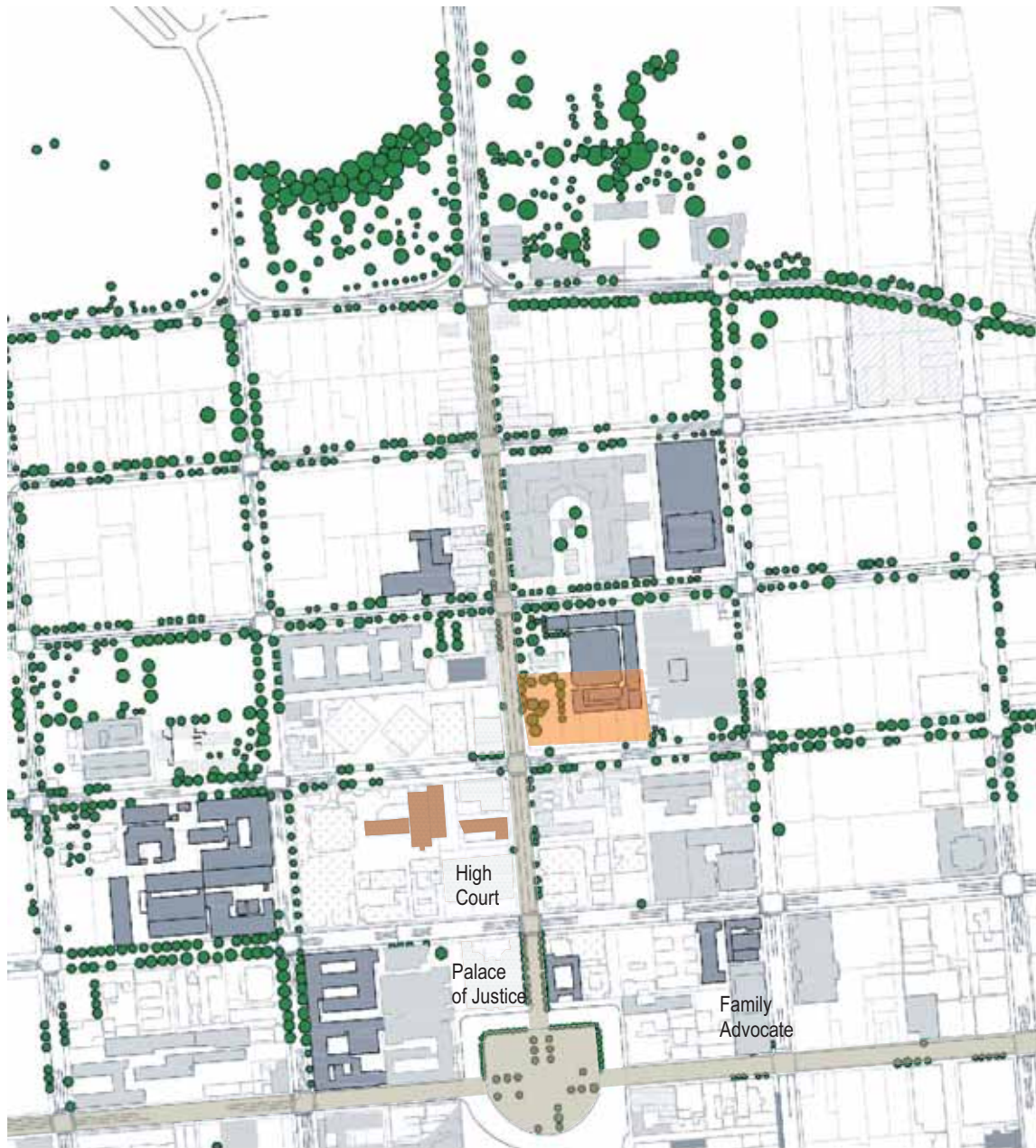
Along with the philosophy that heritage needs to be respected and celebrated this building can almost be seen as unacceptable and inadequate.

The function of the building has little or no social value as it is the governments Information Technology Department. It is therefore proposed that the SITA building be relocated to another location where it is best fitting.

The demolition of SITA will allow for the proposal of a Synagogue square. Which will re-establish the principle structure for civic design and spacial organization, leading factors that are lacking in the area.



1\_26  
 Site services diagram



The Palace of Justice, the High court, an entire office block dedicated to lawyers and advocates, along with the current Pretoria Family Advocates offices in the Saambou building all within a ten minute walking distance is further justification for site choice.

- Government leased land
- Government Building
- Public services and Offices
- Retail
- Educational Buildings
- Heritage Buildings
- Residential Buildings
- Legally Affiliated Buildings
- Taxi Rank
- Proposed Site

1\_27  
Diagram showing land usage based around Paul Kruger,  
from Church str to Bloed str



MACRO  
SCALE OF  
MOVEMENT:



1\_28  
Diagram showing intensities of movement relative to the site, in a macro scale

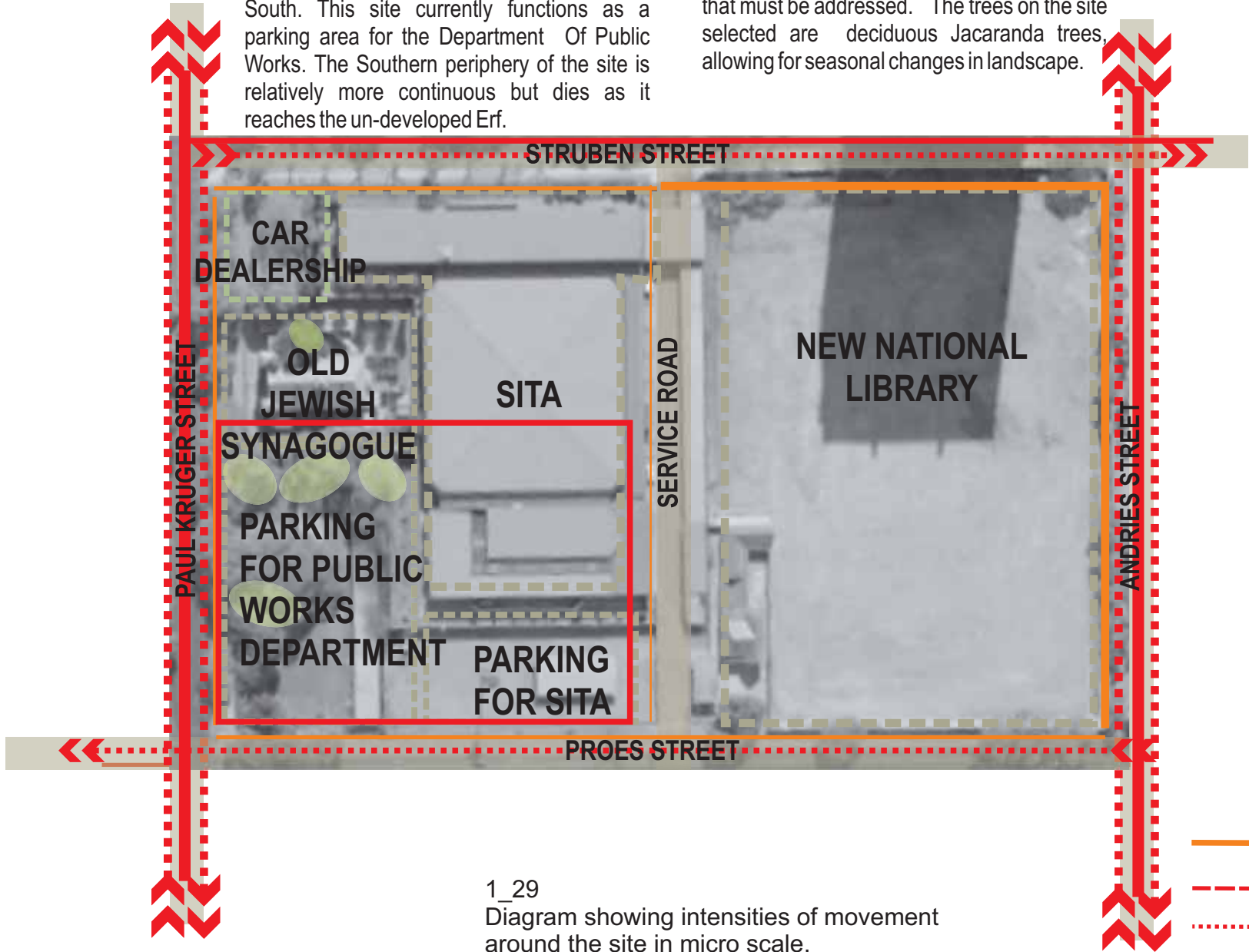
The Western periphery of the site is the only un-developed Erf on the block fronting Paul Kruger street. This abrupt change in density and scale lends to breaking the continuous street edge developed on Paul Kruger to the South. This site currently functions as a parking area for the Department Of Public Works. The Southern periphery of the site is relatively more continuous but dies as it reaches the un-developed Erf.

eter of the site fronts the right of way servitude imposed by council. this road, through the incorporation of street vendors to the Western facade of the National Library, will create a vibrant and intimate space that must be addressed. The trees on the site selected are deciduous Jacaranda trees, allowing for seasonal changes in landscape.

# MICRO SCALE OF MOVEMENT

MOVEMENT

CONTEXT STUDY



1\_29  
Diagram showing intensities of movement around the site in micro scale.

- Pedestrian movement
- Buses
- Minibus
- Cars



# Perceptual Analysis:

## The area and site:

“Perception is the process of obtaining information from and about one’s surroundings. It is active and purposeful. It is where cognition and reality meet” (Lang,1987: 85)

As one makes their way from Church square to the site, the feeling perceived is of approaching a sense of place dissipating into the landscape beyond, forming an intangible edge. The surrounding buildings have no congruous scale with their environment. One often comes across a ten storey building next to a low lying house : ie the Jansen house and the Civitas building, or more appropriately in this case the Peugeot building housing the Princess park College and the Synagogue directly opposite.

An ever present sense of neglect is reflected specifically on this block as every other heritage building is seemingly being recognized and upgraded. This leads one to the conclusion of a lack of priority in the renovation of Heritage buildings, to which the government can not deny.

Perceptions of public environment informs one that there is no communal sense within the area. This could be very closely related to the lack of public congregational facilities or urban parks to which an integrated Populus could gather.

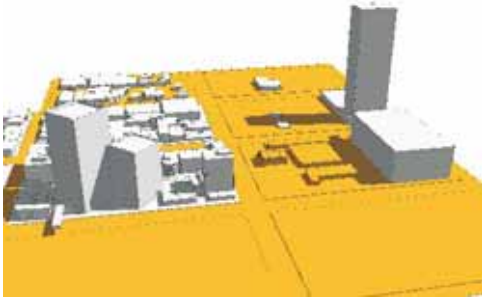
Furthermore, qualities of light and its progression in time are analyzed through an annual shadow study of the area.

Observations of this rhythmic transformation of light may lead to ones intrinsic psychological nourishment. According to architect and sculptor Christopher Day, this quality of life in light is as necessary for biological as for psychological health, the pituitary gland and the soul both being nurtured by living light and both deprived by dead light. ( Day. C,1990: 21)

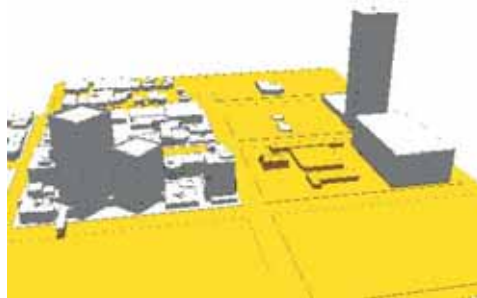


Shadow studies:

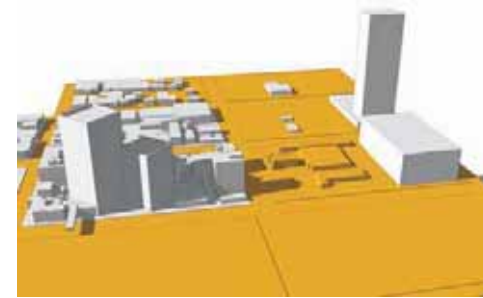
Summer



1\_31  
Perspective of area and site.  
Jan 9:00 AM

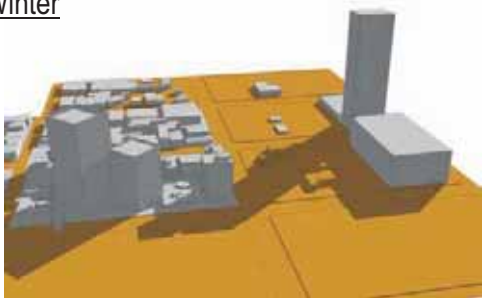


1\_31.1  
Perspective of area and site.  
Jan 12:00 PM

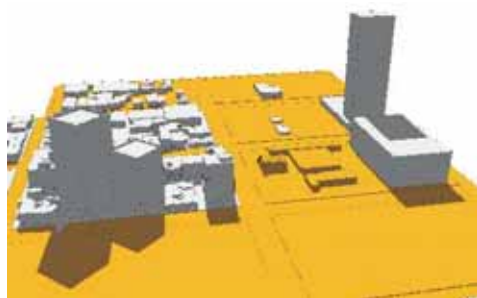


1\_28.2  
Perspective of area and site.  
Jan 16:00 PM

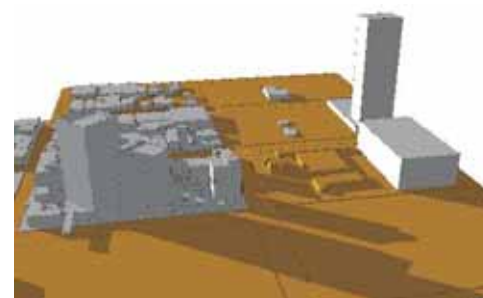
Winter



1\_32  
Perspective of area and site.  
Jun 9:00 AM

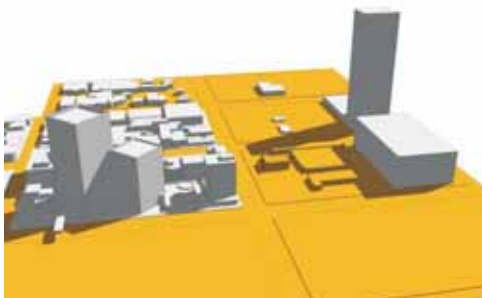


1\_32.1  
Perspective of area and site.  
Jun 12:00 PM

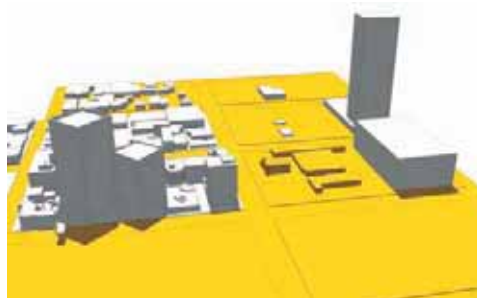


1\_32.2  
Perspective of area and site.  
Jun 16:00 PM

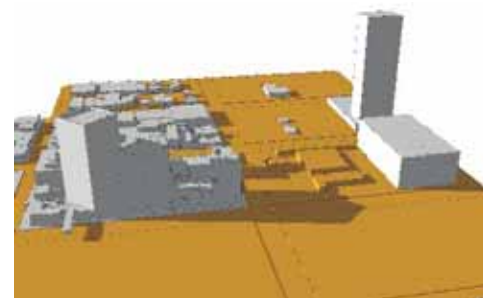
Spring



1\_33  
Perspective of area and site.  
Sept 9:00 AM



1\_33.1  
Perspective of area and site.  
Sep 12:00 PM



1\_33.2  
Perspective of area and site.  
Sep 16:00 PM

SITE PERCEPTION



# Site Context :

The area and its Buildings:



1\_34.1

A : Civitas building:

A square office complex currently undergoing renovation. 32 storeys built on a podium. The building represents late modernism with its emphasis on the horizontal and abstractions of artwork on the exterior and interior of the building.

(Le Roux, 1999: 23)



1\_34.2

B : Jansen house:

A single storey house with detailed gable wall, a tower with fish scale tiles and veranda.

Dates back to 1880 and is a preserved example of Victorian architecture in the city.



1\_34.3

C: Panagos Building:

Duplex type building named a heritage building. Dating back to the 1900's.



1\_34.4

D: Peugeot building ( Princess Park College):

Building is made up of a typical lower level of shops and a cantilever. The remainder of the building is used by the college, catering from gr 0-12.

1\_34

Aerial of site and its surrounds







1\_34.5

E : Apollo building ( & Government printers):

Two buildings connected via a shaded, unused green square without seating.

The right wing being the Government Printers is a single storey building.

The left wing of the complex is made up of the Apollo building. It is a 10 storey building housing mainly legal firms and the Department of Correctional Services. The ground floor level has the Apollo restaurant frequented by many legal firms in and around the vicinity.



1\_34.6

F : Law Towers:

A 7 storey building separated from the public realm with a palisade fencing. It is primarily used by a law firm and a canteen and roof garden are located on the 7th floor.



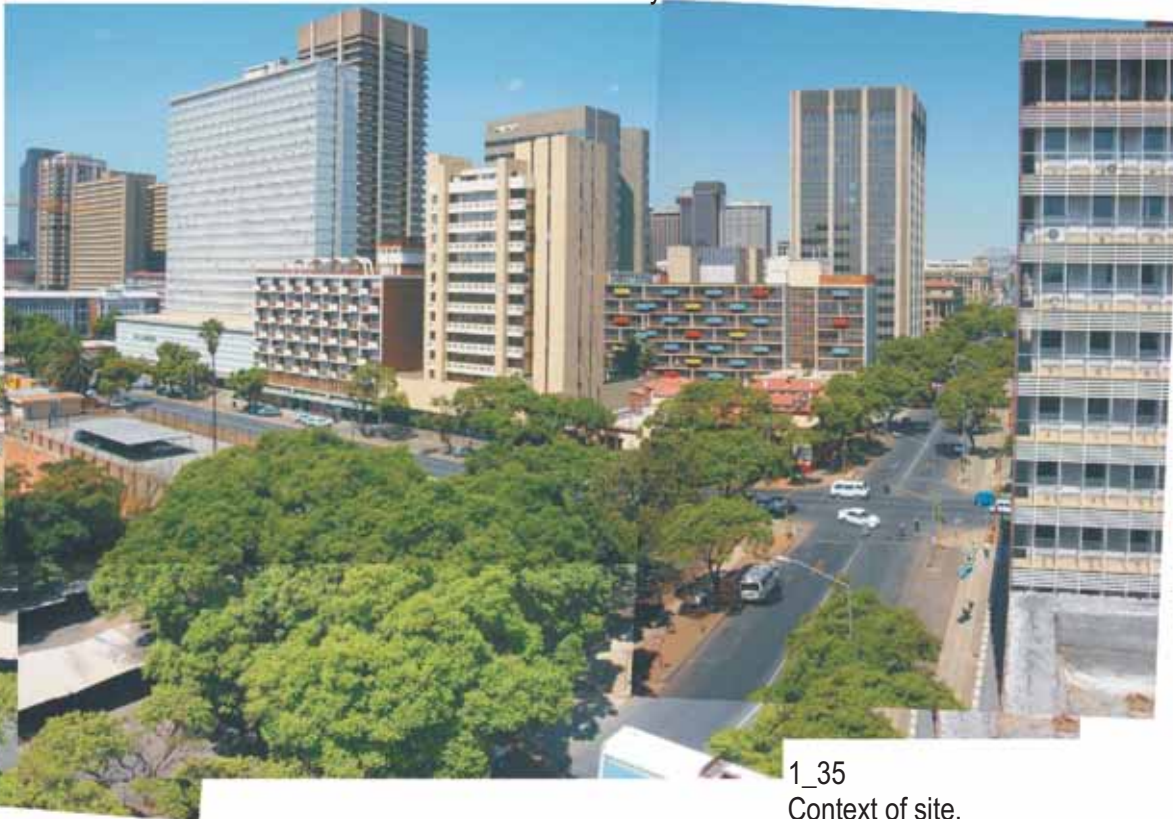
1\_34.7

G : Old German Club:

A single storey building dating back to the 1930's, currently used as fast food restaurant with dining area and bar.

SITE CONTEXT

CONTEXT STUDY



1\_35

Context of site.



1\_34.8

H : Woltemade Building:

An 8 storey building with strong logical ordering. It's cantilevered balconies are clad with colourfull mosaic tiles. The top 6 storeys are of residential use. The 1st floor houses offices and the ground floor has a commercial component.



1\_34.9

J : Office Building:

A 13 storey building with strong modernist influences. The majority of the building is clad in cream mosaic tiling. The ground floor houses shops and the building has the characteristic cantilever over the pavement, as most other buildings of the area.





1\_34  
Aerial of site and its surrounds (contd)



1\_34.13  
N: Old house :  
A single storey house with its characteristically corrugated pitched roof, gable wall and stoep. It is currently under renovation and will be serving as offices for the National Library.



1\_34.10 a



1\_34.10 b



1\_34.11  
L : The Old Synagogue :  
Currently it is unoccupied and in a state of disrepair. The Department of Public Works is looking for an appropriate re-use for it.



1\_34.12  
M : SITA Building:  
A 2 storey building clad with IBR sheeting to its front facade. It houses the government IT department and has its own printing press area.



1\_34.14  
O: The National Library:  
A 4 storey building under construction making allowance for a semi- basement. Its main entrance and pedestrian ramp is situated on the corners of Struben and Proes streets. A right of way servitude separates the block vertically where hawker stands have been allocated.

1\_34.10  
K : Koopkrag Building:  
An 8 storey building built in 1954. Along with the surrounding buildings it has a strong modernist intent. Its balconies are cantilevered and has a roof garden with a sculptural concrete roof.

# C

## hp 2

### PERFORMANCE STANDARDS

## PERFORMANCE STANDARDS:

- Baseline criteria
- Court criteria
- Courtroom criteria
- Legal procedures
- Psychological recovery criteria
- Proposed movement diagrams



# PERFORMANCE STANDARDS:

## Notion of a Family Court:

The notion of a Family Court is that of a specialist court catering for a wide range of family law issues. This court is equipped with staff skilled in and sensitive to family matters, with the aim of minimising trauma to families in conflict. The main features of such a court include the provision of social support such as alternate methods of resolving family disputes by a process of conciliation (such as counselling, and mediation, where appropriate); integration of services so that cases are treated holistically and efficiently, as domestic violence, child abuse, divorce, and child maintenance. These aspects are often linked with user friendliness.

The 1997 Hoexter Commission report set out certain basic principles fundamental to the concept of a Family Court, fleshing out the ideal structure for a Family Court Centre:

1. There are two components to a Family Court – a social support component and a legal component. Social support through counseling, conciliation and mediation is the first step, with legal adjudication seen as a last resort.

The objective is to ensure access to justice and to work towards promoting a greater social cohesion.

2. The provision of a number of family-related services under one roof to avoid multiplicity

3. That the court be separated, with an informal, cheerful atmosphere, sympathetic receptionist and child care facilities for court users.

4. That there be a central reception / help desk which would be the court users first point of encounter with the court, to assist with information, screen and possibly record and allocate family case number.

5. That all court personnel be selected on the basis of their empathic personalities and that they undergo training.

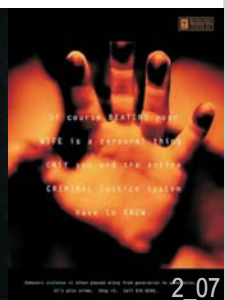
6. That services in the various components of the court be integrated (with staff skilled in all areas, that is, family violence, divorce, maintenance, child care).

7. That where necessary, the Family Court would also make referrals to other agencies, governmental and non governmental (NGO's).

8. That services be accessible and affordable.

( Mills. S, 2003 : 8-9)

Keeping in mind that Family Courts are different to general Courts or Magistrates Courts, it cannot be seen as a predominantly criminal Court structure. Therefore, the converging paths of defendants with plaintiffs, such as that of an amicable separation in a divorce case, is wholly acceptable.



# COURT HOUSE STANDARDS:

## Criteria:

Criteria set out for courts by Charles King Hoyt are as follows:

The multiple circulation systems needed in a Family Court must be separate systems of corridors or lobbies. The connections between the private corridors and the public lobby must be monitored by a receptionist in order to control access and maintain security. Detainee's use a special corridor, coming from the detention facility, to access the courtroom.

A set of resident chambers must be provided for the magistrates who live in the judicial district. These chambers are to be located away from the courtrooms, preferably near a law library. The magistrates secretaries serve both sitting and resident magistrates, but are best located near the resident magistrates chambers, away from the busy courtrooms.

The circulation system is an important factor in selecting appropriate locations for the various functions and departments in the building. The optimum location depends on interdepartmental communications, public convenience and security, as well as on factors like the volume of visitors and the frequency and nature of transactions that take place. One of the most important considerations is that circulation routes should be self evident.

The majority of visitors usually have destinations in administrative or social service departments. If these are all concentrated on the lower floors of the building, public access is considerably simplified. Some departments may even want a separate entrance off the sidewalk.

Centralization has the additional advantage of limiting traffic on courtroom floors to people directly concerned with court proceedings, thereby improving security.

The courtroom should occupy the midsection of the building. The library, magistrates chambers and other areas which require some privacy can be assigned the upper floors. This arrangement results in the division of the building into three zones - office area, courtrooms and private areas.

Further criteria are:  
**Judiciary:**

The judiciary enter the building through a manned or otherwise restricted entry directly into their own secure area of the building. This area contains the judges retiring rooms and all areas devoted to judicial use. Invitees will always be escorted, and access for all will be either via the Magistrates entrance into the court or through staff areas. Each entrance will be via self-locking, secure door.

**Legal Representatives:**

Legal representatives enter the building via the main entrance, reaching their offices via the public circulation. These offices have easy access to courtrooms via the public concourse where they meet their clients.

**Admin Staff:**

The general admin counter must be conveniently located to allow easy access for the public and for the legal profession. Accommodation is also provided for some specialised groups

Court Clerks: Who are responsible for business in specific courtrooms and who spend part of their day in court.

Ushers: Who spend part of their time in court and also attending to minor clerical work.

Listing Staff: Who are responsible for the planning and programming of the court timetable (list cases).

**Public:**

Except for the judiciary and separate car park users, all users enter the building by the main entrance door where space and facilities for security checks are provided. The arrival concourse contains the information/enquiry point and the cause list display, both of which should be clearly seen on entering. Waiting areas should be visually interesting, preferably with external views.

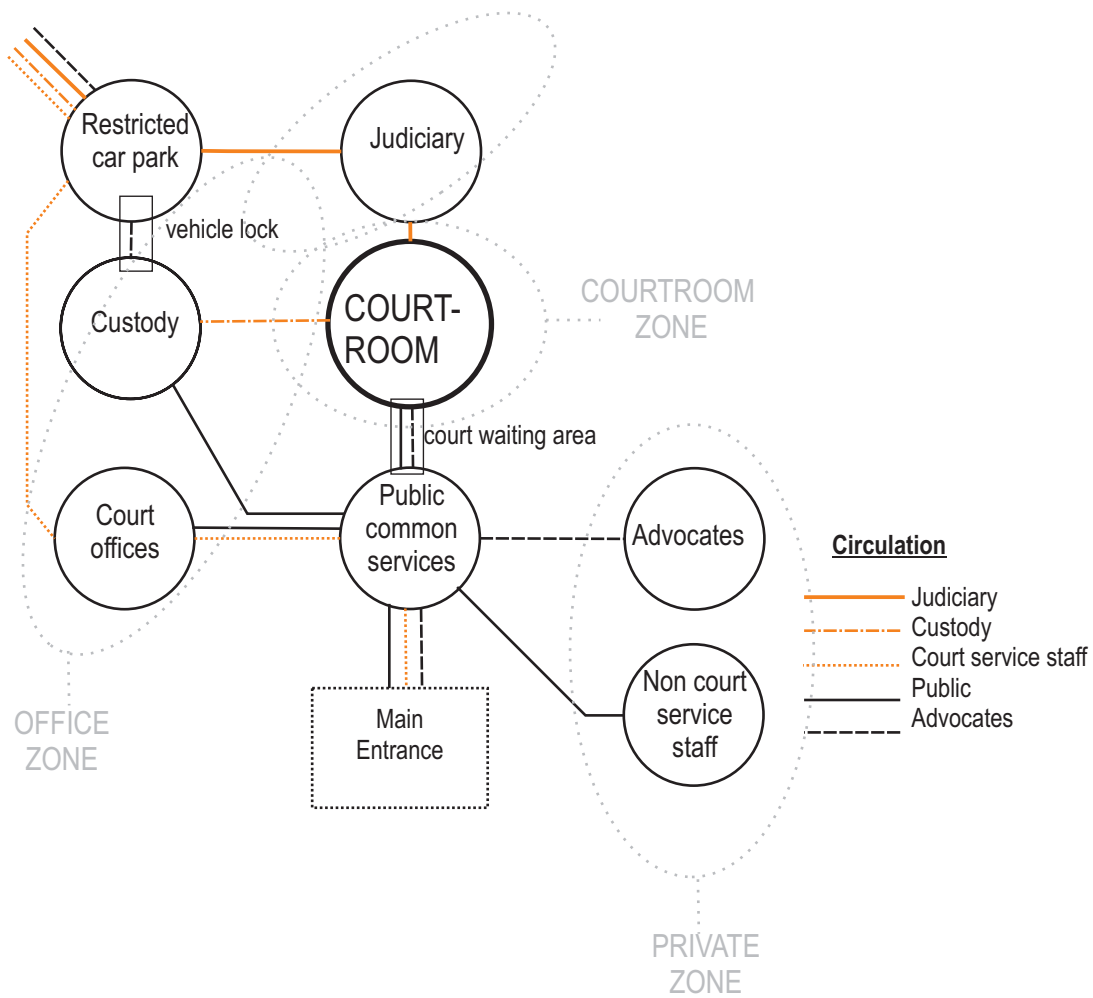
**Detainees:**

The detention centre or custody core is a self contained compartment within the court building designated for the temporary use of the prison officer. The prison officer's duties are to produce and retain prisoners in custody. It consists of the following principal parts, each separate from its neighbour and all non custody users:

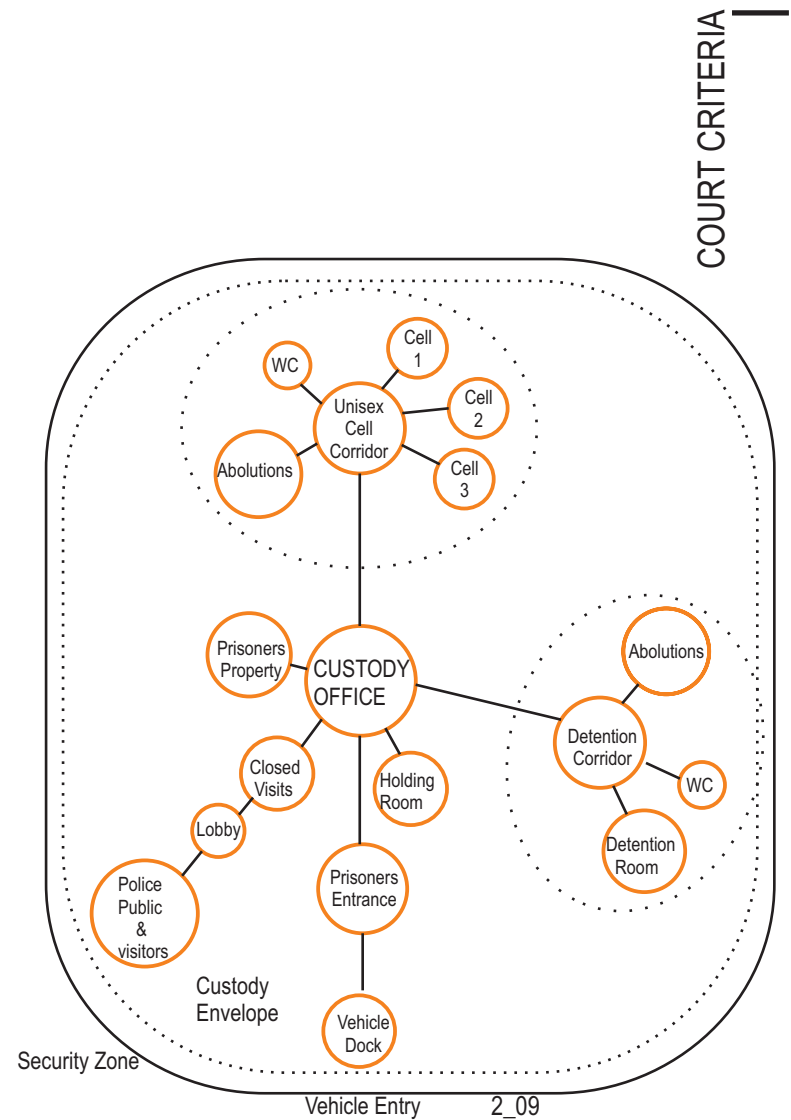
- The custody core
- The vehicle entrance
- The visitor's entrance
- Three independent secure connecting routes:
  - Custody core to vehicle dock
  - Custody core to courtroom entrance
  - Custody core to visitor's entrance

Containment requires the meticulous and consistent application of passive security measures. The designer must: give careful attention to all aspects of the design, devise a layout that will achieve a maximum control, use the building fabric and the facilities within to provide a secure envelope and deny the public direct view or contact with defendants while in the detention centre.

(Rainford. C, 1999:12-1 - 5)



2\_08  
Diagram showing the functional relationship and movement of a Courthouse



2\_09  
Functional relationship diagram for a detention centre.

COURT CRITERIA

# COURTROOM STANDARDS:

## Criteria:

A study of the Courtroom structure can be seen in a precedent study of the Atteridgeville Magistrates Court (a precedent to follow in chapter 3) informing on inner movement and access to it.

## Courtroom environment:

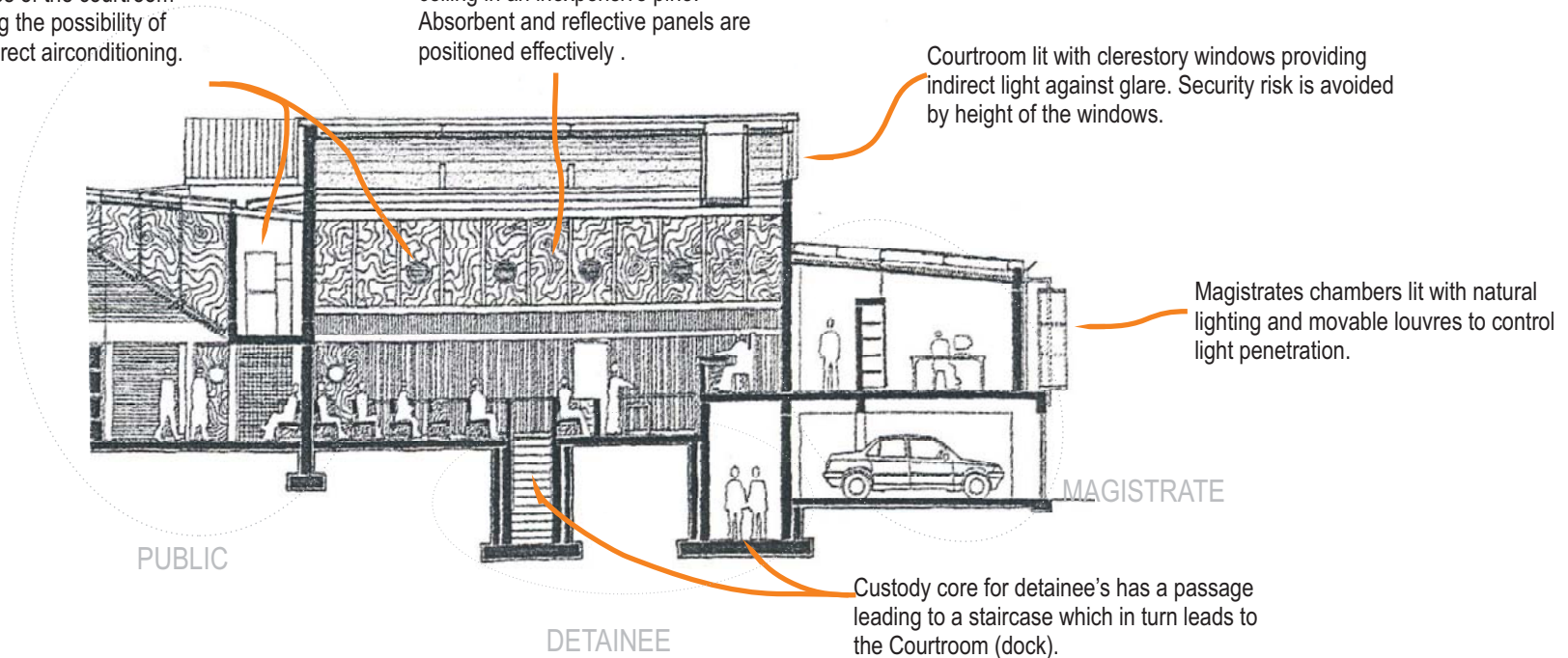
A well detailed comfortable court room, with efficient and simply managed ventilation, lighting and acoustics.

Mechanically ventilated courtrooms with hidden condensor units. Its outlets are located to the sides of the courtroom therefore, reducing the possibility of discomfort from direct airconditioning.

Courtrooms are clad from floor to ceiling in an inexpensive pine. Absorbent and reflective panels are positioned effectively.

Courtroom lit with clerestory windows providing indirect light against glare. Security risk is avoided by height of the windows.

Magistrates chambers lit with natural lighting and movable louvres to control light penetration.





Courtroom access:

Courts are penetrated by 'fingers' from the public atrium. Timber benches allow for conversation nooks

The witness enters the court from an opposite side as to the defendant. Recessed timber benches are used for strategies or conversation, if the private witness room is not necessary.

The detainee enters the dock through a separate passage from the detention facility downstairs. This passage leads to the courtroom via the use of stairs.

The public enters to the side of the court. They are placed at the near end of the courtroom and have a general view of the proceedings.

The defendant enters in an opposite side to the court as the witness. No prison-like appearance is apparent at the dock, allowing for a comfortable environment.

A private discussion room for the defendant and their legal representative is located next to their respective entrance.

The Court Marshal helps bring evidence to the Magistrate and is located close to him.

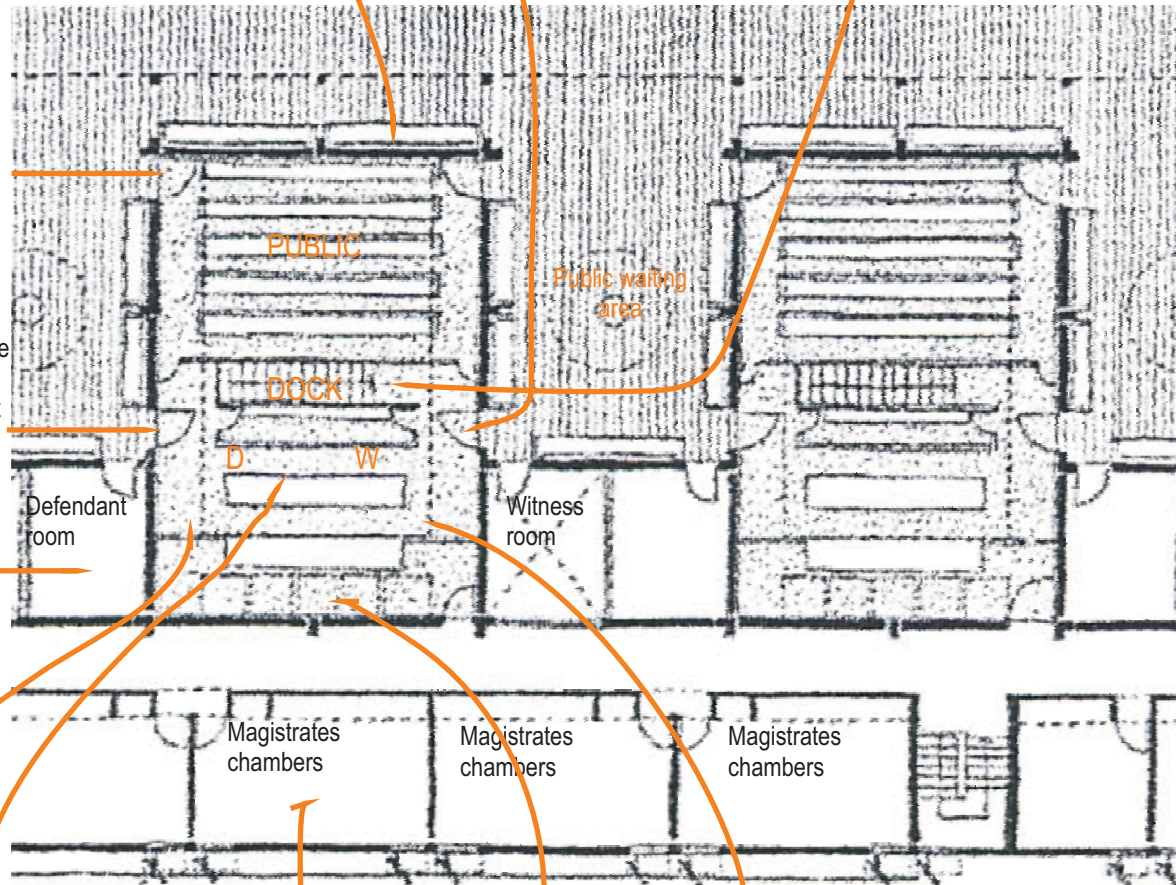
The Attorney or Advocate representing the defendant has a visual axis with the magistrate. The counsel benches are wide enough to hold large and numerous documents that are often in use.

The Magistrate chambers are separated from the public domain and the Magistrates themselves access the court from their own entrance.

The Magistrate presides over the courtroom with a full unobstructed view.

The Court interpreter keeps a transcript of the trial and consequently must be able to see and hear everyone..

2\_11  
Analysis of courtroom criteria.



COURTROOM CRITERIA



# LEGAL PROCEDURES:

## Avenues taken:

The current Family Court pilot projects cater mainly for poor, disadvantaged families and communities, who would not be able to afford legal representation. The legal procedures in achieving the required outcome of the user can be seen as follows:

### Procedures undergone by potential users of a pilot Family Court:

- Potential divorcee:

- Enquiries office in divorce facility.
- Legal concepts explained and summons form completed.
- Case registered and case number issued at sheriffs office.
- Summons issued to other party.
- Mediation before trial allowing for a settlement instead of trial.
- TRIAL.
- Presiding officer during custody dispute refers to the Family Advocate (whose role remains that of enquiring into the best interest of children in divorce).

- Potential victim of domestic violence ( Adult or child) :

- Enquiries office in domestic violence facility.
- Legal concepts explained and forms handed out.
- Forms completed and handed back to clerk.
- Clerk checks signs affidavit and processes the case.
- Files are sent to a magistrate specifically dealing in these cases; protection orders and a suspended warrant of address are granted.
- The magistrate prepares a notice to abuser stating the date of hearing.
- TRIAL.
- Magistrate grants a final protection order and a suspended warrant for the abusers arrest.

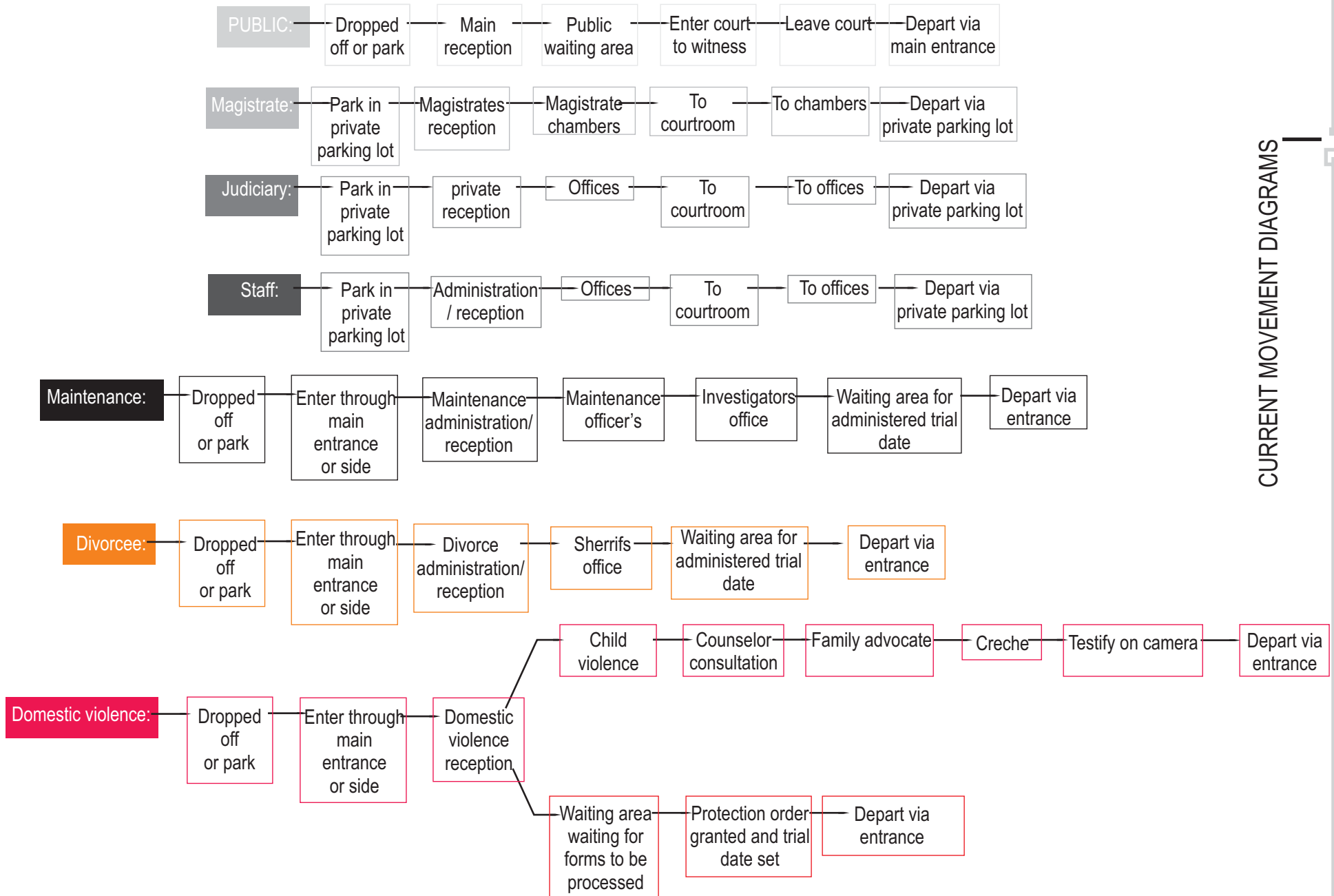
### Procedures undergone by potential users of a pilot Family Court:

- Potential maintenance claimer :

- Enquiries office in maintenance facility.
- Legal concepts explained and form completed.
- Completed forms given to maintenance officer.
- If settlement has previously been ordered by the court then the claimer may claim their moneys from the cashiers.
- If not, both parties must return on the date specified on forms and undergo an informal maintenance inquiry where a maintenance officer attempts to reach a mediated settlement.
- If there is no settlement reached, both parties go before a magistrate who gives a return date for a 'quantum trial'.

# MOVEMENT DIAGRAMS:

Journey's derived from legal procedures:



CURRENT MOVEMENT DIAGRAMS

BASELINE STUDY

# PSYCHOLOGICAL RECOVERY CRITERIA:

## Criteria:

“Family violence imposes excessive coping demands on survivors of any age. Recovery requires a combination of the survivor's hard work and the commitment by formal and informal helpers to promote a healthy recovery environment.” (Andrews, A, B. 1990:230)

People who have suffered by another family member confront many exceptional challenges while coping with the consequences of victimization. Family violence can be seen to be an exceptional stress factor. This stress can challenge the survival skills of the person and can also erode the support adjusting the stress.

According to authors of the Handbook of stress; Moos, R, H & Billings, A, G: coping involves adjusting cognitions, feelings and behaviours in response to environmental events, including changing the environment if necessary. An adaptive coping method would be an acknowledgment of what has occurred, expressing ones feelings about it, using social help, engaging in task focused behaviour, exercising and relaxing.

People who do not seek help often develop bodily and psychosocial stress symptoms. The need for a proper coping intervention is even more apparent when the survivor is a child as “the demand of coping with trauma or extraordinary stress can interfere with a child's future development. When a child copes with maladaptive behaviour, the parents stress may be increased, leading to an even higher risk to psychosocial and physical harm.” (Andrews, A, B. 1990: 208)

Because family violence occurs behind closed doors the disclosure of the victimisation by the survivor to someone else is seen as a critical moment. This critical moment can cause even greater stress, crisis or trauma. Survivors may not be prepared for such a situation and are left to deal with 'secondary victimisation'. This is already apparent in the Johannesburg Family Court pilot project, as adequate counselling has not been incorporated.

The goal of crisis and recovery interventions are to assist the survivor in coping through the ordeal and beyond, averting any residual damage, and promoting the growth of the survivor to be able to avert future similar challenges.“ Recovery services are most effective if they are initiated in the crisis period. In some cases of family violence, the assessment also serves the purpose of collecting evidence for legal purposes.” (*ibid*; 221). These types of helping professionals promote a healthy recovery environment, imperative to an institution such as a Family Court.

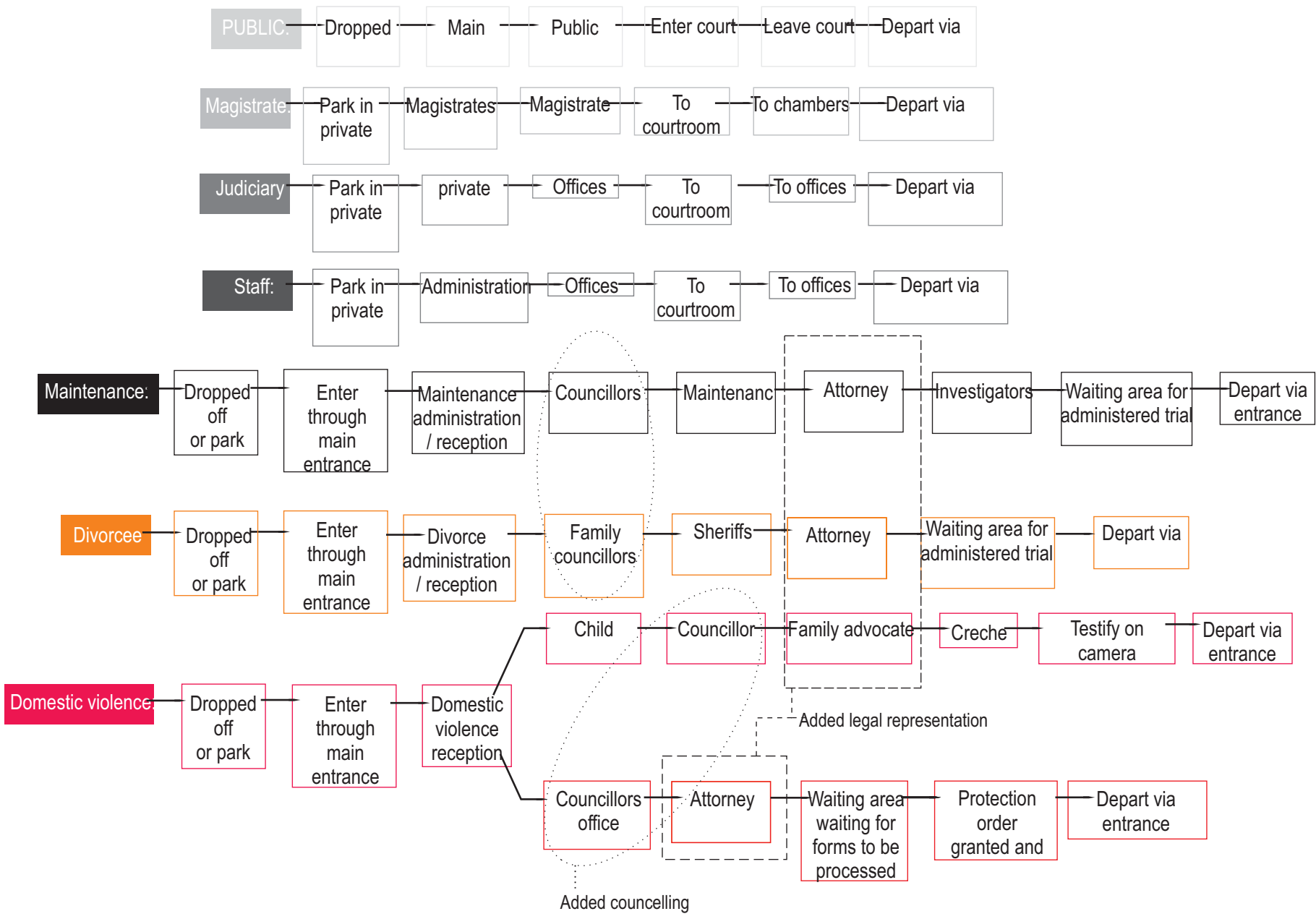
Family violence survivors can neither change nor forget their past. However, with the help of counsellors they can at least share their problems, and be assured of an empathetic shoulder enabling them to move on and face brighter futures.

## Established criteria through the present set up of the Family Court pilot projects.

The Family Court pilot projects at present do not entirely have the facilities, nor do they completely promote the adjunct collaboration of counsellors. Due to this half hearted approach to dealing with victims of family violence and family law the proposed Family Court on Paul Kruger street will be primarily focussed on providing the appropriate infrastructure for counselling and mediation.

Furthermore, in the hopes of establishing a greater success in the result of the Family Court; the objective will be to create a greater social cohesion with the implementation of legal representation to all. This will result in an environment where there is no distinction between social and financial class thus, allowing for a greater efficacy and understanding of appropriate legal interventions.





PROPOSED MOVEMENT DIAGRAMS

# LIMITATIONS AND DELIMITATIONS:

## DELIMITATIONS

### Facilities will include:

- Incorporate framework of Pretoria University students to pedestrianise Paul Kruger str,
- Dual functional courtrooms,
- Magistrates chambers with changing rooms,
- Law library,
- Archival space,
- Maintenance facilities,
- Domestic violence facilities,
- Trauma counselling,
- Bank payment facilities,
- Admin and accounts call center,
- Child welfare and social workers facilities,
- Two separate creches for child victims and for non-abused children,
- Open playground for child victims and non-victimized children,
- Storage,
- Detention cells,
- Security,
- Basement parking,
- Informal trading facilities facing street between National Library,
- Rain water harvesting,
- Adaptive re-use of Synagogue,

## LIMITATIONS

### Facilities will exclude:

- Incorporating the current framework of Paul Kruger str,
- Adhering to Permissible height of 8 storeys,
- Sole functional courtrooms,
- Clinic,
- Tourist information centre,
- An architecture of public exclusion,
- Training facilities for staff,
- Adoption facility,
- Deceased estates,
- Canteen,
- Air conditioning plant rooms.

# C

## hp 3

## PRECEDENTS:

### PRECEDENTS:

- Atteridgeville Magistrate's Court
- Family Court Pilot Project, Johannesburg
- Constitutional Court
- Freedom Park
- Apartheid Museum



This project was extensively hampered by planning regulations, resulting in an essential design of a “house on a plot” with its necessary fences, destroying any sense of place.

The building is a tough concrete frame with brick infill. The trained eye will notice careful incisions of lighting controls in the form of vertical louvers. The courthouse boxes stand proud of the structure with barrel-vault roofs and a clerestory window at the top of the arch.

Inside the courts pine panelled walls are welcoming as they are washed with soft light from the clerestory window. The architects opted for pine instead of the more expensive meranti, allowing them to panel the court from floor to ceiling.

Acoustics seem to be well sorted; absorbent and reflective panels are placed adequately. The aesthetics are derived from function and then composed.

The building is structured around two courtrooms; the typical court plan was simplified, while still fulfilling complex circulation requirements. The courts are penetrated by 'fingers' from the public atrium, and secure offices and cells from the other.

The court passages and foyers make use of conversation nooks, with timber benches slightly recessed. The result is a space where conversations and strategies can be discussed in what suggests privacy in the public domain.

The atrium has a large ramp introduced into the space leading to offices on the first floor. A huge skylight lights this space, where sun is controlled by internal timber louvers over a soft but strong light source. Budget constraints forced simple but ingenious solutions combined in a rich important series of internal public space. (Museum of Struggle Atteridgeville Magistrate's court, *Architecture South Africa Journal of the SA Institute of Architects* 12, November/ December, 2004: 73-75)

## Questions posed:

### **How does one navigate (movement or journey) through the building? :**

Movement through the building seems to be quite straight forward and legible. All public accesses are in plain sight. The security entrance is off the side of the main axis running from north to south. The main reception lobby however, directs one away from their natural path towards the court rooms obstructing the view to a person's final destination point.

The staffs have their own back entrance to their respective offices, and public access these offices through the main atrium ramps. This type of access system causes to be of great help with circulation flow.

The main atrium space is seen as a whole where the courts have a symbolic presence of welcoming stately boxes greeting the people it will be servicing.

### **How is the courtroom accessed? :**

Though the court rooms have been diagrammatically explained in the pages previous a brief summary of answers to this question will be given:

The courtrooms are laid out in a complementary fashion, allowing for 'courtyard' spaces to separate each. While awaiting their hearing these spaces accommodate the public, plaintiff and defendant, on the opposite side. Separate rooms alongside the court allow for last minute consultations with legal representatives, in private.

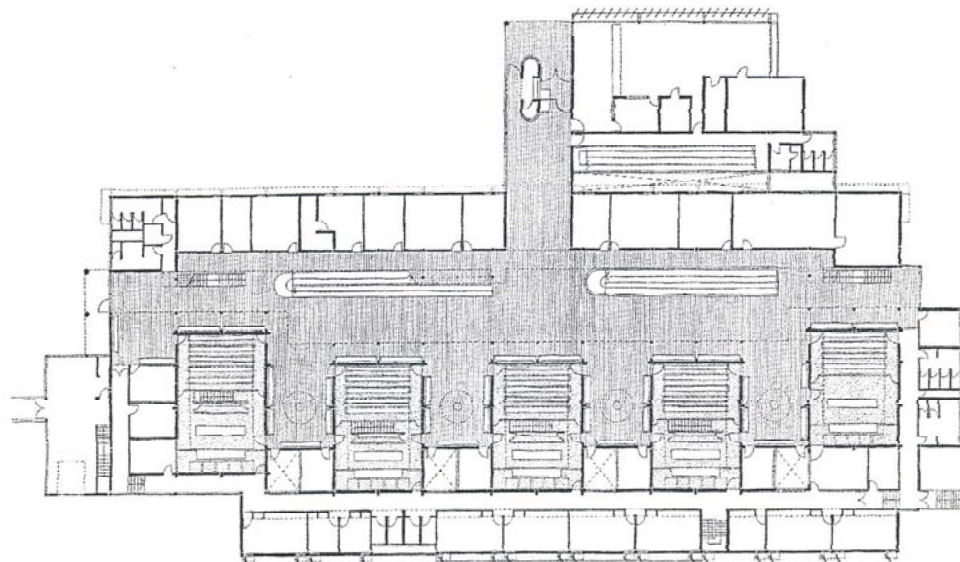
The internal court structure is uncluttered, lit and ventilated by clerestory windows. The Detainee arrives at the courtroom through a set of stairs, coming from a separate detention facility on a lower level. The Magistrate enters from a private passage leading to his or her office.

### **How does one experience the building? :**

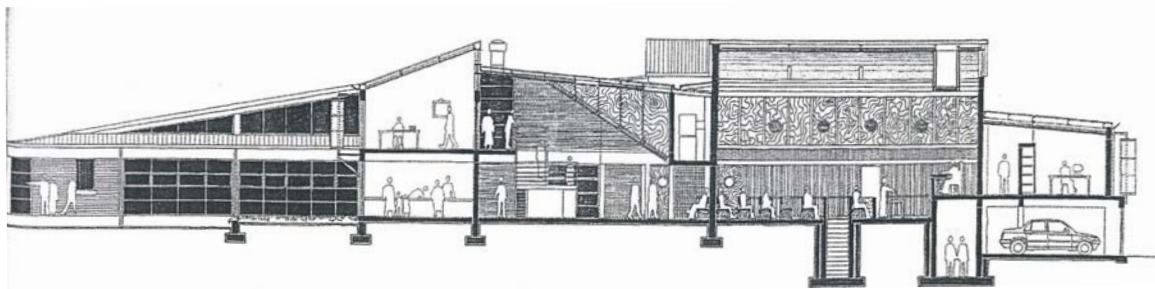
- The building is light and user friendly.
- Natural ventilation and the appropriate use of diffused lighting create a comfortable atmosphere.
- Circulation is legible and there is no real need for signage.

## LESSONS LEARNT:

- Appropriate lighting in courtrooms to be indirect.
- Appropriate access circulations to courtrooms, especially with regards a court with detainees.
- Appropriate use of Natural ventilation allows the space to feel natural and comfortable.
- Legible circulation allows for less confusion and trauma.



3\_01  
Ground floor plan



3\_02  
Section through building, showing courtroom, atrium, detention facility and magistrates chambers.

Monetary constraints have been identified as a major problem in the running of this pilot Family Court. The building housing this pilot project was not originally designed to be a court; it was renovated at a considerable expense for criminal and civil matters, and is wholly unsuitable for family law matters. It has an excess of courtrooms and not enough waiting rooms. It is extremely difficult to find ones way around the building, with a multitude of narrow corridors and staircases. The insufficient notices and forms made available are either in English or Afrikaans posing a great difficulty to users who are either illiterate or do not speak those specific languages.

The spatial design impacts negatively on accessibility and user friendliness. The majority of users are women and mothers yet there are no baby changing facilities or nursing rooms. (Mills, S. 2004. Mothers in the corridors of the South African legal system: an assessment of the Johannesburg Family Court pilot project, *Jenda: A Journal of Culture and African Women Studies*, (4.1): 17-19)

The building as a whole seems to contradict every planning criterion for a courthouse. Creating an even more hostile environment for an already vulnerable person to walk into. The justice system has with this building already allowed themselves to fail in their plight to finding justice for these people with problems.

## Questions posed:

### **How does one navigate (movement or journey) through the building? :**

At the initial moment of arrival there is no sense of civic grandeur. This leads one to be almost automatically disappointment with the governments' message of service delivery, supposedly so intrinsically conveyed in the building.

On entering one is inevitably lost, without any view of the inner workings of the building and a staircase must be taken to the main first floor level. Here, signs printed on A4 sheets and pasted on walls with "prestick" are as permanent as the paper they are printed on.

There is no main Information desk on this level and in fact one was never found. This level solely houses maintenance facilities and domestic violence facilities. These have been split in 2 with the level above creating even more confusion and aimless wandering.

The floors above are all entities within a labyrinth, obstructed by people waiting for court hearings or consultation with an official.

There is no typical courthouse zoning (as discussed previous) in this building. The private spaces are the public spaces and the courts are just merely placed randomly on the top floors.

### **How is the courtroom accessed? :**

People awaiting trial either wait in the common corridor or are seated in a waiting area that is, if the level has the accommodation required.

The magistrates enter from a separate entrance, but ironically they still use the same corridor.

Defendants and detainees also use the same access. The public enter from a different door as to the defendant or witness. They sit on wooden benches and no concern has been taken to separate them from the rest of the court proceedings.

Magistrates' chambers are situated on the top floors of the building; however fundamental design opportunities are lost as they positioned in isolation to the courtrooms they serve.

### **How does one experience the building? :**

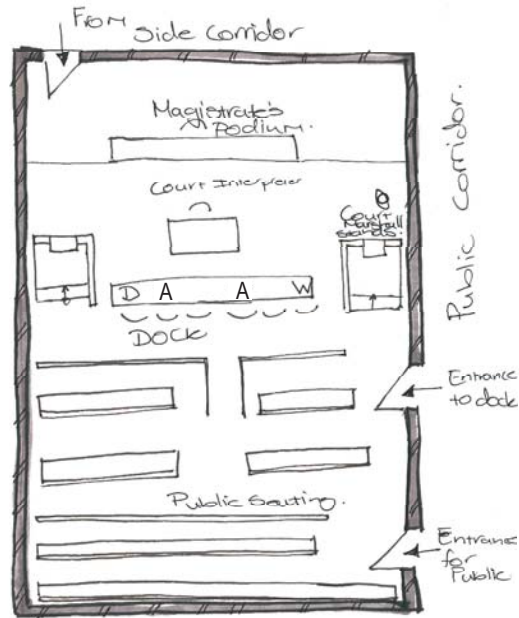
From personal analysis, interviews held and through the findings of Shereen Mills author of: *Mothers in the corridors of the South African legal system: An assessment of the Johannesburg Family Court pilot project.* , relevant factors were deduced:-

There is a huge lack of counsellors primarily due to the lack of support and provision of infrastructure from management.

- There is a major need for child care facilities as most users, (94 % of users in 2004) are parents. The current child care facilities are highly understaffed and child witnesses share the faculties with un-abused children.
- The highly confidential nature of a domestic violence case needs to be addressed, unlike the highly abrasive and non private environment of the domestic violence department in the Family Court.
- There should be a basis of promoting interaction with other departments within the Family Court (divorce, maintenance and domestic violence) as it will aid in the integration of services.- Signage should accommodate for iconography for the quick and easy interpretation of all.
- Most court users found the court procedure and presiding officer intimidating.
- The courtroom environment is not welcoming in the least with most of the courts making up the core of the building and therefore allowing for no natural lighting or ventilation.
- Family Courts should ideally incorporate attributes associated with women, such as empathy and be structured to deal with emotional issues in a non adversarial environment.

**Lessons Learnt:**

- This type of building needs to have a sense of civic engagement with its users.
- The importance of Information desks and the significance of orientation via the means of unobstructed views.
- How destructive an inappropriate and un-empathetic system and building can be. Leading to greater stress and unresolved issues.
- The importance of creating a relaxed and calm environment for people suffering from victimisation.
- The need for counselling to promote a greater and more effective legal system.
- The need for appropriate legal representation simplifying what can seem to be an incredible feat.



3\_03  
Diagrammatic sketch of courtroom layout



3\_04  
Waiting areas, located in all the wrong places. No natural light or ventilation, no views to look out onto.



3\_05  
A view inside the courtroom, with magistrates podium, court interpreters table and the dock.



3\_06  
South facade of Family Court pilot project on Market street in Johannesburg.

JOHANNESBURG FAMILY COURT (PILOT PROJECT)



# CONSTITUTION HILL:

The project was conceived as a public precinct establishing direct connections with its surrounding context. The focus of the hill is the Constitutional Court itself, a public building of empowering architectural form; representative of an open and democratic society. It has a simple aim: to enhance quality of life in the city and in the building and to give pleasure.

The building plan is structured around the public foyer and court chambers, located in the south wing. The library partly accessible to the public forms the north wing. The two areas are completely visible and easy to reach. The western internal stairs provide access to the public parts of the building and function as a gallery space.

The Judges chambers are housed in series of suites in three levels. All are North facing and overlook a garden courtyard framed by the library extension. The chambers are reached by secure and private walkway that connects to the library and courtroom.

The building is flanked on the Western side by the Great African Steps, an external procession of stairs and contour paths. The steps touch the side walls of the court Building and the old section 4 and 5 prisons. They are constructed of bricks taken from the awaiting trial block building, forming 'a pathway between what was and what is hoped for'. (Deckler, T. Graupner, A and Rasmuss, H, 2006: 19-21)

## Questions posed:

### **How does one navigate (movement or journey) through the building? :**

On arriving at the site one is immediately lost when trying to find parking, a temporary sign easily missed leads one to a dingy open piece of land. One instantly feels a sense of disappointment with the facilities of the supposedly highest court in the land. Leading out of the parking lot the urban context of the precinct is made sharply obvious, with out any transitional threshold.

After what can be seen as a pilgrimage of ascension through Great African Steps one is suddenly struck with the anti-climax of being lost in a vast open space. This feeling of disorientation ends as a quick glance to the side reveals the entrance to the Constitutional court. The entrance is humble, and not menacing, as it is brought down to the scale of the user. The square leading to the building allows one to reflect on past and future, with the stair towers of the old fort being retained and incorporated into the complex.

The entrance foyer is accessed through an artistically remodelled gate allowing ones mood to lift. The entrance desk is clean and uncluttered but somewhat small for a large gathering to handle. The logo of the court, 'justice under a tree' is portrayed in the foyer in an overtly craft like and narrative manner. The slanted columns, tiled in colourful mosaics, and wire branches suspended from the ceiling, serve as metaphorical trees. These trees can be interpreted as refering back to cultural Tswana law, where disputes and contracts are settled in a space called the *Kgotla*. This space is usually littered with trees and becomes the heart of the Tswana tribe.

The light level created by skylight boxes in this space allows for a comfortable environment as the public waits for the court hearings. The gallery space housing many great artworks seems to end abruptly without any real view to reflect on. In fact the space seems almost pointless for a person to walk down as there is no real exit or entrance from it.

The judges chambers are clearly separated from the rest of the public, their paths are legible and the spaces they inhabit are light and comfortable.

### **How is the courtroom accessed? :**

The public access the court through a main lobby area linked to the foyer. Their seating is not separated by any means of balustrade and so has a participatory feel to it.

The press, whom are permitted to a balcony level of the court, have access through two side entrance staircases. On the right the staircase is one remaining from the old fort and on the left is a new staircase, an echoing juxtaposition of memory and the present.

The judges have access to the court, via a lounge connecting directly to the main walk leading to their chambers. This lounge has space for catering and the ability to open up to the outside courtyard area.

The rest of the judicial representation enter the court Through a side entrance accessible from the foyer.

### **How does one experience the building? :**

- The building seems to have no uniting design language and tends to be overly narrative.
- Dead end spaces lead to confusion and futility.
- The internal environment of the building is pleasant and airy, with a great implementation of passive ventilation.
- The courtroom environment is just as appealing although a little less emphasis on the decoration could have led to a more mature portrayal of the justice system.

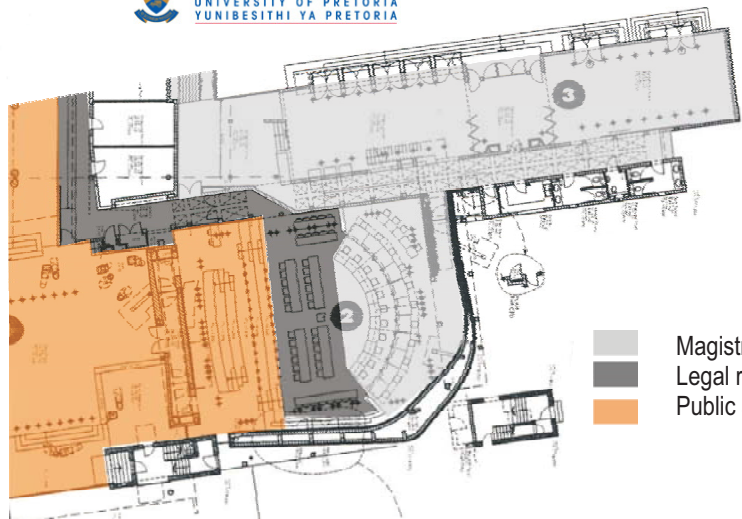
### **Lessons Learnt:**

- -The adaptive re-use to the undemolished star towers of the old Fort.
- -Spaces need to be continuous and not fragmented to ease cognitive orientation.
- The use of narratives allows for engagement with the user, but can be overtly dramatized at times and seem to be patronizing.
- Gallery spaces need to be implemented as places which one navigates to reach another place; otherwise they tend to be dead end spaces.
- Courts should be humble and have very little distracting ornamentality.



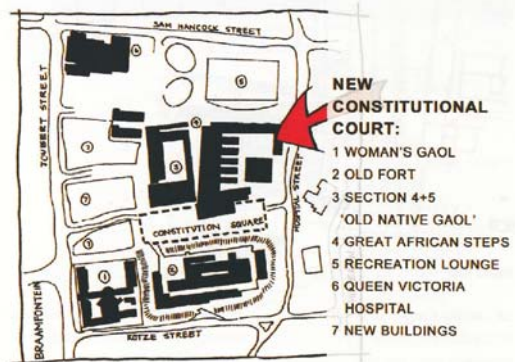
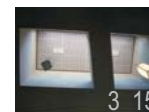
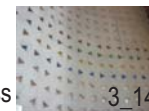
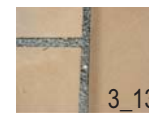
3\_07  
Ground floor plan of Constitutional Court

- Level 0 Ground Floor
- 1 Foyer
  - 2 Court
  - 3 Judges Lounge, Conference & Council Room & Meeting
  - 4 Administration
  - 5 Auditorium
  - 6 Judges' Chambers
  - 7 Internal Walk
  - 8 Bar/Welsh Quorum
  - 9 Collection
  - 10 Sanitation Access
  - 11 Public Auditorium
  - 12 Accessing Square
  - 13 Great African Steps
  - 14 Stairing Sub Station



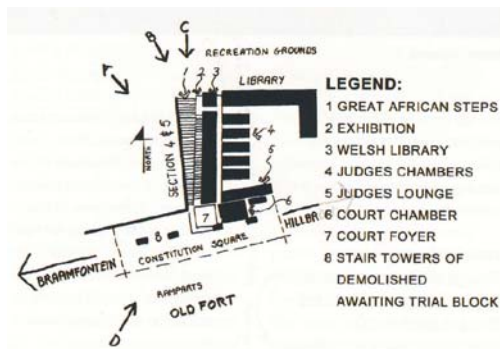
3\_08  
Courtroom access paths

- Magistrates area and access
- Legal representatives area and access
- Public areas and access



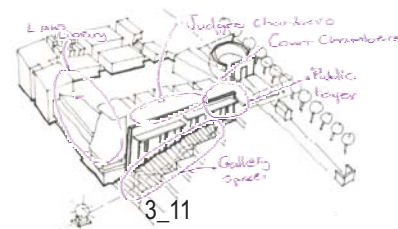
3\_09  
Figure ground plan of Constitution Hill

- NEW CONSTITUTIONAL COURT:**
- 1 WOMAN'S GAOL
  - 2 OLD FORT
  - 3 SECTION 4+5
  - 4 GREAT AFRICAN STEPS
  - 5 RECREATION LOUNGE
  - 6 QUEEN VICTORIA HOSPITAL
  - 7 NEW BUILDINGS

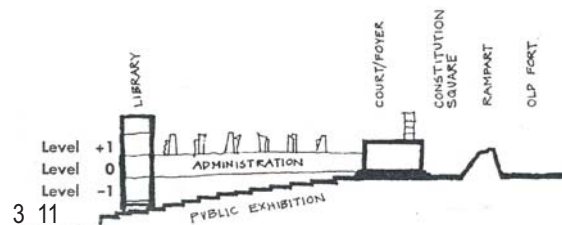


3\_10  
Elements of the Constitutional Court

- LEGEND:**
- 1 GREAT AFRICAN STEPS
  - 2 EXHIBITION
  - 3 WELSH LIBRARY
  - 4 JUDGES CHAMBERS
  - 5 JUDGES LOUNGE
  - 6 COURT CHAMBER
  - 7 COURT FOYER
  - 8 STAIR TOWERS OF DEMOLISHED AWAITING TRIAL BLOCK



3\_11  
Axonometric sketch showing elements in the Constitutional court



3\_11  
Section through the site showing the slope down the Great African steps



CONSTITUTION HILL

PRECEDENTS



In the precedent studies which follow lessons learnt based on the empathy in which a museological set up can engage with its users is revealed:

## **Freedom Park:**

The Freedom park is a 52 – hectare site seen as a major gateway leading in to the city of Pretoria from the south. Located on the Salvokop Hill the site was chosen for its symbolic historical and cultural significance. The site overlooks the Voortrekker Monument, juxtaposing history with the processes of moving forward as a united nation.

It is seen as a people's shrine that weaves the story of our origins and the events that shaped the nation of South Africa. Within this narrative the main elements include a garden of remembrance, a museum, a memorial and a gathering space.

The first phase, with the garden of remembrance is intended to become a national symbol for reparation, healing, cleansing, and a place where spirits of those who lost their lives for freedom can rest.

Anchoring the garden of remembrance is a spiral pathway with contemplative spaces along it. This pathway moves up the site in an easterly direction. East being significant here as it is seen as the beginning of a new day and metaphorically the beginnings in the new history of South Africa.

Following the contours of the site, the pathway reaches the *isivivane*. *Isivivane* meaning monument or memorial is a sanctuary, a resting place for those who lost their lives in the fight for freedom. These conflicts include colonial wars and wars of resistance. This contemplative space has been designed primarily with deference to African symbolism and belief systems, but intentionally contains universally recognisable symbols of hope and unity.

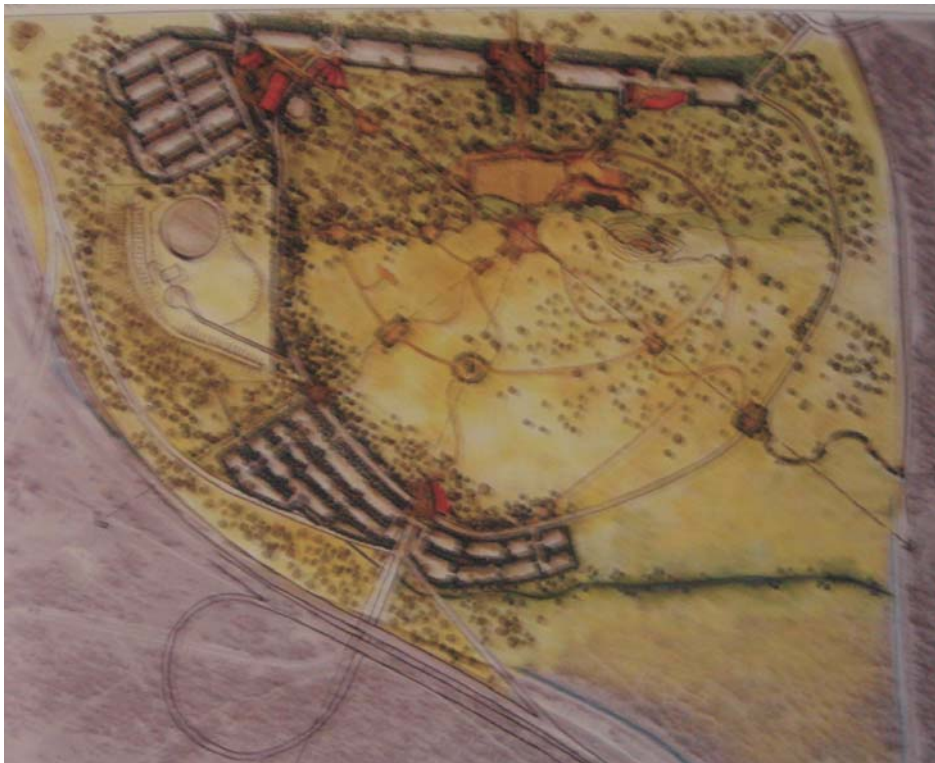
African cosmology gives significance to stones, rocks and boulders. The fundamental layout of the 9 rocks, from the 9 provinces was the *Kgotla* meeting place (discussed before). The circular form is also important as it is symbolic of unity, equality and wholeness. A fine water spray has been designed to rise up and drift across the rocks. This 'smoke' signifies the beginning of the spiritual healing, smoke being indicative of the incense that is often burnt at traditional ceremonies and religious ceremonies to signify a holy place and to represent spiritual cleansing.

A wide flat terrace has been created in the slope of the hill. On this terrace a waterfall has been built into the packed – stone wall that frames the terrace. The water flows down the wall and into a shallow pool, reminding the visitor that "the spirit flows and cleanses like water" (Young, G and Darrol. 2004, 23). On the way out a 'spring' of water bubbles into a bowl carved into the top of a large boulder placed near the exit. Here visitors can wash their hands in respect of the place, after paying homage to those who rest here. (Young, G and Darrol. Freedom Park: A landscape narrative of Africa's history and heritage, *Urban Green File*, June, 2004, (9): 18-23)

## **Lessons learnt:**

- The importance of nature as a healing medium
- symbolic African objects such as rocks, trees, *Kgotla* spaces
- The importance of the circular form symbolic of unity, equality and wholeness
- The symbolism of water and smoke to purify and heal.
- Engaging the user by allowing for participatory experiences. Hence, allowing the 'departed souls' struggles to be shared with the user allowing empathy to occur.





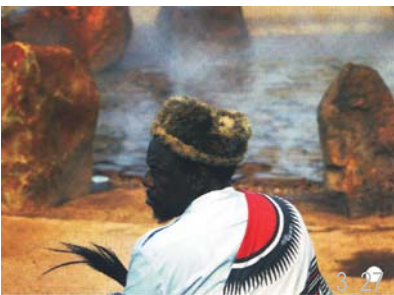
3\_24  
Freedom park master plan



3\_25  
The *isivivane* is a sanctuary located on a wide terrace built into the southeast slope of the hill where it will see the rising sun through all seasons



3\_26  
The *isivivane* with 'steam' rising above the rocks. This 'smoke' signifies the beginning of the spiritual healing.



3\_27



3\_28



3\_29



3\_30



3\_31

FREEDOM PARK

PRECEDENTS



# THE APARTHEID MUSEUM:

The Gold Reef City, Apartheid Museum is located on the outskirts of Johannesburg on land reclaimed from a played out- gold mine. The idea for this project was to create a 'People's Museum'- a step up from the original idea of a village recreation scenario- addressing the history of the various peoples of South Africa.

The long horizontal line of the museum is overwhelmed by the spectacle that surrounds it and sets a discordant tone for the hugely important nature of its content. Due to this difficulty the building had to be screened and turned in on itself, to provide for a 'spiritual building'.

After entry through the black/ white gates one ramps up onto the roof, treated as a landscape. A large bulk of the building and a high, well placed wall shuts out views of the theme park and casino, leaving open a view across the reclaimed mined landscape to Johannesburg. A long flight of stairs leads from this contemplative landscape down into the museum proper. After wandering through the exhibits that stretch along the spine of the long narrow building, one re-emerges into the landscape down into the museum proper.

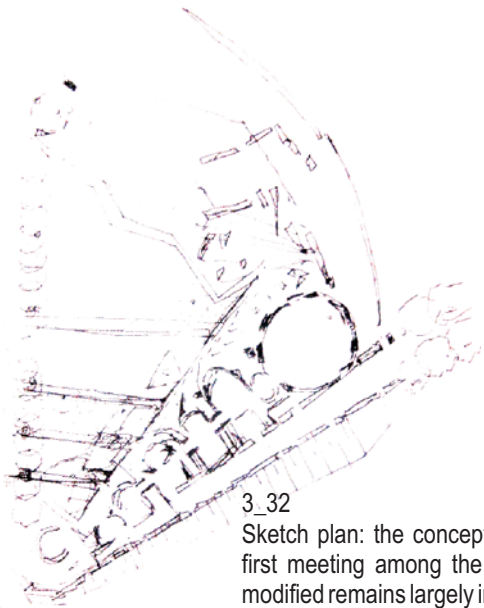
After wandering through the exhibits that stretch along the spine of the long narrow building, one yet again, re-emerges into the landscape- where emotions are released and the fresh air is welcome. This transition out of the building is gradual, via a hall of remembrance, into a treed courtyard. The landscape and grounds create a contemplative space, stilled by the presence of the building, where one can walk or take a seat in the park, or leave passing the restaurant and shop on the way out.

The architectural qualities of the space act in concert with the content to generate an almost visceral experience of the events described in the displays. Here up and down movement is used metaphorically. Ceiling height is deployed strategically to compress and release the visitors' bodies as they move through. Lighting dramatizes, and in some places sound design encompasses the visitor.

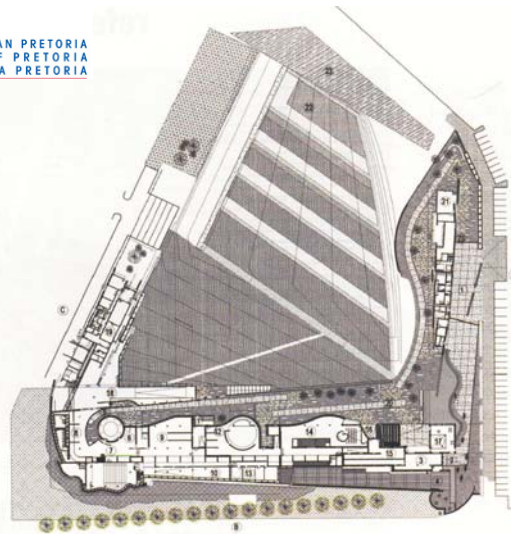
( Findley, L. Red and gold: Two apartheid museums and the spatial politics of memory in 'new' South Africa, *Architecture South Africa Journal of the SA institute of Architects* ,July/ August, 2004: 26-32),( Darroll, L. Urban roots: A history of Johannesburg, *Urban Green File*, December, 2001,(6); 24-29)

## Lessons learnt:

- screening of the site as to create a ' spiritual space'
- A landscape of indigenous gardens allows one to return to a place of nature and safety.
- This experiential museum of a nations trauma allows a path for a person to, overcome, confront and work through the conditions in which they are subjected to. These paths can be seen as ritualized acts of empathy and commemoration.



3\_32  
Sketch plan: the concept that arose from the first meeting among the architects has been modified remains largely intact.



3\_33  
Main floor plan



3\_37



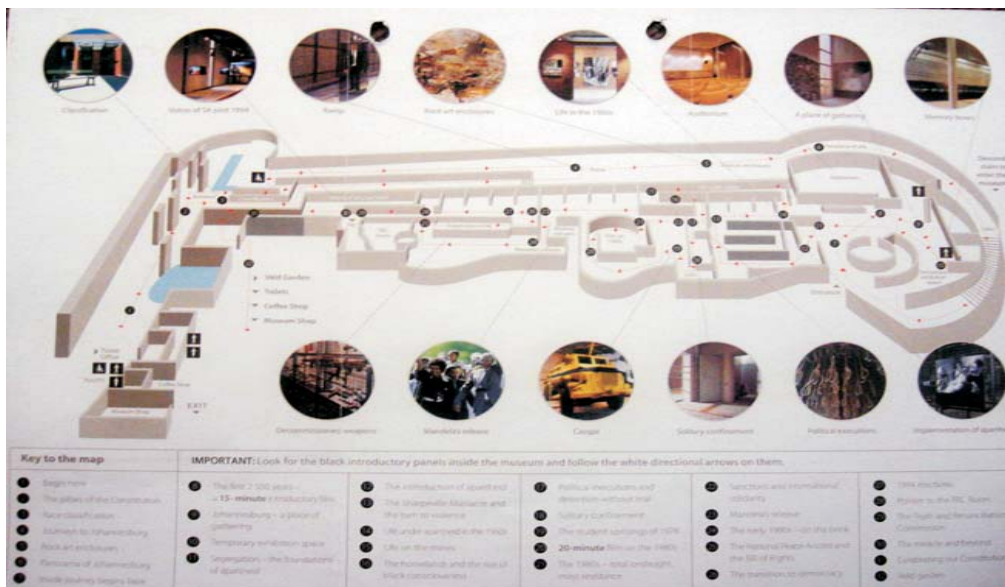
3\_36



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3\_34  
Diagrammatic map of Apartheid museum

APARTHEID MUSEUM

PRECEDENTS



3\_39



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3\_41



3\_42



3\_43



3\_44

# C

## hp 4

### DISCOURSE

## DESIGN DISCOURSE:

- Space and Place
- Defensible Space
- Belonging
- The Behaviour Setting
- Conclusion



## **Space and Place:**

“The need to get away? The desire to arrive?”  
(Hertzberger, 2000; 25)

Herman Hertzberger illustrates the idea of space as a longing, an expectation of possibilities, outside, on a journey, dynamic and open. Place however, is seen as a pause, inside redemption, a home and of being at rest. These two notions are interdependent characteristics in which the one brings the other to awareness, enabling the other to exist in as a phenomenon.

Place implies that an added value has been bestowed upon space. This added value allows for the people who inhabit this space to create a link with it. The thing that can turn space into a place, is the infill given to it by its occupants or users. A location can then become a 'particular', a place coloured by occurrences, past and present, lending it associations and perceptions. When one is making place, one thus means that one is making space in such a way that the conditions for its infill endow it with the quality of space.

A space however, can already be endowed with the connotations of a place. As is demonstrated in the site next to the Synagogue, and the Synagogue itself. This place is seen as space where memories of a Jewish community lie silent, while the importance of it as a landmark of political turmoil and suffering takes over. It is a space where people found their identity and others were eventually forced to relinquish theirs through the conversion of the Synagogue to Supreme Court. This meaning of place stems specifically from the old Synagogue. As a character made up from its physical nature, cultural associations and a certain intangible essence that is given by human use over time. The Synagogue is not merely seen as a physical object in space, but with an added unique presence expressing the environment it grew out of.

This distinct character of place, relative to the site and the Synagogue can be understood through the words of Norberg-Schultz, where he states that: a place is a space which has a distinct character. Since ancient times the *genius loci*, or spirit of place, has been recognised as the concrete reality man has to face and come to terms with in his daily life. Architecture means to visualise the *genius loci* and the task of the architect is to create meaningful places where he helps man to dwell. (Norberg-Schultz, 1980)

This proposal will thus have to be seen not merely as manipulating form to create space, but rather to create an even stronger sense of place through the synthesis of the whole context of the site. The goal should be to discover the best fit between the physical context and the needs and aspirations of all users.

## **Defensible space:**

If people require a relatively stable system of places, in which to develop themselves, then these needs endow architectural space with an added intangible emotional content. This emotional content can meet privacy demands through the provision of a boundary or definite edge. Martin Heidegger notes that a boundary is not that at which something stops, but as the Greeks recognized, the boundary is that from which something begins its presencing. It is from this phenomenology that the anchoring factor of my design lies.

When dealing with survivors of family violence one is forced to accommodate for an extremely traumatised person. One for whom “The threat of harm is ever present in the physical and social environment, and constant vigilance is required.” Furthermore, “survivors have resolved their victimisation when they are able to feel relaxed, connected to others and in control of their anger.”(Andrews, A, B. 1990; 212) These necessary characteristics for an appropriate response have informed the design of the family court to be a 'sanctuary' of defensible space.

Defensible space can be understood as a place where users perceive the space that affords them easily recognisable and controllable activities within. This type of environmental structure expresses a social fabric allowing for a sense of community to arise. In dealing with the privacy demands of a survivor of family violence or trauma, Jon Lang illustrates in his book: Creating Architectural theory; the role of the behavioural sciences in environmental design that these individuals are especially vulnerable to anti-social behaviour and that their defensible space needs are high. Similarly, their social- space distances are likely to be reduced. However, not only is the privacy need for a survivor high but so too does it vary considerably in different cultures.

In ascertaining the correct language for privacy in South Africa, one needs to take a step back and analyse cultural aspects of space as a public or private entity.

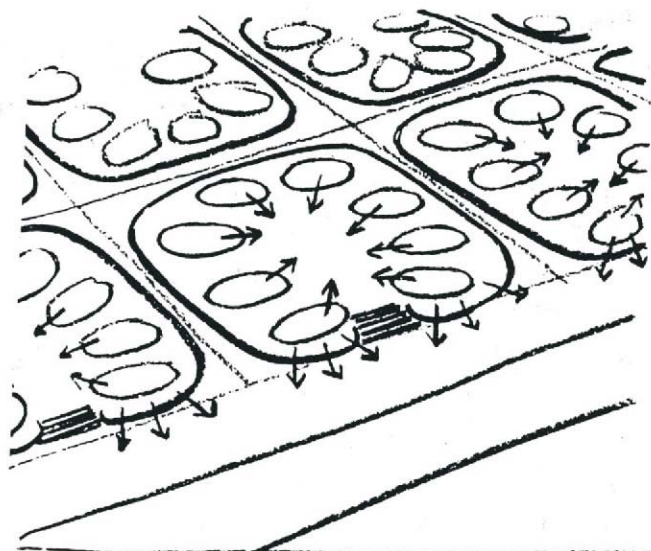
Urban society in South Africa has two major cultural views: Historically colonial settlement in South Africa imposed a European, metropolitan culture of cities. Space to this European ideology is seen to be private, except only for specifically designated and regulated public areas, defined through walls and fences.

On the contrary African culture validates itself through personal and humanist values. In this culture all space is understood as public, except specifically for that defined by ritual.

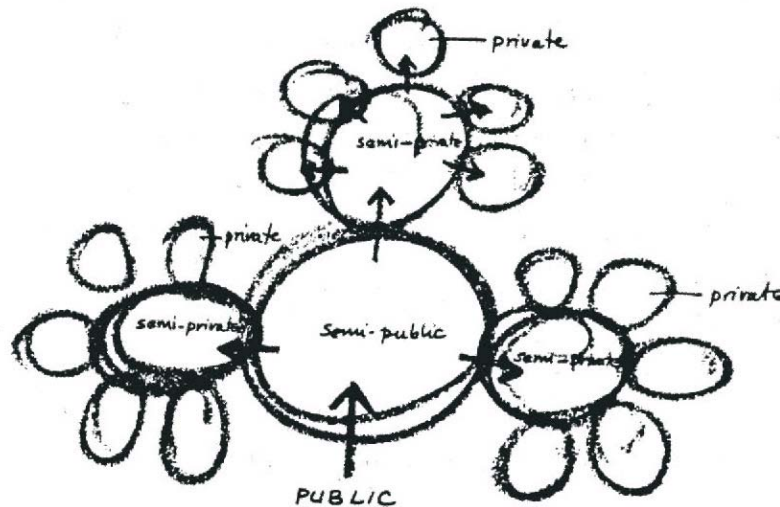
The attempt to synthesise this type of private space ideology, is demonstrated through the incorporation of specific compatible cultural spatial systems. These systems can be seen as that of Western European culture replicating African values. They will be analysed in terms of;

- Belonging in a place, and the type of philosophical identity one attributes to the place.
- The use of behavioural setting analogies, relating to memories of dwelling. Allowing for a greater connection through the ideology of spatial memory.

(Lloyd, R: Defining spatial concepts towards an African urban system, Urban Design international. (8) no 3, September, 2003; 105-118)



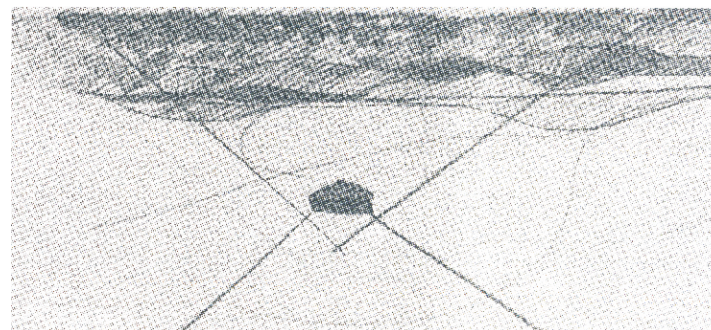
4\_01  
Oscar Newman (1974) demonstrates conceptually the combination of territorial definitions and natural surveillance opportunities



4\_02  
Newman (1974): shown here is the conceptual understanding of hierarchies between public to private. Newman found this a necessary enabling factor for persons to sense control over an environment



4\_03  
African 'rural dream': all space is public except for space designated 'private' through ritually contrived building 'language'



4\_04  
European 'rural dream': all space is private and designated so through legal and graphic orders, and also visually, to the horizon



## **Belonging:**

"A critical process to social health is the taking of 'ownership' of an urban space, both in individual and group terms. And an essential requirement for this is legible and enabling connections between culture and space." (Lloyd, R. 2003, 115)

If particular spaces are given meaning by the practices that take place there, these spaces are dependant on keeping the memories associated to them, alive. In this sense the space surrounding the Synagogue and the Synagogue itself, has ascertained a certain character over time. However, as the new activities of a Family court take over the space and the re-appropriation of the Synagogue to a more public place allowing memories of oppression to fade. The space takes a new character of public inclusion.

This inclusive nature "suggests a way in which communities might colonize various territories through the literal performances- the actions, ritualistic behaviour and so on- that are acted out on a given architectural stage. It is through those performances users can achieve a certain attachment to place." (Leach, N. 2002; 79)

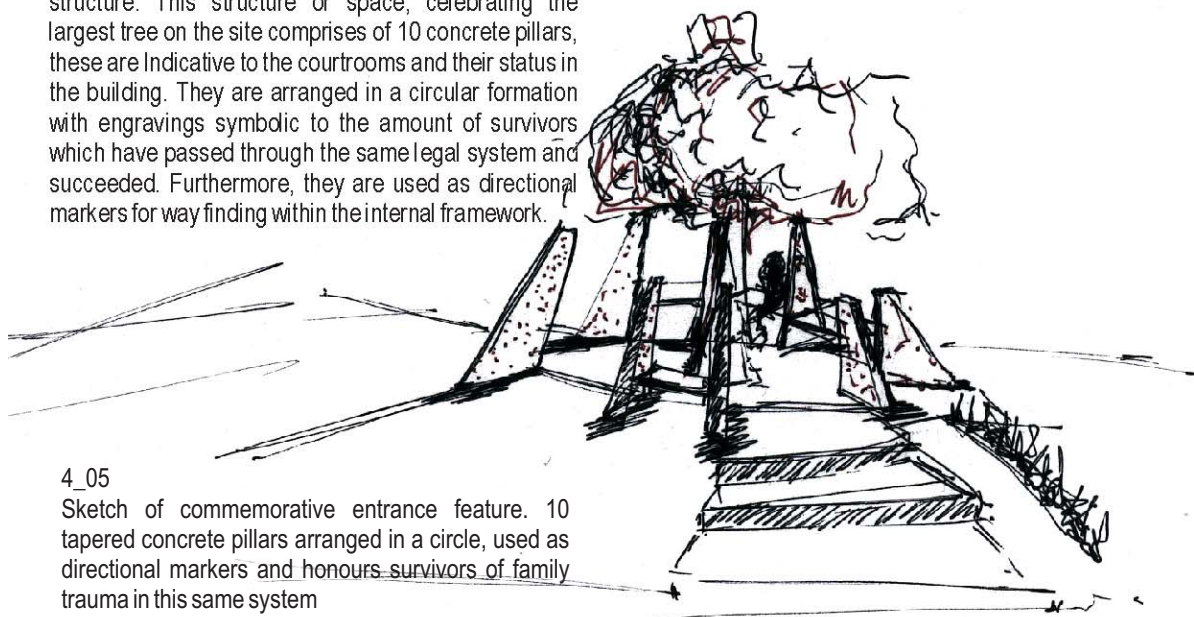
The architectural stage in question would be the internal private areas catering for the users of the legal system. One could further this notion of a theatrical dramatisation, by allowing the implication of mimesis to inform a ritualistic act of acceptance and identification within the cosmos. Through the interpretation of society, viewed as a city, the building attempts to re-interpret this by its configuration of a small city or village. Once in society the users can re-associate themselves back into the perimeter of the building and in so doing 'back into society'. This understanding of society can be seen to the users as re-inscribing themselves, to the space which allows them an escape from their previous problems.

As a combined result of the echoing and re-enforcement of these two sets of experiences over time, a sense of mirroring and consequent identification is achieved. This mirroring can thus allow one to feel like they belong, not only in a place such as the family court but also in a public society.

If one is to find a common ground between the understanding of a western philosophical self (one in which death can be seen as a culmination of life on earth) and an African philosophical self (which naturalizes death, by recognition of it as more than just a material function, and thus seen as another form of social relationship with ancestors). (Lloyd, R. 2003, 107) Then the only manner in which to fuse these two contradictory understandings of self is to view it as a system. This system can be seen as a fusion between; *logica*, central to a European tradition dominated by mystic and emotional values and that of an African thinking.

This cultural unifying factor can be seen in the side entrance to the Family court. Users of the private domain of the court area are greeted with a memorial type structure. This structure or space, celebrating the largest tree on the site comprises of 10 concrete pillars, these are Indicative to the courtrooms and their status in the building. They are arranged in a circular formation with engravings symbolic to the amount of survivors which have passed through the same legal system and succeeded. Furthermore, they are used as directional markers for way finding within the internal framework.

Seen as mimicry of Stone henge and of primordial man it can be interpreted as the thinking of *thesis* and *logica* becoming overshadowed by a longing to understand nature and its origins. As Stone henge's gateways were placed to predict natural events and *chronos* (time) they linked the earthly and man to that of the heavenly world. It is the metaphorical relation between astronomy to rebirth and regeneration. Becoming a gathering space where people constantly moved to and fro from, creating a sense of pilgrimages. With the entrance design in the family court of concrete pillars tapering up to the heavens one can almost see how placing this as a pause area of orientation, can just as Stonehenge affiliate man to a higher power or celestial being. Viewed as a portal from 'us to them', further emphasising the idea of a stage. A making of place from a foul thing of trauma, and struggle, emerges something exciting, creating a sense of serenity from the chaos that was. This site and space, thus becomes appropriated by the to and fro movement giving it a ritualistic pilgrimage relative not only to an African ideology but to an ideology to which anyone can relate.



4\_05

Sketch of commemorative entrance feature. 10 tapered concrete pillars arranged in a circle, used as directional markers and honours survivors of family trauma in this same system

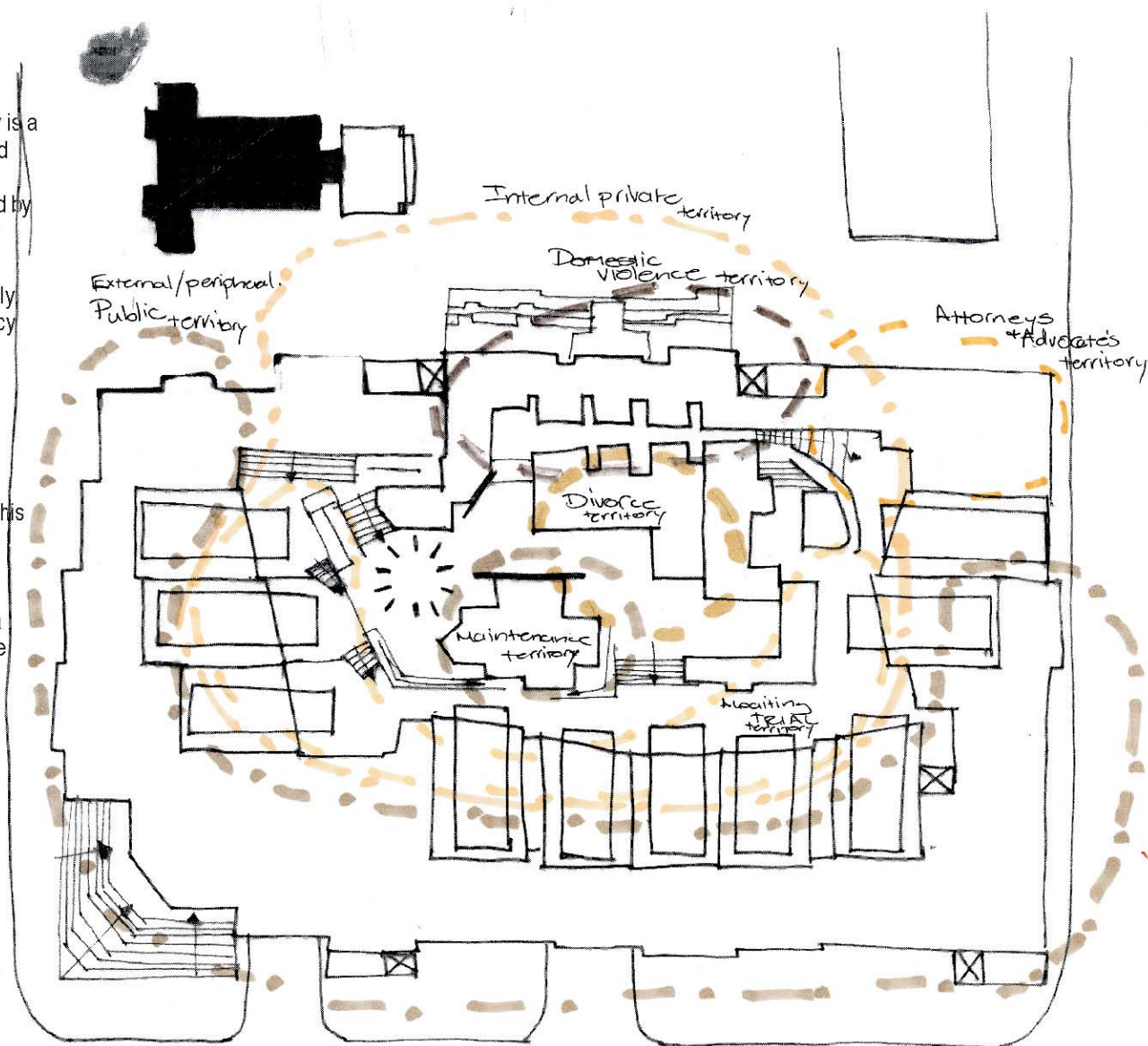


In adding to the notion of culturally unifying belonging. The design of the Family court cannot overlook the understanding of territoriality.

Leon Pastalon, (quoted by Lang, 1970) gives the following definition of a human territory: A territory is a delimited space that a person or a group uses and defends as an exclusive preserve. It involves psychological identification with place, symbolized by attitudes of possessiveness and arrangements of objects in the area.

The overall design of the Family court is essentially split into zones of territoriality. This afforded privacy through territorial control, is important because it allows for the fulfilment of the needs of identity, security, stimulation and a frame of reference.

The design is split into territorial hierarchies comprising of a peripheral public territory encompassing an internal semi private territory. This semi private territory is split further into smaller territories of a more private nature. According to Lang these hierarchies of territoriality seems particularly important in societies where there is a great need for security. Thus, further enforcing the adequacy of this type of design.



BELONGING

DESIGN DISCOURSE

4\_06

Diagrammatic sketch of territories in the design of the Family court

## The Behaviour Setting:

An architectural environment is more able to provide for basic needs of people – those of shelter and security- than it is in meeting the needs that are a product of interpersonal and social relationships. Yet even here the built environment is important, because it does at least partially meet the need of self esteem, affiliation and the use of aesthetics through the symbolic messages it provides of status, identity and values.

A building design imposes on people's lives through the affordances it possesses. But not all people perceive these affordances in the same way. Because of this we need to study the social environments where a user feels the most comfortable, and for lack of a better term 'at home'.

This "'commodity' is one of the basic concerns for an environmental design. It has to do with the way the built environment houses activities, international patterns, and individual movements to attain, at least partially, the specific goals of the individual or organization." (Lang, J. 1987; 109) The concepts of 'behaviour settings' embrace the attainment of all these goals of design and provide a foundation for environmental analysis and design in responding to human needs. In table 4\_07 one can see the correspondence between the human needs identified by Maslow juxtaposed to Steele's list of functions of the built environment. Here a same mechanism can attain the many functions of the built environment, and the same type of contact can meet a number of goals.

Therefore, one can deduce that an appropriate environment can be seen as being a nested set of behaviour settings. The ways in which these behaviour settings are laid out or perceived are major contributors to subjective feelings of environmental quality.

The layout of the environment is not only the planning or setting of the environment; it can also be seen as a cognitive notion of the building or area. This wayfinding and spatial orientation is very important to an efficient environment.

Activities within a building affect the images one associates with it. These in turn affect the association one has with the building and its spatial behaviour patterns on the psyche. Spatial layout and orientation can thus be seen as a form of a cognitive mapping process.

Cognitive maps contain information about the physical setting, establish the position in space, show direction and facilitate tasks of wayfinding. A person continually acquires new information in interacting with the environment, and the map becomes more accurate. Cognitive maps are furthermore modified by memory and learning. (Passini. 1992; 46)

The necessary environmental settings for the Family court are legibility and association. Creating a highly imageable building, assisting in the perception of ones cognitive map finding abilities. "A highly imageable city, building or interior is one that is perceived as a well structured system of components that are related to each other. (Lang, J. 1987; 137)

Main problems in forming a coherent image of a building are due to difficulties in grasping spatial organization, spatial enclosure, and spatial correspondence. However this does not imply that the building should be simplified to such an extent that it becomes lifeless. "Simplistic functionalism must be avoided, as this leads to uninspiring and monotonous environments. Spatial complexity and the unknown awaken curiosity and the desire to explore." (Passini. 1992; 22)

In an African context restorative environments or merely behavioural settings can be perceived differently through cultural and personal dissimilarities. In relating to cultural diversity these factors can be associated with the ideology of spatial memory. As shelter means varied things to various cultures, so too is the imagery invoked within the term different.

To rural people, their experiences from childhood of unstructured veldt; would have trees and rocks and water, in all its forms creating place, boundary and landmark in complex, varying arrangements. To city dwellers, experiences from childhood are made up mostly of spatial experiences with geometric, man-made form. Space would be seen as predominantly hard-edged and surfaced, often devoid of planting, trees and a limited sense of sky. Their inherit sense of spatial complexity fails to develop. Diurnal time and rhythm are predictable and modified by artificial lights. (Lloyd, R. 2003; 109) Cultural meaning can be increasingly interpreted by known environmental influences, in which space must be seen as having value unique in each society.

Pathologies of social behaviour are also exacerbated through intense urban experience. Acute sensitivities due to this were studied by Freud. His theory on the Nirvana principle specifically relates to this. The nirvana theory centred around the conflict between Eros and Thanatos, between love and death. These related back to the memory of the prefect state in the womb, a refuge, striving only for the satisfaction of the pleasure principle. This would be a state where psychic equilibrium and the highest level of universal harmony would be found.

Lloyd suggests that it is this 'drive for harmony' that manifests in pleasure derived from aesthetic values, most notably those of spatial harmony, balance and proportion. He goes on to say that mimetic identification with objects can be seen as a form of narcissism: a compulsion to identify oneself with 'the other'.

Onians illustrates that the meaning and the origin of historically formalised architectural 'objects' develops directly from environmental factors, in particular to those essential for social or group survival.

Therefore, through all of these analogies of spatial sense and memory it is imperative to design the Family court in such a manner as to be comfortable to all cultures and personalities. Allowing all users to achieve a sense of dwelling and of spatial memory to which they can associate with the notion of home. Some aspects in the design which aspire to this concept are:

-The hierarchies of territoriality or zones, as discussed previously can be understood as variously scaled 'objects', allowing for re- association of all cultures and personalities.

-The restorative environment within the semi- private realm of the building will include restorative gardens, consisting of indigenous plants associative to both urban and rural settings. In addition water streams and reflective ponds will be incorporated for one to reflect and have a symbolic association through the cleansing of ones hands.

#### Human Needs and The Sociophysical Mechanisms Required to Afford Them

| Need                | Steele's Concerns                            | Sociophysical Mechanisms/Design Issues                                     |
|---------------------|--|--|
| Physiological       | Shelter and security<br>Task instrumentality | Shelter, access to services  |
| Safety              | Social contact                               | Access to services, privacy, territoriality, defensible space, orientation |
| Belonging           | Social contact<br>Symbolic identification    | Access to services, communal settings, symbolic aesthetics                 |
| Esteem              | Growth, pleasure                             | Personalization, symbolic aesthetics, control                              |
| Actualization       | Growth, pleasure                             | Choice, access to developmental opportunities, control                     |
| Cognitive/aesthetic | Growth, pleasure                             | Access to developmental opportunities, formal aesthetics                   |

4\_07

Table demonstrating the mechanisms in designing appropriate environments with human needs and sociophysical concerns. (Lang, J. 1987;110)



# CONCLUSION:

In order to enhance the *genus loci* of the Synagogue and the site proposed for the Family court. One needs to take the distinct character of the space and the Synagogue into consideration. It is an even more challenging site as the Synagogue has already been endowed with a memory of place. This memory of place is one imbued with Jewish identity and the struggle of the treason trials. An appropriate intervention would be one of public inclusion within the surrounding area and the Synagogue itself, thus allowing a new memory to be born and assimilated.

The high need for privacy in this building has informed the design to that of a village or city layout. However, for one to design adequately within the context of South Africa one must understand the cultural differences in our country. A synthesis of these private space ideologies has been incorporated in the design through an amalgamation of Greco- Roman origins of Western European culture replicating African values.

Belonging in a place, and the type of philosophical identity one attributes to it, must be analysed through a culturally unifying or community building front. This can be seen through a sense of territoriality enacted through literal performances of 'rituals' and actions. Further implying mimesis depicting a 'ritualistic' act of acceptance of their situations and their identification within the cosmos.

Symbolic metaphors throughout the design permit the correlation of European mysticism and African rituals to relate not only to specific cultures but to humans in their most primordial nature.

The uses of behavioural setting analogies, relating to memories of dwelling, allocate a greater connection with the building through the ideology of spatial memory. This spatial memory can yet again be viewed as being influenced by varying cultures and personalities. The connotation of a dwelling as a home can be perceived differently. Depending on the numerous spatial complexities pertaining to the many subjectified understandings of a house. These understandings are necessary to implement in an environmental design specifically geared to accommodating people. The proposal further aims to use the idea of empathy through the use of *chronos* and connotations within this environment to link with a more humanistic approach of the legal system. Thus, leading to a much more conducive setting for everyone.

# Chp 5

## DESIGN DEVELOPMENT

### DESIGN DEVELOPMENT:

- Analysis of Synagogue and Urban Framework
- Materiality
- Accomodation Schedule
- Design Process
- Discourse Implementation with Design
- Movement Within Design
- The Courtroom
- Technical Investigation:
  - Solar Penetration of *Brise Soleil* Structure
  - Courtrooms
  - Design Drawings

# ANALYSIS OF SYNAGOGUE AND URBAN FRAMEWORK:

In analysing the Synagogue one can pick up a specific pattern of elements apparent to the western façade. The building is divided through this façade in a vertical and horizontal manner. Horizontally the building is divided into four bands. Vertically it is seen as comprising of two main elements. These main elements extend beyond the building, heightening the emphasis on them. It is built of two different coloured face bricks creating an emphasised characteristic banding system.

All of these main elements must be taken into account, if one is to design in a complimentary fashion with the Synagogue.

## **The Urban Framework:**

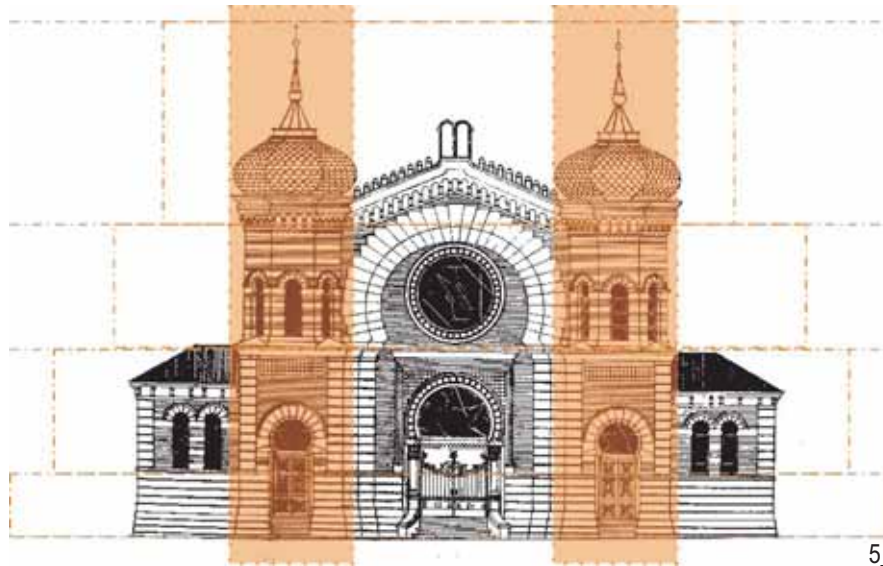
If one is to emphasise the Synagogue as a landmark, then it must be perceivable without obstruction from any buildings around it. Isolation was used to instil a sense of importance to the heritage building. With this, people who do not already associate the building as being an integral part of South African history can understand the nature of the building.

The design of the square is humble and does not detract from the Synagogue. It has adequate planting and seating for people to congregate comfortably. A symbolic re-presentation of a historic timeline will be incorporated in the paving, informing users about the historic connection of the site. This timeline will extend to the façade of the Family court. This south façade facing the square will have sandblasted windows with appropriate phrases of the Freedom charter printed on.

The square is penetrable from all sides and allows for easy movement through to the hawkers allocated on the western façade of the National Library.

A visual link to the Jansen house has been incorporated; this link can orientate one in the direction of another public square incorporated in the proposed urban framework. The node and square created will be named the Synagogue

Square, further emphasising the *Genius Loci*.



5\_01  
Analysis of the main elements  
of the old Synagogue

## **Accessibility:**

A tram system incorporated with the proposed urban framework will run parallel to the site, lending accessibility throughout the CBD. Pedestrian traffic will be heavily benefited by this system, and thus will increase. The location of the site is greatly afforded by being five minutes walking distance from Church Square, where the main central bus terminal is situated. Users in privately owned vehicles can access the site on the four roads flanking it. These vehicles can park either; in public parking accessed via the right of way servitude, or in the public parking facilities available in the Family court accessed through Proes street.

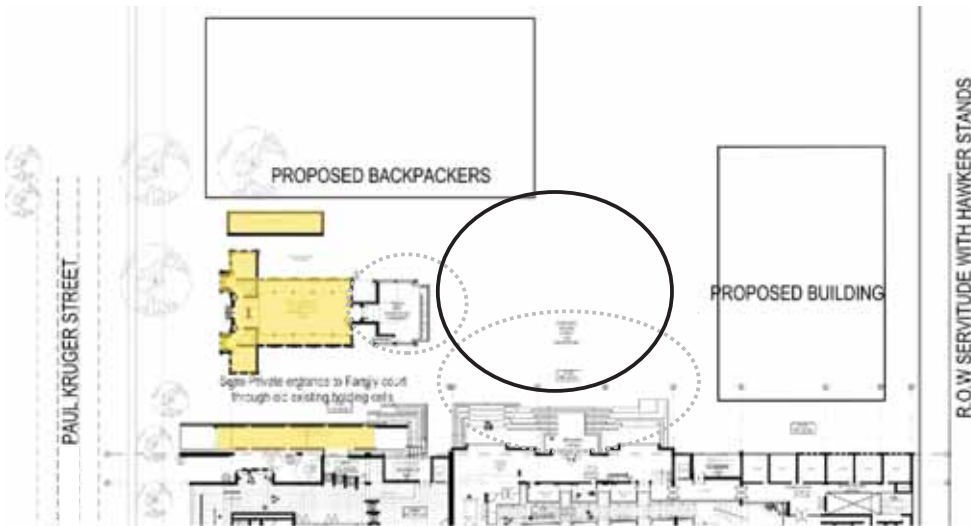
## **Integration of Family Court with the Synagogue Square:**

In designing the Family court as a fortified city of defensible space, the perimeter of the Family court was devised as an inclusive feature to public interaction.

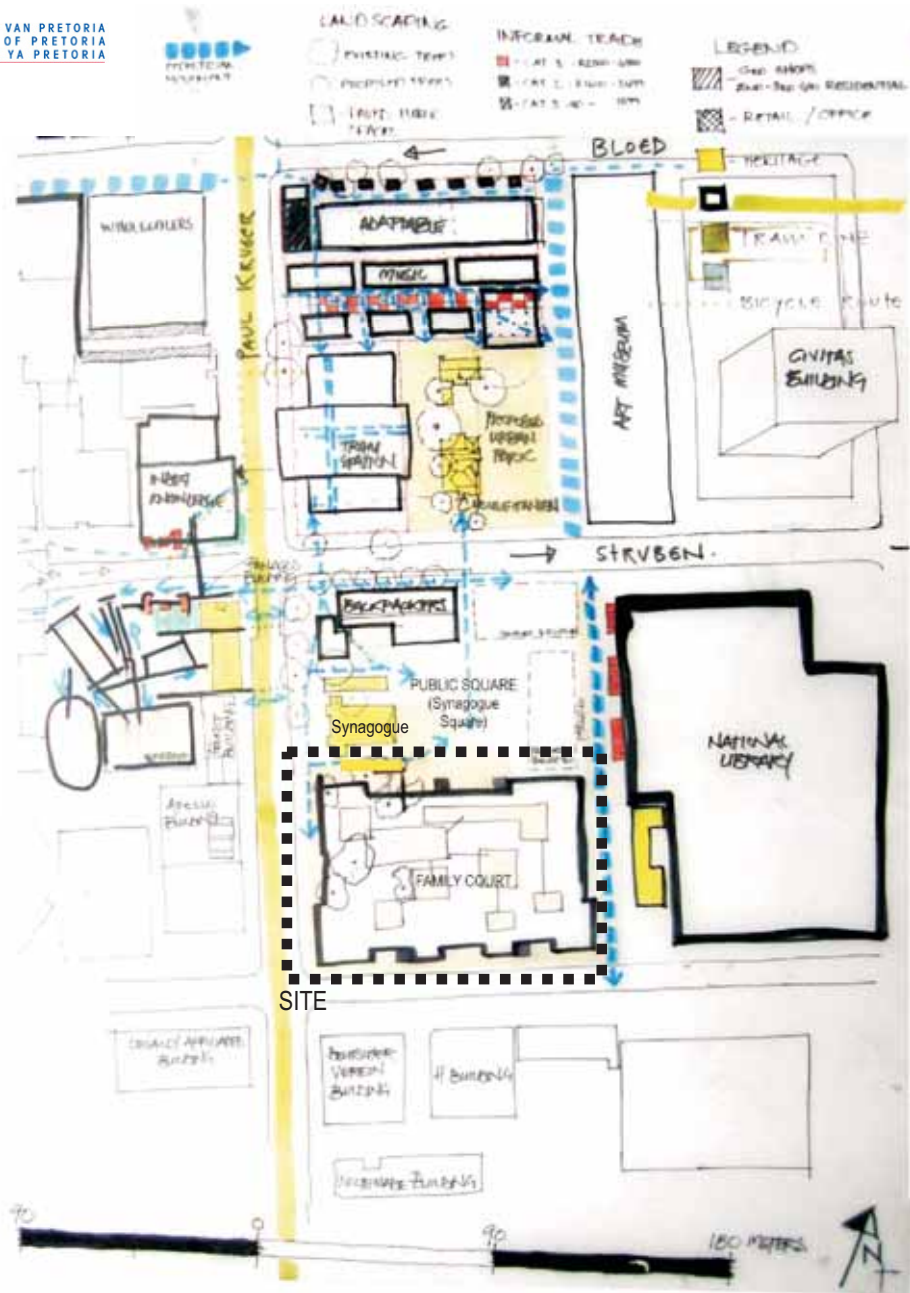
The decision was taken to reappropriate the Synagogue in a dual manner. Firstly, it would be used as a tribunal court room where cases of greater importance are held. Larger public seating would be facilitated, along with an added area on the balcony for the press. Secondly, an added function to the Synagogue would be a community hall. This would be offered to the public at a fee, when not in use as a tribunal.



Necessary facilities for this dual function would be accommodated in the re-use of the northern block structure as a catering facility. An added structure to the eastern façade of the Synagogue would accommodate magistrates. This structure would carry through the architectural language of the Family court. Its location was not only chosen for easy access to magistrates, but also for a symbolic association of a spiritual re-birth associative to many cultures, including African. A balcony has been incorporated into the design of this chamber, to facilitate in the addressing of public crowds or protestors. In the event of public demonstration or protest an area of terraced gathering has been designed into the northern periphery of the Family court. Here, a speaker can address the crowd on a lifted podium and find a platform where he can be heard.



5\_02  
Relationship of Family court with  
Synagogue square

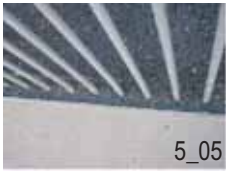


5\_03  
Urban framework as to the students of  
Pretoria University

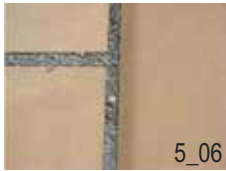
# MATERIALITY:



The urban proposal aims to re-integrate and exemplify heritage buildings in an around the CBD. The Synagogue will be restored to its former glory, of face brick banding and stained glass windows. With this in mind, similar banding has been incorporated in specific walls of the Family court. All buildings will be built out of a masonry construction except for lift towers.



Off-shuttered concrete work will be used throughout all lift towers as to create solid cores. Façade elements relating to the courtrooms inside will be constructed out of cantilevered off-shuttered concrete, finished with mosaic tiles. These mosaic tiles refer back to the Woltemade building, as they are of the same colour scheme, creating a greater contextual synergy.



Weatherable steel is incorporated as a major design component. It is understood as a symbol of a legal authority wiser with age. In this application steel will be treated with a galvanising, oxidising agent, proving more efficient and economically rewarding.



Furthermore all glazing will be made of an aluminium modular system.

All paving will be seen as a sensory experience further connecting the user to ones territory or domain. Gravel and pebbles are used in conjunction with concrete pavers, aiding in a therapeutic and melodic movement throughout the site.



In these figures one can see influences of the previous precedents and how they informed the selection of materials .



5\_15

5\_16

MATERIALITY

DESIGN

# ACCOMMODATION SCHEDULE:

| Facility description   | Amount of people | Area allocated for these | Amount of facilities    | Area allocated              | Extra circulation & waiting areas                   | Total area (m <sup>2</sup> ) |
|--|------------------|--------------------------|-------------------------|-----------------------------|---|------------------------------|
| <b>Family court:</b>   |                  |                          |                         |                             |   |                              |
| Divorce offices  | 8 people         | X 1m <sup>2</sup> (each) | 8 offices               | X 8 m <sup>2</sup> (each)   | + 15% of area                                       | = 73                         |
| Maintenance facilities   | 9 people         | X 1m <sup>2</sup> (each) | 8 cubicles              | X 7,5 m <sup>2</sup> (each) | + 15% of area                                       | =69                          |
| Bank payment facilities  | 50 people        | X 1m <sup>2</sup> (each) | 8 cubicles              | X 7,5 m <sup>2</sup> (each) | + 15% of area<br>+ 5 m <sup>2</sup> for strong room | = 122                        |
| Domestic violence  | 30 people        | X 1m <sup>2</sup> (each) | 7 offices               | X 8 m <sup>2</sup> (each)   | + 15% of area                                       | = 94                         |
| Public waiting area  | 350 people       | X 1m <sup>2</sup> (each) | 1 concourse             |                             | + 15% of area                                       | = 405                        |
| Admin and accounts call centre                                   | 25 people        | X 1m <sup>2</sup> (each) | 25 open plan offices    | X 8 m <sup>2</sup> (each)   | + 10% of area                                       | = 220                        |
| Offices ( court clerk, court marshals, etc)                      | 25 people        | X 1m <sup>2</sup> (each) | 25 open plan offices    | X 8 m <sup>2</sup> (each)   | + 15% of area                                       | =230                         |
| Magistrates chambers with changing room                          | 19 magistrates   | X 1m <sup>2</sup> (each) | 19 chambers             | X 25 m <sup>2</sup> (each)  | + 10% of area                                       | =522                         |
| Attorneys offices  | 15 magistrates   | X 1m <sup>2</sup> (each) | 15 offices              | X 12 m <sup>2</sup> (each)  | + 15% of area                                       | =207                         |
| <b>Miscellaneous</b>   |                  |                          |                         |                             |   |                              |
| 10 courtrooms  | 70 people        | X 1m <sup>2</sup> (each) |                         |                             | + 15% of area                                       | = 80                         |
| Archiving  |                  |                          |                         |                             |   | =500                         |
| Detention cells  | 35 people        | X 1m <sup>2</sup> (each) | 2 cells                 | X 80m <sup>2</sup> (each)   | + 15% of area                                       | = 160                        |
| Detention facility   | 10 people        | X 1m <sup>2</sup> (each) | 9 offices               | X 20m <sup>2</sup> (each)   | + 15% of area                                       | = 207                        |
| Storage and maintenance rooms                                    |                  |                          | 10 rooms                | X 6 m <sup>2</sup> (each)   |   | = 60                         |
| Hawkers stands   | 6 vendors        |                          | 3 stalls & 3 shops      | X 25m <sup>2</sup> (each)   |   | =150                         |
| <b>Child component (including abused and non abused crèches)</b> |                  |                          |                         |                             |   |                              |
| Child welfare offices  |                  |                          | 4 offices               | X 8 m <sup>2</sup> (each)   |   | = 32                         |
| Social workers facilities  |                  |                          | 2 lounge areas          | X 9 m <sup>2</sup> (each)   |   | = 18                         |
| Crèche   | 10 children      | X 1m <sup>2</sup> (each) | 2 crèches with storage  | X 10 m <sup>2</sup>         | + 15% of area                                       | = 46                         |
| Open playground  | 10 children      | X 2m <sup>2</sup> (each) | 2 different playgrounds | X 10 m <sup>2</sup>         | + 15% of area                                       | = 46                         |
| Canteen eating area  | 10 children      | X 2m <sup>2</sup> (each) | 1 serving both crèches  |                             | + 15% of area                                       | =40                          |
| <b>SUM OF AREAS NEEDED</b>                                       |                  |                          |                         |                             |   | <b>=3281 m<sup>2</sup></b>   |

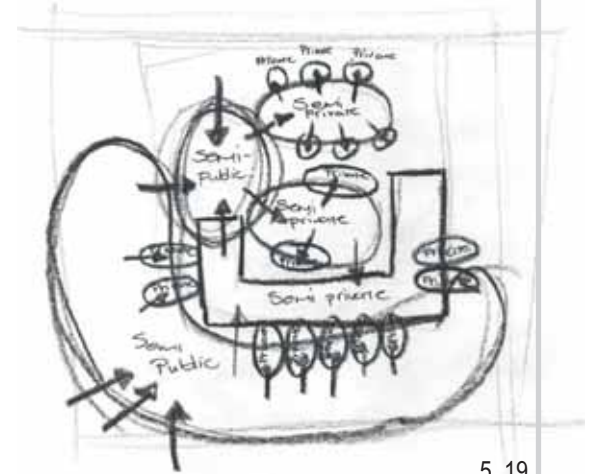


# DESIGN PROCESS:

In achieving an appropriate language for the Family court an analysis of elementary keywords was done. The Keywords allows one to understand the site better and to accommodate for an empathetic building design. They were understood as follows:

- **Memory:** Was viewed as an anchoring point in which the struggle of past individuals allowed new victims of trauma a starting point, redefining their identity. For the significance of the Synagogue to be apparent to the users of the family court, lines of site had to be designed without obstruction to the 'memory' that lay beyond.
- **Recognition:** The moment in which a traumatised person is able to recognise, and accept past injustices to them, the shorter the road to recovery. This commonly understood sentiment of acceptance can be dealt with in unobtrusive architectural scenario. For this reason a subtle side entrance/ *porte cochere* to the Family court was located to the left of the Synagogue through the existing holding cells. This concept was intended from inception to be heavily linked with the recognition of historical past struggles and ones own struggles allowing the user of the family court to feel less burdened.
- **Healing:** An incredibly necessary component of a Family court was discovered to be that of counselling and mediation. Therefore, all private facilities such as; domestic violence, divorce, and maintenance were designed with this in mind.

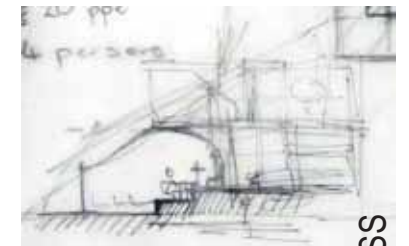
- **Reconciliation:** another understanding of acceptance was incorporated into the design. Here users of the divorce facilities can meet with councillors in unison with their partners and families. This makes not only for an easier and more amicable separation but one which is far less traumatising to family members.
- **Justice:** For the depiction of an understanding, and inviting legal system, the design of the legal peripheral building had to be designed in such a way as not to be imposing and grandiose. The concept of light boxes as court rooms, leading the way into the future for a transparent and understanding legal system was derived through this limitation. The courtrooms were designed as fingers stretching out of the legal realm to the people who need it most.
- **Freedom/ Identity:** was seen as a culmination of all journeys undertaken within the defensible space of the Family court. Here a survivor would be able to reconnect to the identity they possessed without question, before the family violence began. This can be seen as a spiritual conclusion to the journey within the legal system and the Family court itself. In the preliminary designs this was understood as an extra exit point which only survivors would be able to experience. This later proved to be a logistical and safety fracas, therefore enforcing only two main access points to the building.



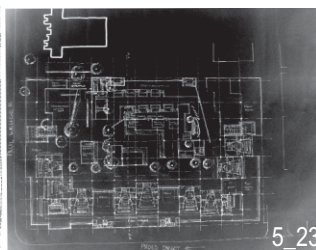
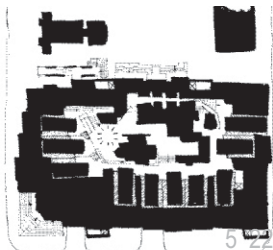
5\_19



5\_20



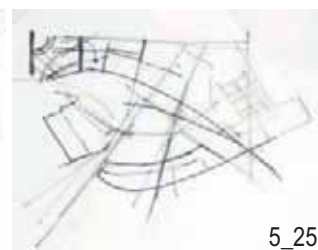
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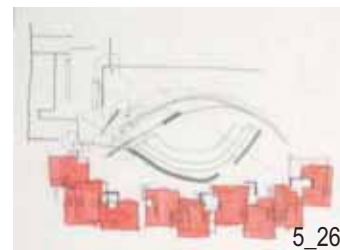
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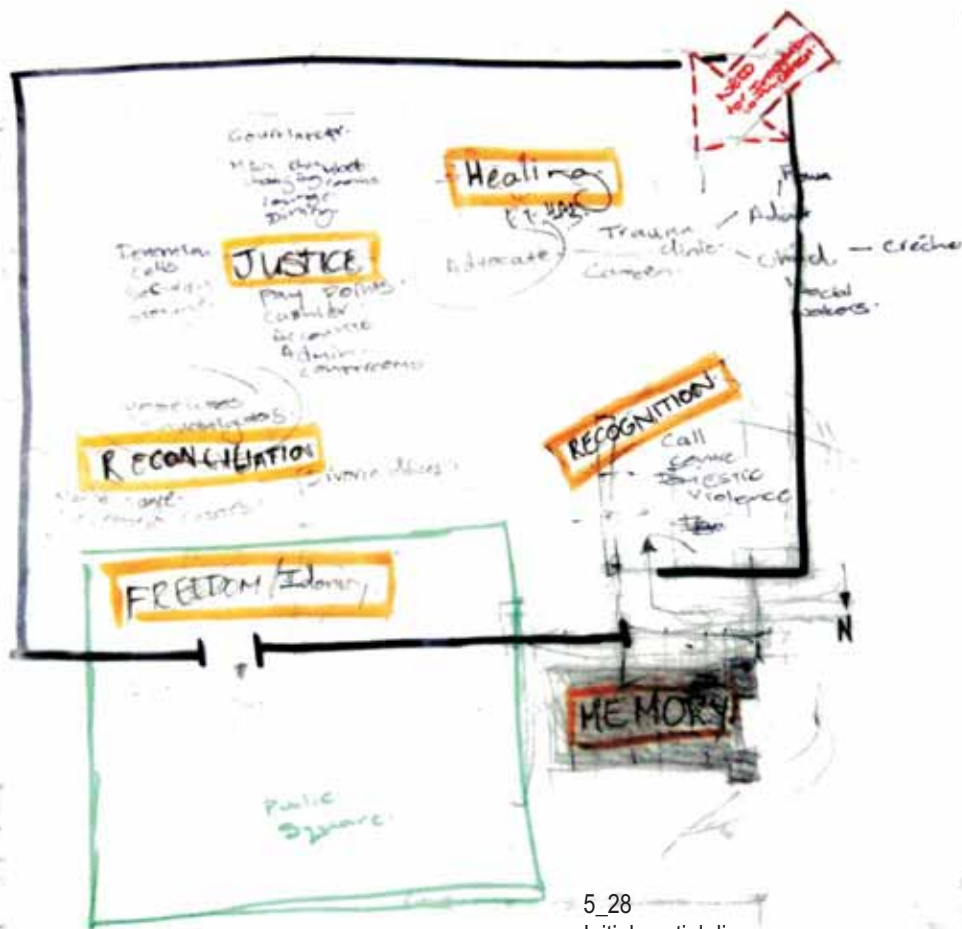
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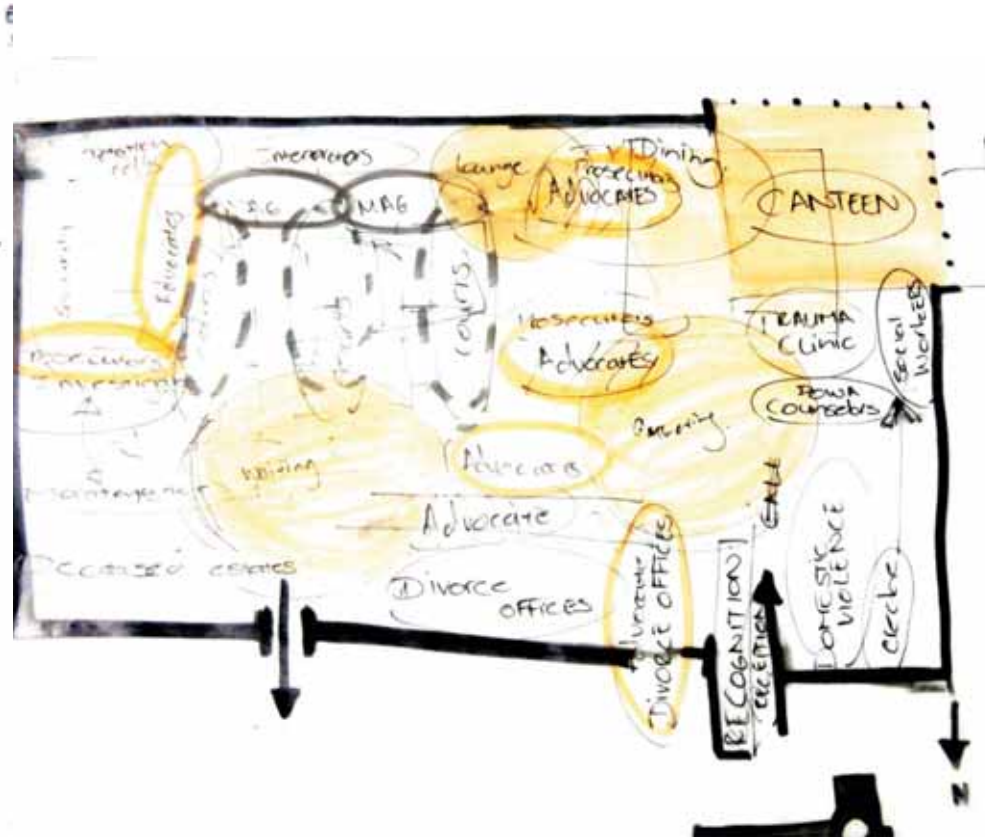
5\_27

DESIGN PROCESS

In the pages that follow the design progress of the Family court is revealed.



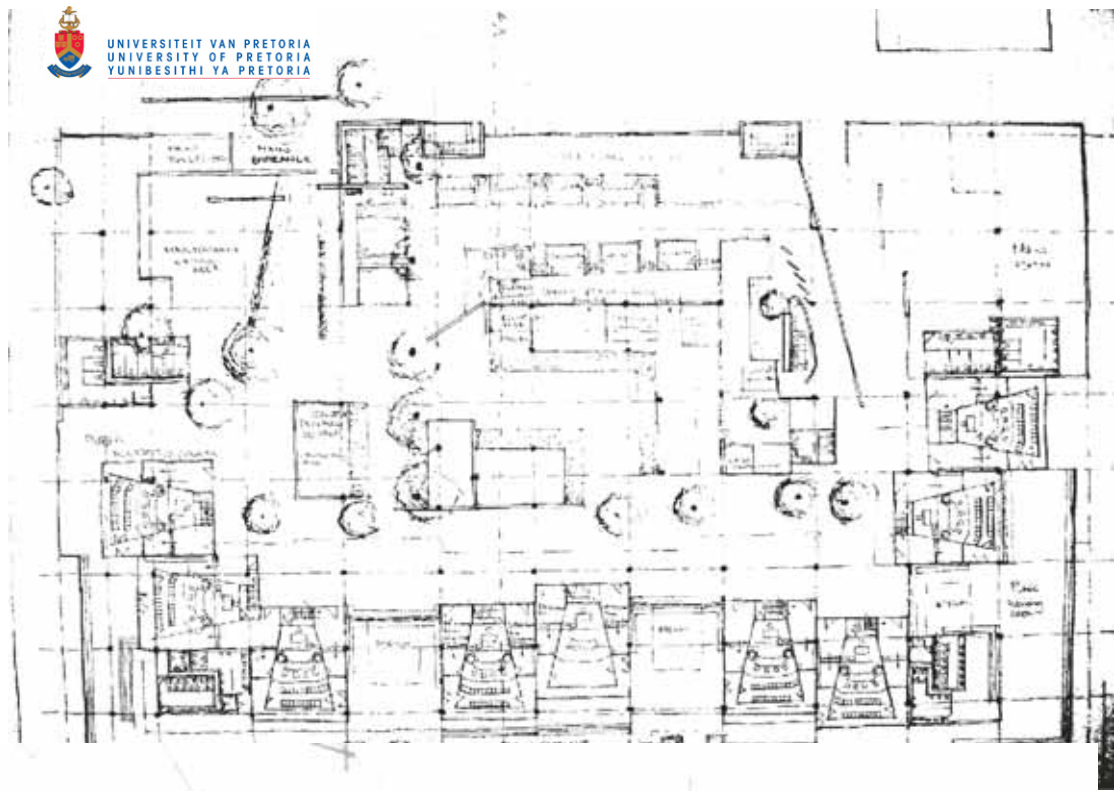
5\_28  
Initial spatial diagram



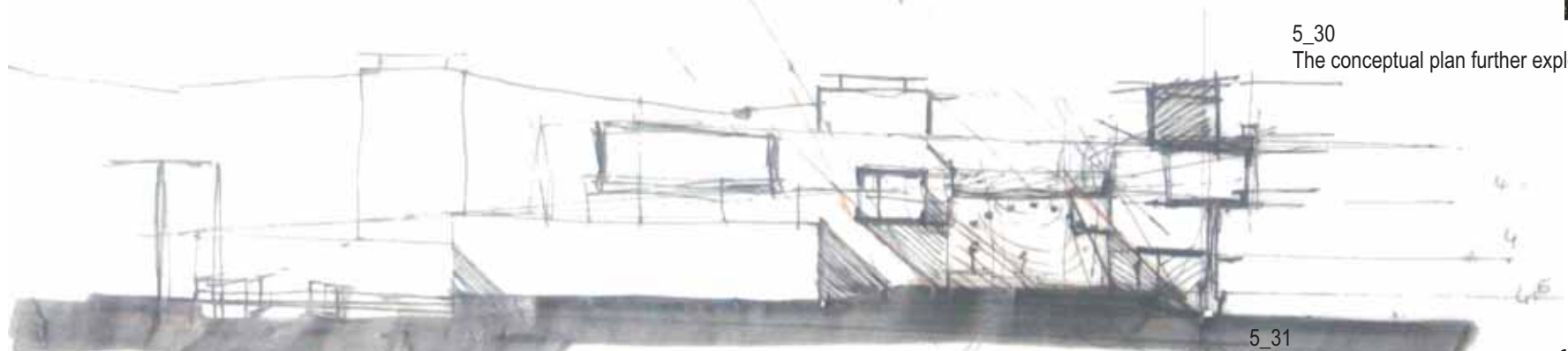
5\_29  
Initial spatial diagram connecting main keywords to services



In this initial phase one can see three main access points, one main entrance on the corners of Paul Kruger and Struben streets, one side entrance flanked by the Synagogue and another exit point leading to Synagogue Square. The facilities proved to be inefficient as disabled magistrates were not able to access the courtrooms, through their stair towers. These towers also proved to be too monolithic and seemed a bit distressing to users. The private zone of departments was conceived as a lower scale to that of the grander juridical building surrounding it. This zone was further broken down within itself through the terracing of levels in which different departments were located, creating a replicated sense of inner sanctum within every terrace leading up to the courts.



5\_30  
The conceptual plan further explored

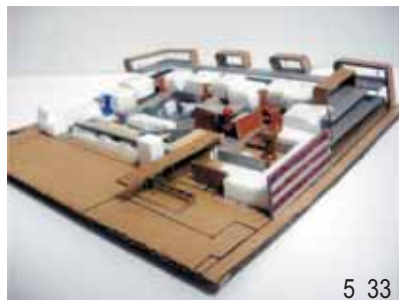


5\_31  
Conceptual section studying solar penetration

Photographs of spatial model:



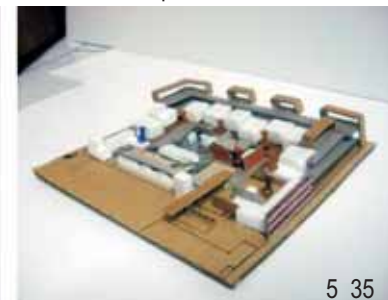
5\_32



5\_33



5\_34



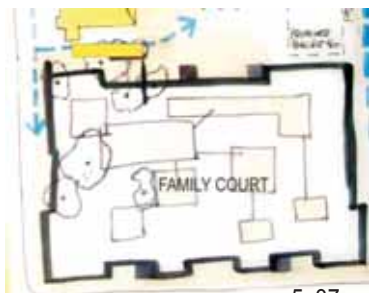
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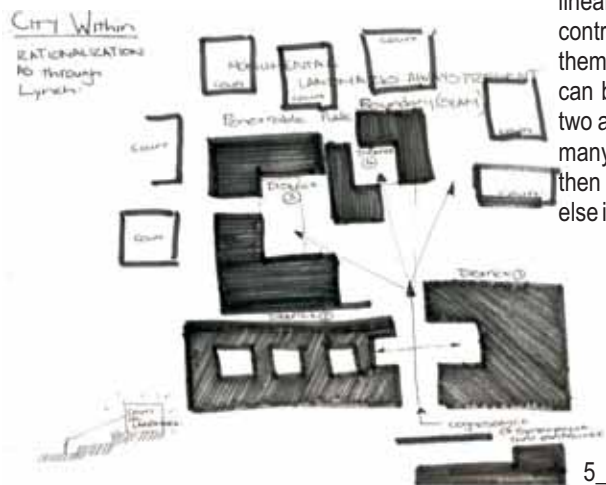
To improve a person's ability in orientating themselves within the building, the individual footprints of the internal buildings were altered. Through the understandings of Lynch and his city imaging concepts; nodes districts, seams, paths and landmarks were established. Here the design gathered wayfinding clues as to orientation and the importance of cognitive mapping.



5\_37

According to Lynch:

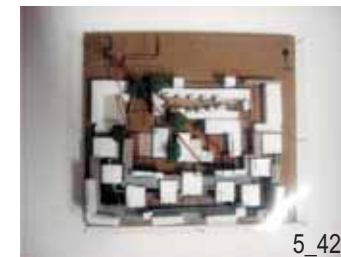
- **District:** is the medium to large section within a city which one enters 'inside of'. It has a common identifying character which may set limits, reinforcing its identity. A district can in itself be structured with sub-districts.
- **Seams:** also known as edges. Are the linear elements not used or considered as paths by the observer. They are boundaries between linear breaks in continuity and can strongly contrast regions set in close juxtaposition to them, holding generalized areas together. It can be seen as a line of exchange of which two areas are penetrable. If it is provided with many visual and circulation connections to it, it then becomes a feature to which everything else is easily aligned.



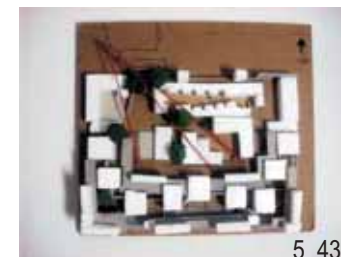
5\_38

- **Nodes:** or cores are places where strategic points of interaction are found. They are understood as the intensive foci to and from which one is travelling. A strong node can create a district in a more homogeneous zone. In essence it is an 'unforgettable space' to which a sharp closed boundary forms a static outdoor space. Paths leading to it must be understandable, so that the observer knows where to enter or exit. A series of nodes can be formed in a sequence forming a related structure, structuring substantial city regions.
- **Paths:** are the channels, along which one travels, they are experienced by moving through them. Through this journey one experiences other elements. They can be seen as central arteries with inherent directional properties creating a route. If one is to orientate themselves in a space paths must be visible, becoming the dynamic shaping in a movement line, thus creating an identity to an experience over time.
- **Landmarks:** are another type of point reference which the observer objectifies. Seen as something the viewer can constantly recognise within his routine. The image strength of these objects rise as the landmark coincides with a concentration of association.

(Lynch, K. 1960; 47-64, 105)



5\_42



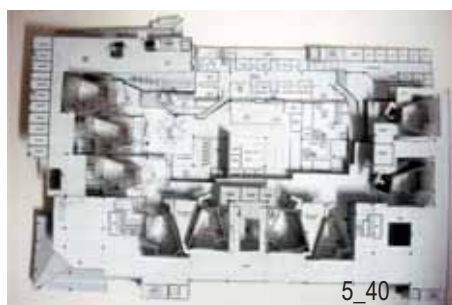
5\_43



5\_44



5\_39



5\_40



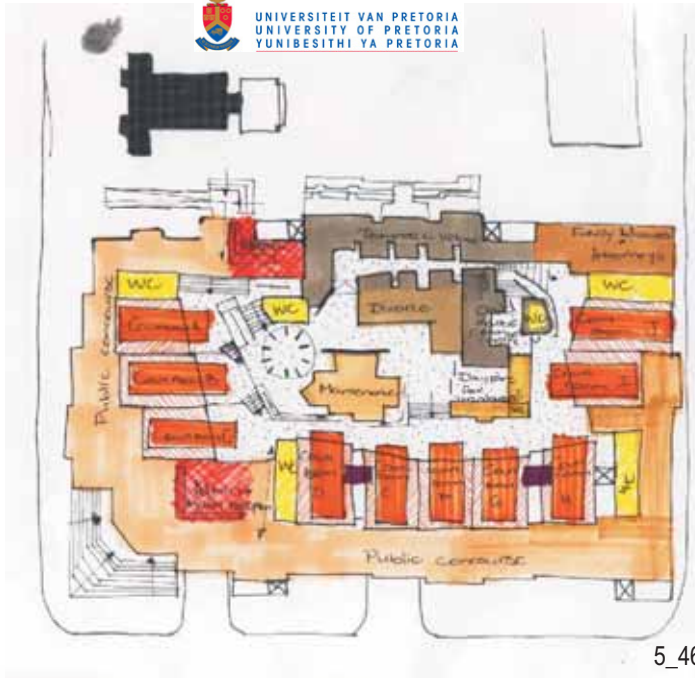
5\_41



5\_45

The final design phase was able to incorporate all aspects learnt from the previous designs, in an understandable and congruous building. Empathy and 'rituals' were added, such as that of washing ones hands when entering as a survivor. The concept to which would be the mimesis of cleansing ones soul of past traumas. A more structured and understandable footprint allows the user to feel comfortable in their environment permitting them the experience of belonging.

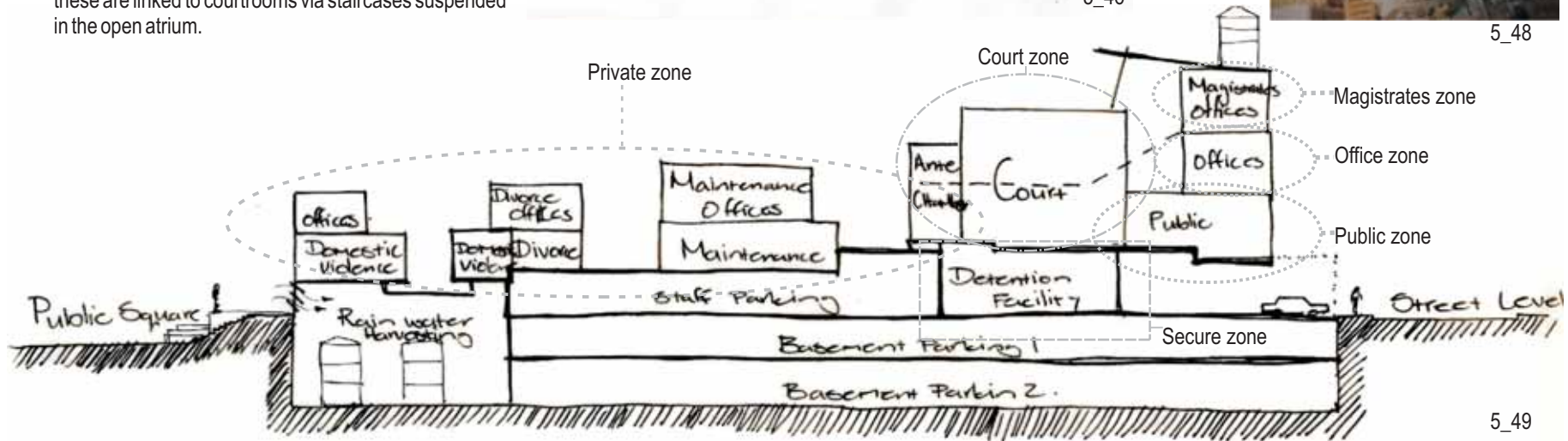
Circulation was seen as a major design generator, and therefore the judicial building was designed in a more efficient horizontal fashion. This enabled a secure detention facility on the ground floor in- accessible to the public. An unrestricted public zone was allocated on top of this level, allowing easy access to courtrooms on the same level. Admin and other offices are located on the floor above creating a more conducive environment, with bridges tying an atrium space together. Magistrate's lounges and chambers are located on the top floor; these are linked to courtrooms via staircases suspended in the open atrium.



5\_47



5\_48



5\_49

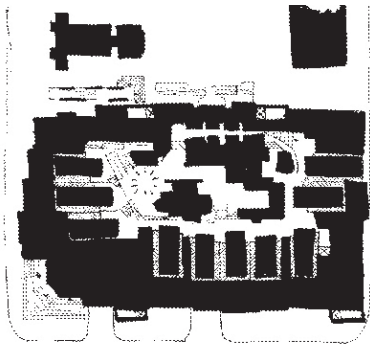


5\_50

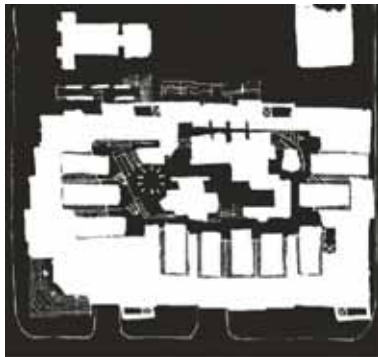


5\_51





5\_52



5\_53

The main design concept of the Family court was to create a stage for elements such as; memory, recognition, rehabilitation, justice, freedom and rebirth. These ideologies were all implemented in various ways, creating exciting experiential movement through the building. In this sense it is intended to communicate with or assist its users. Contrary to so many other civic buildings which refer to its users as merely statistical figures, to which they can dictate and lay their imposing judgements on.

Relating these elements to the ideologies of; space and place, belonging, defensible space and adequate behaviour settings discussed in chapter four, one can view the design in the following manner.

The memory of place and the *genius loci* is emphasised through subtly commemorating the Synagogue. Here the existing holding cells on the south side of it, have been re-adapted to a *porte cochere* side entrance (leading to the more private core of the Family court). This *porte cochere* allows one to experience the holding cells in a wholly unique way. Existing doors are removed from their frames to reveal melodic intervals of the Synagogue. Through this the observer is reminded of the pathological rhetoric of struggle and is able to feel an immediate connection to the place.

The division of the building in districts of semi-public leading to private sub-districts, allows a person to feel more adequate with their surroundings. As a person inhabits the specific areas allocated to them a sense of belonging and dwelling is achieved. Here emotion and reflection becomes the object of identity, something to which the observer can experience, remember and memorialize.

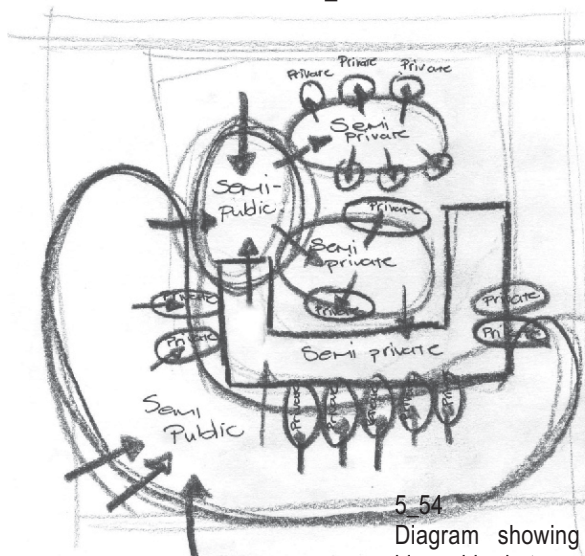
These elaborate emotional landscapes offer users a chance to congregate and create communities within these territories. Introducing an even stronger bond of dwelling within the building.

Nodes or waiting areas found in the private domain are spaces where contemplation occurs, survivors of family trauma establish themselves as both victims and witness. However, now due to an appropriate behavioural environment they are able to distinguish a temporal order to this idea, where victimisation is seen as a part of the past and remembered in the safe enclosure of the present.

A change in the state of the survivor, irrespective of their cultural heritage, occurs alongside a change in the context of testimony, from the entrance, to the point of legal intervention, to the climax of the trial.

The circular memorial mentioned in chapter four, can be viewed as a collective subject of traumatic history providing a way to overcome, confront or recognise one's conditions of subjection through this 'ritualistic' act of empathy and commemoration.

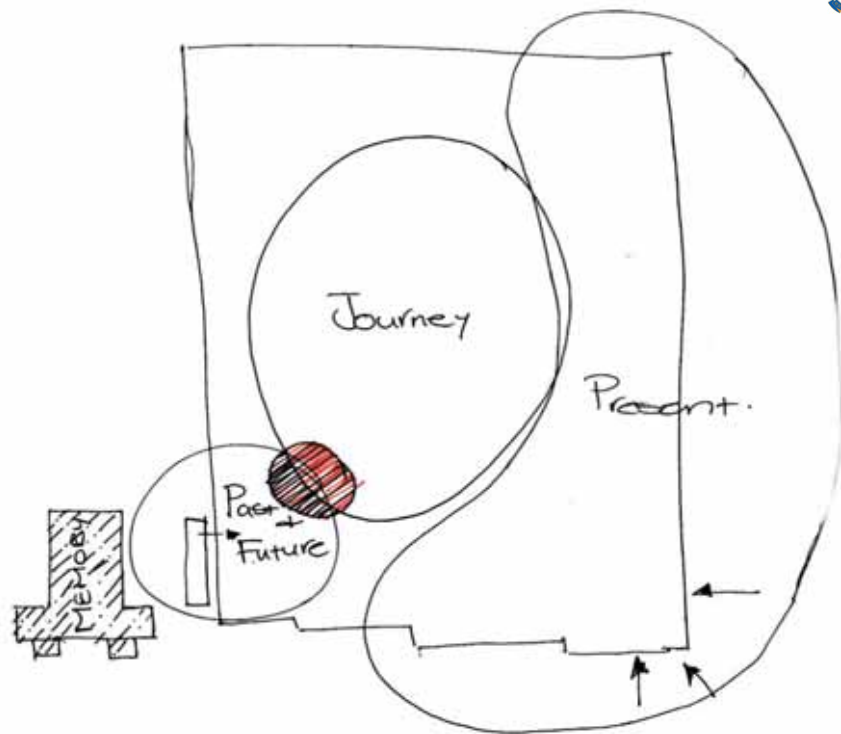
A further implementation of a mythical mimesis integrates the public realm to the private and traumatised realm. This can be experienced through the gallery space or terraced public waiting area descending towards the Synagogue and leading to the private core. This can be viewed not only as exhibition space for influential artworks but it can also be interpreted as that of a public exhibition of an empathetic legal system. This space adds to an individual's perception where one can relate to traumas associated with family disputes, thus heightening awareness to this growing social problem.



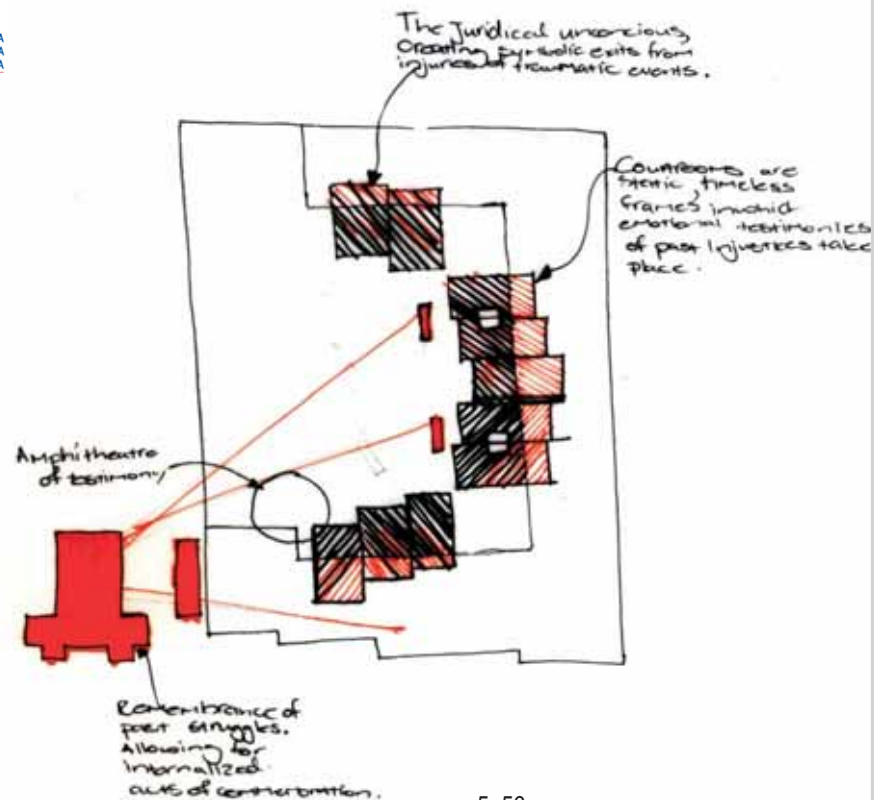
5\_54

Diagram showing the conceptual understanding of hierarchies between public to private in the Family court

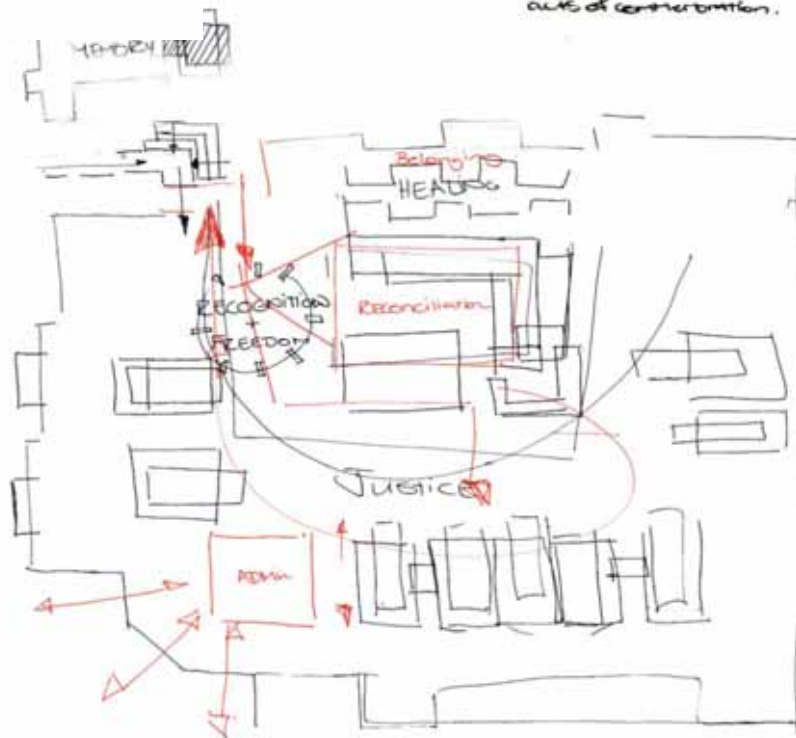




5\_55  
Diagram explaining timeline incorporated in the design



5\_56  
Diagram depicting narrative of empathy used in design



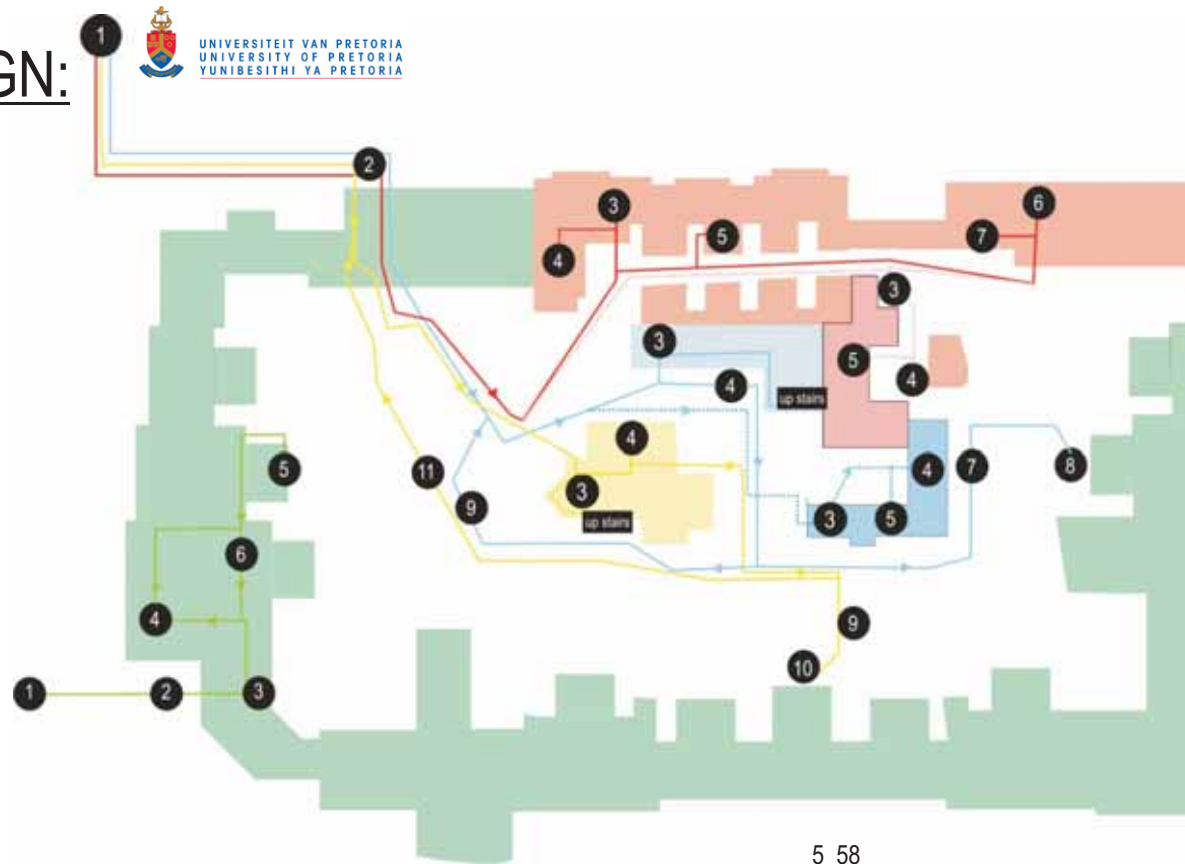
5\_57  
Final diagram of elements

# MOVEMENT WITHIN DESIGN:

Movement throughout the Family court can be viewed using the zones of a courthouse, discussed in chapter two:

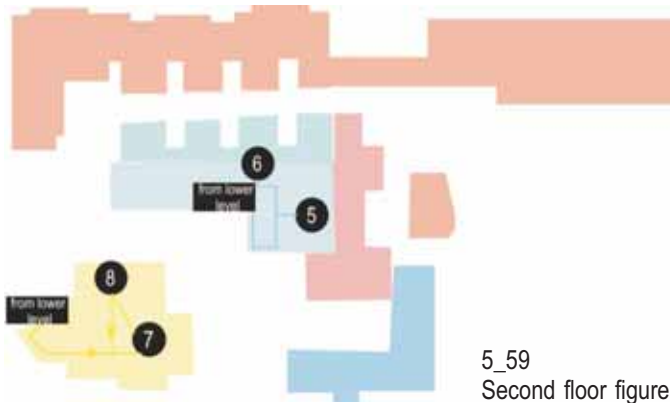
- Public zone movement: comprises solely of public awaiting a trial. They are accommodated in a main public concourse, constituting the periphery of the main legal building. This space is well ventilated and lit with natural ventilation through the implementation of an atrium area. Seating is mainly incorporated in the building landscape, creating interesting intimate spaces for gathering. An access through the main admin area or a gradual descent to the additional reception area leads one to the inner more private core of the building.
- Private zone movement: is that of survivors or people which intend to make use of the Family court. Accessed mainly form the side *porte cochere* entrance flanked by the Synagogue the movement is assisted through a main reception directing users to the specific buildings. Within the core of the building the user is yet again directed through the main *chora* (gathering space) space, from here all paths are visible and orientation is simple. The movement of a user of this portion of the building was understood as philosophical journey where one disconnects themselves from the external world and ultimately is re-born through a just trial, ready to face the outside world again.

The design of this zone lends itself to encouraging a communal interaction. Staff and users will be benefited through this, as referrals to known colleagues will increase efficiency.

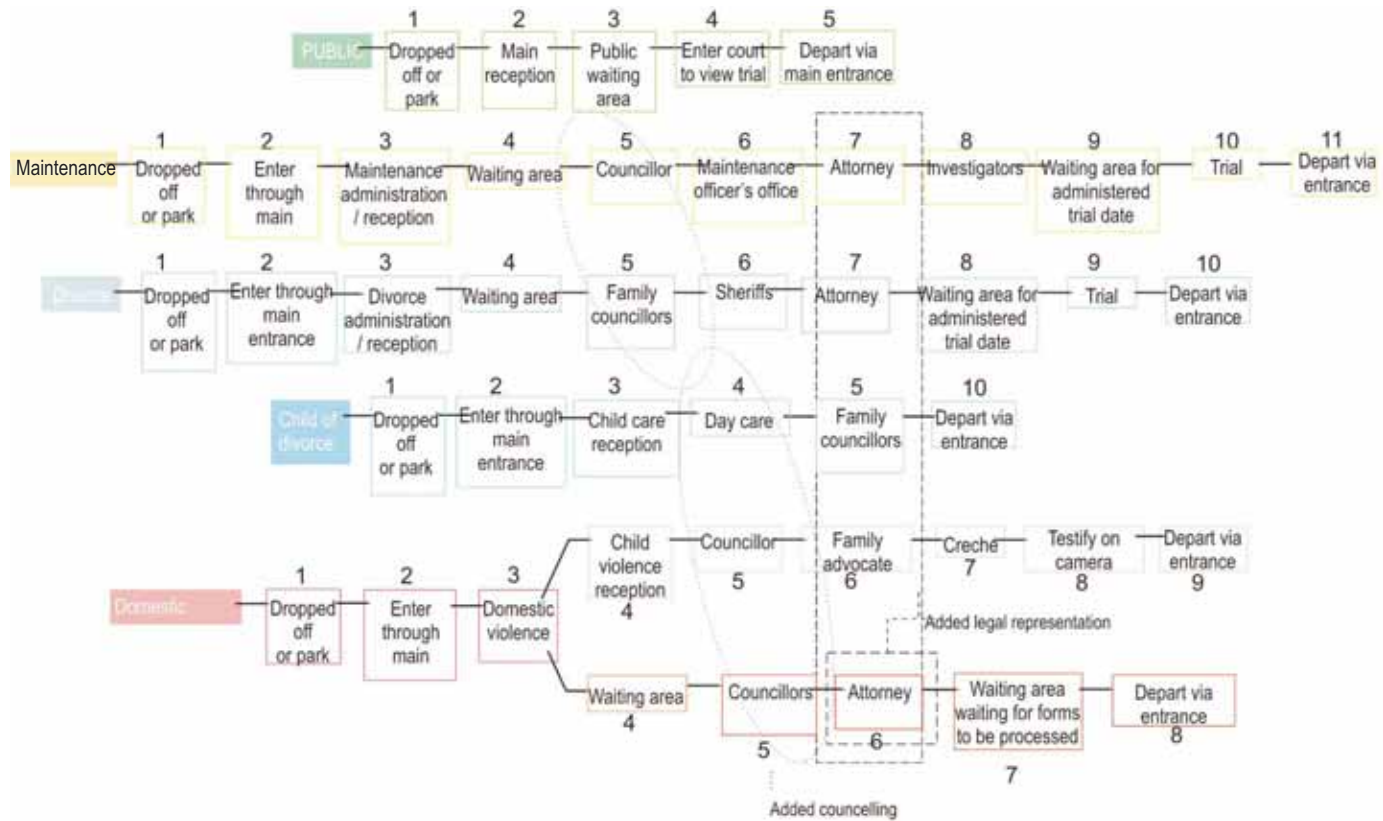


5\_58  
First floor figure ground movement diagram of public and private zones

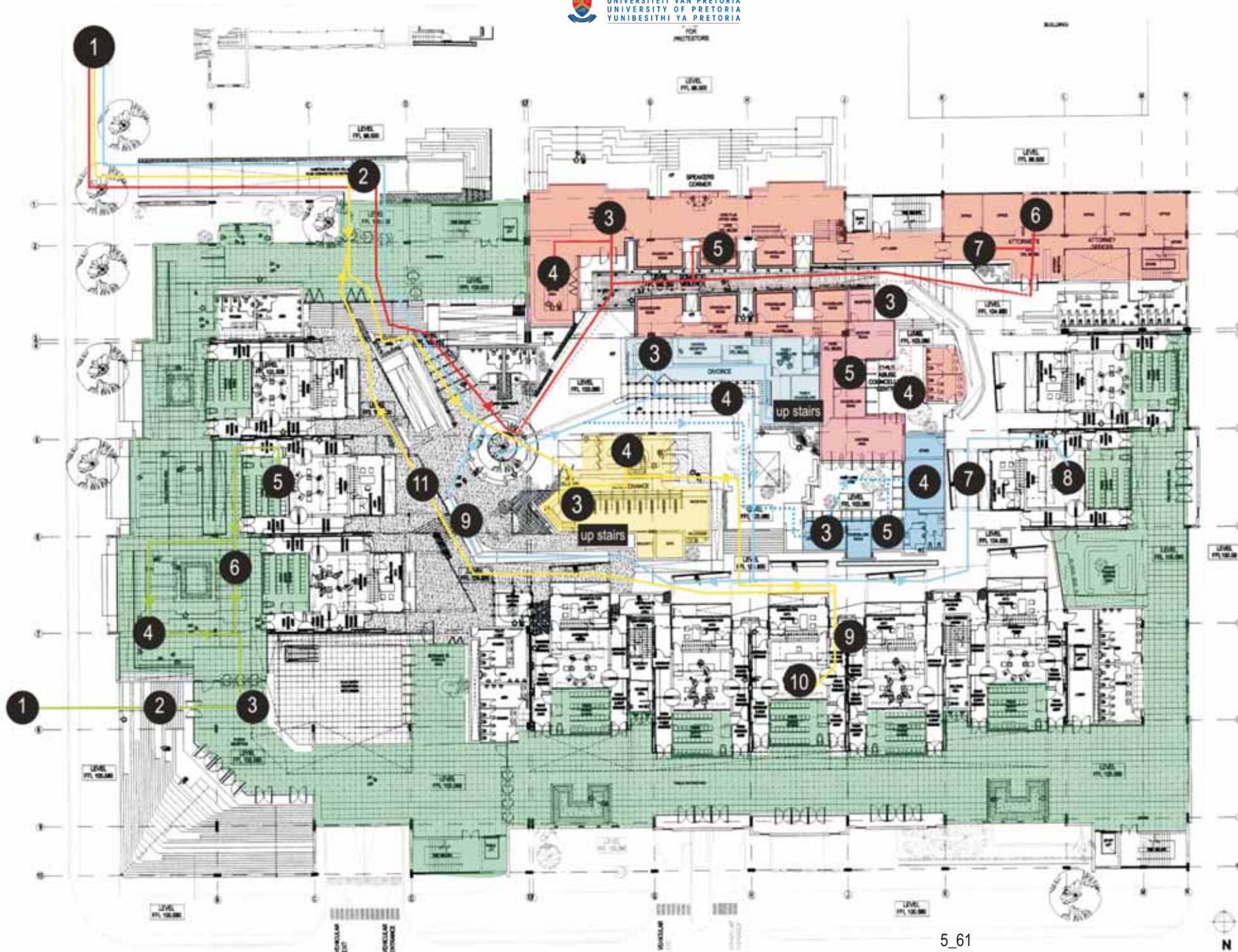
- Office zone movement: comprises of court clerks, admin staff, court interpreters, magistrates etc. It is isolated from most of the other zones as it is located on the top two floors of the main legal building. Here the environment is adapted to a more conducive setting to working through natural lighting and privacy.
- Security zone:, an additional zone necessary for criminal cases, where the detention facility accommodates the accused of domestic violence cases. This facility is located on the ground floor and access to it is through a security gate on Struben Street. A gated drop off facility has been allocated next to the entrance for greater security and convenience. The sole links to the courtrooms are through two secure staircases.
- Court zone movement: to be discussed in the courtroom analysis.



5\_59  
Second floor figure ground movement diagram of public and private zones

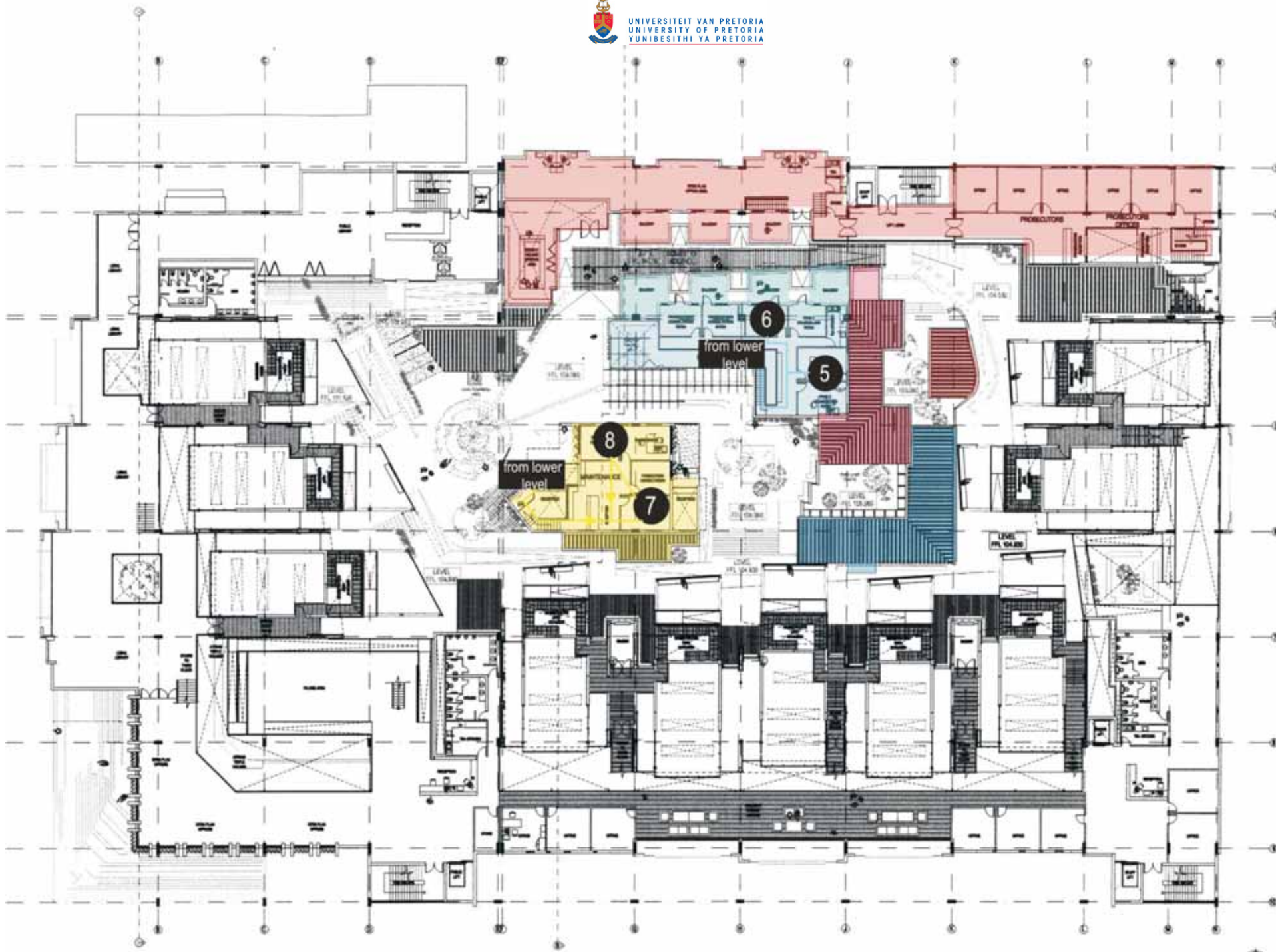






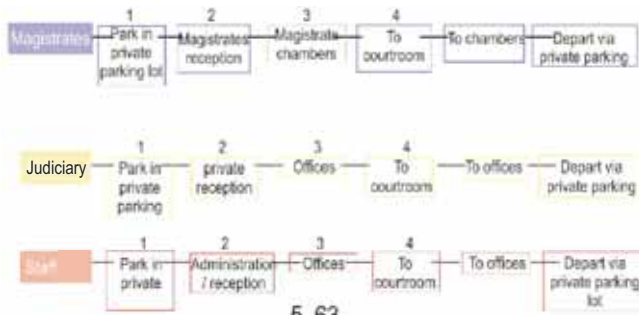
5\_61  
First floor movement diagram



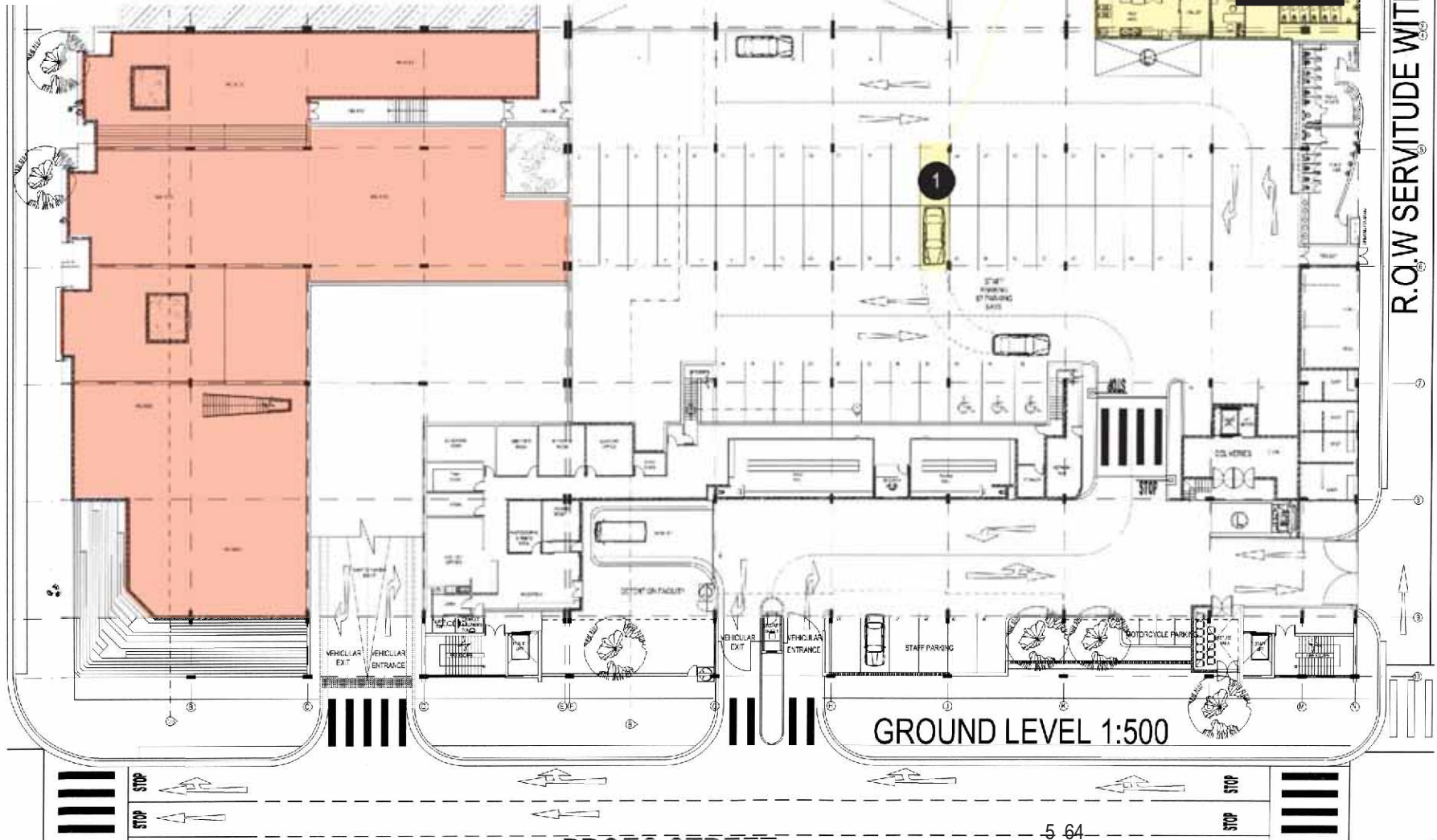


MOVEMENT WITHIN THE DESIGN

5\_62  
Second floor movement diagram

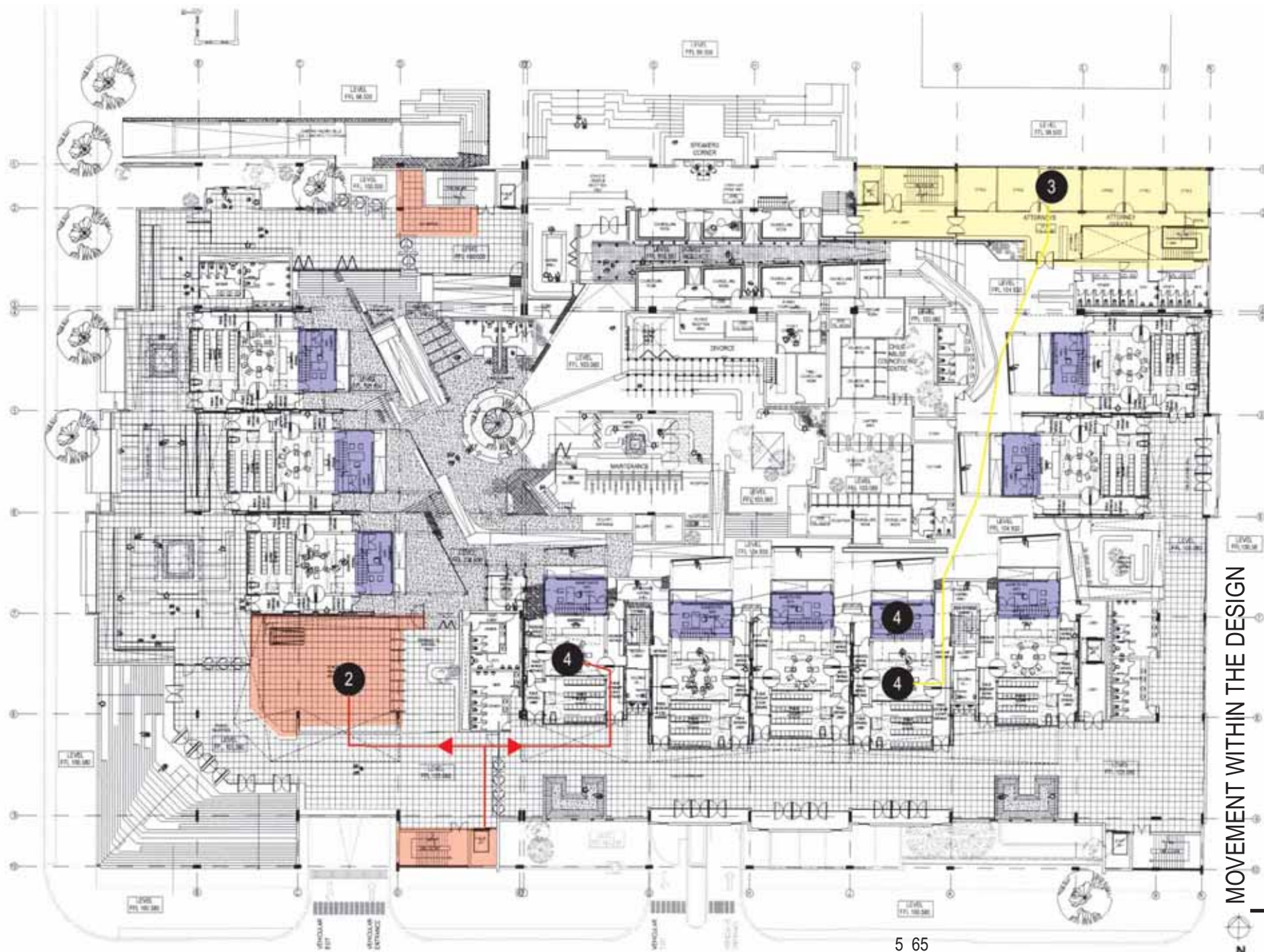


5\_63  
Movement diagram of office zone (not all parkings shown)



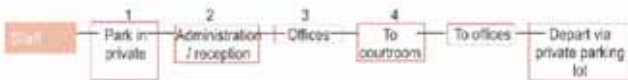
5\_64  
Ground floor movement diagram office zone





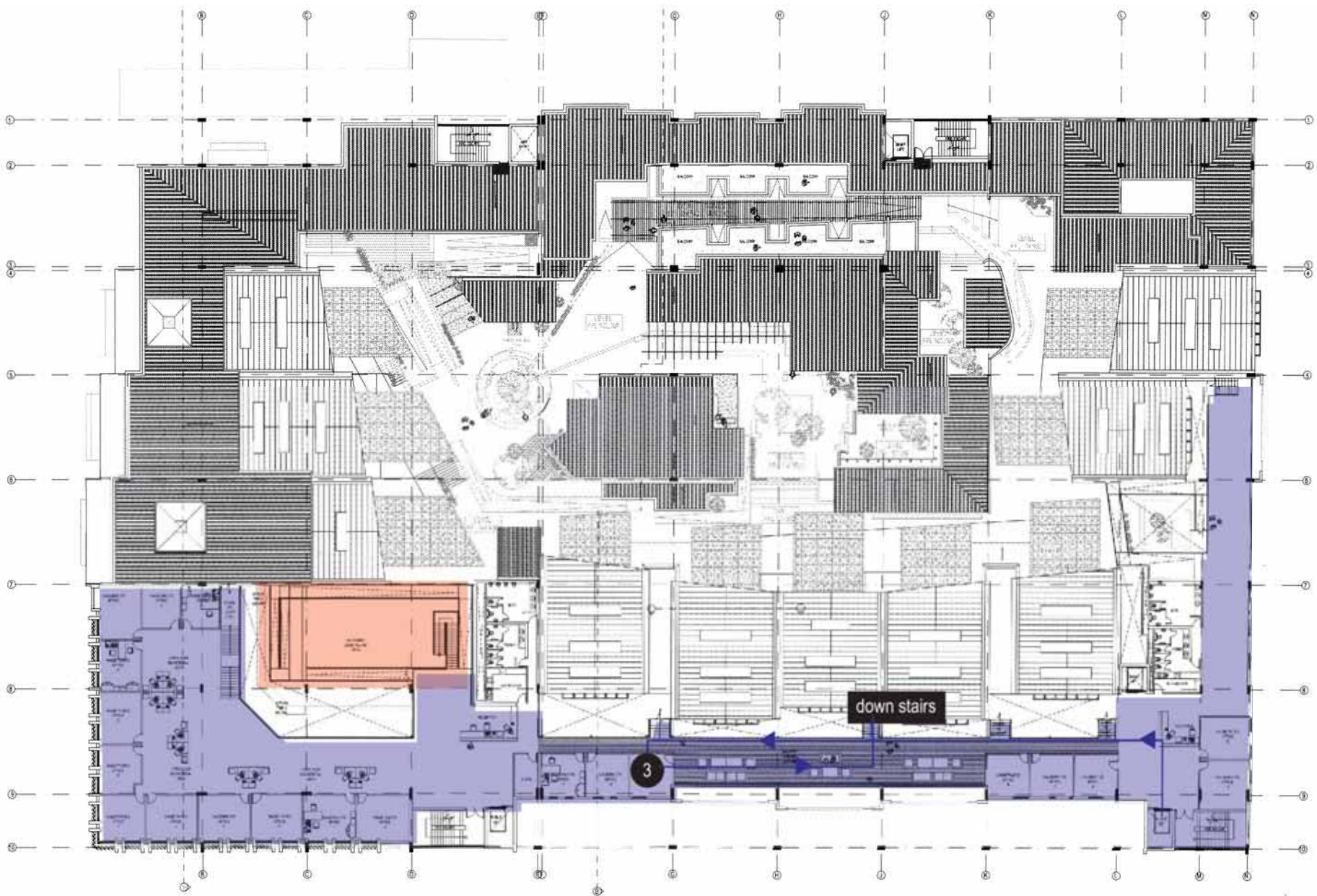
5\_65  
First floor movement diagram office zone

MOVEMENT WITHIN THE DESIGN



5\_66  
Second floor movement diagram office zone





MOVEMENT WITHIN THE DESIGN

5\_67  
Third floor movement diagram office zone



# THE COURTROOM DESIGN:

The courtroom design was, from inception designed as a box within a box. Not only does this allow for better acoustics within the courtroom, through the implementation of sound foyers, but it also allows for better circulation and access to the courtroom.

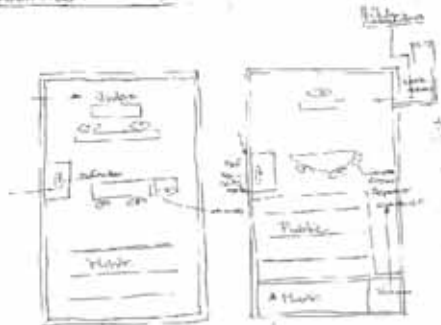
The concept behind the courtrooms as boxes can be understood as static timeless frames, where the juridical unconciuos are landmarks or beacons of hope. In this space emotional testimonies of past injustices take place. Therefore instead of creating heavy, soulless courtrooms buried deep within an incomprehensible legal building, the courtrooms are taken out of the building and set as finger like projections allowing for the inclusion of all, equally. To create an understanding of a transparent and just legal system, these courtrooms are designed as illuminated glazed boxes. In contrast to this weatherable steel is used for the outer 'shell' of the box symbolising a judicial system wise with age.

The courtroom environment is designed to be lit with 'diffused' skylights, allowing an atmosphere without glare and discomfort. Each individual courtroom will be ventilated through natural stack ventilation as well as an auxiliary air conditioning split system. The main desk shared by all who sit at the dock is intentionally designed as a circular table seating 8 people, so as to ease the tension and create a more relaxed environment.

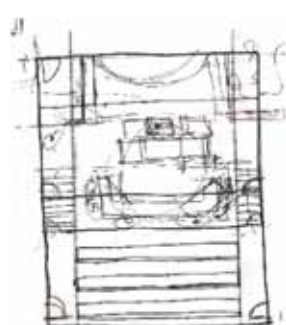
## Access to the courtroom:

- Public: through the public concourse on the southern periphery of the courtrooms. Access into the court is via a foyer seen as an acoustic stop. Their seating area is lowered by 170mm and access to the dock is restricted through the use of balustrading.
- Staff: such as court clerks and interpreters enter the court through the public concourse and into an alternate foyer. This foyer leads to the dock where they remain throughout the trial.
- Plaintiff or witness: can either access the courtroom from the private forecourt which surrounds the courts within the internal core, or from the public concourse. Within the forecourt waiting areas are allocated along the 'spine' and seats looking onto the Synagogue add to an atmosphere of contemplation. For a more private waiting area one can enter the plaintiffs foyer where access to the court is through another door leading directly to the dock.
- Defendant: just as the plaintiff would access the courts from either the internal core or the public concourse, so too would the defendant access the courtroom. However, the main difference would be that the defendant enters the courtroom from the opposite side as to that of the plaintiff.
- Detainee: in the event of a criminal case (domestic abuse) instead of a civil case, being held; the detainee can either present themselves to the detention facility on the ground floor, or in the case of previous police custody. They are detained elsewhere and brought to the facility on the morning of their trial. The two main cells are separated into male and female with a security office in-between. From the cells the detainee accesses the court under constant supervision via a staircase which leads to an additional holding cell, for an interim period. This cell is specifically designed as not to be in clear line of site to a defendant which is entering or exiting the court through the same access foyer.
- Magistrates: allocated on the top floor of the building access the court room via staircases leading to a mezzanine level linking to an additional ante- chamber where the magistrate can prepare for the trial and hold council.

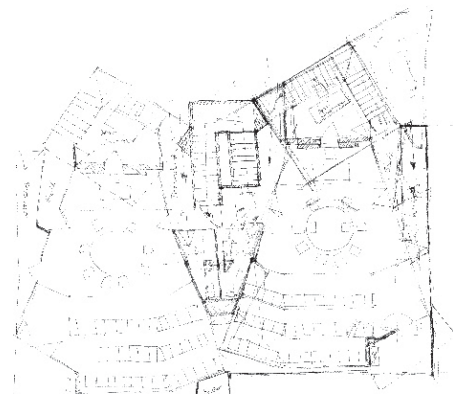
Courtroom Analysis



5\_68



5\_69



5\_70



- Magistrates
- Plaintiff
- Defendant
- Public
- Detainee

5\_71  
Plan of courtroom depicting zones of movement

MOVEMENT WITHIN THE COURTROOM

## Solar penetration of *brise soleil* structure:

“Survival, protection, and sustenance affect the need to perceive and feel comfortable with the environment. Lighting that provides well for biological needs in most spaces simultaneously takes care of most activity needs.” (Lam W M C, 1986, 20), this includes inactive activities such as protection from physical attack and orientation.

More subtle instances for the need of visual association with light can be seen in the need to maintain a sense of equilibrium within a defined horizon. This subtle need can influence our cognitive perceptions that we monitor continuously and unconsciously. These effects could include the perception of location, escape routes, time and other environmental conditions that relate to ones external schedules as well as our innate biological clocks (*ibid*, 20-21).

In considering the need for solar shading of the forecourt waiting areas (linked to the internal access to the courtrooms), roofed *brise soleil* structures were employed. These structures allow for diffused solar penetration and breezes to flow through, adding to a higher occupancy comfort.

Visually uneven gradients positively defining shapes of solid surfaces can seem pleasant to an observer therefore, two different studies were done incorporating different materials.

The initial *brise soleil* studied, was constructed from in-situ concrete frames with a logical ordering of concrete planters and grating. The planters were added into the design for greater user involvement with nature e. Creepers of *Combretum Bracteosum*, with an approximate covering of 35- 40% and flowering orange/ pink flowers, were chosen as the creepers to be planted in the planters. Roofing of this design was through a simple IBR roof sheeting at a gradient of 3°. The fall was located towards the planting so as to allow for some natural irrigation when precipitation occurs.

Advantages of this design are:

- A greater quality of diffused lighting with a natural experience
- The planting allows for an even cooler effect in summer as it creates its own micro- climate.

Disadvantages are:

- The weight of the structure would need a deep thickening of the floor slab below to stand
- The construction becomes more costly and time consuming, the structure becomes too dark and the scale of the frame begins to detract from the courtroom .

The second *brise soleil* studied was constructed from treated perforated steel sheet, welded to flat flanges of 254 x 146 I beams, braced and welded on 50 x 50 hollow tubes. The sheeting extends to the roof of the structure and is covered beneath with a translucent polycarbonate roofing system.

This structure's advantages:

- Quick and relatively simple construction, less elements incorporated in the design allow it to be more cost effective than concrete.
- The structure is light and no added reinforcement needs to be designed with the slab supporting it
- I beam supporting can be painted different colours so as to distinguish courtrooms from one another
- It allows for a complete and constantly changing diffused light pattern
- The diffused lighting will be brighter than the concrete design allowing for greater comfort in an already shaded site, through surrounding high rise buildings

Disadvantages:

- Does not implement any notion of a natural organic form as previous design

From the results shown in the following solar shading simulations one can detect that the second design is more adequate for the site and its environment, due primarily to the fact that the site is quite shaded throughout the year from surrounding high rise buildings.



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- The construction becomes more costly and time consuming, the structure becomes too dark and the scale of the frame begins to detract from the courtroom .

The second *brise soleil* studied was constructed from treated perforated steel sheet, welded to flat flanges of 254 x 146 I beams, braced and welded on 50 x 50 hollow tubes. The sheeting extends to the roof of the structure and is covered beneath with a translucent polycarbonate roofing system.

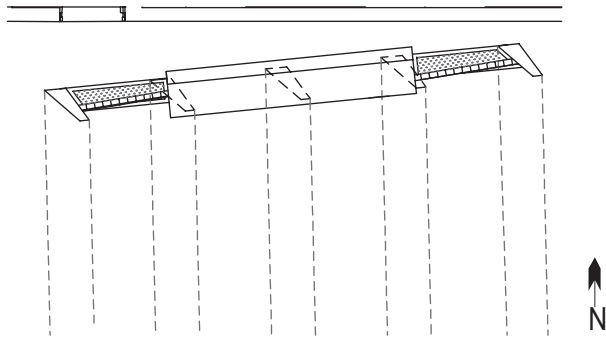
This structure's advantages:

- Quick and relatively simple construction, less elements incorporated in the design allow it to be more cost effective than concrete.
- The structure is light and no added reinforcement needs to be designed with the slab supporting it
- I beam supporting can be painted different colours so as to distinguish courtrooms from one another
- It allows for a complete and constantly changing diffused light pattern
- The diffused lighting will be brighter than the concrete design allowing for greater comfort in an already shaded site, through surrounding high rise buildings

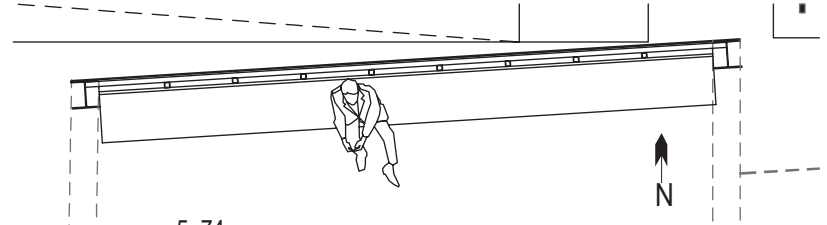
Disadvantages:

- Does not implement any notion of a natural organic form as previous design

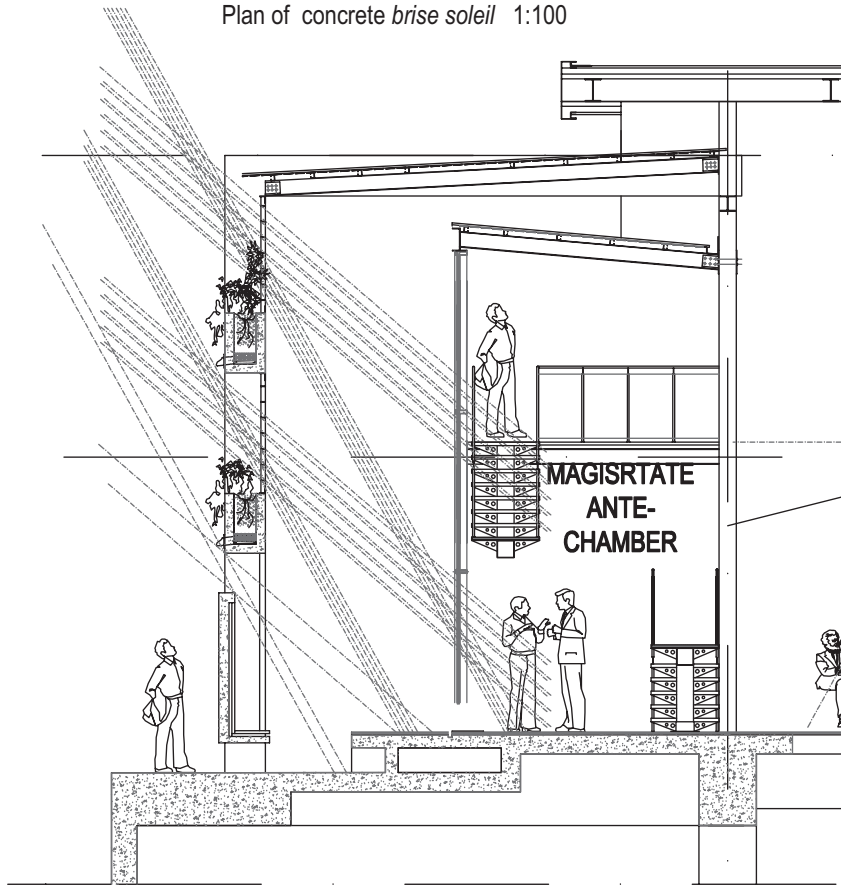
From the results shown in the following solar shading simulations one can detect that the second design is more adequate for the site and its environment, due primarily to the fact that the site is quite shaded throughout the year from surrounding high rise buildings.



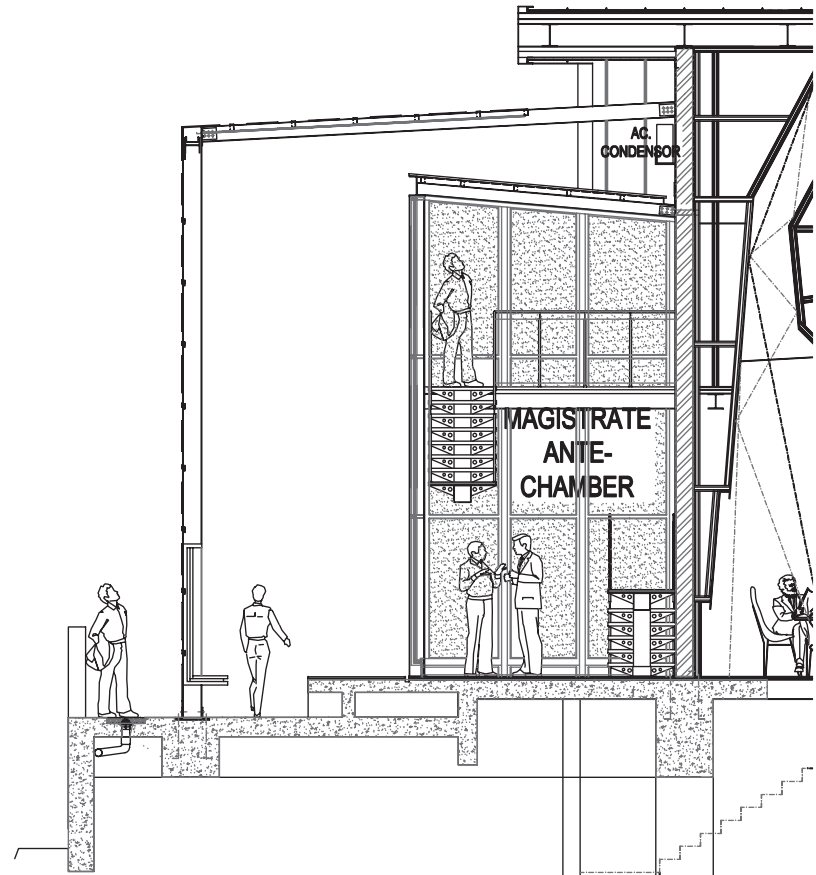
5\_72  
Plan of concrete *brise soleil* 1:100



5\_74  
Plan of steel *brise soleil* 1:100



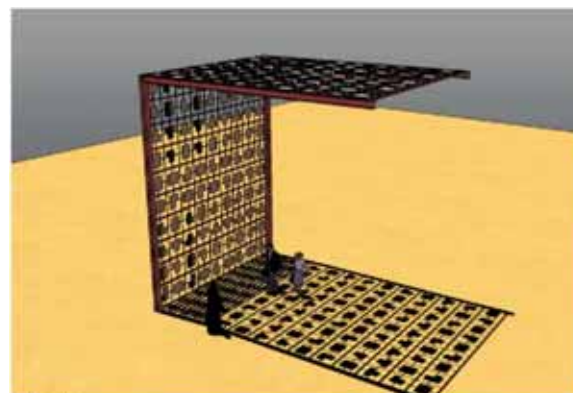
5\_73  
Section through concrete *brise soleil* 1:100



5\_75  
Section through steel *brise soleil* 1:100



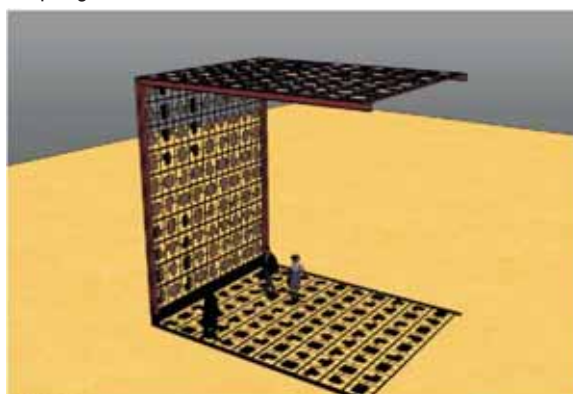
5\_76  
Concrete *brise soleil*, simulation of noon shadow projection, spring



5\_79  
Steel *brise soleil*, simulation of noon shadow projection, spring



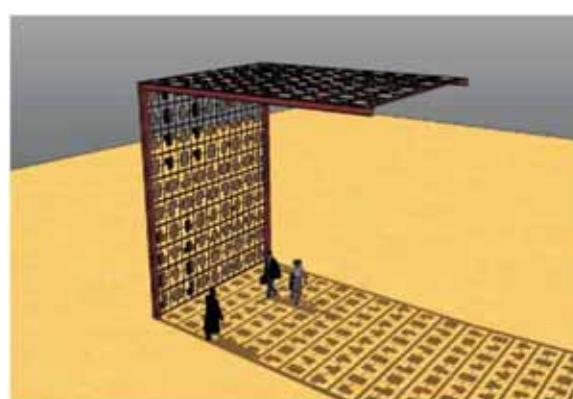
5\_77  
Concrete *brise soleil*, simulation of noon shadow projection, summer



5\_80  
Steel *brise soleil*, simulation of noon shadow projection, summer



5\_78  
Concrete *brise soleil*, simulation of noon shadow projection, winter



5\_81  
Steel *brise soleil*, simulation of noon shadow projection, winter



# THE COURTROOMS:

Materials chosen for the construction of the courtrooms were specifically meant to portray the language of a transparent, light and welcoming legal system. For this reason the 'box' structures are constructed from steel portal frames instead of concrete, the added advantage being a shorter construction time and a lighter structure which spans 8 m vertically without piers. Internally the structure remains lightweight with partitions of high spec dry walling, and opaque glazing.

## **Structurally:**

The frame is built on site, using 254 x 254 steel I beams as columns. These are connected to the floor slab via a base plate providing the necessary attachment to the concrete slab to transmit the load. In all cases a levelling grout is placed between the underside of the base plate and the top of the slab, ensuring accurate levelling of steelwork. Holding down bolts are fitted to the base plate and fixed to the concrete slab.

The columns and rafters making up the portal frame are from different sizes of I beams, with welded haunches at their ends. These haunches enable the members to be site bolted to each other forming the complete portal frame. They are provided at the highly loaded connections of rafter to column at the eaves and rafter to rafter at the apex. At the eaves haunch, the end plate is extended above the rafter flange to take the topmost bolts connecting it.

Because of their slender proportions and single span, these portal frames are spaced at a minimum of 4500mm centres. Connections between these portal frames are braced through secondary beams, thus preventing purlins and frames from buckling through lateral torsional wind loads.

The purlins are 125 x 50 cold formed lipped channels fitted to the frame via steel angle cleats welded to the rafters. These purlins are placed at 600 centres with their toes pointing upslope in order to minimise mid span- twist. The cleats on the contrary are placed at the down slope side of the purlin to avoid the latter from sliding down during erection.

The mezzanine level used as access for the magistrates to the courts, is of a light weight construction. Floor joists are made of 200 x 75 timber sections spaced at close centres. These are covered with tongue and groove boarding with an acoustic backing.

## **Cladding:**

The external shell is clad with sheet metal treated with a galvanising, oxidising agent causing a weathering effect similar to cor-ten steel. This type of cladding can prove to be economic and long lasting ( up to 30 years). These sheets are 0,6 mm strips in 600mm wide lengths of the full 8 m height. They are joined together at 525mm centres through standing seams folded over cleats. These cleats are nailed to 25mm rough boarding insulated by means of a felt underlay. Standing seams at ridges are turned down and folded in, to prevent water penetration. Internally the frames are clad in tongue and groove boarding and dry walling with a mineral wool insulation.

## **Internal lightweight framed structure:**

Due to the fact that none of the internal walls are load bearing a light steel frame construction of gypsum dry walling is used. This dry walling is constructed of bottom and top aluminium track rails with a further set of bracing joists at 600 mm intervals. These tracks are supported structurally through the implementation of 100 x 50 steel channels at 3500mm centres, welded back to back. Several panels of hi spec gypsum boarding are fixed to these rails with studs at 600mm spacing. An internal layer of 58 mm mineral wool is glued and fitted to the internal cladding of the walls, thus aiding with thermal insulation and acoustics.

## **Acoustics:**

The courtroom layout allows for the speaker or magistrate to be in front. Aiding in greater acoustic qualities as the direct sound path is in eyesight of the public, allowing the stepped flooring to heighten the auditory experience.

For greater sound enhancement the ceiling is designed to disperse sound into the audience and the

dock. The constant angling of this is optimum as it avoids flutter echoes.

Bearing in mind that the angle of sound incidence is equal to the angle of reflection, a study of how sound would potentially propagate within the courtrooms can be seen through dotted lines.

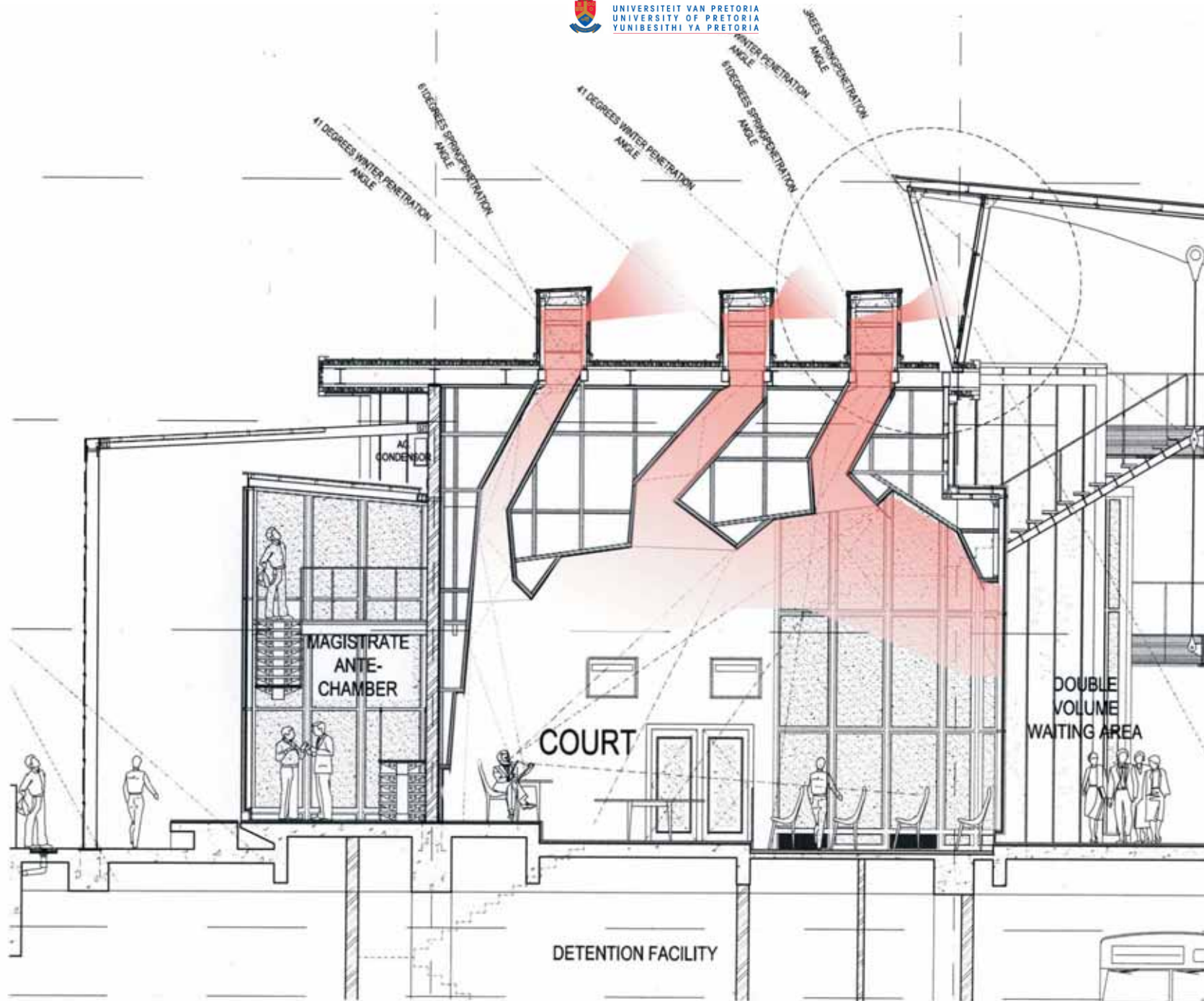
The ceiling is designed to reflect sound into the audience

The size of the courtrooms are intentionally designed as small boxes where the length of the direct sound path and the reflected sound path is not distorted by more than 10m. This, allows for good sound enhancement without the need for loudspeaker systems.

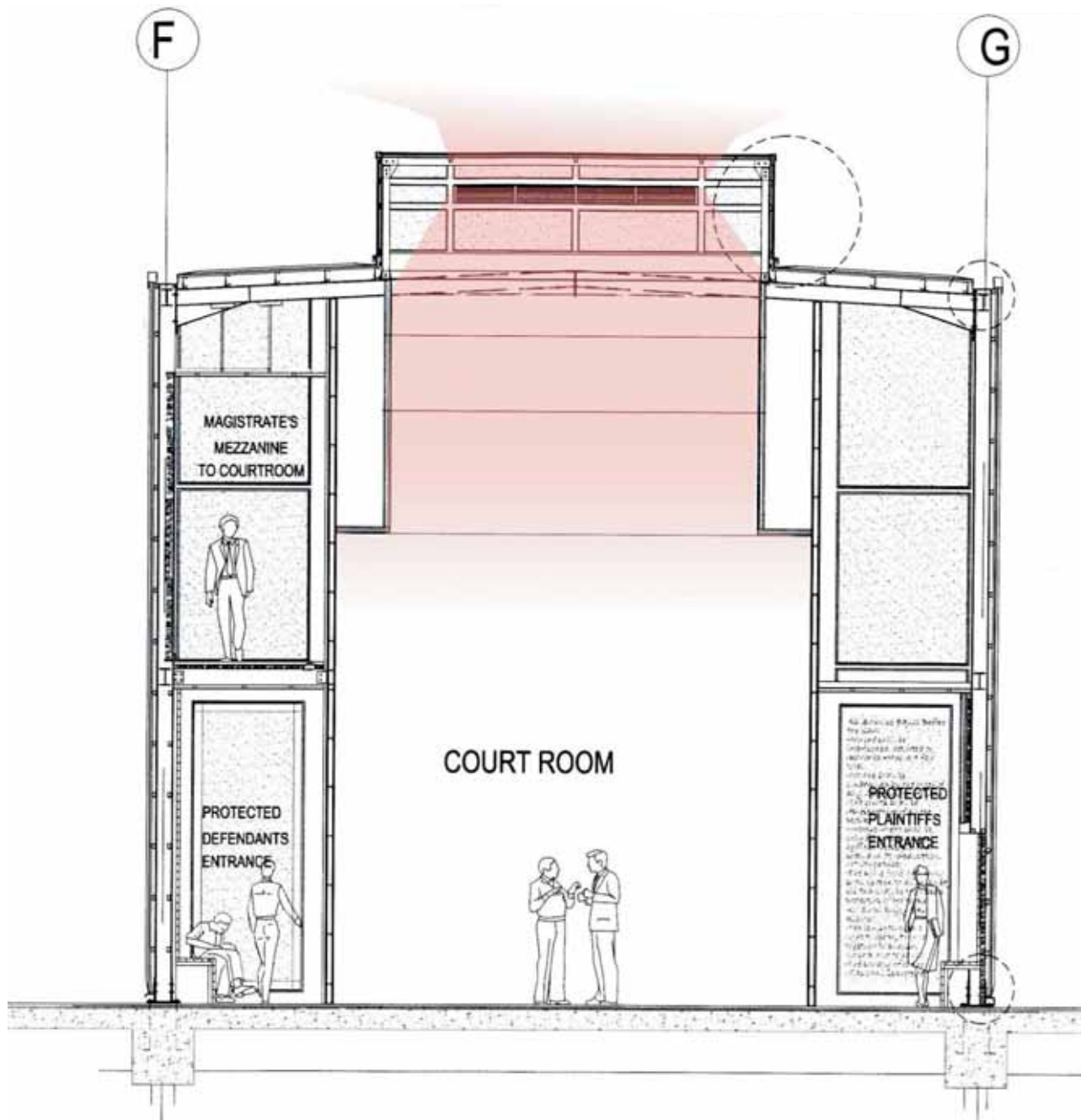
## **Lighting and Ventilation:**

For maximum efficiency three highly insulative, opaque, polycarbonate skylights are designed per courtroom. The ceiling painted in a light colour has been designed as an integrated system to these light wells, maximizing the opportunity for light to be reflected. No direct sunlight is allowed in the design and therefore this type of sky lighting is more than adequate. Furthermore, this type of skylight gives the steadiest level of illumination and with the added benefit of the surrounding roofing being of a darker colour, they will receive more light on overcast days than on clear days.

Ventilation through this skylight is made possible by means of grills on the southern side, this position aids in the movement of air out, as the prevailing winds are generally oriented east to north east. Stack ventilation further benefits the courtroom as the light well opening is greater than that of the skylight, allowing rising hot air to escape more efficiently. Additional grills are located at the foot of the courtrooms in the public concourse; this potentially incorporates cool air to flow within on a lower level. Split units have been accommodated for, on either side of the courtrooms, permitting the user personal control over the environment within.



5\_82  
Section BB through courtroom showing sound reflection  
and hot air loss 1:50



5\_83  
Section CC through courtroom showing portal frame  
and structure 1:75



# C

## hp 5

### DESIGN DRAWINGS

DESIGN DRAWINGS:

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