

Introduction

This appendix summarises the two main frameworks used for the dissertation project (the Pretoria CBD Framework and the city block framework).

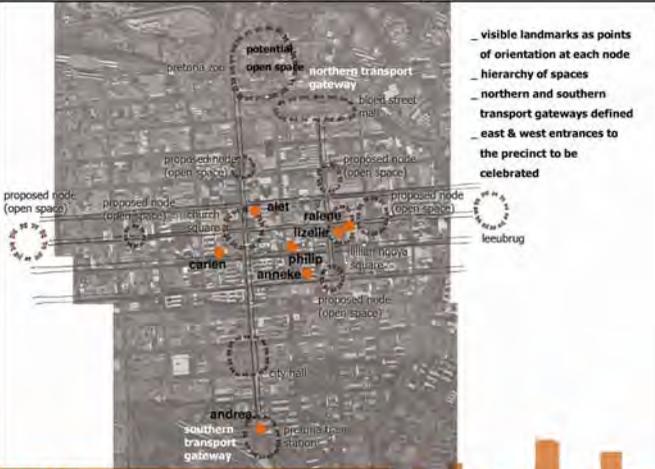
Appendix A

Frameworks

A1.1. Pretoria CBD Framework



proposal pretoria cbd



parti pretoria cbd



framework principles

- react to existing arcades
- relate to specific character of the street
- main orientation towards the street, unveiling elements of surprise
- high activity around open spaces
- create interactive facades at street level
- intersect movement spines with pause areas

Original framework by:
 A. Allers, L. Cloete, P. du Toit, A. Seabrook, C. Theart, R. van der Walt, A. Verster.

A1.2. Block Framework

Two interventions:

- **P. du Toit:** City Centre and Die Meent redevelopment
- **J. Bruwer:** Archive Cinema Complex

Current problems of the Pretoria CBD:

- Existing Infrastructure (why expand?) :
- under-utilised empty buildings in the CBD
- CBD deterioration
- urban sprawl unnecessary
- Lack of Social Framework (Jordaan:2009) :
- little or no nightlife in CBD
- monotonous urban activities
- public space can be improved

Block Framework

Theory

Prix, in his essay “b5 2 c6: Public Space” (2003:18), states that in Western cities (also Tshwane) public authorities do not have the ability to fund urban projects, thus private investors develop land for financial gain. He goes further by saying that “the master plan is dead” (ibid.) - transformations in the urban fabric has caused the individual ‘figures’ (i.e. buildings) to be the main influence of urban space (ibid.). Pasquarelli (2003:24) agrees when he suggests that small actions within cities should be favoured above large-scale principles. Therefore, the City Block Framework proposes specific interventions to enhance the inner city public realm.

Framework Components

- Gentrification
- inject new life into the city
- Densification
- vertical expansion and more effective use of existing built fabric
- Sustainability
- “urban-recycling”

Framework Guidelines (City Centre and Die Meent redevelopment, and Archive Cinema Complex)

“The model of the building as object is replaced by the idea of an urban transistor – an architecture that is capable of amplifying the urban spaces adjoining it through its own transistor like spatial organization”. (Prix, 2003 : p 18)

Transistor definition - a semiconductor device with three connections, capable of amplification in

addition to rectification (Oxford dictionary).

Amplify definition: cause to become more marked or intense (Oxford dictionary).

Rectify definition: put (something) right; correct (Oxford dictionary).

- “To create public space through architecture.” (Prix, 2003 : p 18)
- Utilise disused spaces in the city, creating more public space
- Public space no longer on a master plan level, but on an architectural scale – smaller interventions related to the context rather than large-scale solutions.
- Contribute to the public domain of the Pretoria CBD (add more public space and rectify existing)
- Create new interaction level in city (roofscapes, empty interior spaces and arcades)
- Three-dimensional use of space
- Create energy between two interventions that would act as a catalyst for development for adjacent buildings

Bibliography:

1. Interview with G. Jordaan, 2009. (J.Bruwer & P. du Toit, interviewers).
2. PASQUARELLI, G. 2003. . In *The State of Architecture at the Beginning of the 21st Century*. Edited by B. Tschumi and I. Cheng. United States of America: The Monacelli Press, Inc., p. 24.
3. PRIX, W. 2003. b5 2 c6: Public Space. In *The State of Architecture at the Beginning of the 21st Century*. Edited by B. Tschumi and I. Cheng. United States of America: The Monacelli Press, Inc., p. 18-19.
4. Oxford Dictionary, 2009 (electronic version).

Introduction

All structural calculations for the project are documented in this appendix (all by Author).

Appendix B

Calculations

14129

CARLIFT COLUMNS:

$$\frac{h}{d} = 20 \quad \frac{h}{d} = 25$$

$$\frac{14129}{20} = 706,45$$

$$\frac{14129}{25} = 565,16$$

$$\frac{706}{565} = 1,271$$

$$\frac{14129}{635,5} = 22,23$$

ESC STU

Columns: $h/d = 20 \rightarrow 25$

$$\frac{14129}{20} = 706,45$$

$$\frac{706}{d} = 20 \Rightarrow d = 35,3$$

$$\frac{706}{d} = 25 \Rightarrow d = 28,24$$

$$\frac{7370}{d} = 20 \Rightarrow d = 368,5$$

$$\frac{7370}{d} = 25 \Rightarrow d = 294,8$$

$$\frac{731}{2} = 365,5$$

$$\frac{7370}{d} = 7 \Rightarrow d = 1053$$

$$\frac{338}{2} = 169$$

$$\frac{1105}{85} = 12,99$$

$$\frac{1105}{255} = 4,33$$

318

2636

305 x 305 x 149

$$921,8 \cdot 15 = 13,8 \text{ m}$$

CAR PARKS BEAMS 2:

$$l/d = 14 \rightarrow 20$$

$$\frac{4630}{14} = 330,7$$

$$\frac{4630}{20} = 231,5$$

$$\frac{4630}{14} = 330,7$$

$$\frac{4630}{20} = 231,5$$

$$\frac{4630}{30} = 154,3$$

14 x 6 x 6 x 0,255 m x $\frac{2600 \times 100}{1000} = 220,5 \text{ kN}$

457 x 191 x 98 [x2]

BEAMS (PROP):

$$\frac{7573}{d} = 20 \Rightarrow d = 378,65$$

$$\frac{7573}{d} = 30 \Rightarrow d = 252,43$$

CAR PARKS BEAMS 1:

$$l/d = 14 \rightarrow 20$$

$$\frac{5900}{14} = 421,4$$

$$\frac{5900}{20} = 295$$

$$363 \times 1,5 = 544,5$$

$$282 \times 1,5 = 423$$

$$\frac{5900}{20} = 295$$

$$\frac{5900}{14} = 421,4$$

$$\frac{4770}{14} = 340,7$$

$$\frac{4770}{20} = 238,5$$

$$\frac{16200}{18} = 900$$

$$\frac{16200}{26} = 623$$

$$\frac{5600}{3} = 1866,67$$

$$\frac{16200}{761,5} = 21,28$$

CAR PARKS BEAMS 1:

$$l/d = 14 \rightarrow 20$$

$$\frac{11670}{14} = 833,57$$

$$\frac{11670}{20} = 583,5$$

$$709 \times 1,5 = 1063,5$$

$$\frac{1063,5}{10} = 106,35$$

ESC FLOOR CROSSL:

$$\frac{10755}{14} = 768,21$$

$$\frac{10755}{14} = 768,21$$

$$\frac{10755}{20} = 537,75$$

$$\frac{11670}{14} = 833,57$$

$$\frac{11670}{20} = 583,5$$

$$\frac{1380}{4140} = 0,333$$

C.L. WALKWAYS (CANT. L.):

$$1380 \times 3 = 4140$$

$$l/d = 14 \rightarrow 20$$

$$\frac{4140}{14} = 295,71$$

$$\frac{4140}{20} = 207$$

ROD SAVAGE

082 265 1491

Saturday...

deposit =>

nobfarag@mweb.co.za

$$\frac{4140}{14} = 295,71$$

$$\frac{4140}{20} = 207$$

M (CONTINUED)

C.L. ROOF BEAM 1:
 $L/d = 18 \rightarrow 26$
 $\therefore \frac{11970}{18} = 665$
 $\frac{11970}{26} = 460$

$\therefore 533 \times 210 \times 122$

C.L. ROOF BEAM 2:
 $L/d = 18 \rightarrow 26$
 $\frac{4630}{18} = 257$
 $\frac{4630}{26} = 178$

$\therefore 254 \times 146 \times 31$

C.L. SIDE BEAM 1:
 $L = 2300$

$\frac{L}{d} = \frac{2300}{18} = 128$
 $\frac{2300}{26} = 88$

\therefore IPE M 120

MSR CANTIL. 1.1
 $L = 3264 \times 3$

$= 9792$
 $\frac{L}{d} = \frac{9792}{15} = 653$ OR $\frac{9792}{8} = 1224$
 $\frac{9792}{11,5} = 851$
 $\frac{9792}{8} = 1224$

$\therefore 1075$ O.K. / 1380 O.K.

FOR CR: $851 \times 1,5 = 1277$

18 | 665
 18 | 11970
 1170
 90
 4830
 26 | 11970
 1590
 100

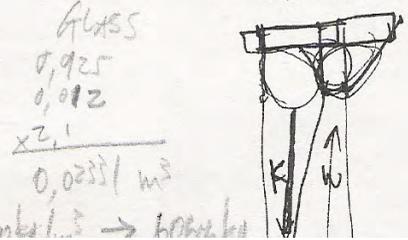
18 | 2572
 18 | 4630
 1030
 130
 40
 1780
 26 | 4630
 203
 210
 200



26 | 2300
 208
 220
 204
 120

MSR CANTIL. 1.2
 $L = 1557 \times 3$

$= 4671$
 $\frac{L}{d} = \frac{4671}{18} = 260$
 $\frac{4671}{23} = 203$
 $\therefore 305$ O.K.



@ 20mm 1.3 → 100mm

MINI

L: 3699 (1850; 925)
 W: 1683 (842; 421)
 H: 1407 (704; 352)

$\frac{L}{16} = 231,2$ mm
 $\frac{W}{16} = 105,2$ mm
 $\frac{H}{16} = 87,9$ mm
 $16 = 4^2$

MAKRS PERG:
 C: L = 2453

$\frac{L}{d} = 22,5$
 $\therefore \frac{2453}{22,5} = 109$

$\therefore 203 \times 133 \times 31$

1407
 704
 2111

$\frac{L}{d} = 22$
 $\frac{6497}{22} = 295,3$

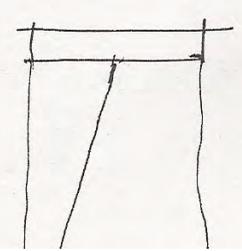
$\therefore 305 \times 102 \times 25$

1001
 2030

180
 18
 198

112
 1557
 3
 4671

2030
 23 | 4671
 71
 69
 20



~~CHECK PROJECT DISCRPTION (OTHER MINITS FOR NIE)~~
~~LAS WIND PLITINGS VAN TTA~~ BY: MULTIRAMA APPENDIX

BRIDGE
 $L = 12890$
 $\frac{L}{d} = 8 \rightarrow 15$

$8 \overline{) 12890}$
 $\underline{4890}$
 $\underline{90}$
 $\underline{10}$
 $\underline{20}$

$15 \overline{) 12890}$
 $\underline{120}$
 $\underline{890}$
 $\underline{75}$
 $\underline{140}$
 $\underline{135}$
 $\underline{5}$

$8 \overline{) 9273}$
 $\underline{1273}$
 $\underline{473}$
 $\underline{73}$

$L_2 = 9273$
 $\therefore \frac{9273}{8} = 1159$
 $\frac{9273}{15} = 618$

8889

$\frac{12890}{8} = 1611$
 $\frac{12890}{15} = 859$

1235
 $2 \overline{) 2470}$
 $\underline{1235}$

$15 \overline{) 9273}$
 $\underline{273}$
 $\underline{123}$
 $\underline{3}$

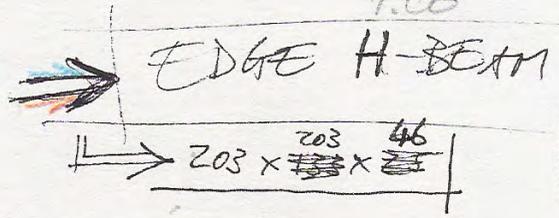
1159
 618
 $2 \overline{) 11744}$
 $\underline{888,5}$

27 SEPTEMBER
 O.L.
 9:00
 4 OCTOBER
 9:00

BRIDGE B
 $L = 4786$

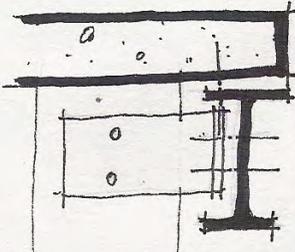
$\frac{L}{d} = 18 \rightarrow 28$
 $18 \overline{) 4786}$
 $\underline{36}$
 $\underline{1186}$
 $\underline{1086}$
 $\underline{106}$
 $\underline{90}$
 $\underline{160}$
 $\underline{164}$
 $\underline{16}$

1: 28
 2: 56
 3: 84
 4: 112
 5: 140
 6: 168
 7: 196
 8: 224
 9: 252



$\frac{4786}{18} = 266$
 $\frac{4786}{28} = 171$
 $\frac{266}{171}$
 $2 \overline{) 457}$
 $\underline{219}$
 $\underline{218,5}$

$28 \overline{) 4786}$
 $\underline{28}$
 $\underline{198}$
 $\underline{166}$
 $\underline{260}$

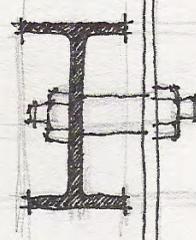
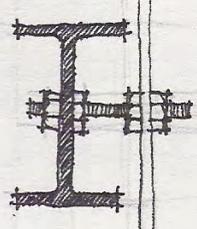


PERGOLA TOP: ~~COMMUNI~~
 $L = 3110$

$20 \overline{) 3110}$
 $\underline{111}$
 $\underline{11}$
 $\underline{1244}$

$\frac{L}{d} = 20 \rightarrow 25$
 $\frac{3110}{20} = 156$
 $\frac{3110}{25} = 124$
 $254 \times 146 \times 31$

$25 \overline{) 3110}$
 $\underline{610}$
 $\underline{110}$
 $\underline{100}$



PERGOLA TOP:
 $L = 4645$
 $\frac{L}{d} \approx 22$
 $\therefore \frac{4645}{22} = 211$

$254 \times 146 \times 31$

COMMUNI
 $L = 2895$
 $\frac{L}{d} = 20 \rightarrow 20$
 $\therefore 22,5$
 $\therefore \frac{2895}{22,5} = 129$

PERGOLA BEAM
 $L = 6302$
 $\frac{L}{d} = 18 \rightarrow 26$
 $\therefore 22$

$22 \overline{) 6302}$
 $\underline{44}$
 $\underline{190}$
 $\underline{176}$
 $\underline{142}$
 $\underline{100}$
 $\therefore 286$

22
 44
 66
 88
 110
 132
 154
 176
 198

$22 \overline{) 4645}$
 $\underline{245}$
 $\underline{25}$
 $\underline{30}$

PERGOLA
 $L = 1970$
 $\frac{L}{d} \approx 22$

$152 \times 152 \times 23$
 $\frac{1970}{22} = 90$

PERGOLA 150

Introduction

An SBAT analysis was done on the MINI Space Gallery. The outcome is documented in this appendix.

Explanation

Two SBAT analyses were done. For the first zero points were recorded for any aspect outside of the architectural scope (e.g. management). A second was consequently done with 50% awarded for each of the aforementioned categories, which is an indication of a possible higher green rating.

Appendix C

Green rating

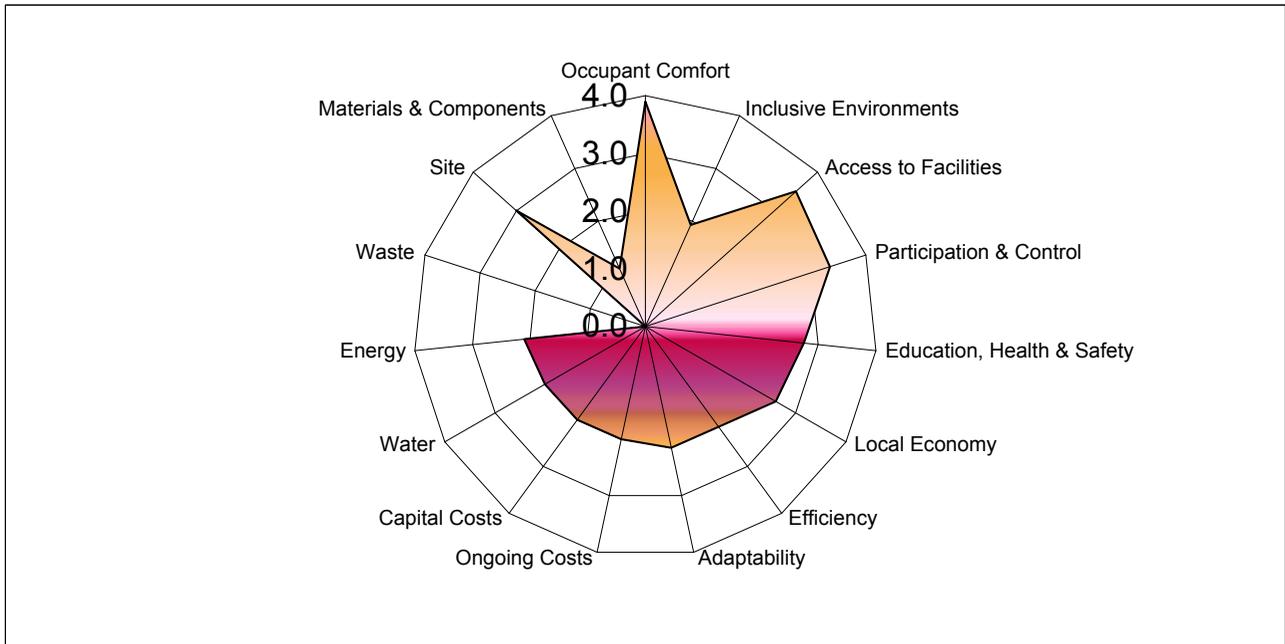
First SBAT Analysis:

(0 points for categories outside the scope of architecture)

Green rating: Average (2-3)

SUSTAINABLE BUILDING ASSESSMENT TOOL (SBAT- P) V1

PROJECT		ASSESSMENT	
Project title:	MINI Space Gallery	Date:	07-Oct-09
Location:	Pretoria CBD	Undertaken by:	P. du Toit
Building type:	Gallery	Company / organisation:	
Internal area (m2):	1360,9	Telephone:	Fax:
Number of users:	70	Email:	



Social	3.1	Economic	2.2	Environmental	1.6
Overall	2.3	Classification			

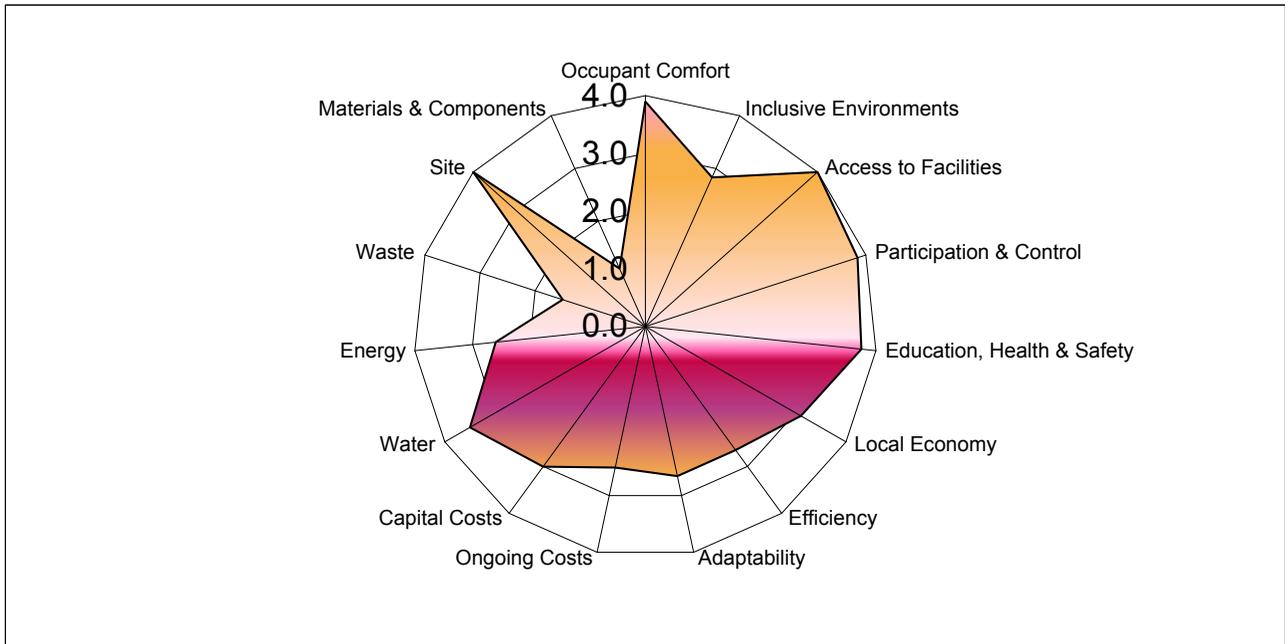
Second SBAT Analysis:

(50% points for categories outside the scope of architecture)

Green rating: Good (3-4)

SUSTAINABLE BUILDING ASSESSMENT TOOL (SBAT- P) V1

PROJECT		ASSESSMENT	
Project title:	MINI Space Gallery	Date:	07-Oct-09
Location:	Pretoria CBD	Undertaken by:	P. du Toit
Building type:	Gallery	Company / organisation:	
Internal area (m2):	1360,9	Telephone:	Fax:
Number of users:	70	Email:	



Social	3.7	Economic	2.8	Environmental	2.5
Overall	3.0	Classification			

Introduction

This appendix consists of an article written for *Architecture South Africa*, an academically accredited journal. C. Karusseit acted as co-author. It was submitted to the editor (J. Cooke) on 28 September 2009; Cooke stated that the article will be considered for a future issue.

Appendix D

Article

PROBING THE NOTION OF SITE: RE-USE OF ABANDONED BUILDINGS IN PRETORIA'S CENTRAL BUSINESS DISTRICT

BY PHILIP DU TOIT, WITH CATHERINE KARUSSEIT AS CO-AUTHOR

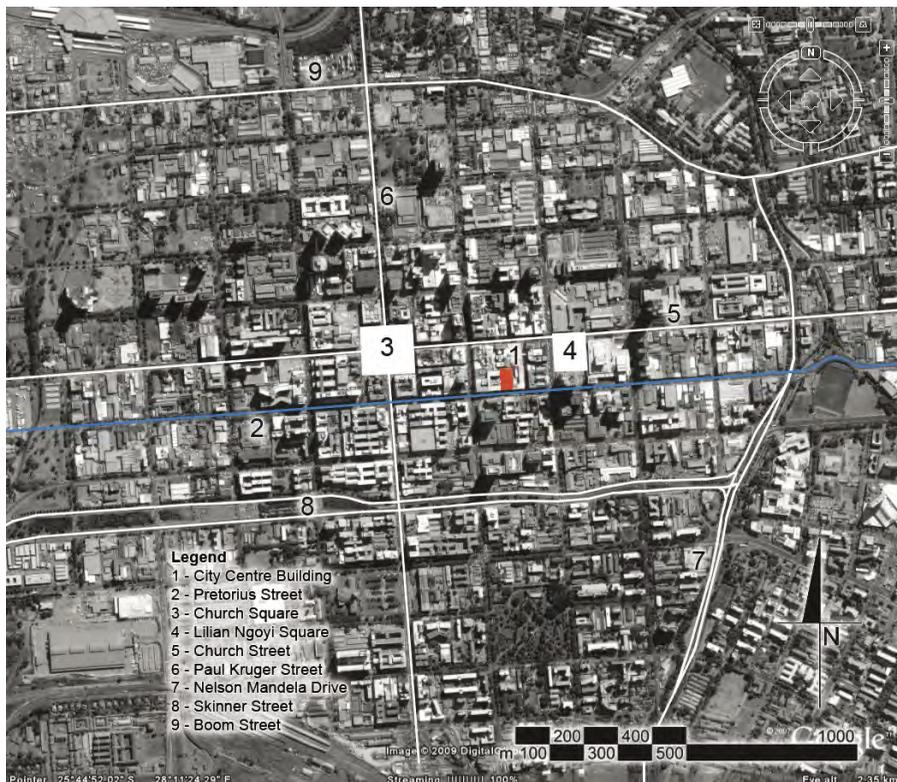


Figure 1: Aerial photograph of Pretoria CBD (Google Earth image (12 February 2009, edited by du Toit)

University of Pretoria, proposes that the very problem may in itself be the solution. That these morose, derelict buildings that typify Pretoria's CBD are in themselves 'new' sites, with the potential for re-interpretation and re-use. Furthermore, by investigating two critically chosen and adjacent 'sites' in the CBD this article endeavours to propose a design approach that can be applied to similar sites elsewhere.

METHODOLOGY

A background study for further research has been established through a literature review, which formed part of the Masters dissertation. In addition, the two chosen sites are critically assessed against the context of Pretoria's CBD and in and of themselves. Thereafter, notion of site is re-defined, with reference to the literature and specific precedents. Finally, a design approach particular to the re-defined notion of site is proposed.

CONTEXT

Pretoria, established in 1855³, is a relatively young city nevertheless a significant number of buildings in the

"We don't need new cities; we need to reuse and make better use of our existing urban areas." – Robert A.M. Stern¹.

"Architecture must remain experimental and open to new ideas and aspirations in the face of conservative forces that constantly push it toward the already proven, already built, and already thought." – Steven Holl².

The presence of disused buildings in the city of Pretoria is a contributing factor in the deterioration of the integrity of the existing urban fabric.

This phenomenon is not unique and subsists in cities world-wide, thereby warranting innovative design intervention. The need to address this trend is further compounded by ideals of sustainability, both ecologically and socially, which is currently a global concern, as well as the rapidly diminishing availability of greenfield sites in cities. It is evident that the notion of site, as it is traditionally held, is central to this problem and needs to be reconsidered.

This article, the outcome of a study conducted as part of a Masters in Architecture (Professional) degree,



Figure 2: Multirama view of Die Meent (left) and City Centre building (right) (du Toit 2009)



Figure 3: Rendering of the case study buildings' current occupation (du Toit 2009)

CBD are largely disused. In many of these buildings, while still occupied on ground floor with retail tenants, the floors above are deserted. These abandoned spaces, once offices, are in a state of disrepair; they are no longer relevant to needs of today's business or city-dweller. The City Centre building, Pretorius Street ('1' in fig.1; also fig. 2) is an example of such a building and has been chosen as the site for this study. This building currently houses retail space at ground level (most of which is occupied) and educational facilities on the first, second and part of the third floor. Barring the caretaker's penthouse, on the eighth floor, the remaining four floors are derelict. Two arcades run through the ground floor, connecting it with two neighbouring buildings. One of them, Die Meent building, has two partially empty floors and forms the second 'site' in this study (fig.3).

The City Centre building was originally built between 1954 and 1957, as deduced from old newspaper photographs of the Old Town Hall (figs.4 and 5). Die Meent building was constructed on the Old Town Hall site in the 1970's,

originally up to three storeys⁴ (fig.6), and later extended to its current size. Renovations were done on both buildings in the 1990's by Louis Peens Architects, rendering the façade consistent across both buildings along Pretorius Street. This façade consists of a combination of plastered and painted surfaces, face brick elements and steel decorations. This design theme is repeated on the façades facing the elevated courtyard at the back of Die Meent building (fig. 7), but the City Centre building's façades remained unchanged, except for the addition of the same steel decorations.

Currently, City Property, the company managing both buildings, is in the process of renovating the empty interior spaces, after which they plan to rent them out⁵.

It is not exactly clear why the buildings under investigation came to be partially abandoned, the current owners having acquired the property only three years ago, but one of the building managers suggested⁶ that they ran empty as standards of maintenance deteriorated. The lack of parking might also be a factor, although this could be mitigated by



Figure 4: Photograph of the old Town Hall with the City Centre building unbuilt (Pretoria News, 19 March 1954).



Figure 5: Photograph of the old Town Hall with the City Centre building in the background (Pretoria News, 15 March 1957).

using parking facilities provided in a neighbouring building. The company currently controlling the buildings is employing an architectural firm to aid in the renovation, but this course of action will merely involve surface treatments and maintain the existing office space, with the focus on financial profit⁷. Thus the buildings will simply become an up to date version of what they have always been, without actually addressing the problem.

Q:XYZ – NOTION OF SITE RE-DEFINED

The re-development of the World Trade Centre in New York City deals with the term 'ground zero'⁸ (fig. 8), which is used to describe the site where the original buildings were destroyed⁹. However, this term was never questioned directly during the process of designing the proposed new buildings. If the concept of "ground zero", created as the result of the destruction of a building, is equal to the notion of 'site', which is conventionally thought of as a "ground plane"¹⁰, then should the scope of 'site' not be widened to include the vertical space above



Figure 6: Photograph of Die Meent building (Pretoria News, 8 July 1988).



Figure 7: Multirama view of Die Meent's main courtyard (centrally & to the right) & the City Centre building (to the left) (du Toit 2009)



Figure 8: Aerial photograph of 'Ground Zero', New York City (<http://en.wikipedia.org/wiki/File:Wtc-photo.jpg>, 19 August 2009)



Figure 9: Sketch of new 'buildings' intersecting each other three-dimensionally (du Toit 2009)

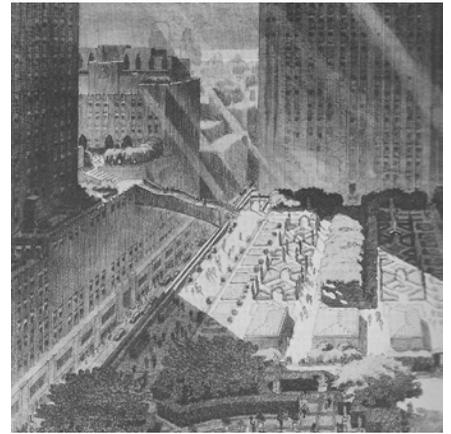


Figure 10: Roof garden proposal for the Rockefeller Center's Radio City Music Hall, 1932, by J. Wenrich (published in Rockefeller Center, 1978, by C.H. Krinsky).

ground plane, where the building once existed or where empty storeys stand disused?

In architecture, the term 'site' traditionally refers to topography, history, climate, transport, setting¹¹ and "the ground plane", which implies the natural ground or soil. However, when reconsidering this notion one must consider the x-y-z axes of positioning. Typically cities in South Africa grow and develop horizontally, thus only the x- and y- dimensions are considered when new developments are planned. However, open space or greenfield sites are fast disappearing, especially in central business districts. Moreover, urban sprawl, the result of the relentless search for greenfield sites, causes many secondary problems, for example high volumes of traffic.

It is evident that the re-use of existing structures is inescapable and in the light of the above argument these abandoned buildings may rightfully be defined as 'sites' for architecture. Thus, it is proposed that the third dimension, the vertical or 'z', be added to the system. In this way 'ground zero' is shifted to upper, disused floors of such buildings.

Several or each disused floor of the building becomes a new 'site'.

In this way, when floors or spaces run empty the owners are able to re-sell (or rent) them as new 'sites'. Furthermore, developers and architects are provided with specific design regulations and provisions and in this way cities can truly be developed three-dimensionally. As these new 'sites' are re-developed, new 'buildings' are created, which may intersect other 'buildings' along all three axes, x-y-z (fig.9). This system would require changes on many levels, including building legislation and regulations.

PRECEDENTS

Using all three axes, x-y-z, is not entirely new; similar ideas have been developed in projects or concepts by other architects. The Rockefeller Centre, New York City, consists of a complex of 'buildings'. Some of the original design ideas included walkways on higher levels (fig.10) and even large rooftop gardens; the latter was implemented on some of the Rockefeller Centre structures (fig.11). Visions for other parts of New York City illustrate multiple

levels for transport (fig.12).

Many of the recent proposals for the new World Trade Centre also included large gardens and open spaces on higher floors¹² (fig.13). Le Corbusier¹³ suggested that cities should consist of large planes lifted on columns, below which all the services would be placed, while on top of which residential towers would be built with the social areas on the roofs connected by bridges (fig.14).

DESIGN PROPOSAL

If the notion of site is re-defined to include the vertical space above the ground plane and that this may include an existing structure, then 'sites' can be identified in disused sections of the City Centre and Die Meent buildings. Thus, it is proposed that the empty floors of these two buildings be stripped of everything except the structure and certain service cores. Thereafter, the 'site' is divided into sectional title stands, which in turn may be rented out or, preferably, re-sold (fig.15). This division is done according to specifically formulated design principles. These principles are divided into two categories: the first



Figure 11: Roof gardens on some of the buildings of the Rockefeller Center (http://en.wikipedia.org/wiki/File:Rockefeller_Center_Rooftop_Gardens_2_by_David_Shankbone.JPG, 5 June 2009)

are city-wide, according to which all other abandoned buildings can be adapted; the second is building-specific, providing the new owners/tenants with certain rules according to which the new 'sites' can be developed.

The division of the floors into 'sites' is done in such a way that each 'site' will have access to a small open space on the same level and a large open space, which may be on any level and is accessible to all the users of the surrounding structures (figs.16 & 17). These open spaces will be transformed into green spaces, which will be maintained by the body corporate and financed by a monthly levy payable by each owner individually. Floor slabs are also cut open or removed, allowing light to enter into each site and providing more open space. In addition this serves to remove some of the structural weight, which in turn is replaced by roof gardens. In the case of the smaller open spaces where the structure does not allow for this, these spaces could be designed and developed at a later stage (when the new owners/tenants have finished their construction activities). This will



Figure 12: Proposed street system for New York City, c.1925-1930, by H.W. Corbett (published in Rockefeller Center, 1978, by C.H. Krinsky).



Figure 13: View of the sky garden of the proposal for the new World Trade Center by SOM (http://www.renewnyc.com/images_WMS/signature/SOM-sky-garden-view-2.jpg)

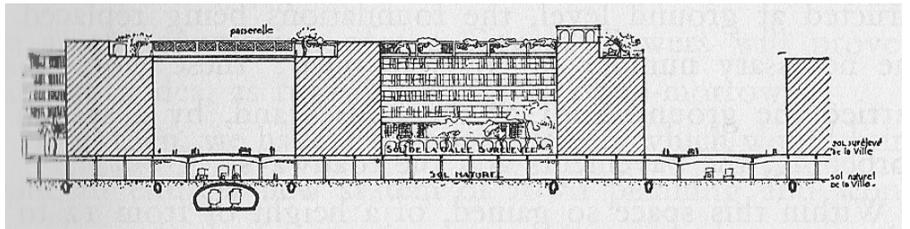


Figure 14: Sketch of Le Corbusier's city on columns (published in Towards a New Architecture, 1923, by Le Corbusier).

predominantly be done with furniture and finishes.

Functionally, the City Centre and Die Meent buildings are zoned into two parts: a northern residential block and a central to southern business zone. A new vertical circulation structure, consisting of a system of escalators, is added to the southern, Pretorius Street façade, thereby establishing a clear link between the upper floors and the street (fig.18). Furthermore, an elevator for motorcars and bikes is constructed against the eastern edge of the northern residential block, providing direct access to the housing sites (each new resident can park their motorcar or bike on the same level as their unit).

As a result of the implementation of this proposed model for creating 'sites', 'new buildings' will be constructed on the separate floors above the retail space on the ground floor. The consolidation of sites will be allowed only up to a pre-defined area.

In terms of style, with specific reference to City Centre and Die Meent buildings, it is proposed that new owners be given total freedom

regarding building styles (within the site boundaries), creating a truly South African mix of forms, textures and colours.

Finally, it is proposed that the arcade system at ground level be adapted to be consistent with the new 'three-dimensional city' above. A link is established between the City Centre and Die Meent buildings, but on a higher floor than ground level. This link provides the users with access to both buildings and the option to share the large open spaces.

CONCLUSION

Instead of simply renovating the interiors and creating a contemporary reproduction of the past, this model proposes a means of solving the problem of disused and vacant buildings by setting forth a new typology of site and building. Thus the integrity of Pretoria's urban fabric is maintained, by continually reinventing and renewing usable space within the city. An x, y and z notion of site allows for an efficient and innovative use of existing space. Finally, it has the ability to encourage the creation and maintenance of

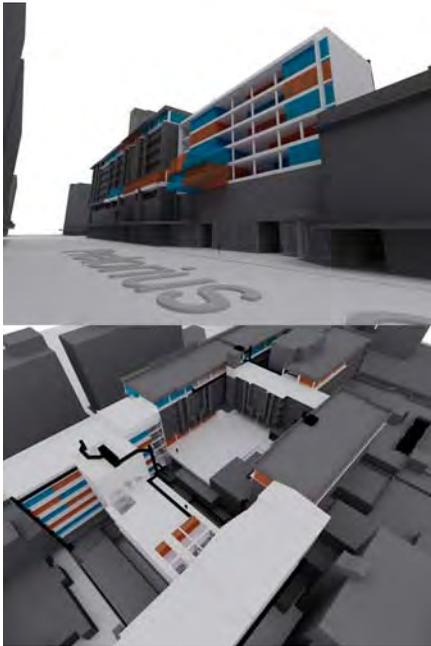


Figure 15: Renderings of the new sites, the coloured volumes (du Toit 2009)

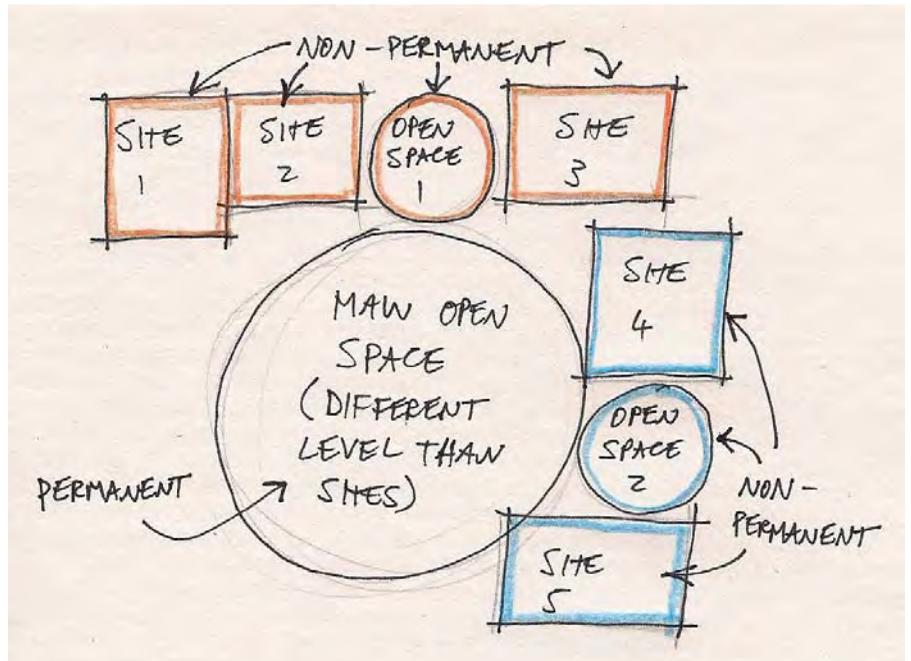


Figure 16: Diagrammatic sketch of the relationship between open spaces (du Toit 2009)

culturally rich and vibrant cities, with multiple levels of living, working and playing, forming new communities yet providing each individual with their own, unique space.

ENDNOTES

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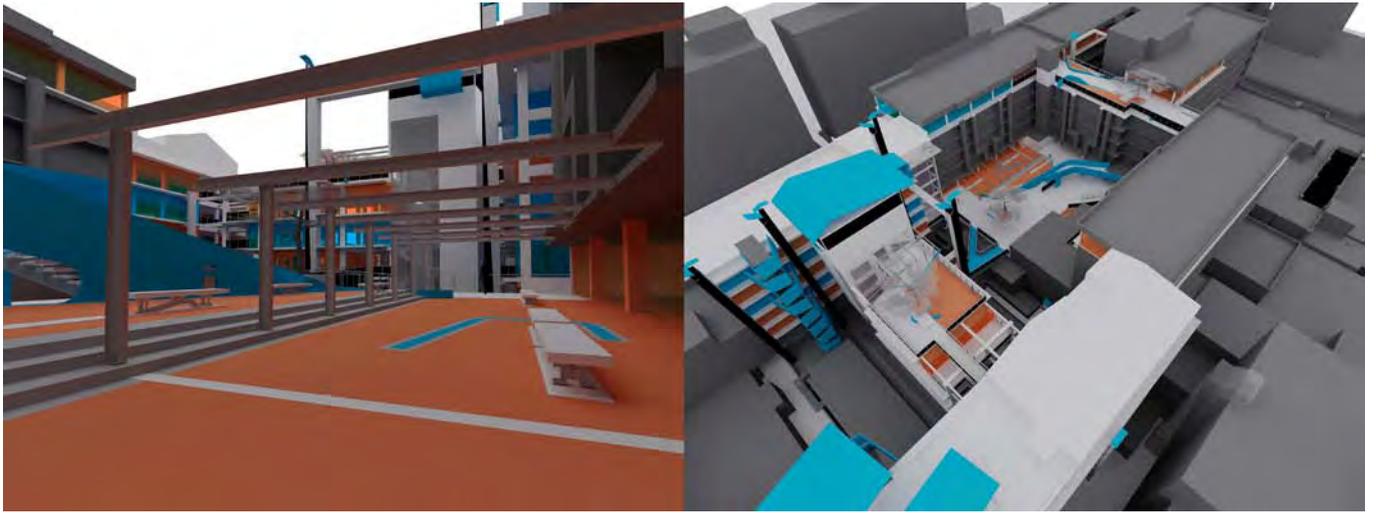


Figure 17: Renderings showing the new main open spaces (du Toit 2009)



Figure 18: Renderings showing the new vertical circulation area (left) & car elevator (right) (du Toit 2009)

