CHAPTER 9_CONCLUSION

9.1 Conclusion

Reflection on the research questions

1. *Is there a need for designed enigmatic landscapes in a city, as opposed to 'non-place'?* With the abundance of non-place and non-site in cities there is a definite need for enigmatic landscapes. A city should inspire and rejuvenate the people that live in it on a daily basis, non-place and non-site lack these qualities. Currently, for people to be rejuvenated and refreshed, once in a long while they move as far away from the city and as close to nature as possible. People long for nature and wilderness and by using wastelands to bring them into a city we begin to incorporate all three types of natures as discussed on page 14 and 15. This dissertation is successful in terms of creating an awareness of the 'other' enigmatic landscape, opposite to the pedigree and non-sites that currently exist. It invites one into these mysterious zones in order to experience, rather than repress the enigmatic quality of wastelands. Being explorers by nature, the quest for discovery sparks something inside each one of us. The topic of the dissertation is very relevant to the time as more and more tired, nerve-shaken people search for something other than the non-place's a city provides.

2. *Can wastelands be transformed without losing their poetic character and if so what design methods and processes can be implemented to enhance the character of the site?* Wastelands have the potential to become enigmatic landscapes, in reaction to the 'non-place' of modernity, due to their mysterious character. The author deems the design process followed in this dissertation successful in terms of its ability to identify and enhance the very unique character of the wasteland in Salvokop. This proposed process proved very different to a conventional one, as it revealed a process and solution that enhanced and worked with the potentials of the site. The design process needed to start with intuitive responses, exploring found objects and spatial explorations and end with technical investigations and planning responses. Important to remember is that the design from the start was not programme specific, by the end of the design process programme became accidentally assigned to areas. The character of places informed possible programme.

3. *Can wastelands be developed into landscape space that will instigate urban densification?* The author hopes and thinks that wastelands can become the healing tissue that a city needs to reverse urban decay of form and fabric. Landscape should inform urban design and in this dissertation the landscape dictated the placing, orientation, form and phases of buildings and not *vice versa.*

In conclusion, this dissertation argues that a city's landscape assets such as working public parks, golf courses, water bodies, tree-lined promenades are seen as pedigree landscape attractions and non-sites. Missing from this are the mysterious crucial transitional landscapes such as railroad yards, vacant lots, derelict buildings, contaminated fields, industrial manufacturing and parking lots. The project aims to invite the user to explore this marginal space and experience both its liberating informality and its murky disorder. It neither fully romanticizes the space, nor fully condemns it. This dissertation seeks to successfully find a balance between simultaneously opening the space to the urban system, while preserving its standing as 'lost space' and 'wasteland'. It seeks to highlight both the freedom and the disruption that are inherent to these places. By extracting the layers (physical and non-physical) of the site through research and site analysis a landscape design was conceived, which, as a new layer, critically responds to this depth of context. This investigation found informed methods and processes on a planning and spatial level that allows wastelands to add value to the city without losing its poetic character.

The author previously generated design primarily on plan, leaving the spatial and experiential part of the design as an afterthought. The design process for this dissertation was therefore a challenge to the author to look at landscape architecture and its design processes from a very different perspective. Cur-

rently, one can ask whether landscape architecture has become obsessed with problem solving and has lost its inherent spatial quality. This dissertations aims to enhance and bring back the inherent poetic qualities of landscape through dealing with the wastelands in our cities.

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CHAPTER 11_APPENDICES

11.1 Salvokop specie study

A contextual study was done by Newtown Landscape Architects. The study area was divided into five different zones (Siebert, 2002: 3).

Zone 1: Open space between the new filling station and the residential area.

Zone 2: Open space between Potgieter street along the railway, passed Popup.

Zone 3: Open space behind Pretoria station (blue train depot) stretching along the housing offices towards the koppie area.

Zone 4: Open space between koppie and housing area (eastern corner of Salvokop).

Zone 5: Streets within the Salvokop residential area.

For the purpose of this dissertation zone 2 will be the focussed study area.

Disturbance Index

Each zone was categorised according to human disturbance (Siebert, 2002: 3-4):

1 - No disturbance.

2 - Little disturbance - vegetation almost in-tact.

3 - Moderately disturbed - significant cover of natural vegetation.

4 - Heavily disturbed - only small patches of natural vegetation remain.

5 - Extremely disturbed - nothing left of natural vegetation.

Specie Index (Siebert, 2002: 8).

E = Exotic.

I = Indigenous.

Iv = Invasive alien.

Iv1 = Category 1 alien: declared weed - prohibited, must be controlled or eradicated.

Iv2 =Category 2 alien: declared invader - allowed only in demarcated areas under controlled conditions. Iv3 = Category 3 alien: declared invader - no further planting allowed, no trade, existing plant may remain but must be prevented from spreading.

Ivp = Proposed declared weed.

Zone 2

Vegetation type: *Tipuana tipu - Eucalyptus grandis - Acacia karroo - Acacia saligna*

% Bare soil: 75

Disturbance index: 4

General notes: A large open area with several bush clumps. Very little of the natural vegetation remained. Bush clumps are currently waste deposit sites.

Plant species list:

a) *Acacia karroo* clump

Although indigenous species occur, alien species have already invaded this area. This clump is polluted by domestic waste.

Scientific name	Common Name	Abundance	Index (E; I; Iv)	Special notes
Trees				
Tipuana tipu	Tipu tree	1	E; Iv3	
Acacia karroo	Sweet thorn	4	I	Popular firewood, although no harvesting could be observed; gum is edible and contains medicinal properties
Jacaranda mimosifolia	Jacaranda	1	E; Iv3	Popular timber wood
Rhus leptodictya	Mountain karree	1	I	
Ligustrum lucidum	Privet	2	E; Iv3	Poisonous fruit
Robinia pseudoacacia	False acacia	1	E; Iv2	Poisonous
Morus alba	Mulberry	1	E; Iv3	Produce edible fruit
Shrubs				
Solanum mauritianum	Bugweed	4	E; Iv1	Poisonous (unripe fruit); leaves and stem irritate skin
Gomphocarpus physocarpus	Milkweed	1	I	
Lantana camara	Common lantana	2	E; Iv1	Fruit edible, but poisonous when unripe; other parts are also toxic; leaves irritate skin
Forbs & Geophytes				
Verbena bonariensis	Wild verbena	4	E	
Araujia sericifera	Moth catcher; Bladder flower	2	E; Iv1	Poisonous; sap causes skin irritance
Sida dregei	Spider-leg	1	I	
Convolvulus arvensis	Field bindweed	2	E; Iv1	
Ipomoea cairica	Morning glory	2	I	
Graminoids				
Hyparrhenia tamba	Blue thatching grass	3	I	Used for thatching

Table 4: Zone 2 *Acacia karroo* clump plant species list by Franci Siebert of Newtown Landscape Architects

b) *Tipuana tipu* clump

This area has recently been burnt; only one indigenous species recorded here

Scientific name	Common Name	Abundance	Index (E; I; Iv)	Special notes
Trees				
Tipuana tipu	Tipu tree	4	E; Iv3	Wood harvested in this area
Morus alba	Mulberry	3	E; Iv3	Produce edible fruit
Jacaranda mimosifolia	Jacaranda	2	E; Iv3	Popular timber wood
Shrubs				
Agave americana	American agave	3	E; Ip	Poisonous to cattle; sap & spines cause irritant skin
Lantana camara	Common lantana	3	E; Iv1	Edible fruit, but poisonous when unripe; other parts are also toxic; leaves irritate skin
Forbs & Geophytes				
Ricinus communis	Caster-oil plant	1	E; Iv2	Seed is highly toxic
Tithonia rotundifolia	Red sunflower	2	E; Iv1	
Ipomoea cairica	Morning glory	2	I	
Graminoids				
Arundo donax	Giant reed	4	E; Iv1	

Table 2: Zone 2 *Tipuana TIpu* clump plant species list by Franci Siebert of Newtown Landscape Architects

c) *Acacia saligna* clump

Indigenous *Ficus* species found here - harvested for wood. Waste dumping in this area.

Scientific name	Common Name	Abundance	Index (E; I; Iv)	Special notes
Trees				
Acacia saligna	Port jackson	3	E	Wood harvesting observed in this area
Acacia karroo	Sweet thorn	2	I	Wood harvesting observed in this area; Popular firewood, although no harvesting could be observed; gum is edible and contains medicinal properties
Populus deltoides	Match poplar	2	E; Ivp	
Ulmus parvifolia	Chinese elm	1	E; Ivp	
Tecoma stans	Yellow bells	3	E; Iv1	
Senna didymobotrya	Peanut butter cassia	1	E; Iv3	
Ficus thonningii	Common wild fig	1	I	Wood harvesting observed in this area; fibres from bark used in mat-making; 28 species of fig wasps associated with this fig

Jacaranda mimosifolia	Jacaranda	1	E; Iv3	Popular timber wood
Shrubs				
Gomphocarpus physocarpus		1	I	
Forbs & Geophytes				
Tithonia rotundifolia	Red sunflower	2	E; Iv1	
Ipomoea cairica	Morning glory	1	I	
Rumex sp. (sampled for identification)		1	E	
Ricinus communis	Caster-oil plant	2	E; Iv2	Seed is highly toxic
Tagetes minuta	Khaki weed	2	E	Used to prevent insect attacks; contains essential oils
Bidens pilosa	Blackjack	2	E	Popular pot weed
Sida dregei	Spider-leg	1	I	
Graminoids				
Pennisetum setaceum	Fountain grass	3	E; Iv1	
Melinis repens	Natal red top	2	I	Important soils stabilizer
Hyparrhenia hirta	Common thatching grass	2	I	Popular thatching grass
Cymbopogon excavatus	Broad turpentine grass	4	I	

Table 5: Zone 2 *Acacia saligna* clump plant species list by Franci Siebert of Newtown Landscape Architects

d) Open area

This area is currently under construction (bulldozer activities)

Scientific name	Common Name	Abundance	Index (E; I; Iv)	Special notes
Trees				
Schinus molle	Pepper tree	1	E; Ivp	
Grevillea robusta	Silver Oak	2	E; Iv3	Sap causes skin and eyelids irritance
Jacaranda mimosifolia	Jacaranda	1	E; Iv3	Popular timber wood
Morus alba	Mulberry	2	E; Iv3	Edible fruit
Phoenix canariensis	Camary islands date palm	1	E	
Eucalyptus sp2. (sampled for identification)	Eucalypt	2	E	Wood harvested in this area
Forbs & Geophytes				

Table 6: Zone 2 *open area* plant species list by Franci Siebert of Newtown Landscape Architects

Xanthium strumarium	Large cocklebur	1	E; Iv1	Poisonous
Ipomoea cairica	Morning glory	2	I	
Graminoids				
Pennisetum setaceum	Fountain grass	3	E; Iv1	

e) *Eucalyptus* area

This area has been burnt; shacks in this area; dumping of domestic waste; very little remained from the natural vegetation

Scientific name	Common Name	Abundance	Index (E; I; Iv)	Special notes
Trees				
Eucalyptus sp.3 (sampled for identification)	Eucalypt	5	E	Wood harvested
Schinus molle	Pepper tree	2	E; Ivp	
Acacia karroo	Sweet thorn	1	I	Popular firewood, although no harvesting could be observed; gum is edible and contains medicinal properties
Callistemon viminalis	Bottle brush	1	E	
Jacaranda mimosifolia	Jacaranda	3	E	Popular timber wood
Forbs & Geophytes				
Rumex sp. (sampled for identification)		1	E	
Tagetes minuta	Khaki weed	2	E	Used to prevent insect attacks; contains essential oils
Graminoids				
Pennisetum setaceum	Fountain grass	3	E; Iv1	

Table 7: Zone 2 *Eucalyptus* area plant species list by Franci Siebert of Newtown Landscape Architects

11.2 The Sustainable Sites Initiative rating system for the Salvokop Intervention

	(PR - Prerequisite)	CREDITS	
1. SITE SELECTION			
1.1 Limit development of soils designated as prime farmland unique farmland, and farmland of statewide importance		PR	
1.2 Protect floodplain functions		PR	
1.3 Preserve wetlands		PR	
1.4 Preserve threatened/endangered species and their habitats		PR	
1.5 Select brownfields or greyfields for redevelopment		10	/10
1.6 Select sites within existing communities		6	/6
1.7 Select site that encourage non-motorized transportation and use of public transit		5	/5
	TOTAL	**21**	/21
2. PRE-DESIGN ASSESSMENT AND PLANNING			
2.1 Conduct a pre-design site assessment and explore opportunities for site sustainability		PR	
2.2 Use an intergrated site development process		PR	
2.3 Engage users and other stakeholders in site design		3	/4
	TOTAL	**3**	/4
3. SITE DESIGN - WATER			
3.1 Reduce potable water use for landscape irrigation by 50% from established baselines		PR	
3.2 Reduce potable water use for landscape irrigation by 75% or more from established baseline		5	/5
3.3 Protect and restore riparian, wetland and shoeline buffers		8	/8
3.4 Rehabilitate lost stream, wetlands and shorelines		5	/5
3.5 Manage stormwater on site		10	/10
3.6 Protect and enhance on-site water resources and receiving water quality		9	/9
3.7 Design rainwater/stormwater features to provide a landscape amenity		3	/3

Table 8: The Sustainable Sites Initiative rating system for the Salvokop Intervention

3.8 Maintain water features to conserve water and other resources	4	/4
TOTAL	**44**	/44

4. SITE DESIGN - VEGETATION AND SOIL

4.1 Control and manage known invasive plants found on site	PR	
4.2 Use appropriate, non-invasive plants	PR	
4.3 Create a soil management plan	PR	
4.4 Minimize soil disturbance in design and construction	5	/6
4.5 Preserve all vegetation designated as special status	5	/5
4.6 Preserve or restore appropriate plant biomass on site	8	/8
4.7 Use native plants	4	/4
4.8 Preserve plant communities native to the ecoregion	6	/6
4.9 Restore plant communities native to the ecoregion	5	/5
4.10 Use vegetation to minimise building heating requirements	3	/4
4.11 Use vegetation to minimise building cooling requirements	3	/4
4.12 Reduce urban heat island effect	5	/5
4.13 Reduce the risk of catastophic wildfire	2	/3
TOTAL	**46**	/51

5. SITE DESIGN - MATERIALS SELECTION

5.1 Eliminate the use of wood from threatened tree species	PR	
5.2 Maintain on-site structures, hardscape and landscape amenities	4	/4
5.3 Design for deconstuction and disassembly	2	/3
5.4 Reuse salvage materials and plants	4	/4
5.5 Use recycled content materials	3	/4
5.6 Use certified wood	4	/4
5.7 Use regional materials	6	/6
5.8 Use adhesives, sealants, paints and coatings with reduced VOC emissions	2	/2
5.9 Support sustainable practices in plant production	3	/3

5.10 Support sustainable practices in materials manufacturing	6	/6
TOTAL	**34**	/36

6.SITE DESIGN - HUMAN HEALTH AND WELL-BEING

6.1 Promote equitable site development	3	/3
6.2 Promote equitable site use	3	/4
6.3 Promote sustainability awareness and education	4	/4
6.4 Protect and maintain unique cultural and historical places	4	/4
6.5 Provide for optimum site accessibility, safety and wayfinding	2	/3
6.6 Provide opportunity for outdoor physical activity	5	/5
6.7 Provide views of vegetation and quiet outdoor spaces for mental restoration	4	/4
6.8 Provide outdoor spaces for social interaction	3	/3
6.9 Reduce light pollution	2	/2
TOTAL	**30**	/32

7. CONSTRUCTION

7.1 Control and retain construction pollutants	PR	
7.2 Restore soils disturbed during construction	PR	
7.3 Restore soils disturbed by previous development	8	/8
7.4 Divert construction and demolition materials from disposal	5	/5
7.5 Reuse or recycle vegetation, rocks and soil generated during construction	5	/5
7.6 Minimise generation of greenhouse gas emissions and exposure to localized air pollutants during construction	2	/3
TOTAL	**20**	/21

8. OPERATIONS AND MAINTENANCE

8.1 Plan for sustainable site maintenance	PR	
8.2 Provide for storage and collection of recycables	PR	
8.3 Recycle organic matter generated during site operations and maintenance	5	/6

8.4 Reduce outdoor energy consumption for all landscape and exterior operations	3	/4
8.5 Use renewable sources for landscape electricity needs	2	/3
8.6 Minimise exposure to envirinmental tobacco smoke	2	/2
8.7 Minimise generation of greenhouse gases and exposure to localized air pollutants during landscape maintenance activities	3	/4
8.8 Reduce emissions and promote use of fuel-efficient vehicles	2	/4
TOTAL	**17**	/23

9. MONITORING AND INNOVATION		
9.1 Monitor performance of sustainable design practices	4	/10
9.2 Innovation in site design	6	/8
TOTAL	**10**	/18

TOTAL POINTS	**225**

FOUR STARS

11.3 Model

The model illustrates the different vegetation heights in the design, from the prominent tree avenue, to the dense forests and the short and sharp rehabilitated veld grass.

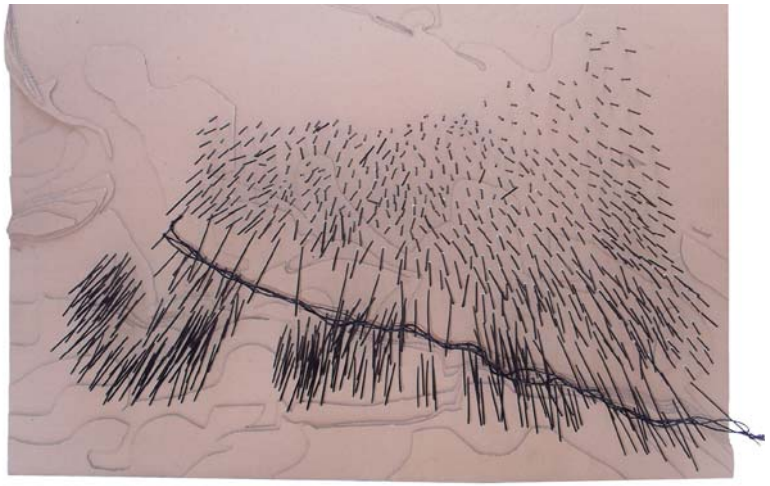

Illustration 208: Abstract model

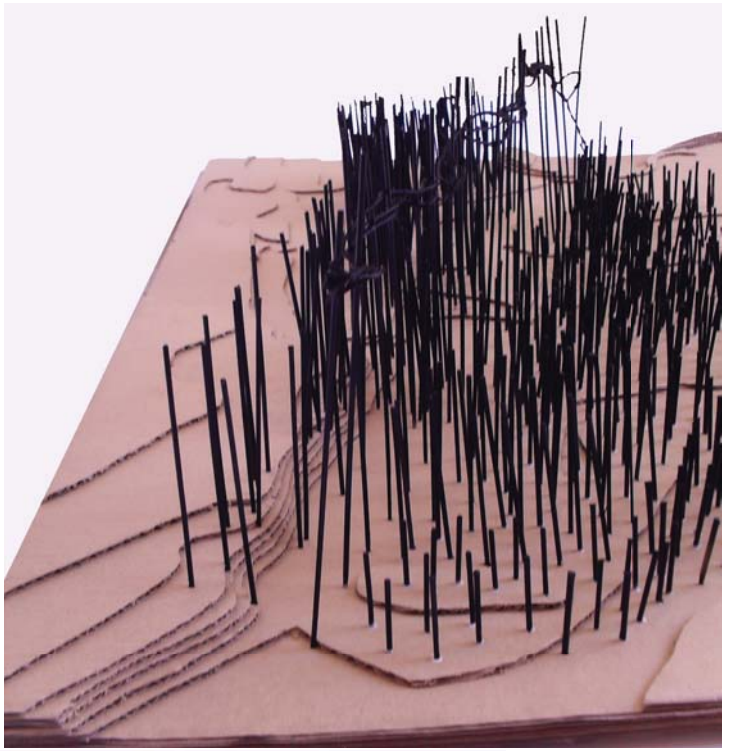

Illustration 209: Abstract model

Illustration 210: Abstract model