Seeds to support future growth:
(re)establishment of the dormant Protea Village

Gys le Roux | lxgys001 | 2010
Submitted in partial fulfillment of the degree Master of Architecture (Professional): University of Cape Town

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Aan almal wat die reis meegemaak het

... dankie

Contents:

Introduction

This thesis addresses and critiques housing delivery processes currently realised by South African national government. It is argued that a major flaw in this process is resultant from the role taken by government as provider rather than facilitator. Government takes pride in the x-amount of new housing units being built but in effect is rolling out suburbs which stifles quality living. The resultant environments that are created very few people can call home and be proud to do so. Government housing in many cases results in housing that
_ does not respond to user requirement and need,
_does not reflect shifting family structures and
_creates environments which is mono-functional.

In many 'completed' housing projects the result is that as soon as residents move into newly built homes a process of alteration and extension is undertaken as to respond to individual needs or provide some form of economic support.

Within this thesis I would like to challenge these issues and propose a solution whereby we allow for some sense of uncertainty and change; a solution whereby the user plays an active role in the process of creating their homes. This premise is investigated through an approach of incremental development initiated by a core/starter unit. The process of expansion and alteration is then also explored with the promise of providing economic opportunities within communities.

It is also argued that infrastructure and community space plays an active role as catalysts in social reconciliation and integration. The notion of combined productive landscape/ community space is explored as to provide possibilities for economic opportunity and self sufficiency. The scale of the productive landscape is limited to garden production and allotment typology with possibilities of collective production.

These approaches are explored with a response to the Protea Village restitution project in Bishopscourt, Western Cape with specific challenges set by governmental policy as well as environmental and socio-economic contexts.

A house is a changing organism, adapting throughout its lifetime to suit changing social status, economic status and lifestyles

Osman and Konigk, (2009: 54)

outline

This document is structured as follows which is a reflection on the work process followed throughout this year:

Chapter 1: This chapter outlines the initial theoretical explorations completed within the first semester of the year that provided a basis for the thesis proposal. An argument is made for appropriate context specific architecture.

Chapter 2: This chapter provides a historical overview of the study area and the events that led to the establishment of the former Protea Village.

Chapter 3: Within this chapter the events that led to the forced removals of the Protea Village residents is provided. The applicable policies on current land restitution and the particular Protea Village restitution claim is also discussed.

Chapter 4: A site analysis is provided with main informants and constraints.

Chapter 5: This chapter introduces the concept of housing support with the proposal of incremental development as a feasible option to address this particular project.

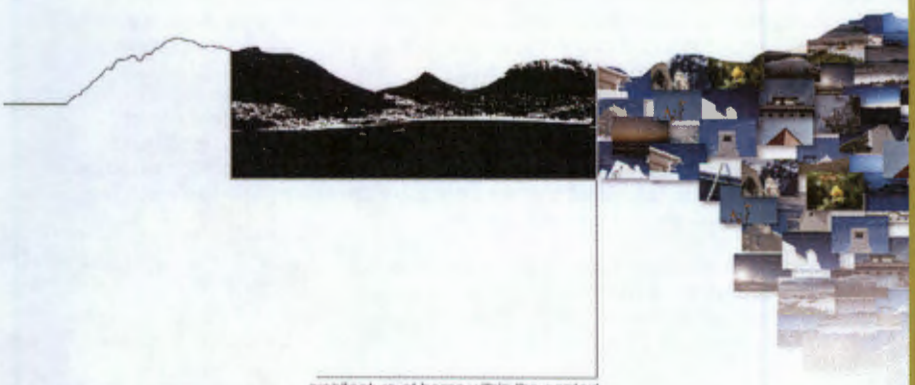
Chapter 6: A productive landscape component is proposed as to provide further levels of support and a solution to deal with the issues of integration and the ecological sensitive nature of the study area.

Chapter 7: Initial explorations are provided that shaped the design approach.

Chapter 8: The design process is documented which highlights issues and considerations that shaped the final proposal.

theoretical approach

this chapter outlines the theretical explorations completed within the first semester.



architecture at home within the context
in awe of the imposing landscape
& a willingness to depend

01

flowing oceans transform into turbulent waves over sharp edged rock formations gradually softened by the verdant fynbos to be contrasted by the ever changing sky

introduction

These few words that are so specific to the context in which I find myself, I believe can also be specific as a shaping force for the architecture I propose.

How does architecture feel that embraces the tormenting Cape Doctor?
How does architecture sound that echoes the thump of a Ghoema?
How does architecture smell that is scented by fresh kelp?
How does architecture look that shouts unity in diversity?

I would like to argue for an architecture of honesty and appropriateness, an architecture unique to our physical context but also in celebration of our history. I believe that the design process, when commenced from a stance and supported throughout by the idea of rooted-ness in place and history provides depth and meaning and the possibility of what I would like to call appropriate architecture.

Appropriate not only as an adjective but also as a verb.

- adjective /proprit/ suitable; proper
- verb /propriayt/ 1 take for one's own use without permission

ORIGIN from Latin appropriare 'make one's own', from proprius 'own, proper'[1]

Architecture which is then suitable for our context but also one which relies on and embodies the opportunities presented within the context; architecture that responds to but also learns from the context.

Let us celebrate this unique setting that we are in and exploit the wealth of opportunities with which we are confronted with. We are after all present in the fairest Cape of them all. I am proposing that the awe inspiring natural context, but also the vibrancy of our culture, promise ample opportunity and design cues not to revert to instantaneous fake imagery, but to create appropriate architecture of our time.

As a designer one must be receptive to external influences, but receptive on a critical manner, that through a process of reflection and appropriation one would support and broaden one's theoretical design framework. Central to this idea of appropriation would be one's senses: touch, hear, taste, smell and sight. It is also then a person's senses which are the first link between oneself and the external world.

I have the belief that the context that we are in should shape our design framework;
the only way to understand this context is to interact with it;
the only way to interact with it is through our senses;
the only way to truly embrace the potentiality of the senses is to be present in the context.

I am proposing context specific design interventions influenced and shaped by the natural environment and cultural history. I do not propose that these influences will result in a form-specific architecture, but merely believe that it will substantiate one's proposed intervention and produce appropriate architecture.

1 http://www.askoxford.com/

Fig 1.1. (overleaf) Built form + landscape (sketch by author, 2010)
Fig 1.2. Groot Constantia side gable (image by author, 2010)

The Architecture of The Fairest Cape of them all

Nestled within a well ordered landscape, any Cape Dutch building affirmatively takes command of its place within the landscape. This command is not one where the architecture overpowers the context but rather a command of mutual respect; a conversation between built-form and landscape. Buchanan notes in an introduction to the work of Gawie Fagan that "Cape Dutch buildings are not shy"[2]. It is as if the self-confidence of the architecture is evident in the stark contrast between glistening white-washed walls, the black 'dekriet' roof, the verdant vine, the sharp edged mountain silhouette, and the ever changing sky; all these components form part of a conversation between building and context. Buchanan continues:

> [T]heir bright white walls and prominent central gables asserting a man made order, reinforced by the regularity of avenues, vineyards and orchards that embellish the landscape as foci bringing all around into relationship with them[3].

This central role that the architecture plays is then one of affirmation. The harmonious relationship between built-form and landscape makes one aware of the awe-inspiring context in which one finds oneself. The architecture, even though at times taking a background position, shapes and directs one's perception of the environment. It allows the context to speak and forces the user to listen.

2 Buchanan, Introduction to Twenty Cape Houses, 1
3 Ibid.

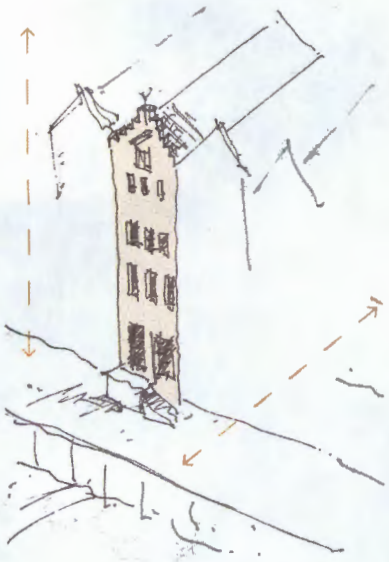


Fig 1.3. Typical Dutch typology with stepped gable (sketch by author, 2010)

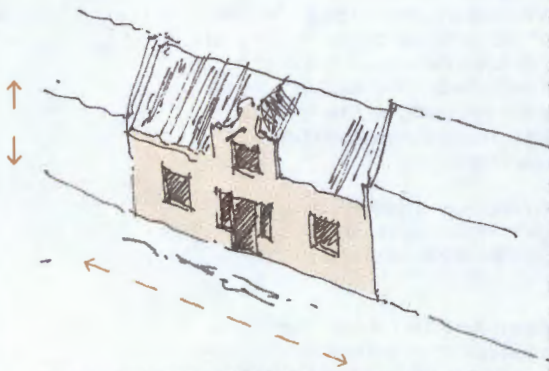


Fig 1.4. Typical Cape Dutch town house typology (sketch by author, 2010)

With the establishment of the refreshment station in the Cape in 1652 by the Dutch East India Company (DEIC) and the subsequent Cape Colony, we find a local architectural form emerging, but one which is influenced by international forces. The term Cape Dutch architecture captures this relationship; the international knowledge (Dutch) applied to the local (Cape) context and subsequently shaped by it. The connotation with only the Dutch is misleading as the built-form that was introduced by the Dutch was in turn influenced by the Portuguese building techniques (a former Roman colony) as noted by Todeschini[4]. The Portuguese maintained an Indian sea trade monopoly and it was only with the Dutch-Portuguese War (1595 to 1663) that the Dutch were able to challenge and remove this trading control. Within this period many Portuguese colonies in Brazil, Africa and India were invaded by the Dutch and they were thus exposed to the techniques of the Portuguese.

First efforts by the Dutch to employ their own building techniques failed as attempts to burn local brick resulted in a material which was porous and weathered easily with the onslaught of the Cape weather; furthermore the imported 'klompje' bricks were also expensive and not sufficient to feed the demand[5]. Attempts to quarry local stone, as argued by Todeschini, into manageable units that would allow for 'normal' Dutch building (e.g. stepped gables) proved to be too arduous as the local stone was too hard[6]. The architecture that proved to work was that consisting of thick walls constructed of rubble found in place, and finished off with white-wash lime produced by burning local shells. We thus find an architecture which employed techniques that the Romans used and subsequently transferred to the Mediterranean countries of which Portugal shows remnants. These building techniques proved to be beneficial as the thick walled construction allowed for good insulation and resulted in a cool architecture in the summer and warm architecture in the winter[7]. Furthermore the lime white-wash hardened over time and with subsequent recoating produced a material that was resistant to the elements and pleasing to the eye as a result of irregularity. Fransen[8] notes that the plastic moulding opportunities afforded by the lime and the irregular building material also helped to shape the typical centre Cape Dutch gable which is probably the single most distinguishing feature of Cape Dutch architecture.

The centre gable emerged as a result of the fact that erven in Cape Town were wide enough to allow houses to be built side-on[9], thus contrasting with the typical built form found in the Netherlands where buildings were built side-on . This longitudinal arrangement removed the possibility of lighting and airing the

4 Todeschini, "Cape Town 1650's to 1940: Illustrated notes on the evolution of colonial dwellings".
5 Pearse, Eighteenth Century Architecture in South Africa, 21.
6 Todeschini, "Cape Town 1650's to 1940: Illustrated notes on the evolution of colonial dwellings".
7 Ibid.
8 Fransen, The Old Buildings of the Cape, 6
9 Fransen, The Old Buildings of the Cape, 3

Fig 1.5. Gable, mountain sky (images by author, 2010)

loft with end-gables, which was firstly solved with the addition of dormer windows and in turn with centre gables. The simply utilitarian function of the centre gable matured into an 'element of dignity'[10] providing an impressive façade reinforced by the decorative plaster finish.

Constraints imposed by timber availability and lateral strength of the construction method and material, resulted in an town house architecture which constituted a single room depth along the street front. By adding wings to the back and limiting them to similar building width and roof pitch the so-called alphabet typology emerged: L, U, T and H. With the establishment of farms outside the town centre, the alphabet typology continued with centre gable ever more present and celebrated. The end-gables also remained, as hipped roof construction proved to be risky as the north western and south eastern winds caused waterproofing problems to the exposed hipped ends as noted by Todeschini[11].

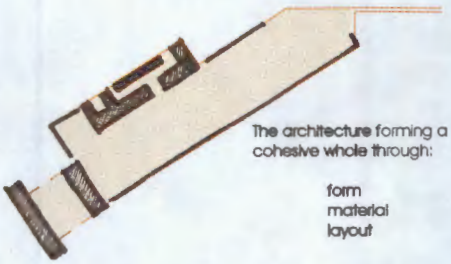


Fig 1.6. Groot Constantia: Site plan (sketch by author, 2010)

The Cape Dutch estate architecture is then typified by a sense of cohesion as a result of the almost naïve repetition of the plan resulting in a symmetrical barn-like arrangement and the limited building materials employed. The manor house differs little in form from that of the outbuildings with main distinctive character visible in the expression of the elaborate detailed centre-gable. One also finds that the outbuildings enforces a sense of axiality and focuses the attention on the manor house even though all buildings collectively form part of the estate and reads as a cohesive whole.

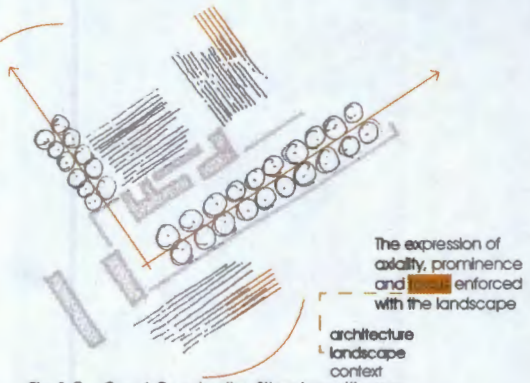


Fig 1.7. Groot Constantia: Site plan with vegetation (sketch by author, 2010)

I do feel that the Cape Dutch architecture that emerged within the Cape of Storms was appropriate and that we have a prime example of how one might build within our context. I am not proposing a formalistic copying of style but rather a design process which is shaped by responding to the local context. Biermann talks about the inevitability of context and architecture:

> So well did geography and history contrive the setting that a sense of inevitability came to pervade the natural and man-made scenery. It was as if the land itself blossomed into architecture...[12]

The overpowering shaping forces of nature create a specific natural context in which we live our lives. The question remains to which degree does the context manifest itself in the way we build and subsequently live our lives?

10 Ibid., 6
11 Todeschini, "Cape Town 1650's to 1940: Illustrated notes on the evolution of colonial dwellings".
12 Biermann, Red Wine in South Africa, 9

Fig 1.8. Familiar cottage, Misty Cliffs (image by author, 2010)

Critical Regionalism: Tzonis and Lefaivre

'Critical' as adjective
1 expressing adverse or disapproving comments or judgements. 2 expressing or involving an analysis of the merits and faults of a literary or artistic work. 3 having a decisive importance in the success or failure of something; crucial.[13]

Critical regionalism came to the fore with an attempt by Alexander Tzonis and Liane Lefaivre[14] to focus on a few architects' efforts to propose an alternative to the then upcoming postmodern design idiom. Postmodernism in turn grew out of a response to the believed failures of the modern design ideals of the early 20th century, and especially post World War II urban renewal projects, with protagonists reacting against, what Tzonis and Lefaivre notes as the "reductive, technocratic, and bureaucratic dogmas of modernism" and its "hostility towards history and culture"[15]. The authors argue that it became apparent that many postmodern efforts were only skin deep and thus not very different from the modernism which it opposed with many solution still enforcing an inherent top-down, reductive approach formulated by universal formulas[16].

The term 'regionalism' was chosen as to ground the argument within history but not to denote a sentimental yearning for the past, but rather the opposition of a universal dogmatic approach in favour of a place specific approach situated within the local region.
"reflecting a commitment to the exploration of the identity of the particular, rather than the generalities of doctrines" [17].

Critical regionalist architecture becomes critical when it challenges the reasons why architecture can be identified as regionalist. Tzonis and Lefaivre notes that regionalism becomes critical through the effect of defamiliarisation[18]. Where Romantic and Picturesque regionalism employs methods of familiarisation, critical regionalism uses that of defamiliarisation. With the process of familiarisation, regional elements that are familiar to the users are used in order to find affinity with the general public. These elements are thus used to evoke nostalgia and memory of the good times gone by. A dialogue between user and building is thus negated as the viewer easily understands that what the architecture presents. Critical regionalism then questions the suitability and justification of the usage of these elements and in the end critique the aptness of the term regional.

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13 http://www.askoxford.com/
14 Tzonis and Lefaivre, "The Grid and the Pathway," Architecture in Greece 15 (1981): 176-178.
15Tzonis and Lefaivre, Critical Regionalism, 10
16Ibid.
17 Ibid.
18 Tzonis and Lefaivre, Tropical Architecture: Critical Regionalism in the age of Globalization, 8.

In contrast, Critical Regionalism as argued by Tzonis and Lefaivre uses methods of defamiliarisation to find poetic form[19]. It still uses place defining regional elements but uses them "strangely" rather than "familiarly". The automatic perception and understanding of the architecture is removed in order to elicit a process of interaction or dialogue between the user and the architecture. It disrupts the "sentimental embrace" [20] one finds in the superficial approach of past regionalisms.

Critical Regionalism is then not a style, it does not provide a design checklist that an architect can employ in order to be critical regional; it derives its form from the interaction with the specificity of the particular context.

The fundamental strategy of Critical Regionalism as argued by Frampton is to mediate the impact of universal civilisation with elements derived indirectly from the peculiarities of the particular site.[21]

What then constitutes the 'peculiarities' of a particular site'? Can we objectively analyse and list physical elements such as: topography, weather conditions, geology, flora and fauna? Is the context only the physical/ natural context or does one include socio-cultural and political context as well? Is there a certain amount of determinism involved or is it more a subjective interpretation of the local condition and thus a subjective solution?

This critical evaluation of external forces and influence one allows such forces to impose is then of a concern in my proposal of appropriate architecture and my understanding of critical regionalism. The ideal is not a yearning for an enclave of environmental deterministic and form specific architecture or a recollection of bygone styles, but an investigation into the creation of architecture which is at peace with the context (both physically and socio-culturally) and also influenced by it. In our South African context we are confronted by the sheer diversity of our natural but also cultural context in which we live. A great challenge I believe for current and future generations is encapsulated in a response needed to these diverse contexts; how do we integrate without running the risk of creating a homogenised society? This threat is not only one within our local South African context but also in terms of an international context.

19 Tzonis and Lefaivre, "Why Critical Regionalism Today?", 489
20 Ibid.
21 Frampton, "Towards a Critical Regionalism", 21

Fig 1.9. 'Un'-Familiar cottage, Misty Cliffs (image by author, 2010)

Fig 1.10. Klein Constantia: Entrance foyer to cellar (image by author, 2010)

Frampton: Place and Tectonic

Nesbitt notes that Frampton's critique of universal modern architecture is argued from a Marxist concern about the "manipulation of the consumer and the problem of architecture conceived as fashion or scenography"[22].

Through the exploration of the local he argues that a spatial and experiential architecture could be produced in contrast to one which is image oriented. The celebration of the local condition and the utilisation of 'knowledge' embedded within the materials but also the local craftsmen provide the possibility of architecture of difference. This difference is exactly what critical regionalism is promoting; the resistance of the homogenization of built form that modern technology and product design enables and unfortunately resulted in throughout the world. A telling example of how modern technology did 'monotonise' architecture is that of the air conditioner. With the advent of the air conditioner buildings could disregard local climatic conditions and still produce desired internal performance. The poetic quality and possibility of responding to the local condition is thus marginalised and an architecture of the universal results from the technology of the time.

Frampton bases his thought on the writings of Paul Ricoeur[23] who argues that with the process of advancement of man, and the resultant phenomenon of universalisation, one starts to find a threat posed on traditional cultures. He refers to the creative nucleus which made great civilisations of the past possible, and the diminishing role that these nuclei play in the creation of diverse cultures. Modern civilisation are confronted with a contradiction in that the question surfaces of how to become "modern and to return to sources"[24]; how to stay rooted in the past and allow a creative nucleus to develop but still be part of and participate in the world culture? How to appropriate influence from the universal world culture but still have a sense of pride for one's local culture?

When Frampton refers to the importance of the local culture he clearly rejects the return to a vernacular tradition of a past culture. He refers to this vernacular as "simplistic, sentimental, and ironic" [25] one which enforces an ethos of popular culture and Populism. Frampton notes that it is a vernacular architecture which employs the communicative power of the image and through the use of the image de-sensitise one's perception of reality. The image tries to remove the user from direct experience of architecture and gratify the user with easy gestated information. These ideas can then be linked to that of familiarisation as mentioned above. One finds this sort of easy gratification throughout South Africa with the ever-present themed security villages popping up recalling images from foreign countries and past times.

22 Nesbitt, Introduction to Prospects for a Critical Regionalism, 468-469
23 Ricoeur, Introduction to Prospects for a Critical Regionalism, 470-471
24 Ibid.
25 Frampton, "Prospects for a Critical Regionalism", 471

I believe it is then not only images from the past which is accepted as suitable architecture, but the novel is in many cases also accepted as suitable, good and beautiful architecture. It is as if society accepts that which is new to be good without questioning their criteria and frame of reference when providing critique. What is important as noted by Frampton is that our architecture should celebrate the unique identity of the current place and time with an "aspiration for some kind of cultural, economic and political independence"[26].

This sort of independence, Frampton argues, is visible in the work of Alvaro Siza. Siza is an architect whom one finds is seemingly at ease with the environment in which his work manifests (mainly the Porto region). His response to the specificity of the local topographic context becomes his virtue. Moneo notes that Siza "works by acknowledging reality... he is attentive to the landscape, materials, building systems, uses and the people that will inhabit his buildings"[27]. Frampton also argues that Siza shows an "extraordinary sensitivity towards local materials, craft work, local light... and that his buildings are delicately layered and inlaid into their sites"[28]. The approach is thus not one where the architecture imposes itself on the landform with a stamp of presence, but rather one where the specificity of the local condition finds manifestation in the architecture. As if the architecture is revealing what is already present: giving voice to the local condition. His architecture is thus not about what the building wants to say as an object, but rather what the landscape and context says through the physical manifestation of the architecture.

Leatherbarrow refers to Henry Klumb's description of the potential of the specific context as 'latent' conditions waiting to be expressed through architecture. He himself describes architecture that accomplishes this as "productive, because its settings supply what the given location is unable to give on its own"[29].

The question then arises how does one express the local condition through the tectonic? In the first section on Cape Dutch architecture I noted that there existed a sense of cohesion as a result of the plain barn-like form and also the lime whitewash render finish which was utilised throughout the estate. Biermann[30] draws parallels between the plastic sculptural nature of the architecture and the specific landscape in which it exists.

Within a South African context I would like to mention to the work of Adèle Naudé & Antonio de Souza Santos. What I find noteworthy of their work is that even though a strong modernist form making is present, their work responds to the specific context in quite a humane manner with a focus on connection with nature. Even though the connection with nature is controlled it is not expressed as a duality of nature opposed to building, but rather nature together with building forming a cohesive whole.

26 Ibid.
27 Moneo, Theoretical Anxiety, 203
28 Frampton, "Prospects for a Critical Regionalism", 473
29 Leatherbarrow, D. Architecture Oriented Otherwise, 33-34
30 Biermann, Red Wine in South Africa, 9

Fig 1.11. Rowan Lane Houses (A Naudé & A de Souza Santos (image by author, 2010)

Fig 1.12. Pseudo attic access 'reminiscent of our Dutch history? (image by author, 2006)

Fakery and the Picturesque

Authenticity in architecture as noted by Dovey cannot be satisfied by a mere formalistic approach and is not a property of form but more of relationship and process[31]. Dovey refer to the term fakery as "the replication of environmental meaning through the manipulation of appearances"[32]. Fakery is induced by a superficial connection of meaning and form; where form evokes a certain perception which can be inauthentic.

The importance of the term fake I believe holds value in architecture and especially my theoretical stance, that one cannot provide appropriate architecture which is formalistic/stylistic particular to a specific context but one needs to look at the indigenous relationships and processes of a particular context in order to produce form. An authentic form would thus embody these influences and be a resultant product with a promise of deeper meaning.

Dovey[33] provides an explanation of the meaning of authentic by referring to the window shutter; and the transformation of form and thus resultant meaning. Four instances are provided:
'shuttable' shutters: integrated with the daily activities. As a device it provides privacy and environmental control as a well as a device denoting boundary and utilised as such. The form emerged then from a relationship between shutter, window, user and the act of controlling internal and external relationship.
'shuttable' shutters with added boundary control. The main function of the shutter to provide privacy and environmental control is lost with the addition of e.g. curtains and blinds. The relationship with the user and the shutter is severed and the shutter, as a result of none usage, is reduced to visual impact.
'un-shuttable' shutters fixed to the wall. The shutter is denied the possibility to shut and the static visual role is thus embedded in the absence of the possibility to shut
'un-shuttable' shutters fixed to the wall but also reduced in size which thus becomes purely decorative.

The question thus arises at which stage we encounter a loss of authenticity? Dovey argues that the major crease occurs when the form looses its integration with everyday life (thus at shutter no2) and together with that a loss of meaning which is bound to the function of shutting. Fakery is thus the replication of meaning by relying on form to produce a situation of deception.

Thus by trying to import foreign image-bound form, the processes that were inherent in creating traditional forms that these foreign images mimic, will be denied. The authenticity of form would thus be lost. We can also then apply these traditional processes in the way that we think about settlement creation. Any traditional settlement grows over time and expands as it is able

31 Dovey, "The Quest for authenticity and the replication of environmental meaning", 33.
32 Ibid., 33
33 Ibid., 34

to support itself. Our current model of settlement creation is an instantaneous cookie cutter mould of free-standing residential properties with little foresight for adaptation and diversity. The processes that were thus involved in creating settlements in the past are thus denied and a vision of the whole is not one of evolvement but rather top-down final image imposed on the present.

A culture cannot evolve in isolation from external influences but the culture needs to be critical to these influences. "It must make most of its limitations and must pass beyond them; it must be open to fresh experience and yet it must maintain its integrity".[34] It is then also this sense of integrity which I believe is of great importance to an appropriate architecture. One must be open as noted to fresh experience but the appropriation and critical assessment of suitability of such influence is what I believe would be of value. If one is uncritical in the evaluation of global forces and follow a path of mere acceptance the solution provided would be without depth and meaning.

I believe that for any person to understand and gain meaning from the world in which he/she lives, requires them to experience the local condition. This experience should also be authentic and thus a product resultant from the processes of the specific place.

Phenomenology: Experiencing and Expressing the Local

> "Planning has so intensively become a game of form, that the reality of how a building is experienced has been overlooked. We make the mistake of assessing a building as a formal composition, no longer understanding that it is a symbol or experiencing the other reality that lies behind the symbol".[35]

I believe that experiencing this 'other' reality behind the physical object of architecture needs to be addressed by architects and that architecture has the opportunity to facilitate this experience. We need to focus on the architectural possibilities that experience promises and create, as Pallasmaa notes, "Architecture of the senses"[36]. Pallasmaa[37] argues that the domination of the visual leads to an increasing separation from the self and the world. Bloomer and Moore[38] suggests that the integration of human body as a central issue relating to design has been neglected and results in architecture of restriction and exclusivity. Martin Filler in turn notes that the visual cannot satisfy human need:

> Perhaps the most glaring fallacy in much of the neo-Platonic architecture of the past half century has been the dangerous belief that a humanly satisfying building need not take more into consideration than proportional perfection or compositional purity. Many such buildings have attained their diagrammatic climax much more effectively in two dimensions than they ever have in three[39].

The main problem when approaching design from a formalistic standpoint is the risk of creating architecture which does not satisfy the intended user. This satisfaction can be both on a utilitarian level but also on an experiential level. The fact that our feelings are shaped by architectural experience is irrefutable.
Does the echo of ones shoes in a long abandoned hallway contribute to a feeling of solitude or the duality of contrasting light and shadow in a place of worship enforce that of solemnity?

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34 Tzonis and Lefaivre, Critical regionalism: Architecture and Identity in a Globalized World, 39
35 Pallasmaa, "The Geometry of feeling" , 449
36 Pallasmaa, The Eyes of the Skin: Architecture of the senses
37 Ibid., 15
38 Bloomer and Moore, Body, Memory and Architecture, 6
39 Porter, The Architect's Eye, 34

Fig 1.13. Seeing what I feel (photo montage by author, 2006)

It is then experience and these feelings that phenomenology analyses. The term as defined by Edmund Husserl(1859-1938) can be described as "a systematic investigation of consciousness and its objects" [40]. An awareness of oneself and the situation in which you find yourself as well as the objects one is exposed to. In contrast to theories in natural science and the effort for objectification, the importance of subjective experience is valued in phenomenology. Phenomenology focuses then on the subjective experience and perception of an objective reality which can be analysed as such.

Within the essay The Geometry of Feeling, Pallasmaa is questioning whether mere form and geometry can evoke architectural feeling. He notes that meaning does not exist in form itself, but in the consciousness of the user that experiences it. The user's consciousness in turn consists of an amalgamation of lived experience or as Pallasmaa notes: embodied memories. The quality in architecture does not lie in the physical form but in "the capacity for awakening our imagination" [41] and evoking feelings underlined by the user's memories.

The challenge that architects face is then twofold:
- on the one hand there is a practical requirement implied by the programme and basic efficient functioning of space
- but there is also then an emotive/experiential side and the poetic perception of architecture as an art.

As an art architecture has concerns with the aesthetic and the concept of beauty; but should one be driven by a conscious effort to achieve this? We might also then ask: What is beauty? Pallasmaa believes that beauty flows out of the process to attain something more; "simplicity, precision, truthfulness and the experience of life and of being human"[42]. How can we then define this idea of 'being human'?

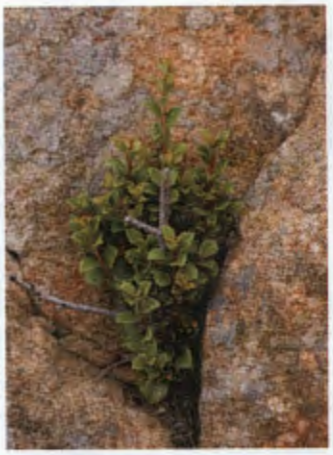
In the end we as human beings are existential beings, shaped by our lived experience and daily activities. We are driven by both our individual passions and efforts of personal fulfilment but also that of a collective ideal towards a well functioning community. How can architecture and the experience of architecture then contribute to these challenges?

Norberg-Schulz notes that it is of great existential importance to understand the place in which one live; to come to terms with the genius of the locality[43]. The term genius is a classical Roman concept where every being or place has a protective spirit giving life, character and essence to that individual or place. This spirit of a particular place (genius loci) is then formed by the quantitative tactile reality (the colour, texture and form) together with the tacit qualitative reality of emotions and feelings that the specific place evokes.

40 Nesbitt, Introduction to The Phenomenon of Place, 412
41 Pallasmaa, "The Geometry of feeling" , 452
42 Pallasmaa, "New Architectural Horizons," Architectural Design 77 (February 2007): 22
43 Norberg-Schulz, Genius loci : Towards a Phenomenology of Architecture, 18

Fig 1.14. Vegetation shaping context (images by author, 2010)

Creeping vegetation altering the visual image of the landscape and thus our perception of context



Shaping forces of the context determining what the landscape will become

Fig 1.15. Context shaping nature (photo montage by author, 2010)

Any architectural intervention is confronted by the inherent quality of a specific place. I believe that for architecture to be appropriate it needs to respond to this specific quality in an embracing and harmonious manner. In order for us as humans to come to terms with reality and understand the place in which we live, our built form needs to be in sync with the spirit of the place. Architecture need to be both an entity on its own but also an extension of the place. I believe that critical regionalism and then appropriate architecture can be described as an effort to enforce and celebrate the genius loci of any specific place.

The challenge that I set myself then is the creation of an appropriate architecture within a specific context. I find the etymology of the word 'context' as noted by Johnson[44] quite apt: Contexere from the Latin texere (weave, plait) and con(together) thus 'weaving together'.

The idea of weaving can then be applied to both the physical object of architecture as well as the relationship that exists between the object and its surrounds.

As a building/ object:

I believe the challenge lies in creating a coherent whole by weaving together the programme and form with the use and expression of the physical components which constitute architecture e.g.: texture, materiality, scale, tectonics etc.

As a relationship:

I see this relationship as a 'golden thread' present in both the context and the architecture. This relationship can be approached from a few sides:

On the one hand it is the idea of extending the context to influence the architecture; we thus find architecture shaped by context.

It can also be that the architecture is utilised to shape the context.

Or a combination where architecture depends on the context but also creates a new context.

44 Johnson, The Theory of Architecture, 284

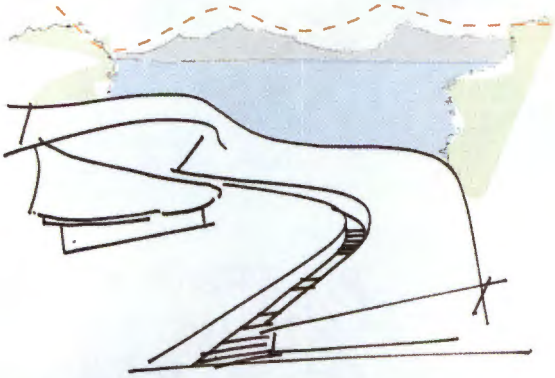


Fig 1.16. Garden of remembrance (sketch by author, 2010)

Tadao Ando notes: "The presence of architecture creates a new landscape. This implies the necessity of discovering the architecture which the site itself is seeking. [45]

The Garden of Remembrance in Simons Town by Roelof Uytenbogaardt showcases his unique interpretation of the landscape and the effort to bring form, programme and context together. I believe the architecture is an extension of the context in which it exists; this context is expressed both in a form specific manner (volume and plan) but also in terms of materiality and texture.

The way we live of lives is greatly influenced by the context in which we find ourselves; it is not only the physical/natural context, but also the socio-cultural and political context. Our lives are marked by interconnection and influences with these contexts: we are shaped by that which surrounds us. The question I am left with is: How can we allow architecture to be shaped by the context in which it exists, and permit users a full range of experience;

45 Ando, "Toward New Horizons in Architecture", 461

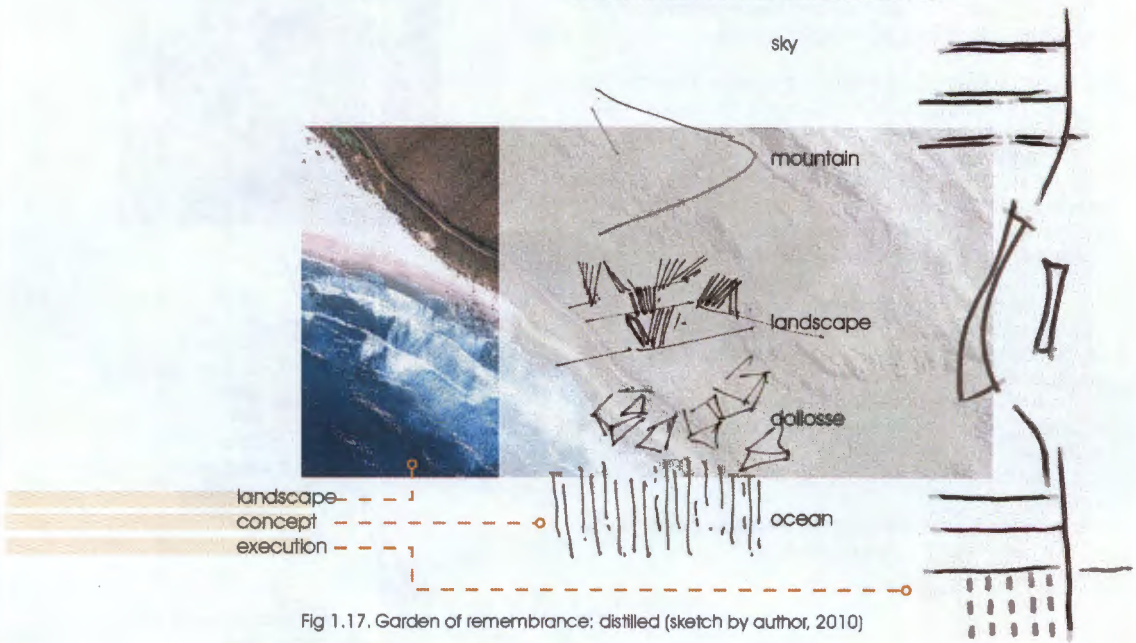


Fig 1.17. Garden of remembrance: distilled (sketch by author, 2010)

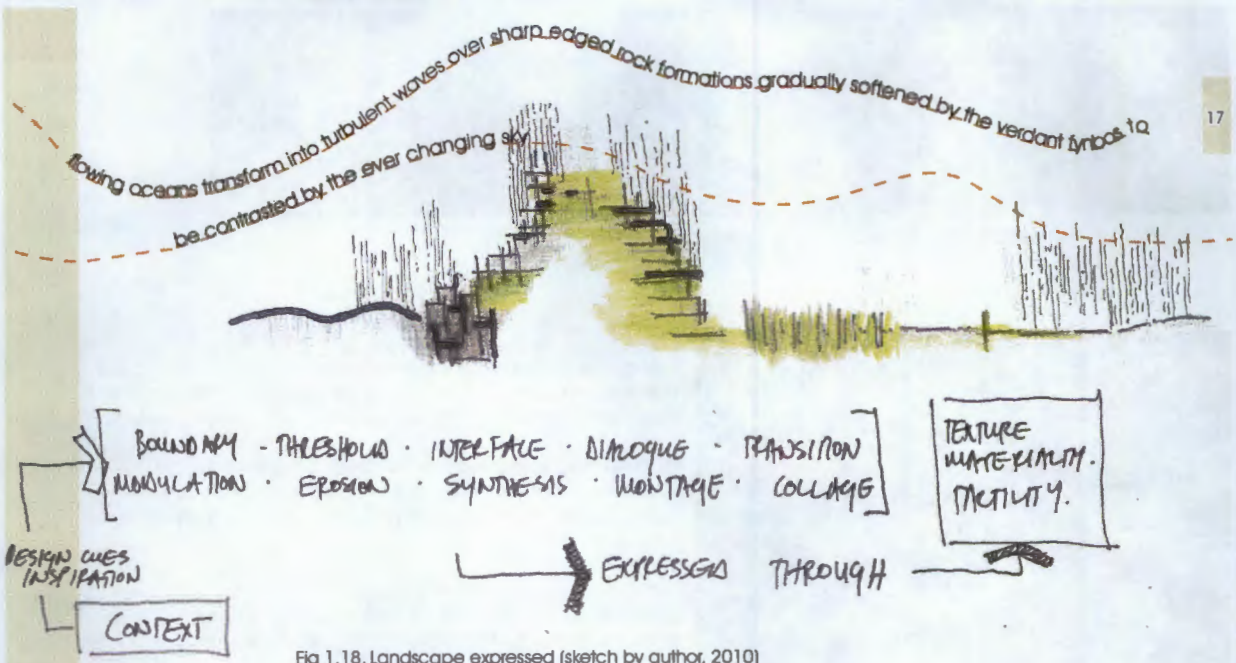


Fig 1.18. Landscape expressed (sketch by author, 2010)

including both architecture and context?

Personal Reflection

The process that I have taken throughout this year to determine my interest, has been largely dependent on me reflecting on photographs I have taken throughout a period of four years [roughly 18 000 pictures]. I've tried to identify elements that catch my eye, which I deem noteworthy to record. Sifting through [My Pictures] folder it came down to broad categories including:

Silhouette	[looking up at the sky with a form etched by the shape in the foreground]
Texture	[looking down at my feet… seeing that what I feel]
Detail	[looking behind and underneath at how an object is created]
Contrast	[looking at the in-between… how the one becomes the other]

With these ideas in mind I then started to contemplate the context in which we find ourselves; especially the natural environment.

There is an ever-present rhythm influencing my perception of the landscape: the duality between night and day, summer and winter, wind and its absence.

Can my experience be the reduced to the dichotomy of permanence and change?

Fig 1.19. Cloud cover changing (images by author, 2010)

Fig 1.20. Permanence and change expressed in nature (images by author, 2010)

Fig 1.21. Permanence and change: Dappled sunlight (image by author, 2010)

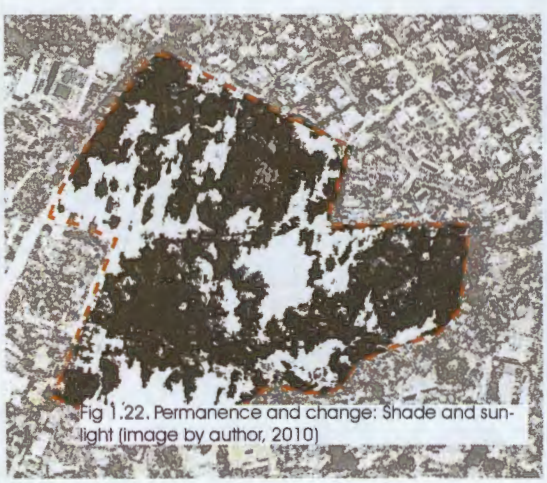


Fig 1.22. Permanence and change: Shade and sunlight (image by author, 2010)

The question then arises: What is permanence? The permanent is tormented by the chronic forces of change! Is the permanent then really permanent? Is the permanent not delayed change?

Can we create architecture that reflects these changes?
On a material level reflecting the effects of time and use.
On a programmatic level allowing for change and reprogramming over time.

Can architecture facilitate change?
Challenging set norms with new alternatives: do we harshly oppose the set norms with a contrasting alternative, or do we allow the new alternative to gradually evolve?
Can architecture be seen as a framework in which change can be promoted?

How can change be experienced in architecture?

With my first site visit to the Protea Village site (the site chosen for this thesis), unaware of the history and resultant implications on programme, I was struck by a sense of introversion. Together with this there was a feeling of isolation and surveillance; a dislocation from the actual place and its surroundings. In contrast to this I felt a strange sense of safety provided by the green canopy, and the intermittent views of Table Mountain.

Reflecting on the somewhat negative ideas of isolation and surveillance, I deduced that these feelings were not as a result of the natural context, but rather the architectural context in which the site is located. The northern and eastern boundaries (Fernwood Estate) are lined by unkept backyard fences with little interface between the Protea site and the Fernwood residents. The Southern boundary is formed by the two streams later culminating to form the Liesbeek River. Across from these streams behind electrified fences, one finds hawk-eyed mansions seemingly enjoying their idyllic setting. I came to realise that the boundary condition has a huge impact on the context of a specific place and the atmosphere experienced.

My aim with the thesis project is thus to utilise my interpretation of the essence of the context (permanence and change) as a guiding principle in the design process and finally the solution proposed.

The challenge I set myself then is to investigate the components that structures the specific place and atmosphere of Protea Village (natural/ physical, socio-cultural and political contexts) and with an understanding and personal interpretation of these structures I would then engage in a design process to distil the ideas of permanence and change into programme, form and material.

Fig 1.23. Permanence and change expressed in nature (images by author, 2010)

Conclusion

Architecture cannot exist in isolation; it cannot be created in isolation and cannot be experienced in isolation. Architecture is an object, but it is an object defined by relationship.

_a relationship between the components of the object and the object itself
_a relationship between the object and other objects of architecture
_a relationship between the object and the user
_a relationship between the object and the context
_a relationship between past, present and future

If this relationship is one of synergy, then architecture would allow one to live a fulfilling life, reflect on past meaning, and dream into the future.

"... man is an integral part of the environment, and... it can only lead to human alienation and environmental disruption if he forgets that" Norberg-Schulz (1979:23)

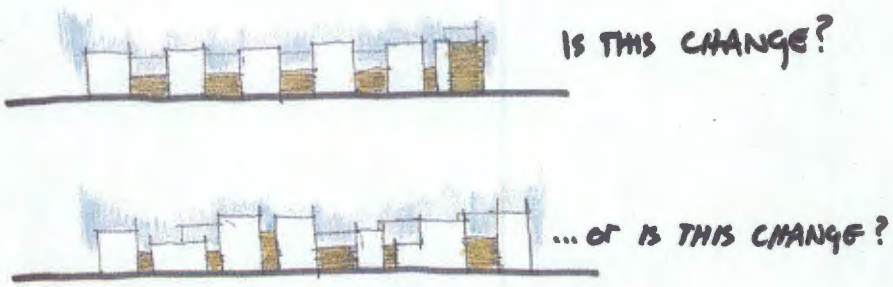


Fig 1.24. Change expressed in architecture (image by author, 2010)

Fig 2.1. The old Rhodes drive (NLSA with courtesy of D6 Museum)

remembering the past

this chapter outlines the history of the former Protea Village community

02

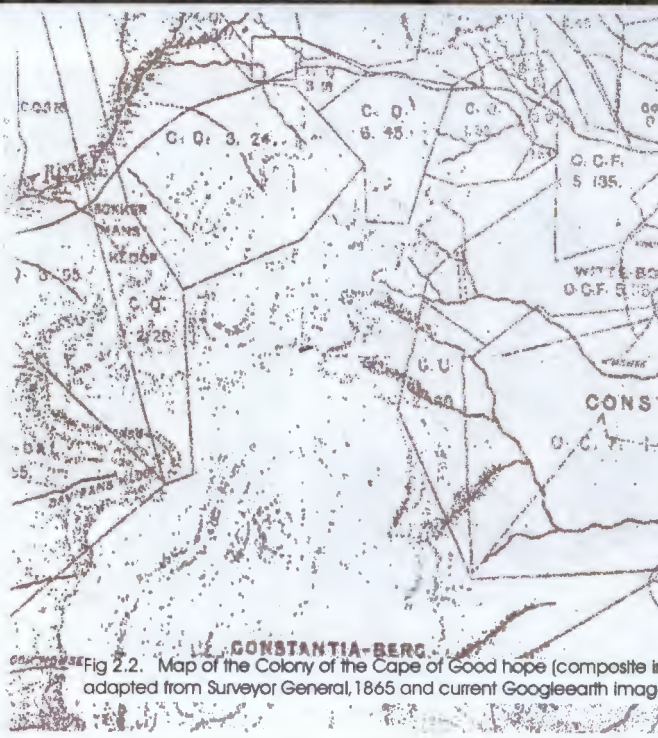


Fig 2.2. Map of the Colony of the Cape of Good hope (composite image by author adapted from Surveyor General, 1865 and current Googleearth image)

Protea village was established on the nexus of three neighbouring farms in the now Kirstenbosch, Bishopscourt and Fernwood estate areas. These three farms include: Bosch-heuvel (a), Kirstenbosch (b) and Bosch-beek (c) (refer to image above).

Bosch-heuvel farm

The history of Bosch-heuvel farm can be traced back to 1657, a few years after Jan van Riebeeck arrived (1652) to establish a refreshment station for the VOC (Dutch East India Company). Van Riebeeck, a market gardener at heart[1], was originally granted a piece of land in the now Green Point area, to establish fruit trees and vegetables. He soon realised that the sandy-soiled wind-swept area was unfavourable to agriculture and asked to exchange the land with a piece on the south eastern edges of the upper Liesbeek river. Van Riebeeck planted the area with 1200 vine cuttings imported from France as he valued the importance of wine

1 Kotze, *Bishopscourt and its residents*, 5

A peaceful, close community- 'as one family'
A place full of life
A sense of freedom and beauty in nature

In the daytime, it was beautiful. I adored it. It was greenery, it was flowers, everything was there – Kathy Davids (nee Jullies) [born 1936]

(All quotations from former Protea Village residents, courtesy of D6 Museum).

and spirit in both an economic term but also in term of medicinal value: alcohol unlike water has a longer shelf life and could also be utilised for disinfecting wounds. The area was originally named Wynberg but soon became known as Bosch-heuvel as a result of the topography but also the amount of lush vegetation in the area.

By 1661 the farm was flourishing with 1162 orange, citron and lemon trees, ten banana palms, two olive, three walnut, five apple, two pear, and nineteen plum in addition to the thousands of vines and also a flower garden[2]. After van Riebeeck left the Cape in 1662, the farm exchanged hands quite a few times and in 1805 was sold to Honoratus Maynier who renamed it Protea. In 1851 the farm was bought by the Colonial Bishopric fund as residence for the Bishop of Cape Town, Robert Gray. At this time the farm was renamed Bishopscourt which remains the name of the current suburb.

With most of the servants on the farm being Muslims who travelled weekly to the Cape Town mosque, Bishop Gray made an active effort to convert the servants of Protea Village and with this effort established the Chapel of the Good Shepherd Protea in 1864 together with the graveyard. Gray also replaced the huts of some of Protea Village residents with more formal cottages.

Kistenbosch farm

As with the Bosch-heuvel farm, the establishment of Kirstenbosch can also be traced back to 1657. With the rapid expansion of the settlement a large strain was placed on the wood reserves in the area. Land was granted to carpenter and sawyer, Leedert Cornelissen to protect the indiscriminate destruction of the wood reserve and also to act as first defence against the Hottentots. In 1889 a portion was sold of to Johannes A Stegmann who later established stone cottages for his workers and later became known as the Stegmann cottages. In 1895 CJ Rhodes bought the remainder of the farm who commissioned the planting of trees along the eastern boundary of the site which later became Rhodes drive. At Rhodes' death the farm was left to the people of South Africa together with Groote Schuur Estate.

Laying the seeds of Protea Village: Working the land

During the era ending in 1834, slave labour was extensively used to establish and tend the farms. It was the norm to house domestic servants close to the homestead, and field/ garden servants were located in the field. In the case of the Bosch-heuvel/Protea/Bishopscourt farm the western edge of the farm was utilised by the field servants. It is argued that these homes of the field slaves were the seeds for the establishment of the Protea Village[3]. With the abolishment of slavery in 1834, the slaves remained in service of the former owners and in

2 Kotze, *Bishopscourt and its residents*, 7

3 Baumann & Winter Heritage consultants, *"Draft Heritage report: Contextual Analysis of Protea Village"*, 9

Fig 2.3. Kirstenbosch workers (Barbara Clarke collection, D6 museum)

some cases land was leased from the owner repaid by one day unpaid labour per male occupant. The leased land was in many cases used as productive garden plots with produce sold at the Claremont market[4]. These garden plots remained in tact during the 20th century and is clearly visible on later aerial photographs of the area.

When Rhodes commissioned the establishment of a more formal road linking Houtbay to Groote Schuur the amount of cottages in the Stegmann area was increased in order to house the workers. This road is the old Rhodes drives which runs between the farms Kirstenbosch and Bishopscourt.

When Harold Pearson took up the chair of botany at the South African College in 1903, he saw the need to establish a botanic garden in Cape Town. In 1911 while scouting for possible location for this garden he travelled along Rhodes drive and spotted Kirstenbosch farm as an ideal location. In 1913 the former Rhodes farm was set aside by the government to establish the garden and do justice to Rhodes' wish to use the farm to benefit of all South Africans. In the years that followed more labour cottages were established in the area in order to house the labourers that would work the land and establish the Kirstenbosch National Botanical Gardens.

Ons het die tuin opgebou. Ons was die backbone van die Kirstenbosch Gardens, Protea Village se mense.

My seun is nog daar, Sy oupa en sy pa het ook daar gewerk, en nou werk hy daar en sy vrou werk ook in Kirstenbosch. Ek het klipwerk gedoen en rockeries gebou wat nou nog staan, ek het palewerk gedoen, lawn geplant... kan maar amper sê ek het groot geword in daai tuin. Ons het mooi werk gedoen, wat lê nog altyd daar. Daai kan hulle nie wegvat nie- Dickie Bowiwe [born 1928]

Fig 2.4. Mary at graveyard of grandparents (D6 museum)

In the early part of 1900's Protea Village was a thriving yet small community. The Church had regular services with residents celebrating marriages and baptisms under the canopy of the old oaks.

> The Anglican Church has also played a role in the developing of the culture of the people of Protea. I remember the baptisms... that child must have that white long dress on, if they don't have it someone will lend them a dress... and everybody will be invited for tea in the afternoon. Confirmation was the next step and...a big family get together. Next was you 21st birthday party... that 21st birthday party was a highlight of your life and everybody would be invited. And then of course the weddings... everybody in the community had to come- Ann Ntebe (nee Tomlinson) [born 1953]

Children grew up unhindered, in a context where the landscape was both recreational but it also fulfilled an educational role. The two schools provided formal education with many

4 Baumann & Winter Heritage consultants, *"Draft Heritage report: Contextual Analysis of Protea Village"*, 10

Fig 2.5. Daily water chores (Payne Collection, D6 museum)

Oh the river, that's where we started our days. Talk about Liesbeek River, we used to make our own swimming pools in the river. That's how we learnt to swim – Alexander September [born 1924]

Fig 2.6. Children in front garden (Daphne Stephens collection, D6 museum)

fond memories from former residents.

My school days... were spent at the English Church Mission School, up in Kirstenbosch... we had a very good educational standard there. I did my preparatory education there... up to std 4... the whole thing was done firstly by Mrs Sissing, thereafter Mrs Smith who took std 1's and 2's, and then Mr Erntzen, the Principal, he took the std 3's and 4's, a thatch roof building, but it had another section, proper galvanised roof, brickwork. Nice, very neat- Abdullah Hossain [born 1930]

Protea Village was and is to this day still in an area where water plays such an important role in the daily lives of the people. The two streams provide many hours of joy only to be offset with the daily chores of collecting freshwater from the bubbling spring (still running to this day).

> ... water for the washing, and water for the house, and water for the plants. And it was quite a job to carry all that water.. There is not a single day you skip- from Monday to Sunday. We had pits, you know, a water well in the garden and we used that water for the washing, but not drinking. We go to the spring for drinking water- Martin Williams [born 1948]

> Die water was gewies 'n pit wat my ouma self gegrawe het, wat was uitgelê met klippe. Die water was silwer skoon, ons het altyd water met emmer opgetrek. Sundae aande het ons die balies vol gegooi vir die was – laundry- wat onder die vygeborne en die loekwaiborne gestaan het. En Maandae's het het hulle gewas en dan in die agtermiddag moet ons maar weer volmaak- Christina Ackerman [born 1932]

The daily life in Protea was peaceful and the soil fertile.

> Hatta Francis, she was a flower-seller, she and her daughters... She used to get flowers sometimes from people's gardens in Protea but roses and some other flowers she used to get in Constantia... the next morning walk to town, the top roads, de Waal road, with the big bamboo basket on her head and two on her arms. That lady hardly took busses. And the ferns she used to get in the mountains, all her decorations... Wilfred Smith [born 1909]

Fig 2.7. Teacher Jacobs at home (D6 museum)

Fig 2.8. Typical Protea village house (D6 museum)

Fig 2.9. Typical extention to the main house (D6 museum)

The residents were proud of their village and cherished their homes.

> There was no squatter camp there. We only had the two rooms and the outside big kitchen. I was born there in 1909 and since that time, when I got my own sense, there was no squatter camps. We painted the houses every year. All fifty cottages- Hattta Francis [born 1909]

> It was brick houses. Some people had the whole house, where the two rooms on this side and two on that, that's the four. And then the others, they were families staying on this side and the other on the other side- Wilfred Smith [born 1950]

> Every year the houses must be painted white but the doors stayed green, bottle green windows and bottle green doors. That was the favourite colour of my grandfather... Young people got married, moved in with the in-laws and then when there was a baby... some stayed in the house but some made a little place in the yard for them and lived on like that. The others put up a corrugated shed or something like that with their beds in it and they lived there- Kathy Davids (nee Julies) [born 1936]

Who would have thought that life would change so drastically in years to come?

Fig 2.10. Typical extention to the main house (D6 museum)

Fig 2.11. Kirstenbosch garden architecture (images by author 2010)

Fig 2.12. William Basson on duty (Barbara Clarke Collection, D6 museum)

Cathy: What I can't understand is that the white people that was living there, Mrs Bennet, and later on the doctor, or even Mr Myburgh, those people never had a problem with us. Geoff: The thing is auntie, it is not Mrs Bennet, Mr Tetgemolt, the German, it is the bureaucrats in the government. They are the buggers, they make the laws.

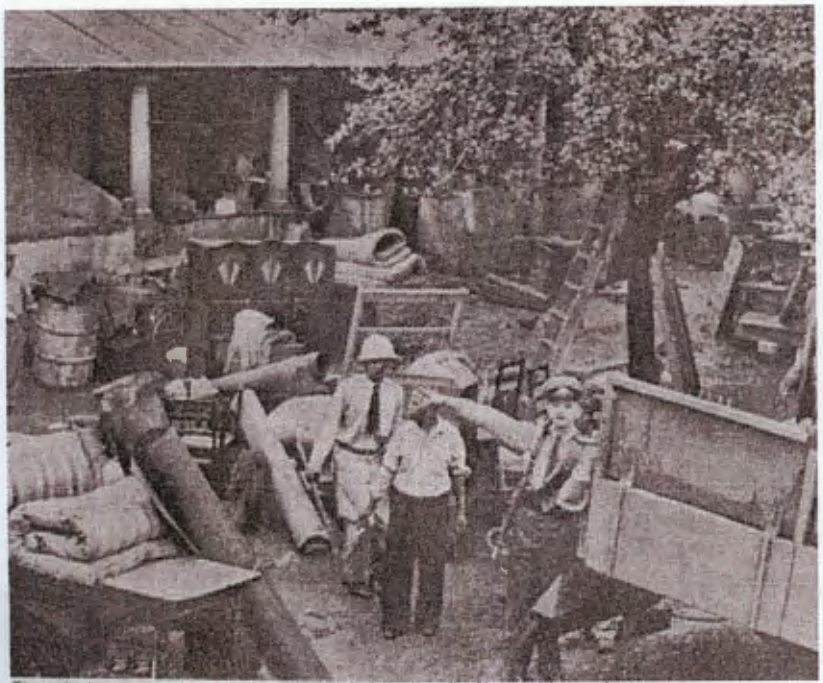


Fig 3.1. Typical scene at forced removals (http://southafricaarchive.org)

healing the ills of the past

this chapter outlines government policies regarding land restitution with specific reference to the Protea Village claim

03

"Dié grond is witmensgrond"[1]

With these words life in the tranquil Protea Village ended. Residents were forced to vacate their houses, load their belongings on government trucks and dropped of in areas as far a field as Mitchell's Plain and Lotus River; areas unfamiliar to them. The close-knit family ties and life within the loving community ended with one fell swoop enforced by the Group Areas Act of 1950.

"Ons kinders het nie verstaan nie; net op die lorrie geklim en op 'n vreemde plek afgeklim"[2]

The Group Areas Act was preceded by the Natives Land Act (No. 27 of 1913), also known as the Black Land Act, which was a major piece of legislation passed by the Union Parliament in order to regulate the acquisition of land by 'natives'. Furthermore this act decreed that only certain areas within the country could be owned by blacks. This area totaled only 7% of the entire area of the Union3. The National Party government[4] (1948-1994) subsequently passed the Group Areas Act of 1950 (Act No. 41 of 1950) where racial groups were identified and residential areas segregated based on these groups. It was not until the late 1960's that Provincial government enforced this act and expropriated the Protea Village residents of their homes; reason given that

1 Malan, Marlene. "Els teen bishopscourt," *Rapport*, 13 March, 2010.
2 Malan, Marlene. "Els teen bishopscourt," *Rapport*, 13 March, 2010.
3 http://www.sahistory.org.za/pages/chronology/thisday/1913-06-19.htm
4 Apartheid government. The meaning of the term 'apartheid' reveals the implications of this act. Apartheid is the Afrikaans word roughly translated as separateness; keeping race apart from one another.

Fig 3.2. Typical government supplied housing (Google street view image edited by author 2010)

this area was needed for educational purposes and public open space. These forced removals happened not only in the case of Protea but was the case in many locations throughout South Africa.

More than 130 000 families, involving 73 000 properties, were dispossessed under the Group Areas Act, 1950.[5]

Even though the community was located in areas far from the Protea site, many former residents still attended the Sunday services at the Anglican church, Good Shepherd: Protea, and visited the graveyard where relatives were laid to ground. Many longing for the day when they will be able to call Protea home again.

With the advent of our first democratic elected government in South Africa, came an act that would abolish the ills of the past. The Restitution of Land Rights Act 22 of 1994 was enacted to provide for the restitution of rights in land to persons or communities dispossessed of such rights after 19 June 1913 as a result of past racially discriminatory laws or practices[6]. The lower limit (19 June 1913) was given as this was the date that the first piece of legislation was passed that would discriminate the right of land ownership based on race.

It is under this act that PROVAC (Protea Village action committee) lodged a claim in 2001 at the Land Claims commission on behalf of 110 former families. In all restitution cases the claimants are presented with the following options pending the success of their claim[7]:

- restoration of the original land from which claimants were dispossessed;
- provision of alternative land;
- payment of compensation;
- alternative relief including a package containing a combination of the above,
- sharing of the land, or special budgetary assistance such as services and infrastructure development where claimants presently live; or
- priority access to state resources in the allocation and the development of housing and land in the appropriate development programme.

Of the original claim some families opted for financial compensation (R17 500 per claim) which resulted in the final amount of 86 claimants remaining who opted to be restituted to the original location. The land in question was comprised by erven 212, 242 and remainder of farm 875, Bishopscourt (refer to images on next page).

5 White paper on South African land policy Dept. of Land Affairs. 1997.
6 Restitution Of Land Rights Act 22 Of 1994
7 Section 35(1), Restitution Of Land Rights Act 22 Of 1994

Erf 242 housed most of the former residents in the area referred to as the Steggmann Cottages and is owned by the Department of Public works who leased the ground to the National Botanical Institute on a 100 year lease. The erf is currently undeveloped.

Erf 212 is owned by the City of Cape Town and it currently plays host to the Boschenheuvel arboretum (shrub and tree reserve). This erf housed only two of the former families, the village school, cricket field as well as the natural spring that was used daily for drinking purposes. (Refer to image below)

Remainder of farm 875, housed a few of the families in rondawel structures as well as the stone cottages dating back to c1913. Currently only the stone cottages remain.

In addition to the Restitution of Land Rights Act 22 of 1994, local government has also committed themselves to equitable restitution processes. Their involvement is outlined by the following[8]:
_ where claims are lodged on private land the city will play the normal statutory role in terms of development control e.g. rezoning and building plan assessment
_ Local Council's role in respect of state owned land is similar to that of privately owned land, except where the land in question is of strategic importance e.g. metropolitan locality and historical significance. In such cases Local Council's role in is increased to that of ensuring holistic integrated planning.
_where land is municipal owned; Local Council's full involvement is required.

As a result of the locality and the historical importance of the site, the City of Cape Town ordered a contextual analysis that would assist them in reaching a final decision. This report[9] was completed in November 2003 by NM and Associates and examined the project in terms of Natural systems, Geotechnical conditions, Heritage informants and applicable planning policies. This report forms initial basis for my design approach which would be outlined and referred to in chapter on site analysis.

The Land Claims Commission approved the claim in 2006 and published the Section 42D memorandum of agreement settling the claim on the following terms:

_ the Department of Public Works hereby agrees to make erf 242, Bishopscourt available for restitution purposes at no cost, subject to the formation and registration of the appropriate legal entity (including a trust by the development claimants .
_ the National Botanical Institute, which currently administers farm 875, Bishopscourt, agrees that PROVAC establish a museum in the stone cottages situated on farm 875 and that PROVAC make use of the area immediately surrounding the stone cottages on the condition: That a joint working group be established between NBI and PROVAC which will be accountable to the implementation steering committee.
_the Cape Town City Council hereby agrees to make portion of erf 212 bishopscourt available for restitution purposes subject to the following conditions.
_ Planning and development of the subject land (erf 212) will be based on the document "Protea Village: Environmental and Technical Feasibility Study: Contextual Analysis and Design Guidelines" prepared by NM and Associates, dated January 2004.
_Due concideration will be given preserving and enhancing the environmental assets on the sites.
_ the Cape Town City Council will provide the external link/

8 City Wide Policy on Land Restitution
9 Protea Village Environmental and Technical feasibility study

Fig 3.3. SG Diagram of erf 212 (surveyor general)

bulk services to erven 212 and 242 and the claimants at their cost will provide the internal for the development of erf 212 and 242.
_ the City of Cape Town will be responsible for the maintenance of the internal and external services subject to the internal services being constructed in accordance with drawings and specifications approved by the city.

The following monetary awards were also approved:
_ R2 101 954.92 to be transferred to the legal entity for the purposes of redeveloping the dispossessed land.
_ Restitution discretionary grant (RDG) of R3000 per disposed household
_ Settlement planning grant (SPG) R1440 in respect of each dispossessed household to provide for planning and development assistance.

The claimants also will be eligible for a rates holiday as stipulated by Section 07(1)(g) of the Local Government Municipal Property Rates Act (no 6 of 2004)

> a municipality may not levy a rate on a property belonging to a land reform beneficiary or his or her heirs provided that such exclusion lapses 10 years from the date on which such beneficiary's title was registered in the office of the registrar of deeds.

Local government furthermore acknowledges that restitution cases which is strategically located in terms of a City-wide context, and where this land benefits claimants and the broader community, claimants could apply for further financial compensation but that such assistance could only be utilized for community based development and not private, commercial or industrial development[10]. In terms of this the claimants can then apply for a top-up grant administered by the Land Claims commission to the value of 25% of the land value, but need to qualify this application with a sound business plan.

The following table then shows the total financial assistance that PROVAC could expect.

RDG @ R3000 / claimant	_R 258 000
SPG @ R1440 / claimant	_R 123 840
Section 40D grant	_R2 101 954.92
25% of land value	_R *?
Total	_R *?

Subsequently to the approval of the claim, a case has been filed in the Land Claims Court, by Bishopscourt resident attorney William Booth[11]. The appeal to nullify the approved claim challenges the Land Claims commission's inclusion of erf 212 in the award. Booth (a Winchester Avenue resident) argues that erf 212 was never part of the Protea Village community and that the sensitive nature of erf 212 does not allow for any development whatsoever. Decision on this case is still pending.

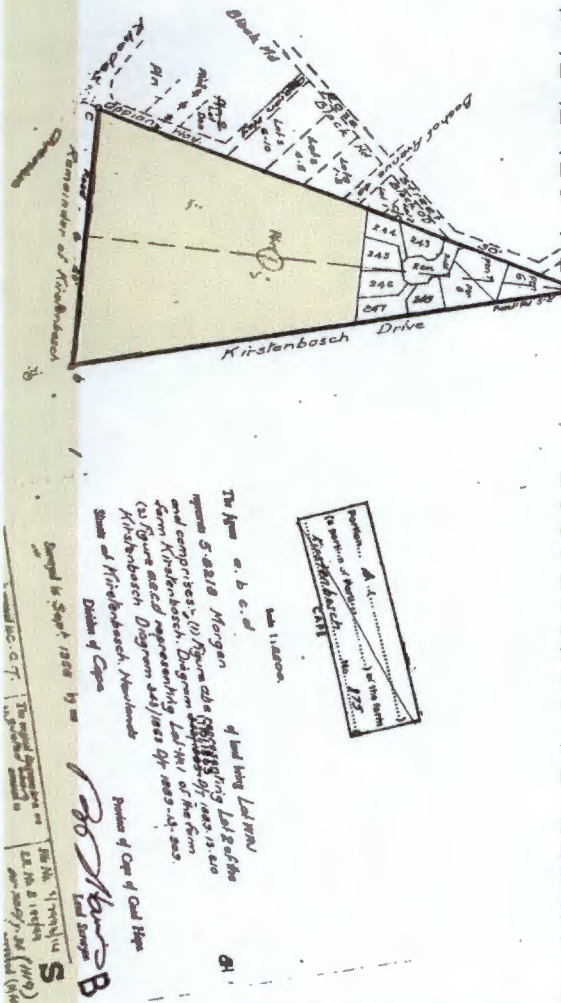


Fig 3.4. SG Diagram of erf 242 (surveyor general)

* The exact amount of this value could not be confirmed as the district land claims commissioner informed me that any information regarded as sensitive is withheld from the public until the case has been resolved.

10 Resolution C18/10/01: City Wide Policy on Land Restitution
11 SAPA, "Bishopscourt land deal challenged," *The Cape Times*, November 17, 2009.

context

this chapter deals with site-specific information in regards to informants and constraints as well as to introduce the client and programme

04

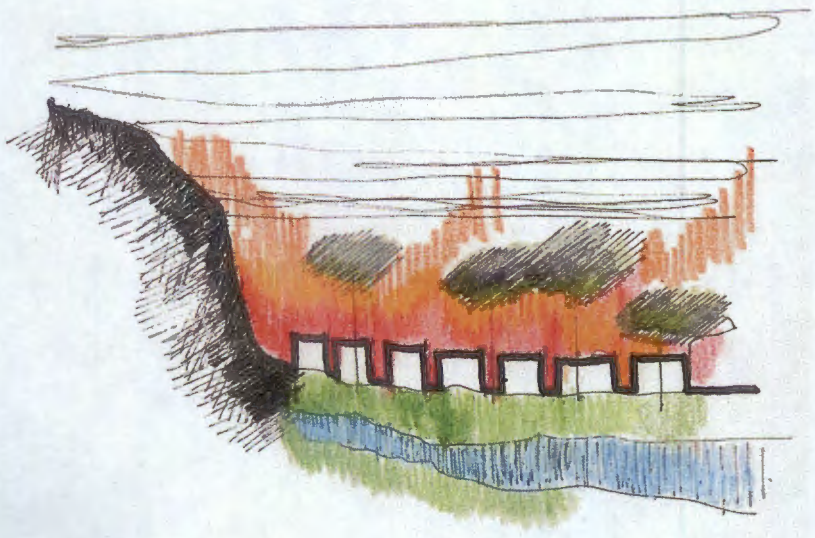
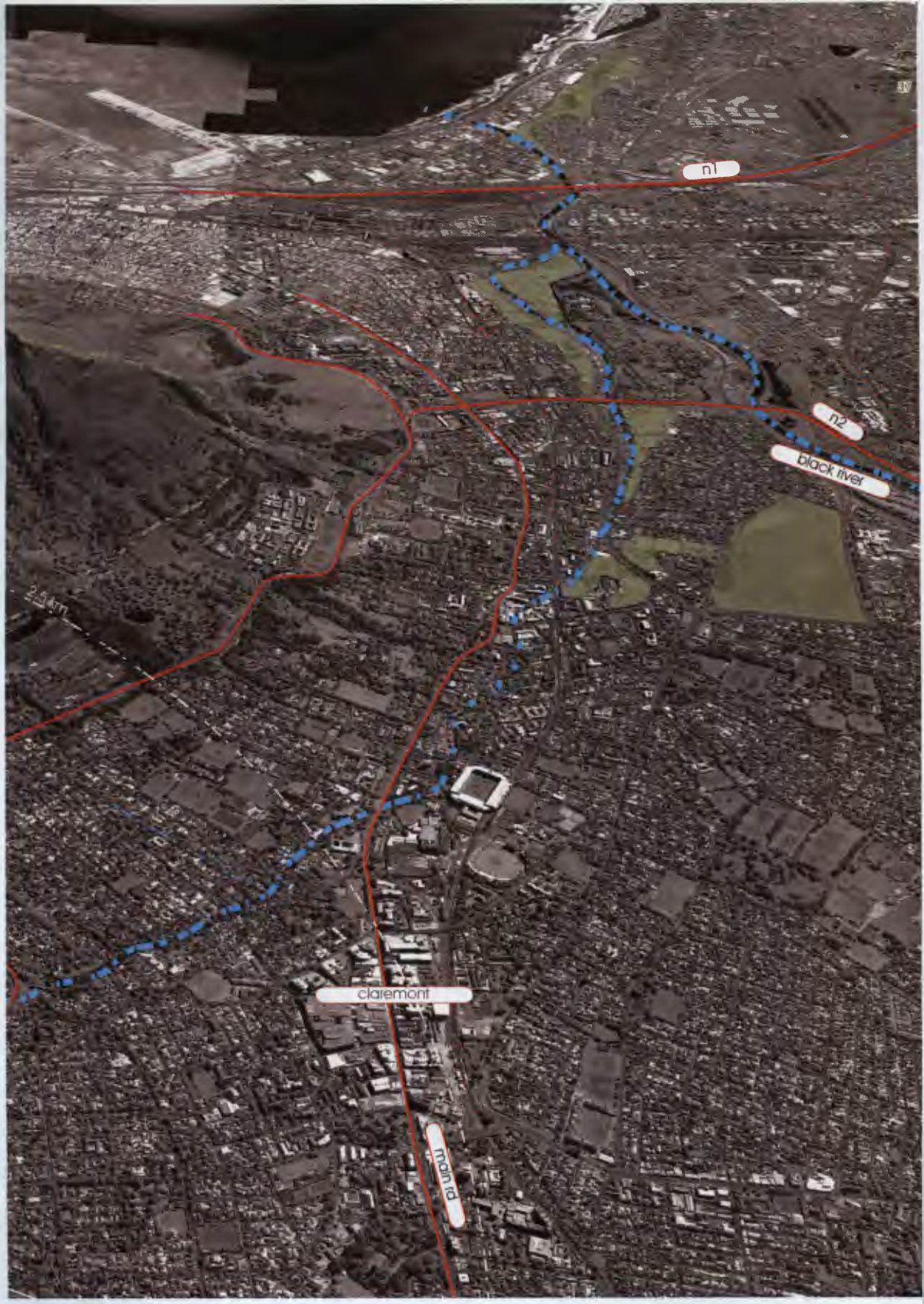


Fig 4.1. Protea Village (by author 2010)

Fig 4.2. Macro context (Googleearth image edited by author 2010)


n1
n2
black river
2.94km
claremont
main rd

The claim lodged by PROVAC comprises two erven in the residential suburb of Bishopscourt, Western Cape. The site lies within a belt of high income residential properties stretching from Rondebosch in the north to Constantia towards the south. The site is located on the lower eastern slopes of the Table Mountain reserve opposite Kirstenbosch National Botanical Gardens, roughly 15km south of Cape Town CBD. The commercial districts of Wynberg (3.5km) and Claremont (2.5km) is located west of the erven. Both sites are extensively used for recreational purposes.

erf 242

The northern and eastern boundaries of erf 242 are formed by the suburb of Newlands. This edge is composed by single unit residential erven of mostly single storey. All of the erven except those in Apian Way has no connection with the site although in some cases visual links from second storey balconies are visible. The Southern boundary is formed by Kirstenbosch drive and the western boundary by remainder of farm 875 (Kirstenbosch).

erf 212

The northern boundary is formed by Kirstenbosch drive with a bus stop along the centre of the erf. The eastern boundary is formed by single residential erven with no connection to erf 212. The Southern boundary is formed by the Liesbeek river with single residential erven opposite. Most of these erven have only a visual link to the river with only a few garden gates opening onto the river. The western boundary is formed by Winchester avenue. To the south of the river is single residential units and to the north The Hill pre-primary school and The Good Shepherd Anglican Church.

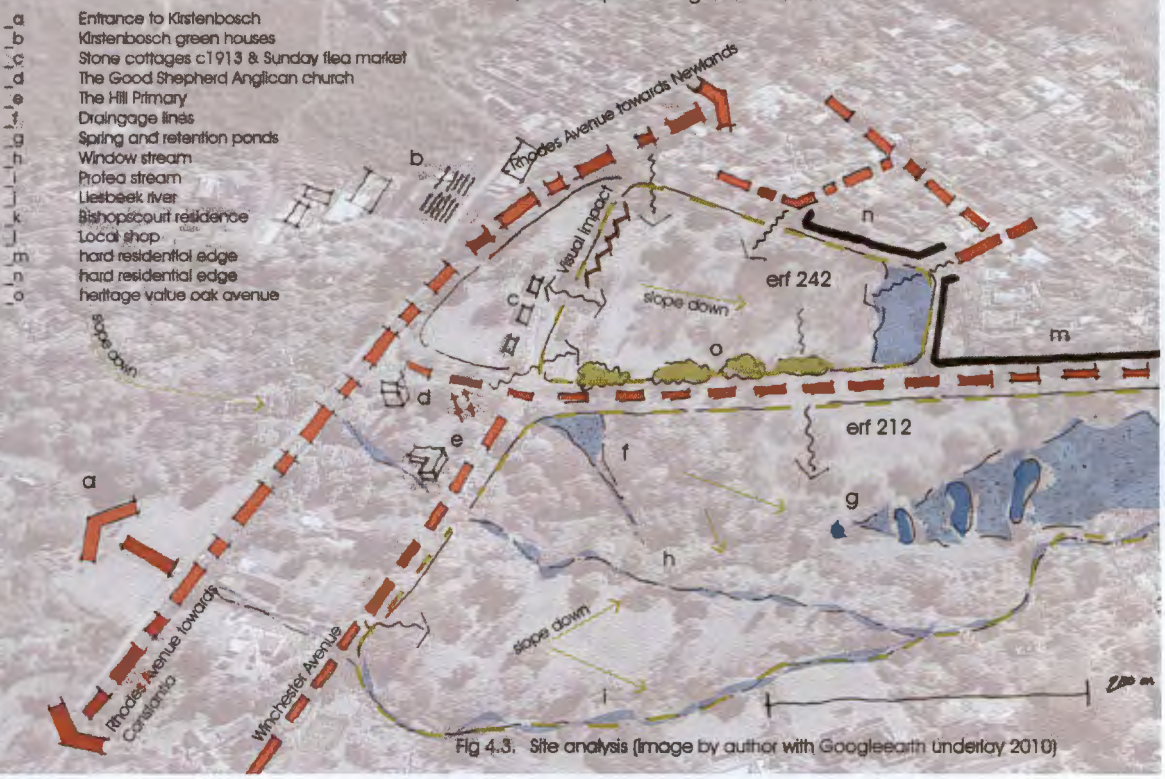


Fig 4.3. Site analysis (image by author with Googleearth underlay 2010)

Wetlands

The neighbouring suburb of Newlands is noted to be the wettest suburb in South Africa receiving in the region of 2000mm rain per annum compared to the average rainfall in Cape Town of 550mm per annum (www.1stweather.com). The high rainfall of the area has a resultant effect on the type of development one can consider for the area as this site plays an important role in managing surface run off during the wet seasons. On all site visits I noted areas on the site which was wet throughout the year and also areas which was wet only during winter months (refer to the fig. 5 No-go zones below). The Environmental and Technical feasibility study undertaken by NM&A furthermore recommend that all storm water generated on the site be treated on site and that the landscaping strategy should support a free movement of storm water in a natural manner.

River system

The Window stream and Protea stream enters erf 212 on the western boundary. These two streams converge on erf 212 to form the Liesbeek river which flows northwards to join the Black river system which subsequently drains in Table bay.

Freshwater spring and retention ponds

A spring is located towards the centre of erf 212. A stone and concrete structure lines the origin of the spring, which drains towards the east into three retention ponds. These ponds are basic excavations with no formal structure visible.

Vegetation

The site can be described as one identified by gently undulating grassy meadows with clustering of well established trees (some dating back pre 1900's). The tree canopy offers a sense of 'protection' and enclosure with occasional breaks that offer visual links with Table Mountain and varying light conditions and textures. The height of the tree canopy is estimated to be in the region of 15-25m. Aural history confirm the relationship that former residents had with the natural landscape and thus needs special attention for protection.

Key informants

- Liesbeek River
- Fresh water spring
- Tree canopy
- Natural vegetation
- Church and cemetery
- Existing pre-school
- Table Mountain
- Kirstenbosch National Botanical garden

Roles site play

- Key infiltration system and catchment zone
- Greenbelt parkland and amenity value
- Visual relief and scenic quality
- Symbolic and memorial value

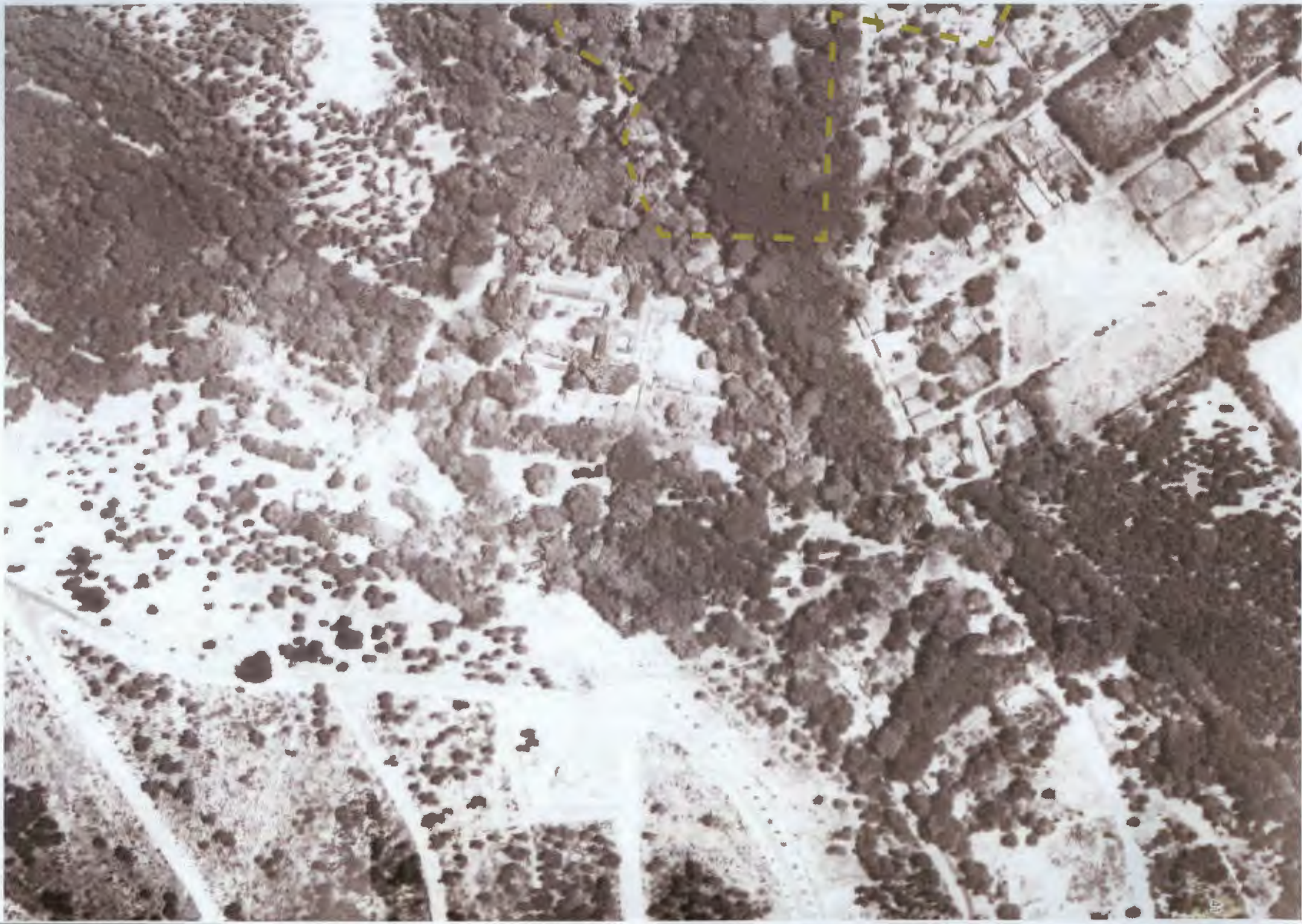
Opportunity to serve

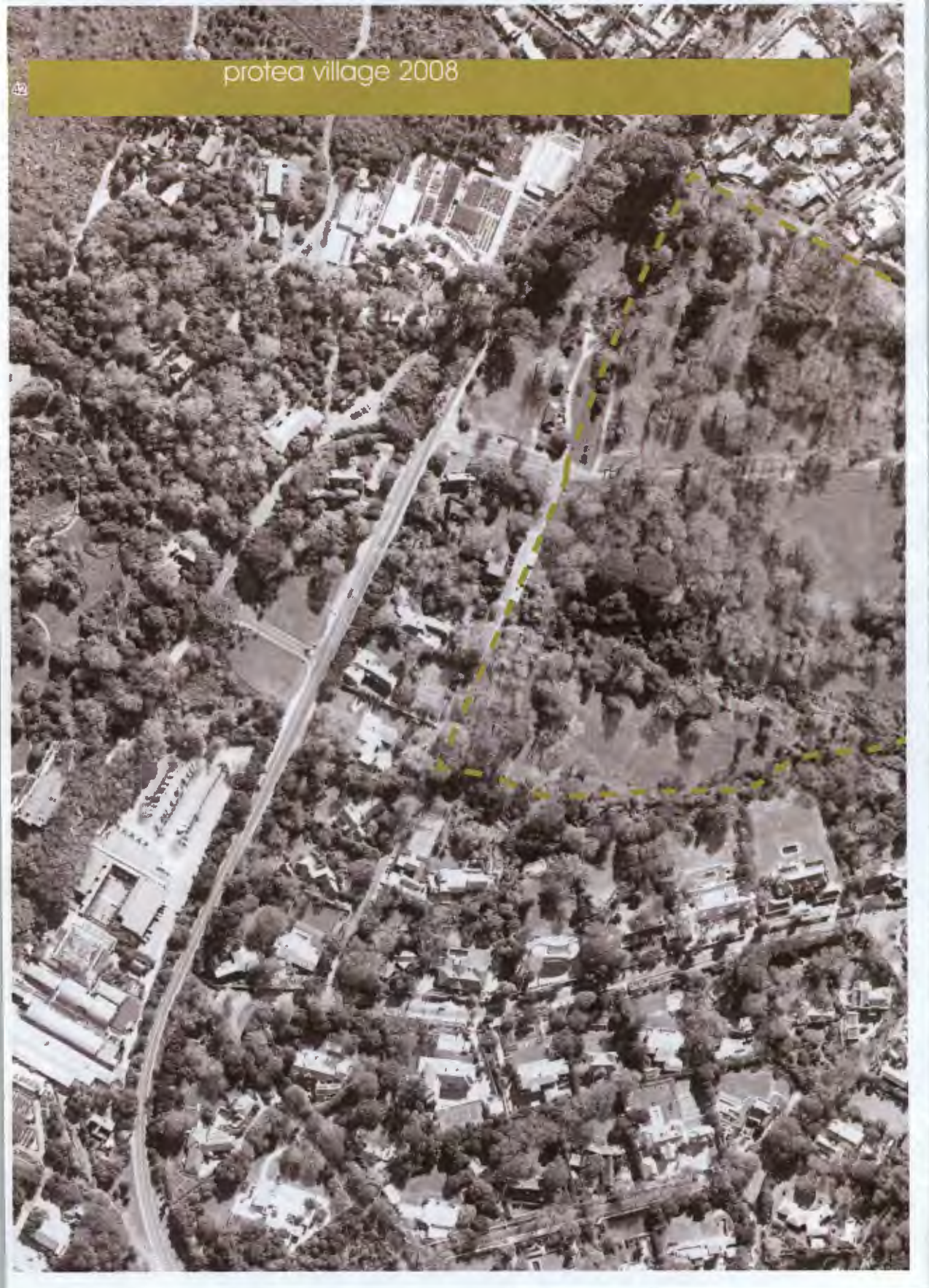
- Displaced community
  - _restitution (housing)
  - _income generation and economic empowerment
- Current Bishopscourt and Fernwood residents
- Greater Cape Town Community
- Tourist Value & Kirstenbosch

Distinct edges to respond to

- Winchester Avenue
- Kirstenbosch Drive
- Stone Cottages
- Green Recreational
- River edges

protea village 1945




protea village 2008

protea village c1960

pre forced removals

The image below indicates the houses of the Protea Village residents prior to forced removals in the late 1960's. It is evident that most of the houses were located towards the northern boundary of the site (current erf 242) and located along the contour lines.

a Church of the Good Shepherd: Protea
b School
c Cricket pitch
d Fresh water spring
e Window stream
f Protea stream
g Liesbeek river
h Bishopscourt residence

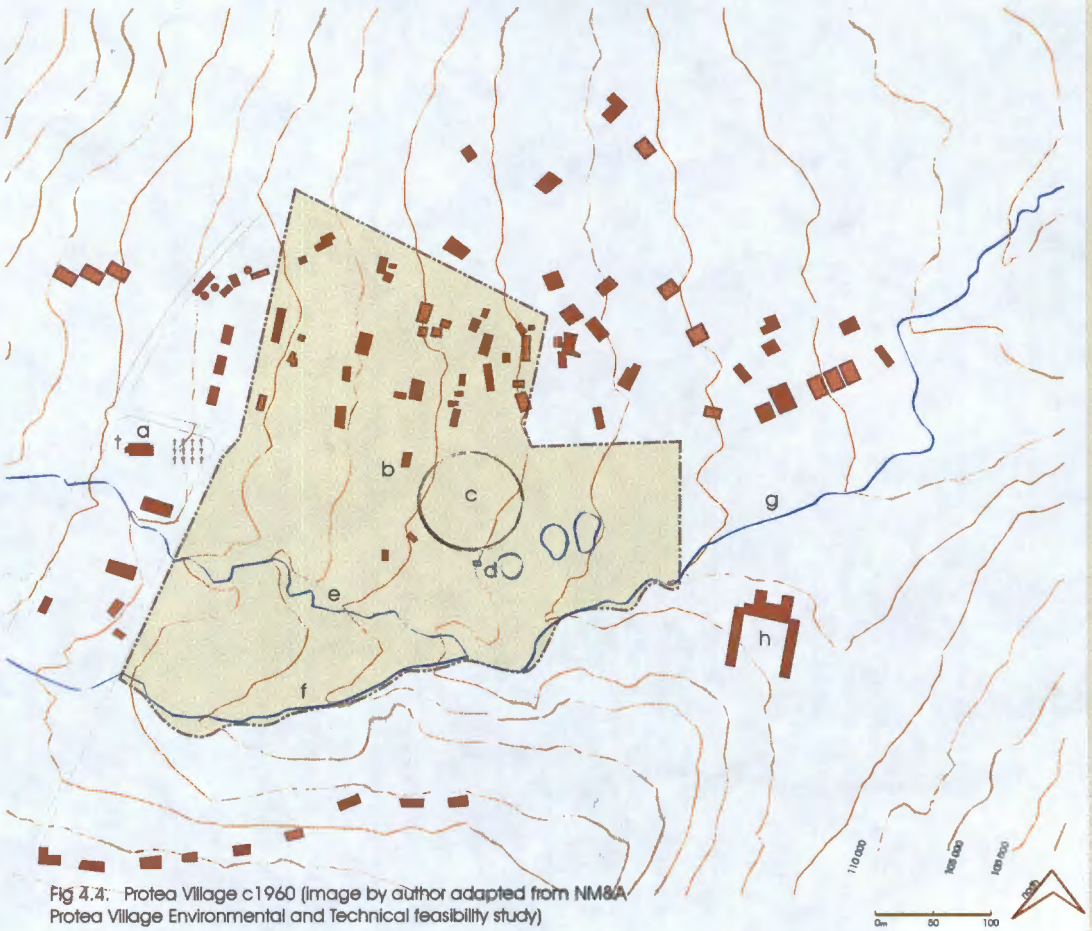


Fig 4.4: Protea Village c1960 (image by author adapted from NM&A Protea Village Environmental and Technical feasibility study)

existing built form
2010

The image below indicates the existing built form with only the stone cottages remaning as physical built form of Protea Village. The Protea houses that fell in the current Bishopscourt and Fernwood suburbs have been subsequently been redeveloped and little remnants remain.

_a Kirstenbosch National Botanical Gardens (c1913)
_b Stone Cottages
_c Rhodes avenue
_d Kirstenbosch drive
_e Winchester drive
_f Bishopscourt
_g Fernwood Estate
_h Bishopscourt residence

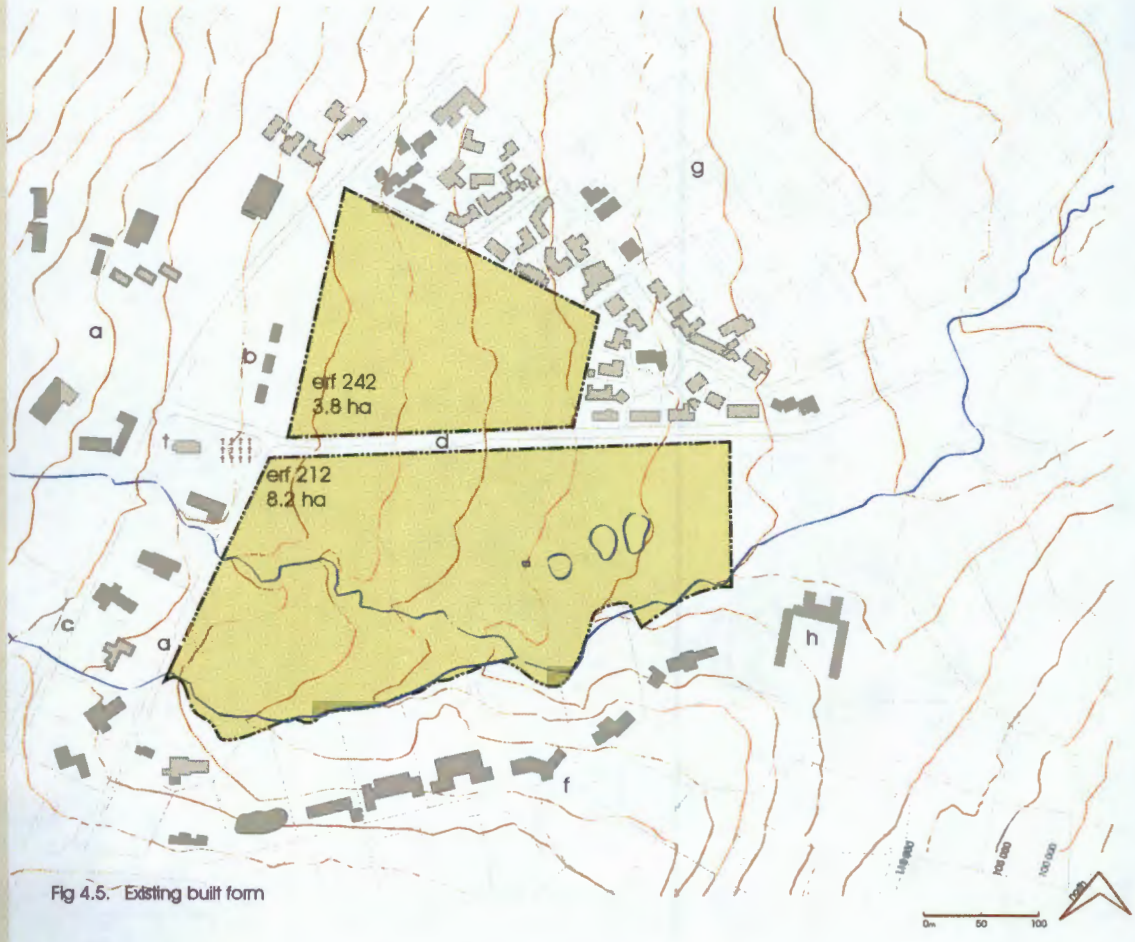


Fig 4.5. Existing built form

no-go zones

The image below indicates portions that cannot receive any built form. The three main distinctive areas include:

_1 marshy areas

The resultant low water table and slope of the site causes these areas to be wet during winter months. The marshy areas below the retention ponds on erf 212 remain wet throughout the year.

_2 river edges

As required by the Cape Metropolitan council, a no-go strip of 10m from the river centre line, as well as a further buffer zone of 10m is required on any development bordering a river. As per requirement the buffer zone can only receive slope rehabilitation or limited permeable pedestrian walkways.

_3 landfill site

As indicated by the report *NM&A Protea Village Environmental and Technical feasibility study,* a landfill site is located on the western edges of erf 212. The depth of this landfill has not been determined and would need further study to determine feasibility for development.

_a Low water table & marshy areas in wet season
_b Low water table & marshy areas in wet season
_c Fresh water spring with retention ponds
_d 100 year flood line
_e Natural drainage lines
_f unrehabilitated landfill

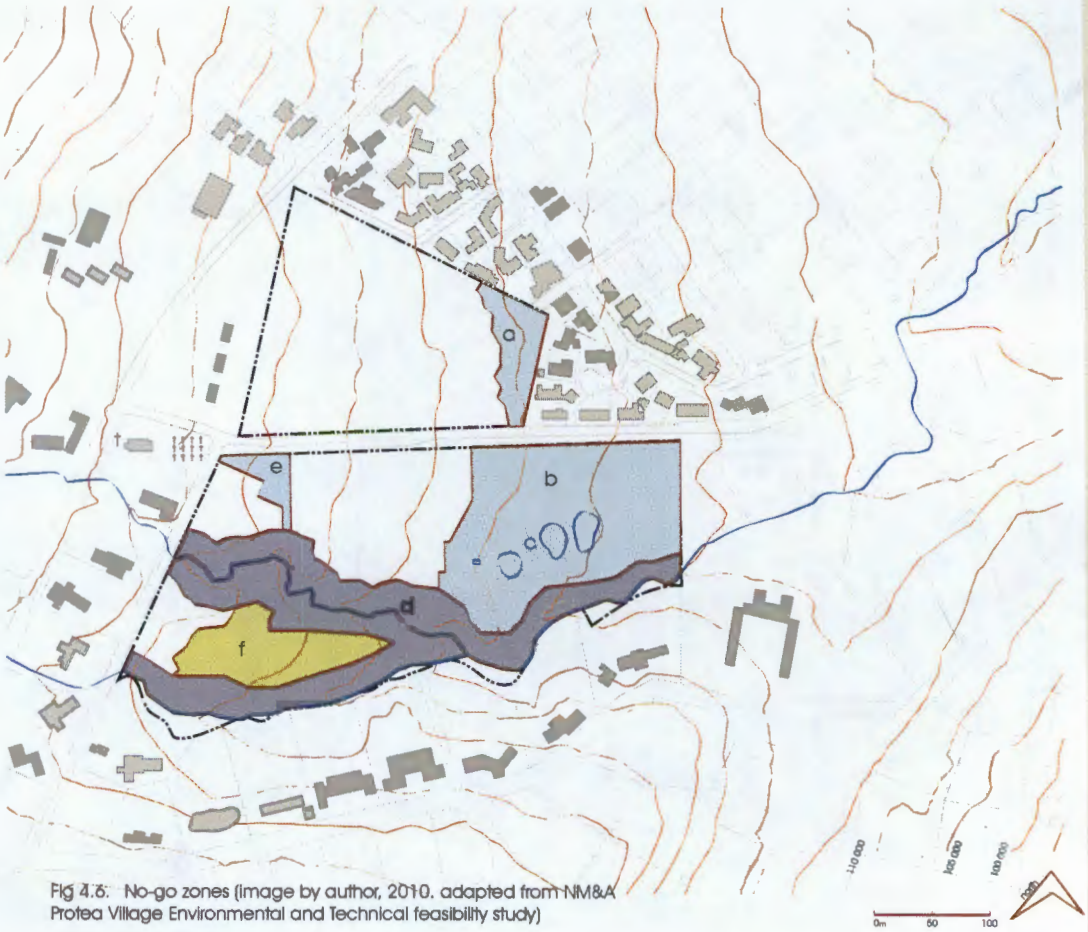


Fig 4.6: No-go zones (image by author, 2010, adapted from NM&A Protea Village Environmental and Technical feasibility study)

developable portions

The image below indicates the extent of the erven that would be considered for development as a result of the no-go zones in the previous figure.

_a	Portion 1: 3.4ha
_b	Portion 2: 1.5ha
_c	Portion 3: 0.3ha
_d	Portion 4: 0.3ha
Total:	5.5ha

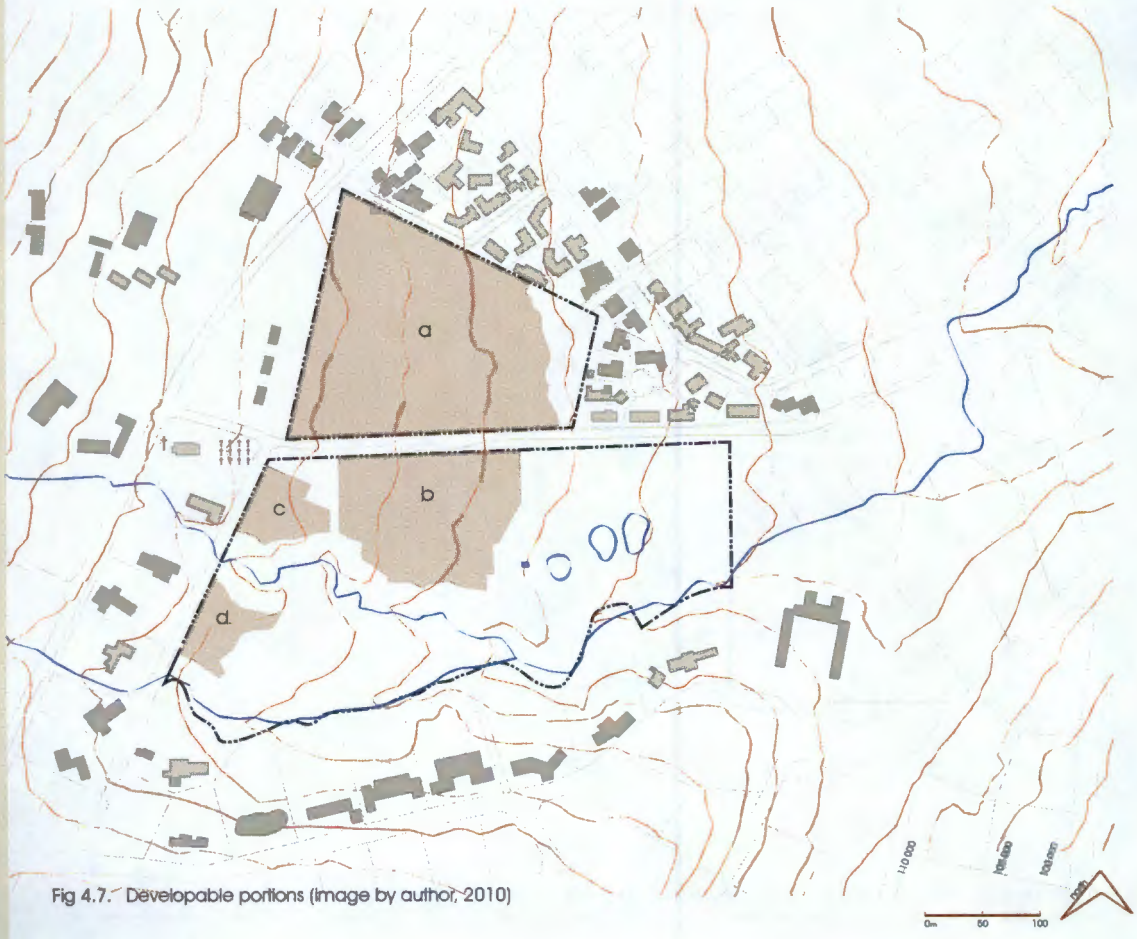


Fig 4.7. Developable portions (image by author, 2010)

trees to be retained

The image below indicates all trees that needs to be retained as a result of either heritage value or the important function fulfilled in decreasing the impact of surface run-off in the wet season. The environmental impact assessment study also concluded that all invasive species needs to be removed, and that for every tree removed a new local tree needs to be planted.

The trees indicated below is of utmost importance and was used as a mask to shape the urban layout of the proposal.

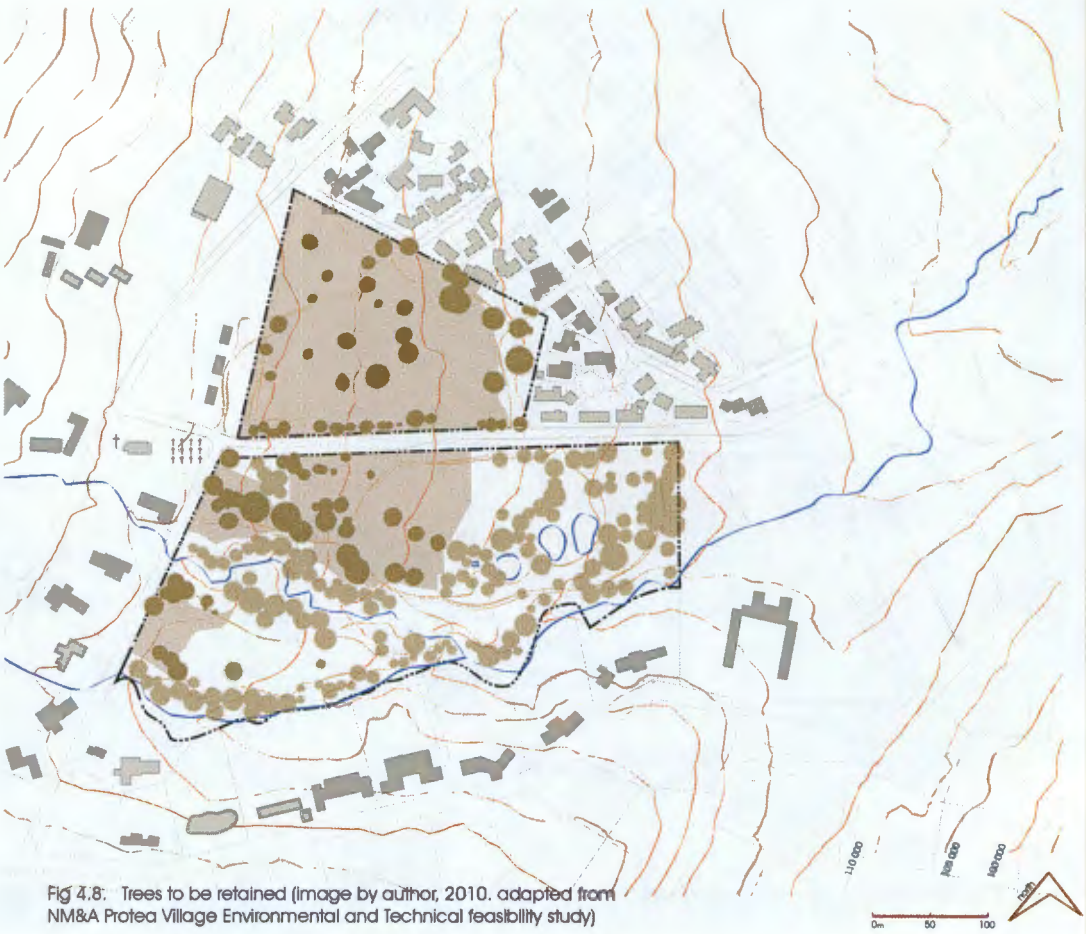


Fig 4.8: Trees to be retained (image by author, 2010. adapted from NM&A Protea Village Environmental and Technical feasibility study)

composite image

Fig 4.9. Composite image (image by author, 2010)

south

west

Fig 4.10. View from western boundary of erf 242 indicating stone cottages (by author ,2010)

Fig 4.11. View from Kirstenbosch drive: Location of Sunday flee market (by author ,2010)

west

north

north

east

west

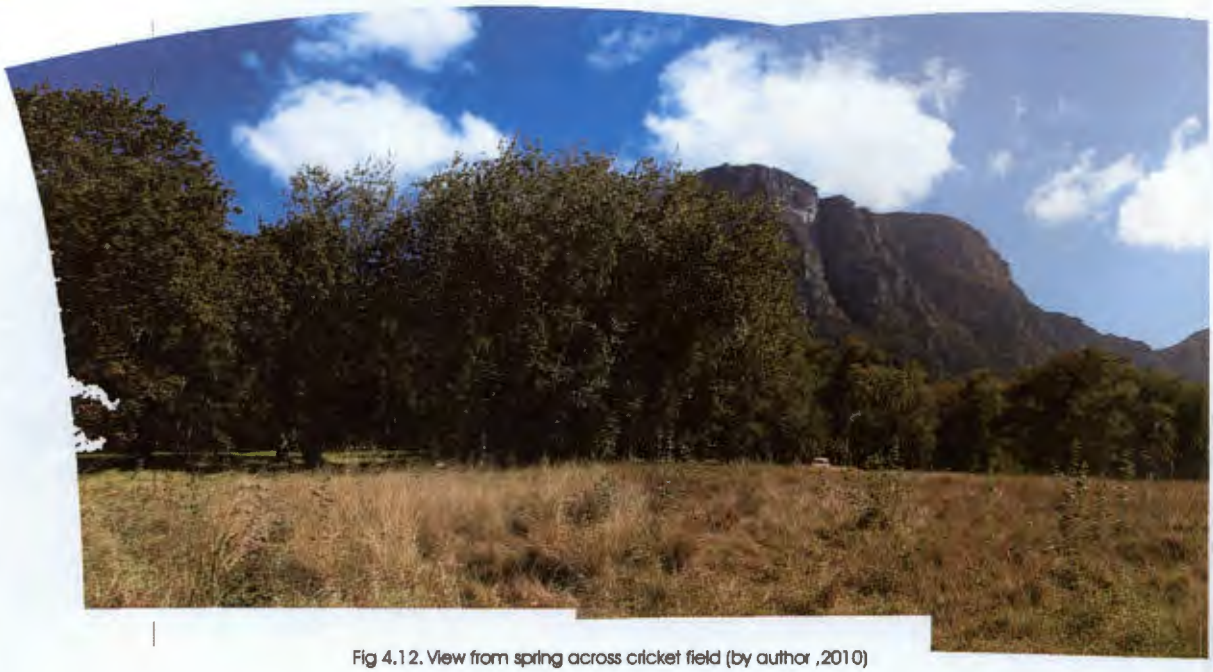


Fig 4.12. View from spring across cricket field (by author ,2010)

Heritage value Oak Avenue

west

Fig 4.13. View from Kirstenbosch drive (by author ,2010)

north

east

north

east

Heritage value Oak Avenue

Client:

PROVAC (Protea Village Action committee).

PROVAC was established as a CPA (community property association) consisting of 86 former residents (or direct descendants) to lodge a claim at the Land Claims Commission in terms of the Restitution of Land Rights act No:22 of 1994.

Socio-economic informants[1]:

Average household size:		3.5 persons / hh
Single person family households	38%	
		71% female
		85% over 50 years old
Average age of claimants:		31-50 years
		36% over 50
Average household income:		R3959/month

Programme:

Housing component

Provide a housing scheme to address the 86 restitution claimants' needs with specific response to:
_limited financial means of claimants
_diverse family structures
_diverse economic statuses
_challenging socio-economic location of the project
_challenging environmental context

Investigate the possibility to increase density with the main aim of supporting the 86 claimants in the restitution process while responding to government policy in regards to land restitution.

Productive landscape & housing support facility

Explore the possibility to provide a productive landscape component for both subsistence and small-scale commercial purposes. Provide a community facility to support the productive landscape and housing delivery process.

1 NM & Associates, "Protea village: Environmental and Technical feasibility study, 50

support

this chapter outlines the concept of process and support as a guiding principle for the Protea Village project

05

Fig 5.1. Support & infill (by author 2010)

Life is characterised by constant events causing impermanence and change. As in nature, our built form (and especially housing) is also subjected to ever present forces requiring change in order to stay used; whether this is reflected in the socio-cultural, lifestyle, family maturity, economic maturity, or the programmatic changes of a building.

Buildings will change.

As architects we possible cannot foresee these changes and provide initial built form which encompasses all future user requirements. We can though design in such a way that allow for change and adaptation to occur more easily. Furthermore the economic investment required for any built project is in most cases such a huge undertaking that individuals can rarely have an initial product which is 'complete'.

Fig 5.2. Morgans Village, Mitchells plain, gap market housing (Googlestreetview image edited by author 2010)

In most government managed housing delivery schemes this future state of uncertainty is not catered for. The provided unit is seen as a final product with little design consideration for future adaptation. As soon as the user takes occupancy the provided housing unit is subjected to change and alteration in order to respond to:

_ the creation of economic opportunity through backyard rental opportunities or retail and business ventures

_ the addition of features that distinguishes monotonous housing units

_ the addition of rooms to respond to changing user needs.

Should we then consider the act of housing not as the final housing unit produced, but rather the process through which the individual residents lives within it and expands in order to meet growing requirements?

support_
enablement_
infill_
incremental development_
open building

I am proposing an approach where the process is as important as the product. This process is also explored as a to provide a system of support. It is a process where through incremental development changing needs are met and the building evolves towards 'completion'.

When such an approach is considered the following needs to be addressed:
_on the one hand considerations regarding the actual building unit and the possibility to expand and grow such a unit
_on the other the delivery process and level of involvement of the end user.

The approach I have taken for the Protea Village project is one where I consider both the unit as well as the delivery process as a system of support. These ideas sprout from both John Turner[1] and John Habraken's[2] theories on supports. Turner takes an organisational approach and believes that support has less to do with built form and more with the implications that locality, cost, tenancy, security and credit has on the user. Habraken on the other hand values a more physical/ structural system of support. The physical nature of the unit and the possibility to grow and allow for change is valued.

_Unit as support

The initial project would provide the 86 claimants of similar core/starter housing units, which will be fully functional and be able to be used as finished units. The structure provided though would be one which would facilitate the process of expansion and incremental development. I am arguing for liberating built form in contrast to restrictive built form. Where liberating built form facilitates change and restrictive built form problematise change. Cooke[3] notes the importance of roof slope and eaves

1 Turner, *Housing by People*
2 Habraken, *Supports: an alternative to mass housing*
3 Cooke, "Design in Low-Cost Housing," *Architecture South Africa* 03/04 (2009): 27

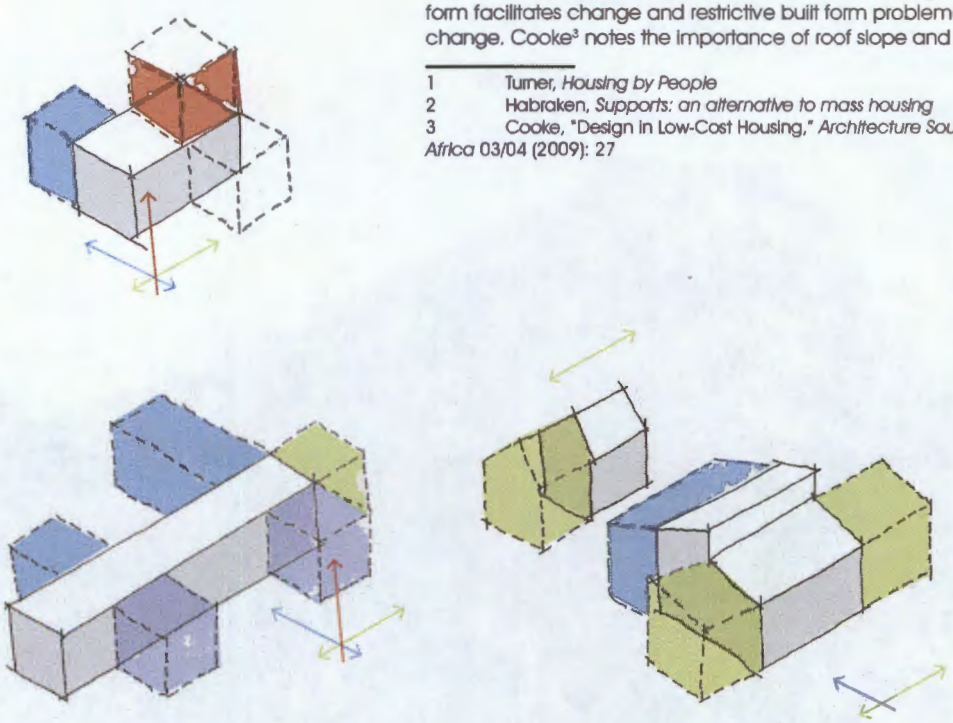


Fig 5.3. Incremental development and liberating built form (image by author 2010)

height in facilitating or problematising expansion.

This approach of incremental development is also taken as to respond to the initial requirements set by the claimants to all receive similar housing units even though their socio economic statuses differs vastly.

I believe that user involvement as a fundamental part of the process has the opportunity to instil a sense of ownership and empowerment which I believe is lacking in most government provided housing schemes. Turner notes the importance of decision making and user involvement:

> When dwellers control the major decision and are free to make their own contribution to the design, construction or management of their housing, both the process and the environment produced stimulate individual and social well-being[4]

This involvement can take the form of a design orientated approach whereby the user is consulted in terms of specific unit requirements, or this involvement can be delivery orientated whereby the user is involved in the actual process of housing delivery (e.g. as contractors, management or sweat equity).

_Delivery Process as support

By involving the users in the delivery process, one takes on the risk of slowing down the process, as one would deal with users that would in many cases not be trained or familiar with construction. The approach I am proposing is one where the core/starter units would be provided by a professional contractor, and that after occupation the expansion of the units would be facilitated by on-site community contractors. This process of user involvement is argued to be twofold:

_by involving the user a sense of ownership is instilled

_by involving the community economic opportunity as well as a sense of social cohesion is created

4 Hamdi, *Small change: about the art of practice and the limits of planning in cities*, xi

limiting eaves height problemetise addition

ample eaves height on both sides of building to facilitate addition

ample eaves height on one side of building to facilitate addition

ample eaves height on both sides of building to facilitate addition

Fig 5.4. The effect of eaves height on incremental development(image by author 2010)

incremental housing prototype

2009
Filipe Balestra and Sara Göransson
India

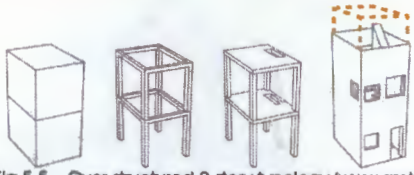


Fig 5.5. Over structured 2 story typology (www.archdaily.com)

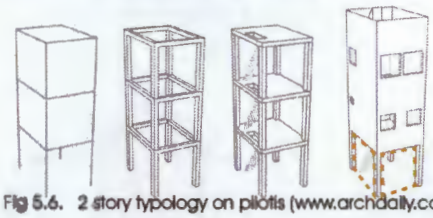


Fig 5.6. 2 story typology on pilotis (www.archdaily.com)

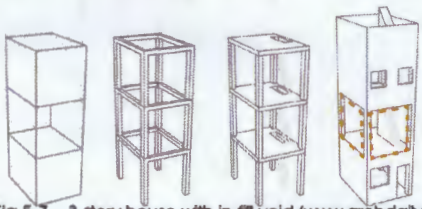


Fig 5.7. 3 story house with in-fill void (www.archdaily.com)

This project was initiated by the Indian government to maximise the possibility of providing bigger housing typologies with limited funding and government grants. The architects proposed a incremental housing prototype where a basic structure is provided with limited finishes, but with the opportunity to allow residents to expands within this provided structure as they required. Furthermore all residents required to contribute 10% of the value of the grant (4500 euros) either by sweat equity or financial contribution.

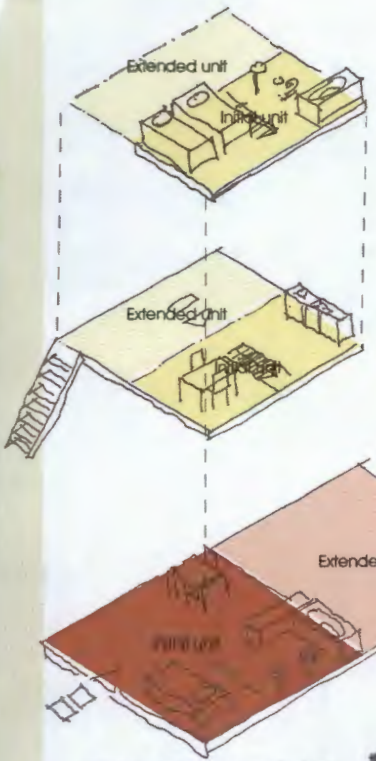
The options were:
_ a 2 story house which was over-structured in order to allow residents to construct a 3rd story

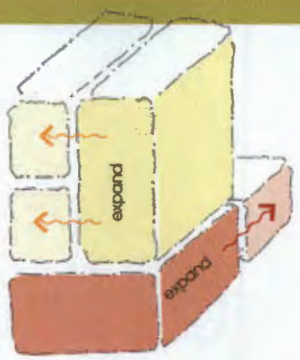
_a 2 story house elevated on pilotis to allow for parking space, shop or extra living space.

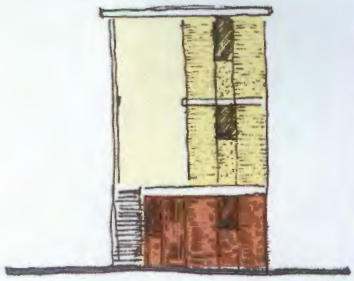
_a 3 story house with a void on first story which could be utilised as open space or filled in as required.

Fig 5.8. Implementation collage (www.archdaily.com)

Initial unit: 36,2m²
Extended unit: 60,2m²
Initial unit: 37,1m²
Extended unit: 68,8m²






elevation

With the Io Espejo project Alejandro Aravena proposed a core unit with the possibility to extent these units over time. Even though the initial project is incomplete the initial building's form suggests quite a dense typology that is not fragmented.

The ground floor unit extends towards the rear with perimeter walls provided. The user thus needs to provide own roofing material.

The upper floor unit extends towards the sides to fill the space underneath the roof. The concrete framework protrudes to facilitate future floor addition and ease of fixing.

Both these projects present a critique against a total-solution approach whereby a level of uncertainty is left to the residents' own device which I feel allow for a richer environment with stronger social ties.

Fig 5.9. Lo Espejo: exploded plan (by author, 2010)

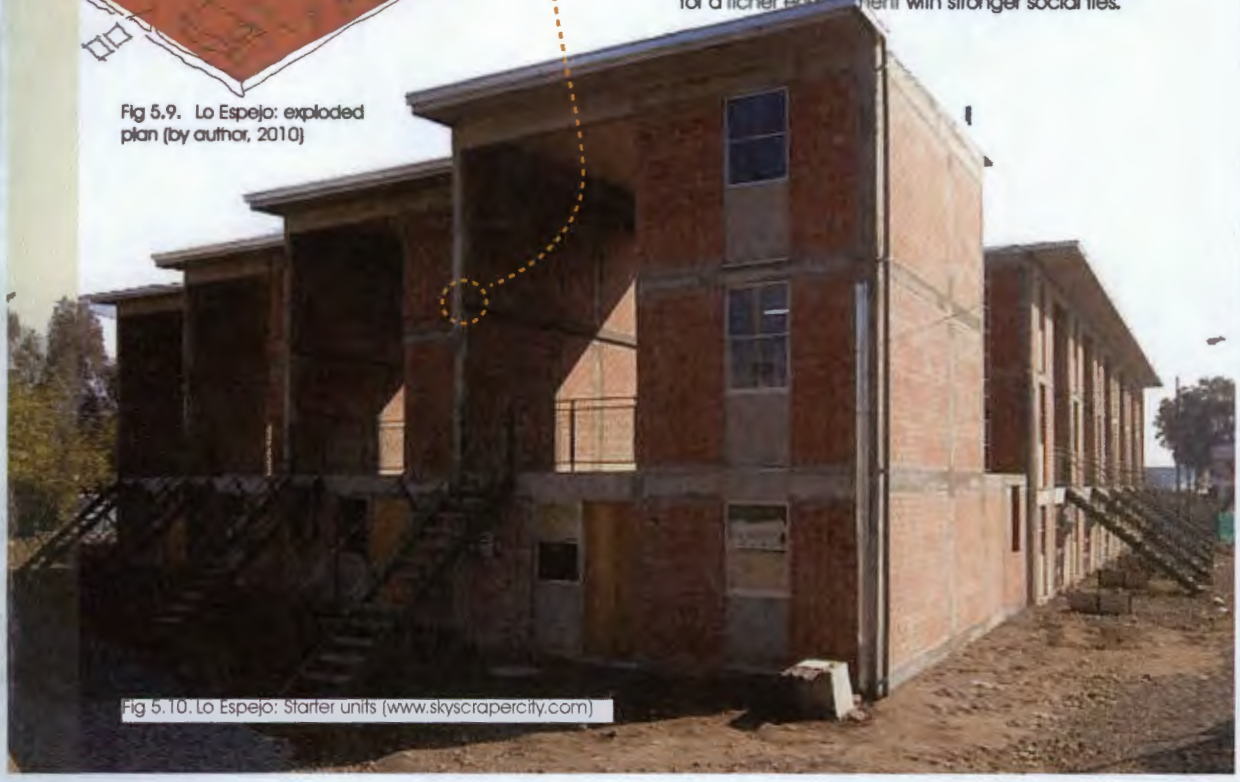


Fig 5.10. Lo Espejo: Starter units (www.skyscrapercity.com)

Fig 6.1. Urban farm Chicago (City Farm Visit, www.flickr.com)

working the land

this chapter outlines productive landscape as a system of support

06

It is estimated that 952 million people in the world are undernourished with 16% accounted for in developing countries[1]

Continuing the theme of support and enablement, this thesis explores the viability of introducing small scale micro and garden farming methods as a combating measure to food security and malnutrition. In addition to personal sustenance, urban agriculture also provides economic empowerment which in turn can be reinvested in order to fulfil housing requirements. In the particular case of the Protea Village site, urban agriculture is implemented as a secondary cure to alleviate negative implications of storm water and surface runoff as well as the productive use of this water.

The sensitive nature of the site and the relationship with the larger eco and Liesbeek river system requires an ecological sensitive approach which can be provided by organic farming methods.

1 United Nations Food and Agriculture Orginisation. www.fao.org

Fig 6.2, Organoponicos in Caracas, Venezuela (www.fao.org)

Cuba's system of Organopónicos

Prior to the fall of the Soviet Bloc, Cuba's economy heavily relied on support provided by the Soviet Union. In return for sugar, Cubans received mostly oil but also other industrial products such as mechanical farming equipment, chemical herbicides, pesticides, fertilizers, animal feed and antibiotics. Furthermore Cuba's food resources were mainly imported with only 50% being produced within Cuba utilising industrial farming methods that relied heavily on mechanical farming supported by industrial products.

With the fall of the USSR in 1989, Cuba's economy suffered greatly as a result of the withdrawn support from their former allies. Foreign trade diminished by 75% resulting in the economy shrinking by 35%[2]. Fuel shortages caused most mechanical farming activities to seize and those farms that did produce struggled to yield produce that would support the country's food requirements as a result of the absence of chemical fertilizers and pesticides.

During the period of 1989 to 1995 the average Cuban diet fell from 2900 to 1800 calories[3]. With fresh produce becoming more difficult to come by and food prices soaring, Cubans were forced to consider cultivating their own food. Within the city of Havana any unused space that afforded the production of food was exploited. Abandoned parking lots, backyard gardens and former city parks were all transformed into vegetable patches with the odd chicken coop. In addition to personal sustenance the produce was also traded at community markets that emerged over time.

2 http://www.earthisland.org/journal/index.php/eij/article/growing_it_alone/
3 http://www.earthisland.org/journal/index.php/eij/article/growing_it_alone/

Concurrently with the residents' own response, government also started questioning the large scaled mechanical and chemical intensive farming methods. As an answer to the food scarcity, national government initiated a national reform program whereby large commercial farms were broken up into small scaled farmer-run co-operatives. Infrastructure to revert to organic pest and disease control was put in place as well as the establishment of state supported community markets within the urban centres where produce was traded.

The Cuban system of organopónicos, is a prime example where a country's food requirements is all produced with local labour and limited foreign support. In the case of Havana, the urban micro farmers are producing enough fruit and vegetables to supply each resident a 280gram serving per day which is on par with United Nations' food program recommendations of 305grams/day[4]. In addition to providing food, as a result of labour intensiveness of this system, micro farmers compose a large section of the economic active

4 http://www.earthisland.org/journal/index.php/eij/article/growing_it_alone/

Fig 6.3. Raised bed preparation (http://www.ciara.gob.ve)

population of Havana.

In terms of yield, the average organopónico produced 4kg/m2 in 1990 which rose to 30kg/m2 in some cases in 2003[5].

Organopónico system

All organopónicos have a similar look; a raised bed construction 1,2m wide and roughly 0.7m high depending on the quality of the soil base and any length determined by the available plot size. The walls of the bed are usually stacked concrete blocks or planks staked to the ground. The beds are raised as a result of the process of aerating the soil and to allow for easy movement and weeding between the beds. A method of double digging is used as illustrated below and in cases where the beds are located in areas which are not suitable to cultivation, the soil needs to be carted in which then raises the bed a bit higher.

The organic fertiliser is produced by using any excess organic material which is fed to worms that produces a nutrient rich fertiliser. Watering is done either by hand or an automated drip irrigation system as to reduce any waste.

The opportunities afforded by the organopónico system thus responds to

_1 ecological sensitive nature of the Protea Village site
_2 personal sustenance
_3 economic opportunities provide by the labour intensive nature of the system _4 economic opportunities provided by the possibility to trade produce

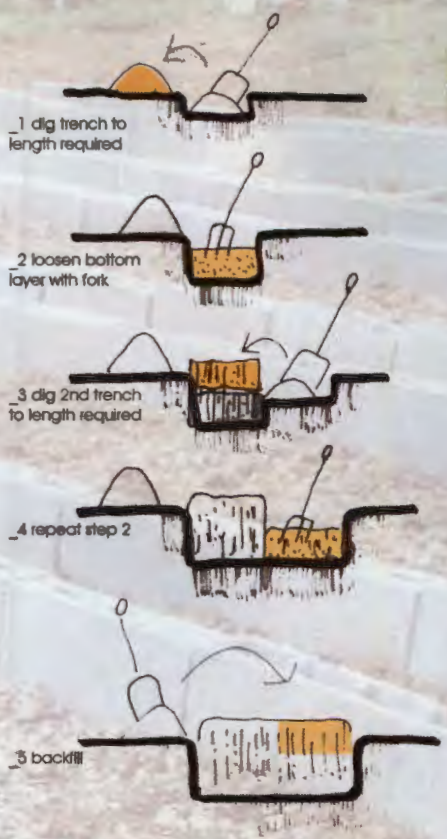


Fig 6.4. Raised bed preparation (image by author 2010)

5 http://newfarm.rodaleinstitute.org

design approach

this chapter explores the initial design approach and highlights issues that shaped the proposed intervention

07

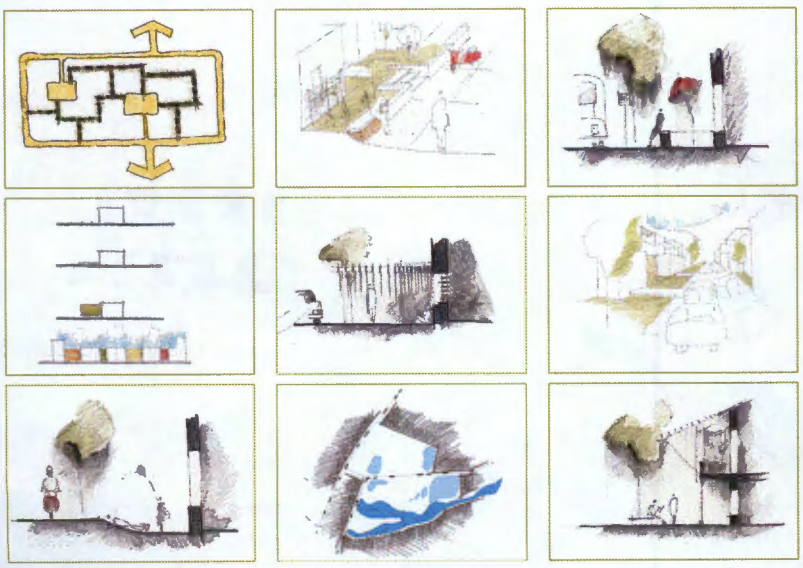
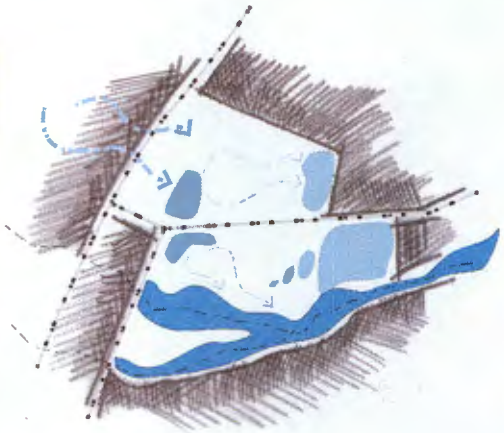


Fig 7.1. Design approach montage (by author 2010)



Natural drainage lines and flood prone area

Restrictive built form with possible run-off problems

Permeable built form to allow for free drainage

Fig 7.2. Restrictive vs permeable built form (by author 2010)

initial design reponse

The design process was initiated by the need to respond to the specific informants and constraints imposed on the particular site which includes:

_sensitive natural context
_diverse socio-economic contexts
_restitution requirements and government policy
_heritages and memorial value
_current uses of the site

Following from the initial theory component the natural context was considered as an informant that would be addressed first and valued as a major informant to shape the proposal.

As a result of the fact that the site plays such an important role in dealing with storm water run-off and does contain large wet areas, the impact of the built form on natural drainage lines needed consideration from the outset.

As a first response to this informant, the idea of permeable built form was explored. The reasoning behind this idea was twofold:

_It was argued that the built form should not shape the natural flow of water but allow it to drain freely down the contours.

_the idea of permeable built form also allows for a secondary system of circulation which could be utilsed as pedestrian and recreational links. The idea was to create a community in which one can move around in an 'unguided' way contrasting to a traditioal manner guided by roads and sidewalks.

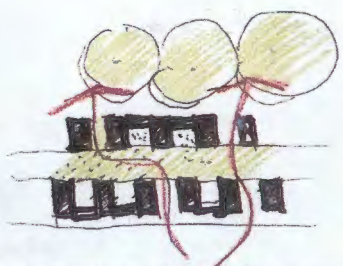


Fig 7.3. Freedom of movement (by author 2010)

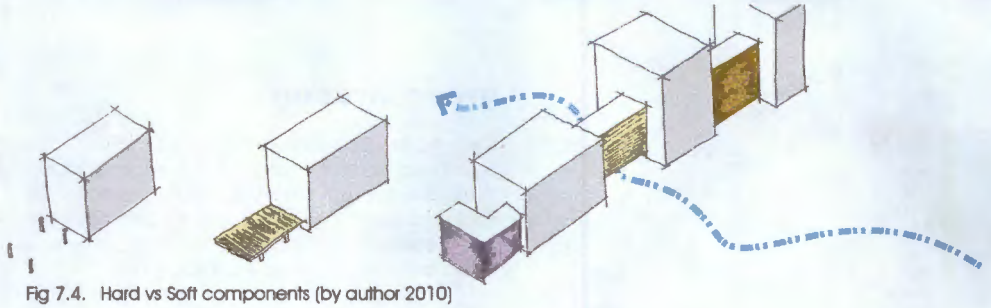


Fig 7.4. Hard vs Soft components (by author 2010)

fragmentation vs cohesion

With the initial explorations of the idea of a permeable form came the realisation that such an approach might result in a urban layout which is fragmented and lack cohesion. A solution which might be similar to our current suburban form which is the ideal and norm to so many individuals.

The question is then how to translate the idea of permeable built form into a higher density typology, which still has a strong sense of cohesion? A typology which has a strong urban form but is still permeable.

An initial response to this problem was to distinguish between 'hard' and 'soft' components that alternate in order to allow for the a level of permeability. The hard component is grounded and does not allow any water drainage contrasting to the soft component which is suspended or elevated to allow a free drainage of water.

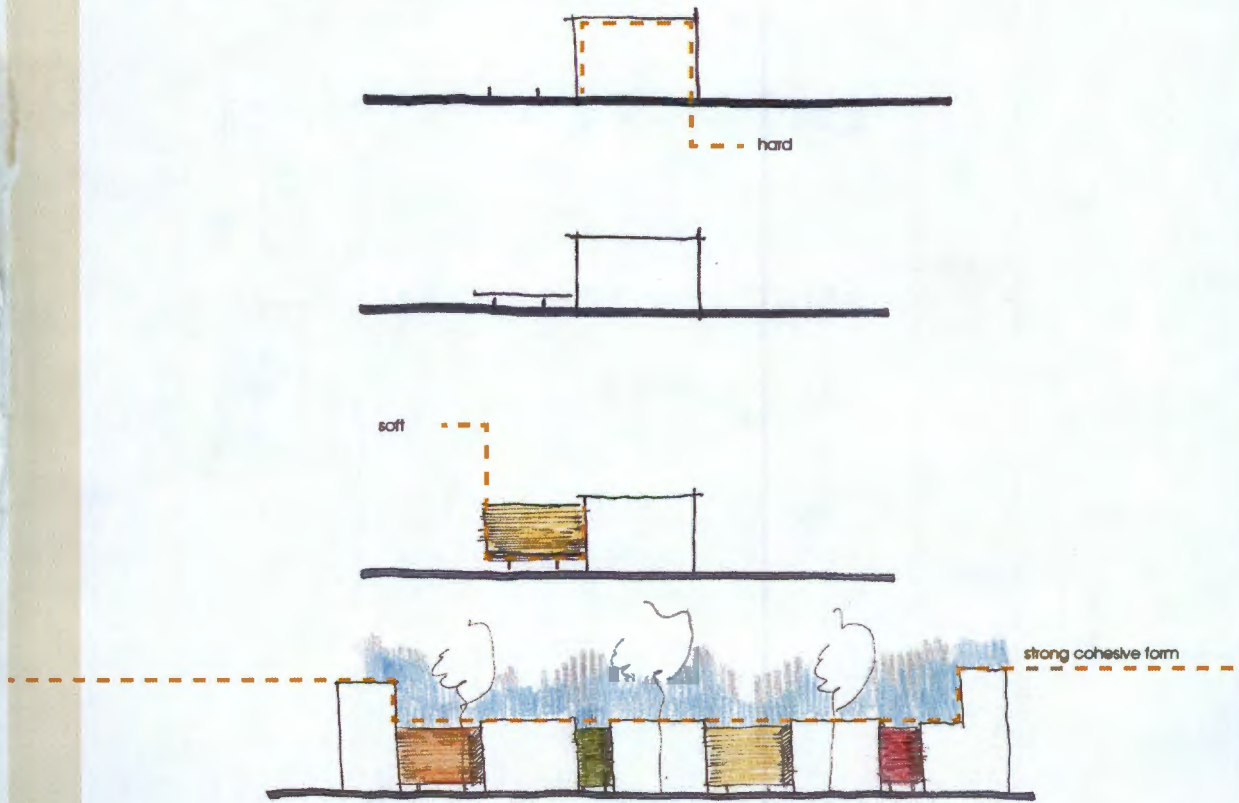


Fig 7.5. Hard vs Soft components (by author 2010)

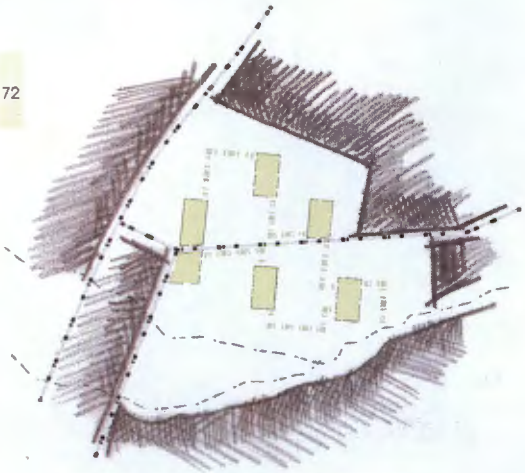


Fig 7.6. Green Structure (by author 2010)

green structure

The initial landscaping strategy was explored as to provide a proposal where the landscape component functions in more than one manner. This strategy critiques the traditional belief that landscape should merely respond to recreational uses and proposes an extended view that would allow the landscape component to:

_structure
_orientate
_integrate
_recreational
_ecological
_productive

It is social contact that makes collective space into social space. What we need to find are space forms that are so organized that they offer greater opportunity and cause for social contact. Spaces that enlarge the chances of encounter and have a catalyzing effect on seeing and being seen[1]

_structure and orientate

A system of outdoor rooms would create a secondary structure for pedestrian activities to occur between the built form.

1 Hertzberger, *Herman Hertzberger: Articulations*, 39

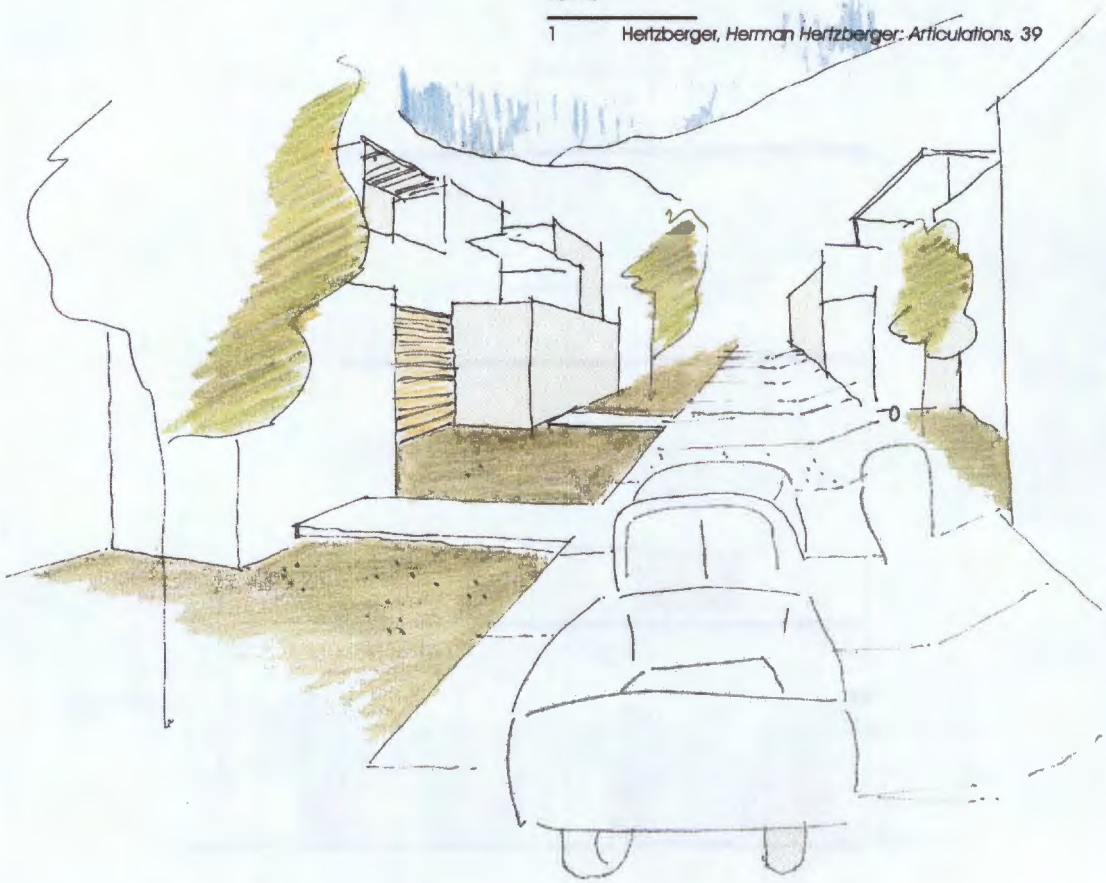


Fig 7.7. Green Structure: Typical street view (by author 2010)

_integrate
The pedestrian orientated structure would allow for the creation of a permeable community where links to surrounding contexts is facilitated (both urban and natural contexts).

_ecological
The recommendations to deal with all storm water on site prompted the idea of productive landscape as a manner to reduce storm water run-off and effectively utilise storm water on site. The system of green links would also allow for the natural drainage of water through the site

_productive landscape
A productive landscape component is proposed as to ensure an active usage of outdoor spaces and the subsequent caring and maintenance of these spaces.

_recreational
A recreational component would form part of the strategy but would be integrated with the various other components.

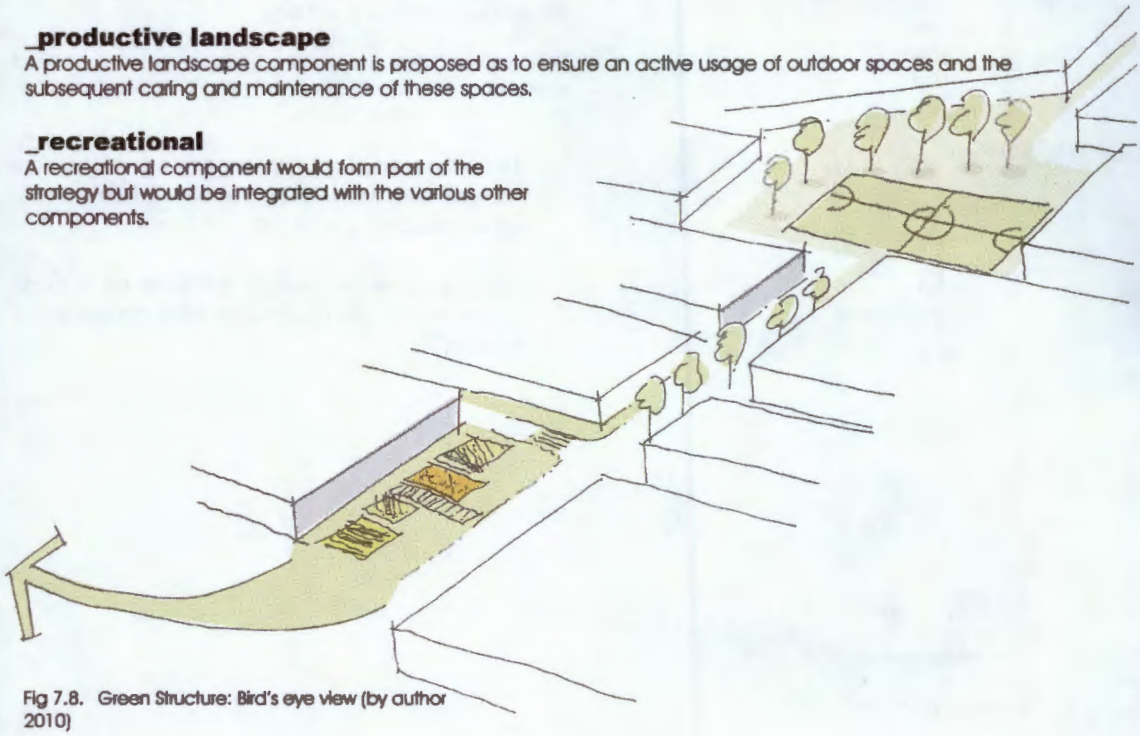


Fig 7.8. Green Structure: Bird's eye view (by author 2010)

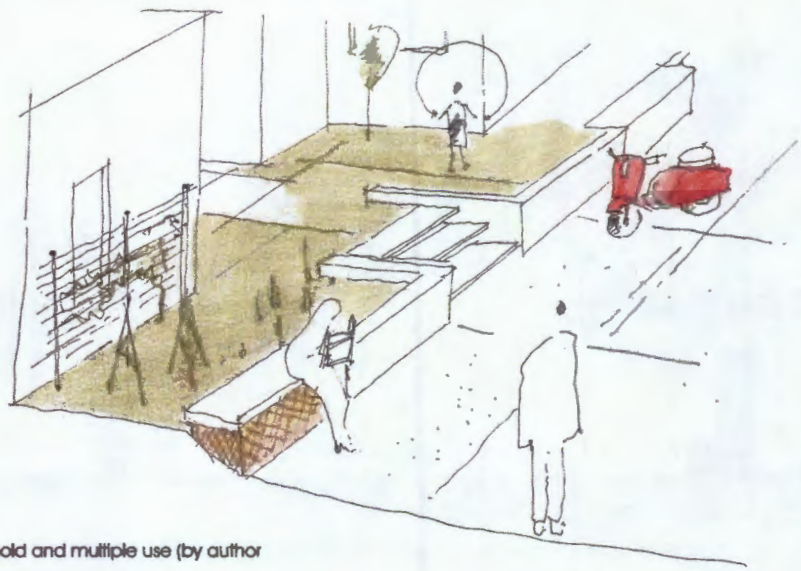
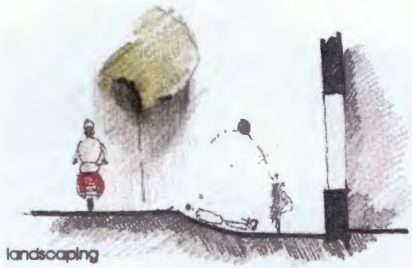


Fig 7.9. Green Structure: Threshold and multiple use (by author 2010)

low level walls



landscaping

level change

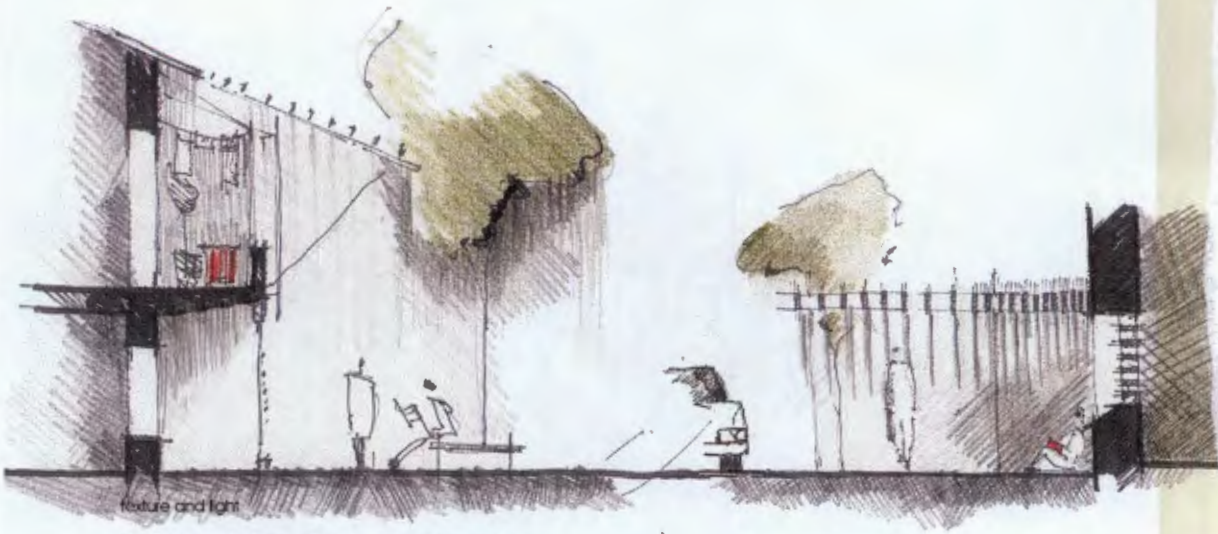
threshold and territory

The fact that the site has both public and private demands has implications in terms of aspects of control and appropriation of the private and public realms.

How to create private areas within an larger public environment which are used and cared for?

How to create public structure which does not interfere with the private realm?

Ideas of threshold and the articulartion thereof was explored as to provide a response to this issue.



texture and light

Fig 7.10. Threshold and territory (by author 2010)

vehicular movement

Continuing with the landscape approach to create a system of pedestrian orientated circulation routes, the importance of the motor vehicle was also challenged in order to create an environment in which the built form sits comfortably within the landscape without an overpowering order of a hard surfaced movement structure.

The approach taken was to minimise the amount of hard surfaced roads, isolate these roads to the periphery of the development and provide parking in permeable parking courts within the landscape. Access to the individual units would thus not occur directly from the street but would require the use of the pedestrian routes. This strategy was also explored as to reallign infratructural expenditure towards an approach which favours public open space and the pedestrian.

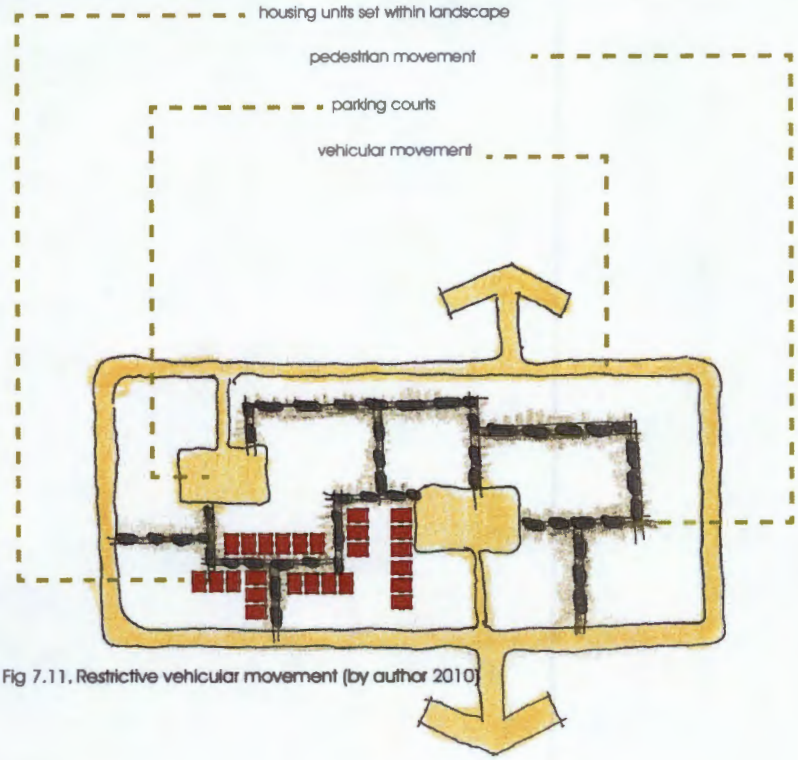


Fig 7.11. Restrictive vehicular movement (by author 2010)

conclusion

The initial approach explored the importance of the natural context of the site and the possibility to allow these informants to shape the proposed intervention.

design development

this chapter explores the design process and highlights issues and considerations that led to the final intervention

08

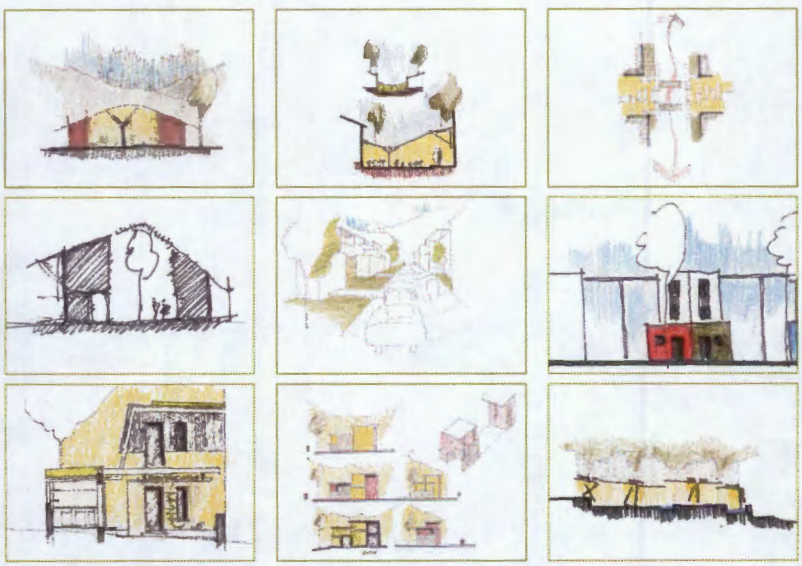


Fig 8.1. Design exploration sketches (by author 2010)

This chapter focusses on three distinct components of the proposed intervention which includes:

_the individual housing unit
_the landscape and housing support facility
_urban design and landscape strategies

_housing unit

Initial investigations was done in order to explore the possibility of providing a permeable built form that lends itself towards a strategy of densification and that of cohesion. This model explored the possibility to allow drainage of water underneath the structure as well as the sharing of structure and facilities in order to minimise costs.

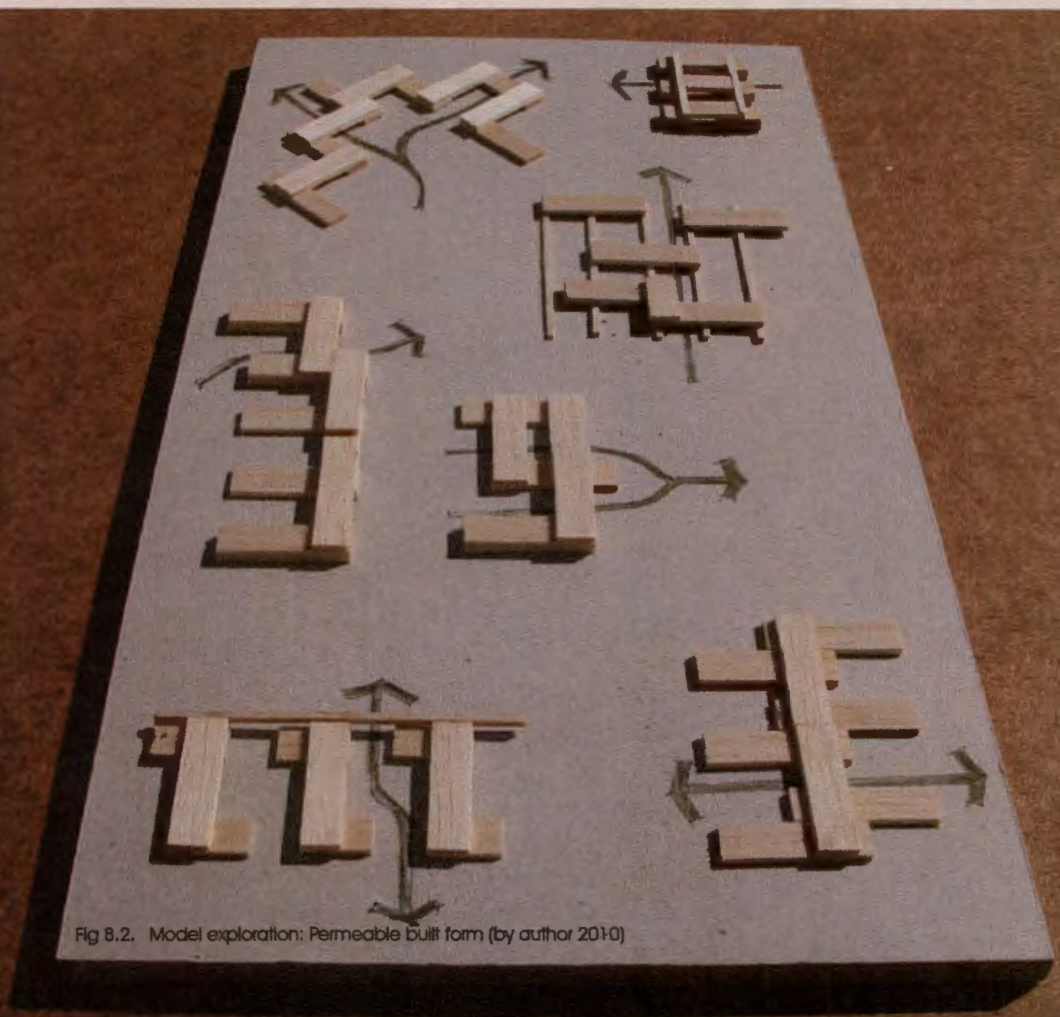
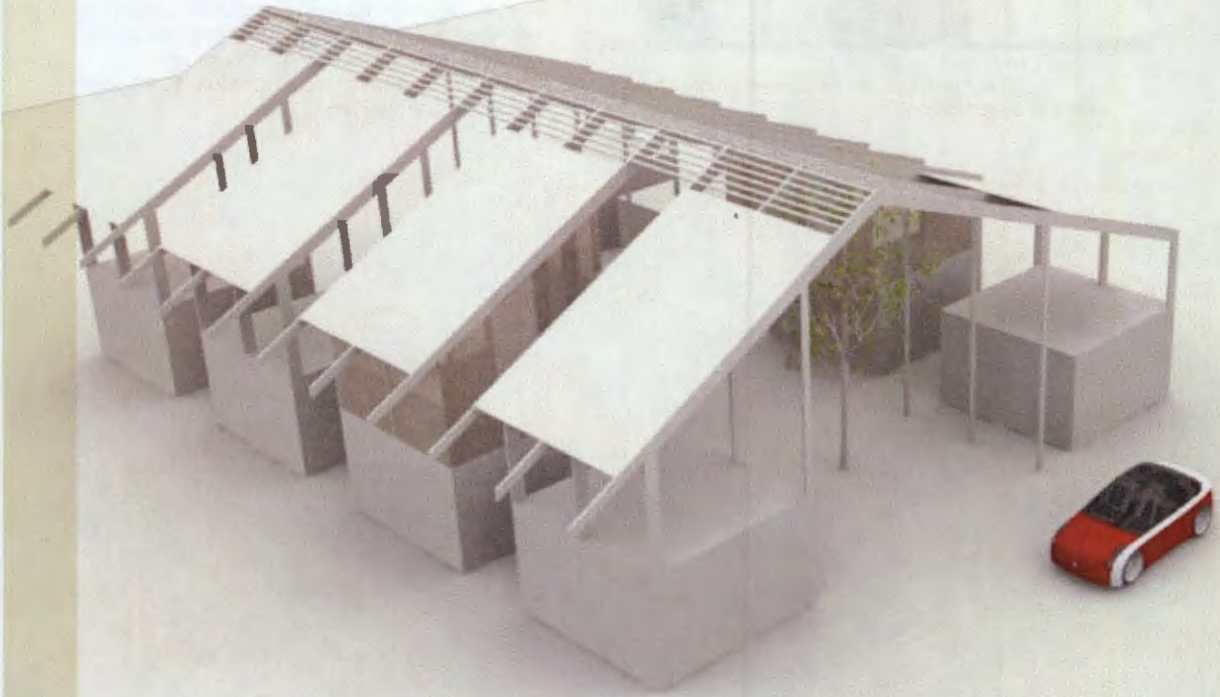


Fig 8.2. Model exploration: Permeable built form (by author 2010)

This model sparked the idea to create a built form that would facilitate a process of expansion. The idea was to provide a larger supporting structure with completed core/ starter units as an initial intervention. This structure would be completed over time by filling in underneath as residents' requirements and financial statuses evolve.

It was envisaged that the in-fill panels would be constructed of a light-weight pre-fabricated system as to allow residents to complete the expansion themselves.



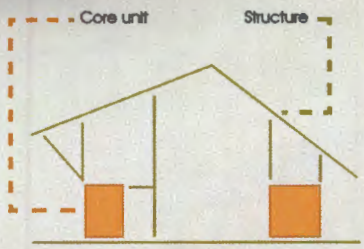


Fig 8.3. 3d exploration: Large supporting built form (by author 2010)

Fig 8.4. Concept sketches: Large supporting built form (by author 2010)

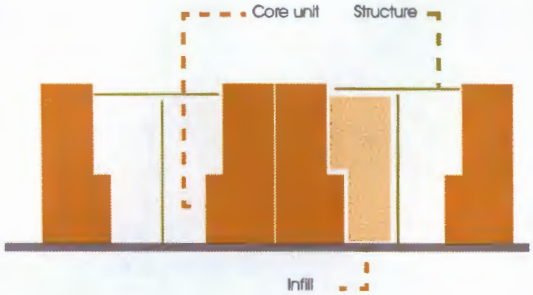


Fig 8.5. Concept sketches: Unit support with structure to receive infill (by author 2010)

I felt that such a large structure would be out place, compared to both the surrounding built form and natural context. The immediate context or Protea Village is characterised by mostly single story residential units which does not compete with the natural context. I steered away from an approach where the proposed intervention would compete for attention. The main aim would be for the **natural environment to take centre stage with the built form comfortably sitting within it**.

Moving away from the large supporting framework, the strategy was kept but explored on an individual unit basis. The principle would be similar with the provision of a core/starter unit with supporting structure which would facilitate the expansion of the unit over time.

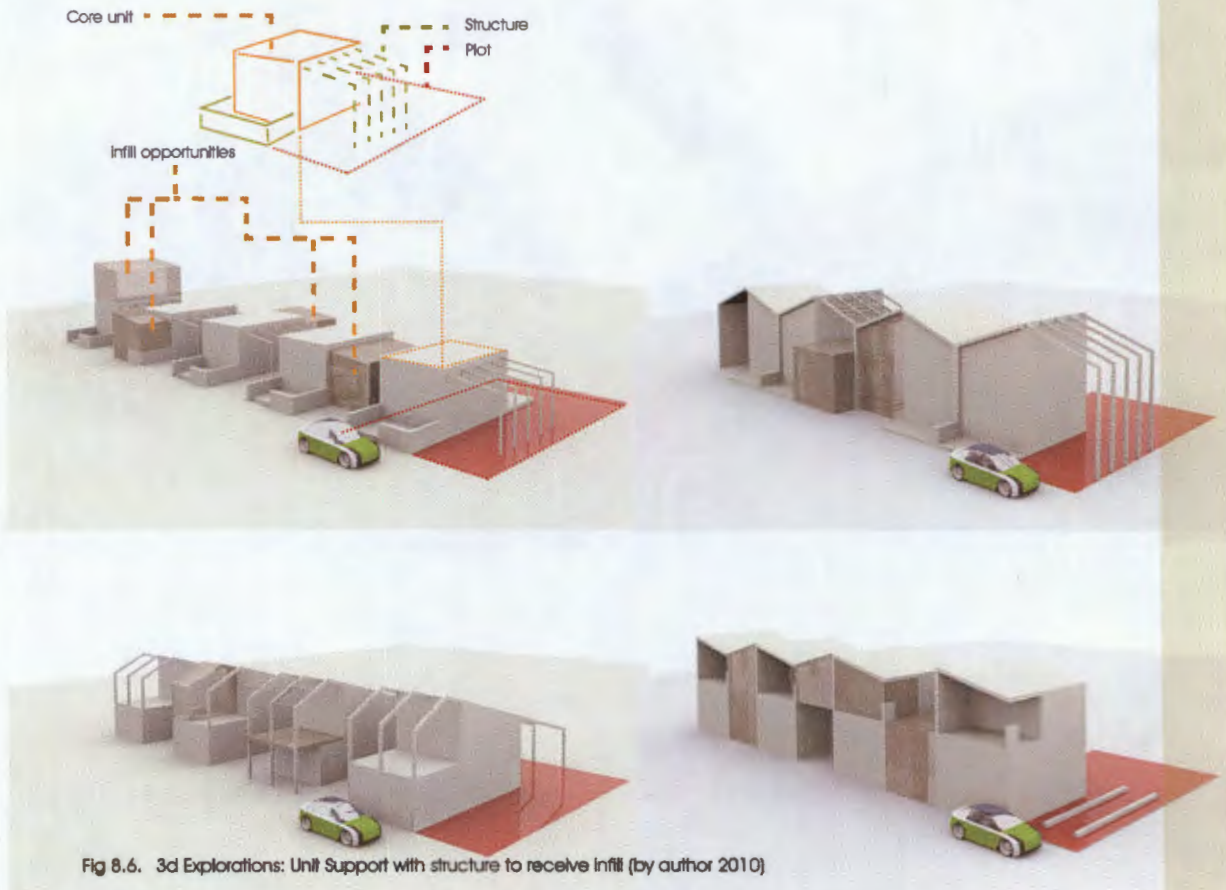


Fig 8.6. 3d Explorations: Unit Support with structure to receive infill (by author 2010)

When these investigations was considered in terms of materiality and tectonics as well the ability for residents to expand the unit themselves, the decision was made to consider a system consisting of a 'kit of parts'. The technology involved for this system was argued that it needed to be familiar to building contractors. A system which is used in everyday construction. The choice was thus made to consider block work, gang nail trusses, prefabricated concrete planks and corrugated iron sheeting. These material choices were then the driving force behind the subsequent explorations.

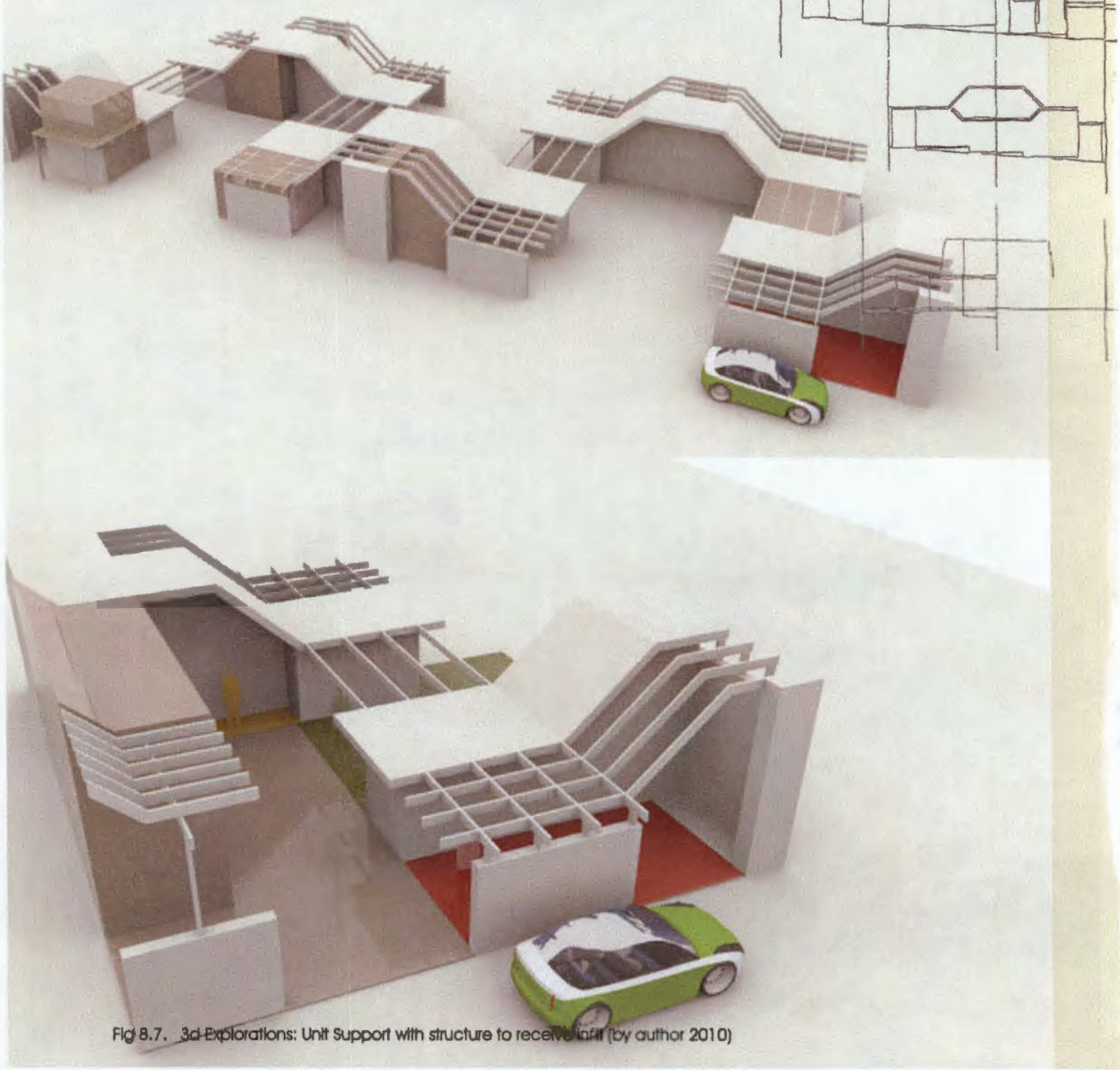


Fig 8.7. 3d Explorations: Unit support with structure to receive infill (by author 2010)

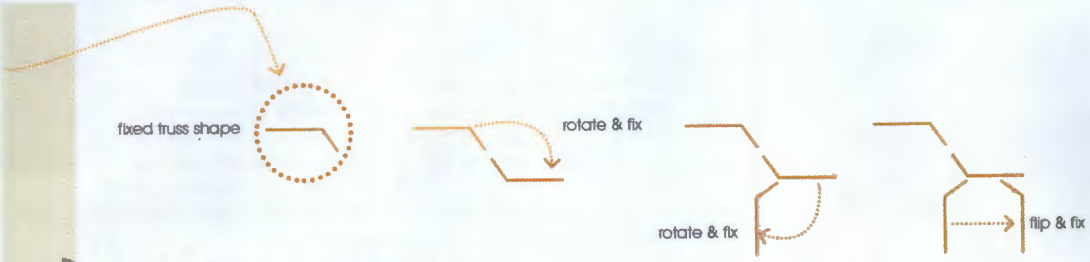


Fig 8.8. Concept diagram: Prefab truss to provide form (by author 2010)

Fig 8.9. 3d Explorations: Prefab truss to provide form (by author 2010)

The sketches above indicates the exploration to exploit a pre-fabricated truss (e.g. gang nail) as a form giving element. The shape is determined by the rotation and flipping of the standard truss.

As an alternative the possibility to extent vertically was also explored (refer to sketches below). This approach was abandoned as it was felt that the provided core unit and structure would not shape and facilitate future addition.

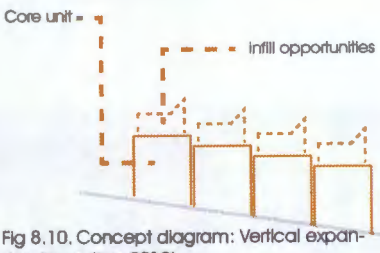


Fig 8.10. Concept diagram: Vertical expansion (by author 2010)

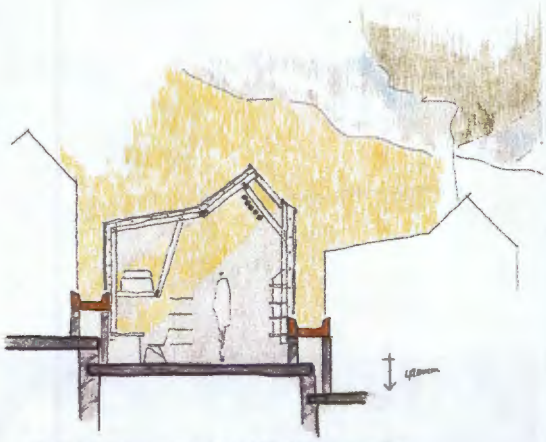


Fig 8.11. Concept section: Vertical expansion (by author 2010)

Fig 8.12. Concept elevation: Vertical expansion (by author 2010)

The explorations done in figure 8.7 led to the following proposal which investigated the possibility to allow for communal living. The unit is broken up in private and shared rooms. These rooms all would have a relationship with the surrounding landscape and have private access to the unit from it. If this unit required to function for a single family it could easilly be filled in to make more secure.

Fig 8.13. Concept elevation (by author 2010)

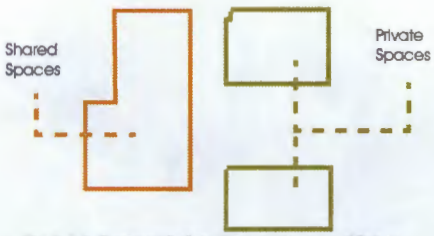


Fig 8.14. Concept diagram: communal living (by author 2010)

Fig 8.15. Concept diagram: family living (by author 2010)

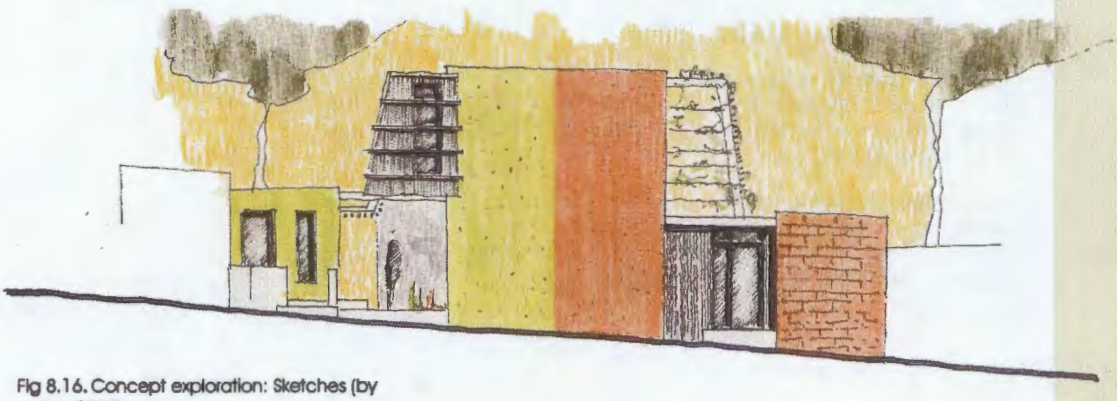


Fig 8.16. Concept exploration: Sketches (by author 2010)

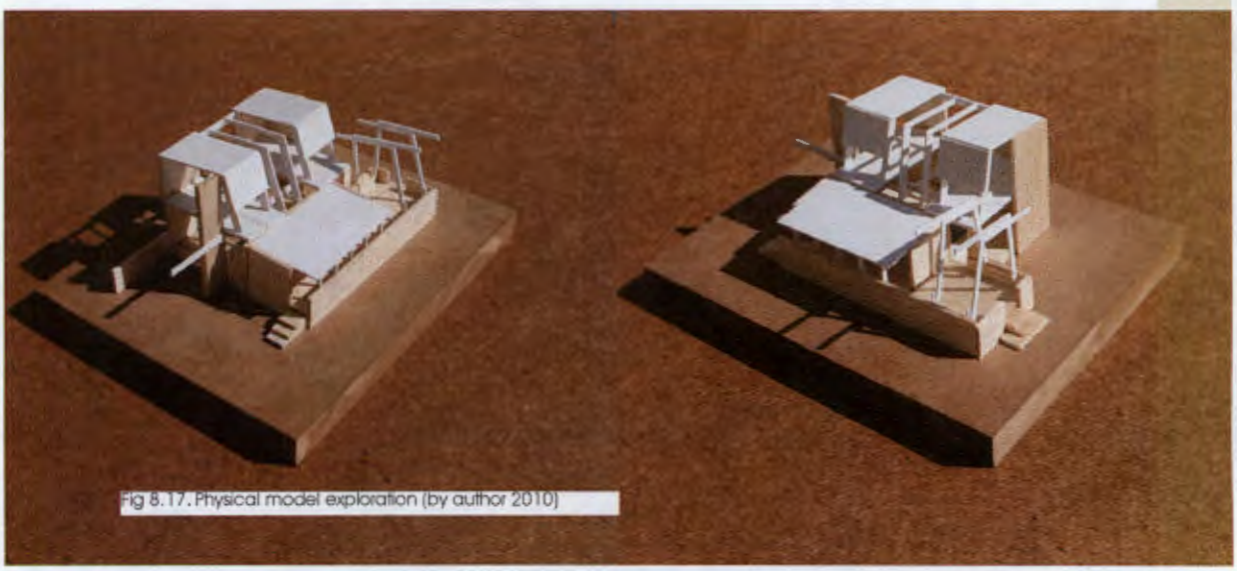


Fig 8.17. Physical model exploration (by author 2010)

Fig 8.18. Concept section (by author 2010)

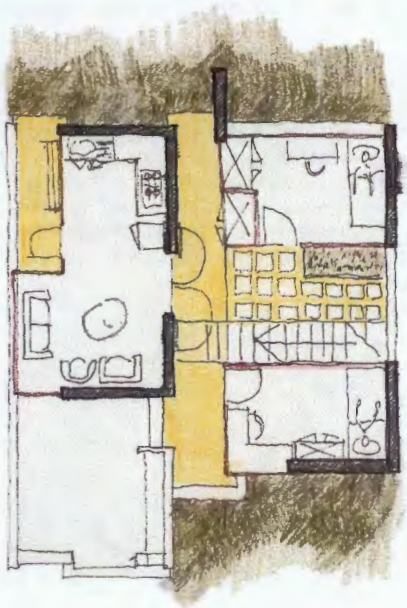


Fig 8.19. Plan exploration (by author 2010)

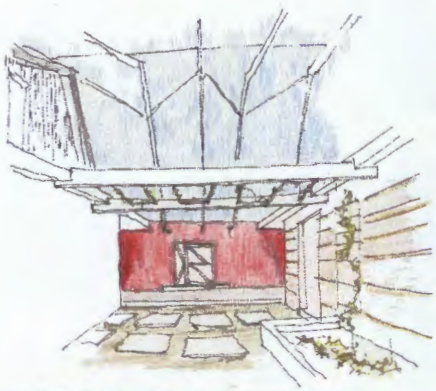
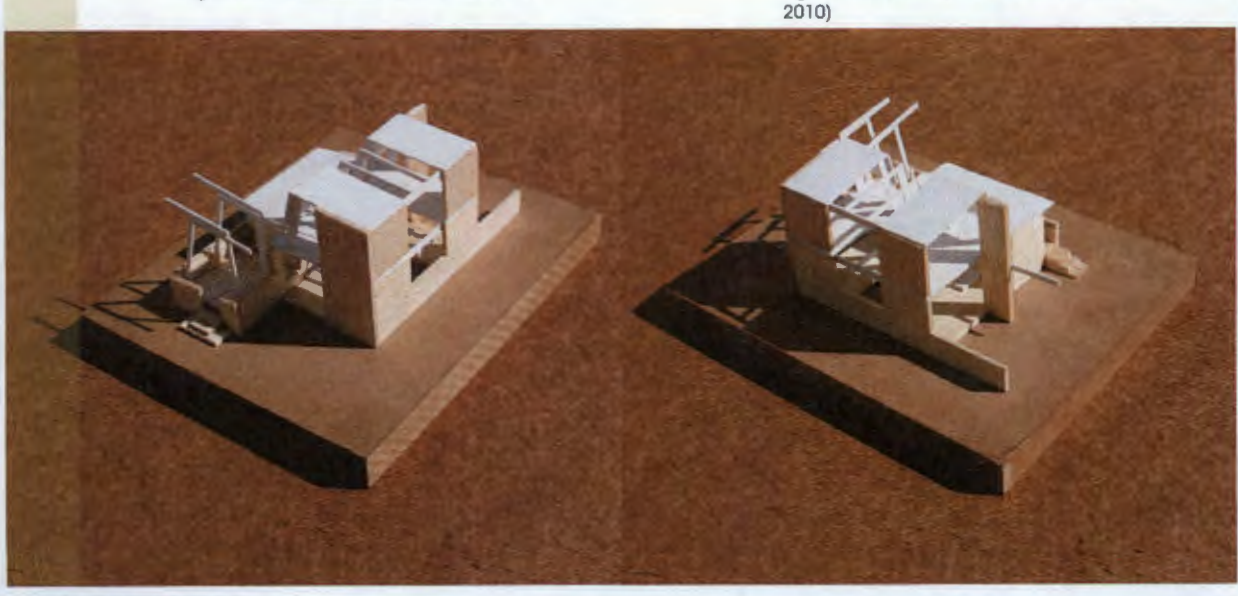
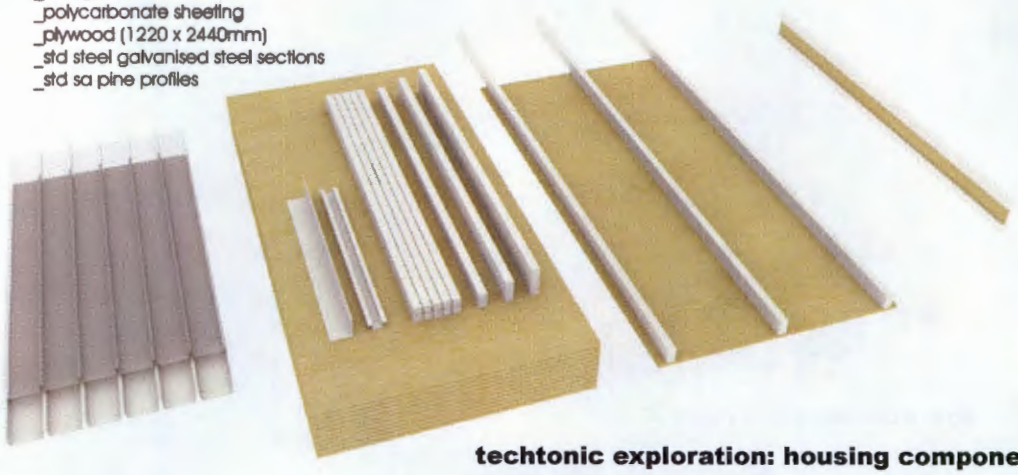


Fig 8.20. 3d view from courtyard (by author 2010)

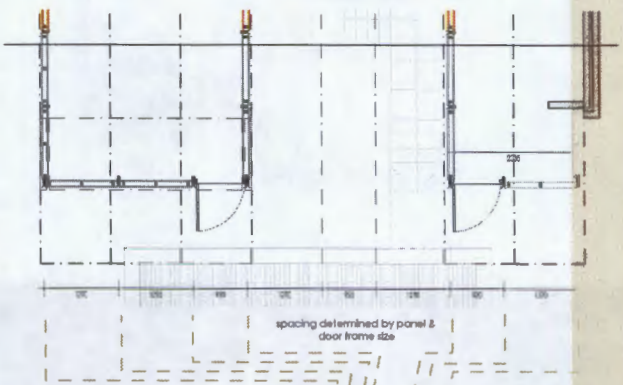


_corugated iron
_polycarbonate sheeting
_plywood (1220 x 2440mm)
_std steel galvanised steel sections
_std sa pine profiles



techtonic exploration: housing component

As mentioned before the initial explorations was aimed at utilising a building techtonic that is familiar to many constractors.A distinction was made between the core/starter unit technology and the incremental/ infill technology. The core/stater unit technology would entail masonry block construction, with pre-fabricated trusses and corrugated iron sheeting. The in-fill technology would entail light weight panneling which could be easily transported and manufactured on-site by community contractors. The possibilty of utilising plywood panels with timber studs was explored.



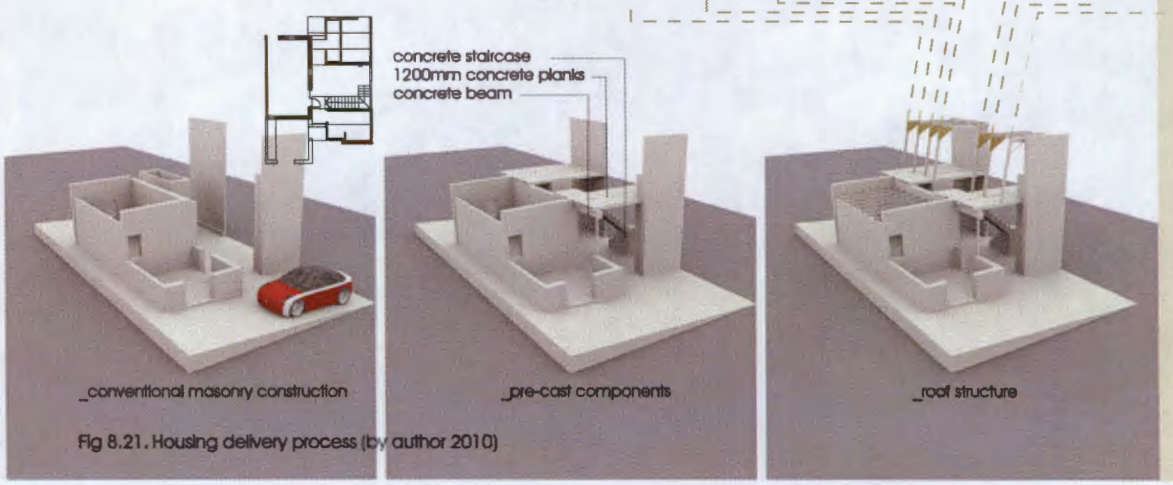


Fig 8.21. Housing delivery process (by author 2010)

1_expressed foundation wall to 'suggest' floor level

2_engineered trusses by community contractor

3_plywood panels as flooring (room size influenced by approach to keep sheet cuts to a minimum

4_wall studs bolted to rail above

5_plywood infill panel secured to studs

6_polycarbonate sheeting cut to fit providing different height tolerances

7&8_fixed glazing panels and opening section plywood ventilation openings

Fig 8.22. Panel in-fill (by author 2010)

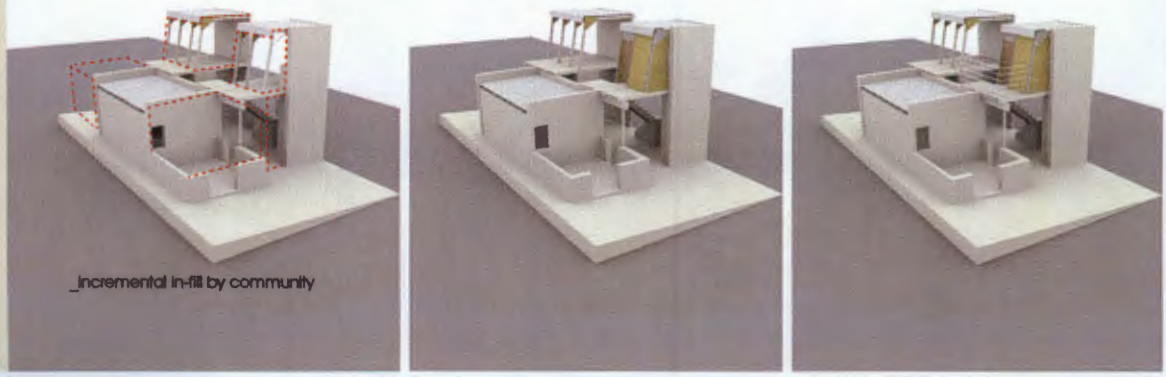


Fig 8.23. Protea Village invasive trees (by author 2010)

_the landscape and housing support facility

This facility would support the housing component with the provision of a building where community contractors would manufacture the in-fill panels required by residents to expand their units. As part of the landscape strategy a productive landscape component forms part of the programme to provide a further level of support (refer to the chapter: Working the land.) This component necessitated a facility that would provide support for production, processing and trading of the produce. The location of this facility marks the entrance to Protea Village and also interacts with the Stone cottages and sunday market.

The proposed facility was also approached in terms of the possibility of incremental development. The provided structure would initially only be completed in sections but would be functional to support the landscape and housing component. These two buildings even though separate in function would be designed as a whole with the possibility of sharing services and common outdoor spaces. The technology involved would be similar to that of the housing component with the addition of utilising on-site materials as part of the pallete. As required by the environmental and feasility study, all invasive species would need to be removed. The site has a large amount of invasive polars which would be utilised as part of the roofing support structure of this facility.

The building is broken up in two sections; the 'wet' landscape support side and 'dry' housing support side. The 'wet' side have a combined production/ processing function with the layout being determined by the way water is used within the facility. The excess water of the processing side drain towards the production side (e.g. planter boxes) to be utilised as a water source. From here it would drain towards the landscape and join in with the landscape water reticulation strategy.

The structure of this facility is also exploited to act as a support to allow for climbers (e.g. beans and tomatoes) to grow on it.

Fig 8.24. Concept Section: Production facility (by author 2010)

Fig 8.25. Concept Section: Production facility and housing elevation (by author 2010)

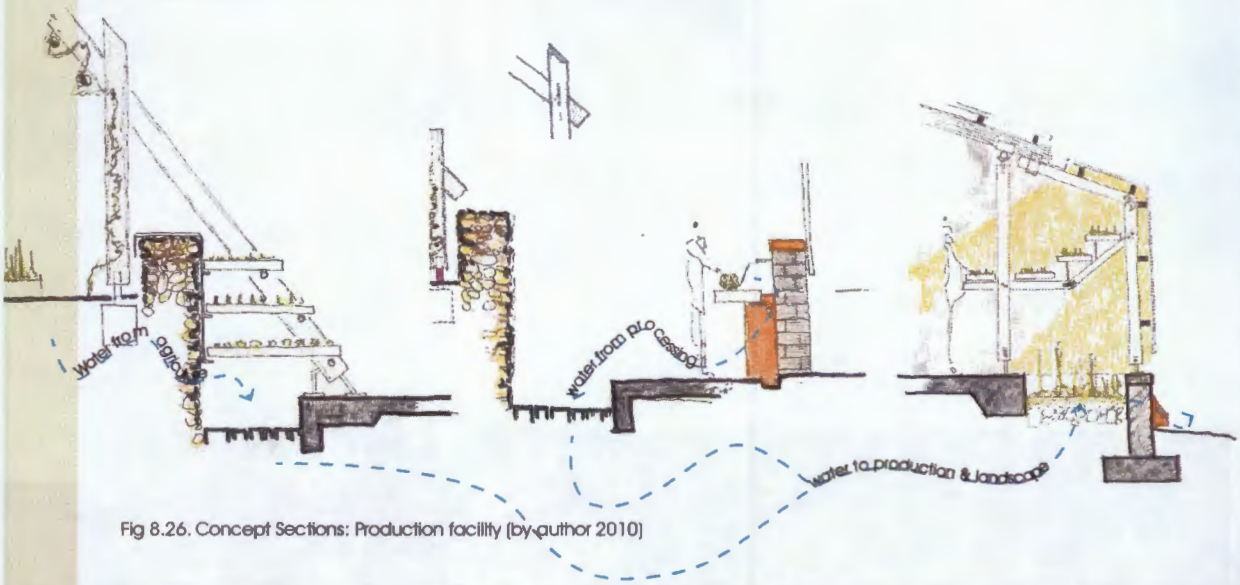


Fig 8.26. Concept Sections: Production facility (by author 2010)

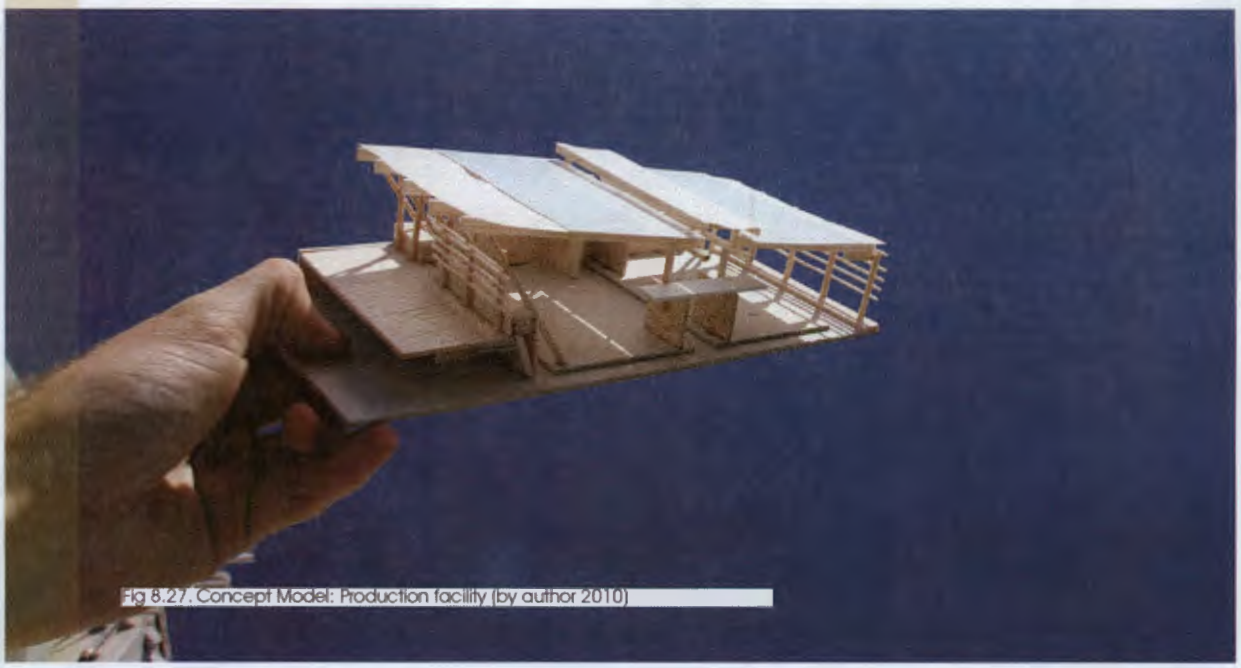


Fig 8.27. Concept Model: Production facility (by author 2010)

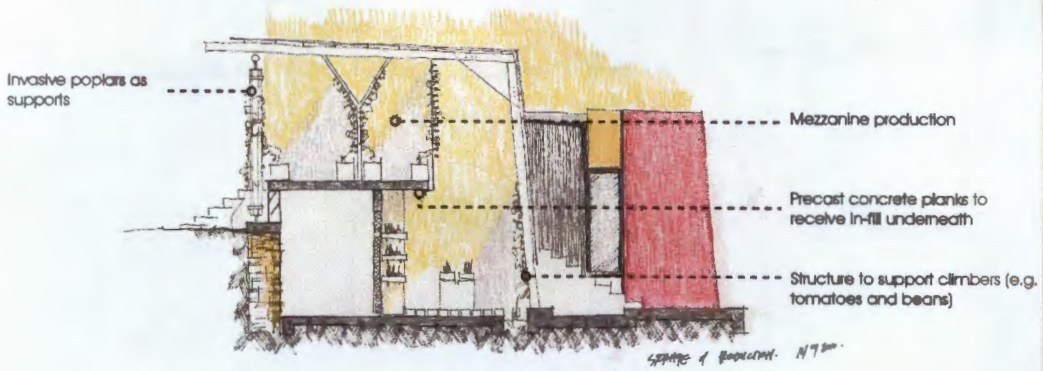


Fig 8.28. Concept Section: Production facility (by author 2010)

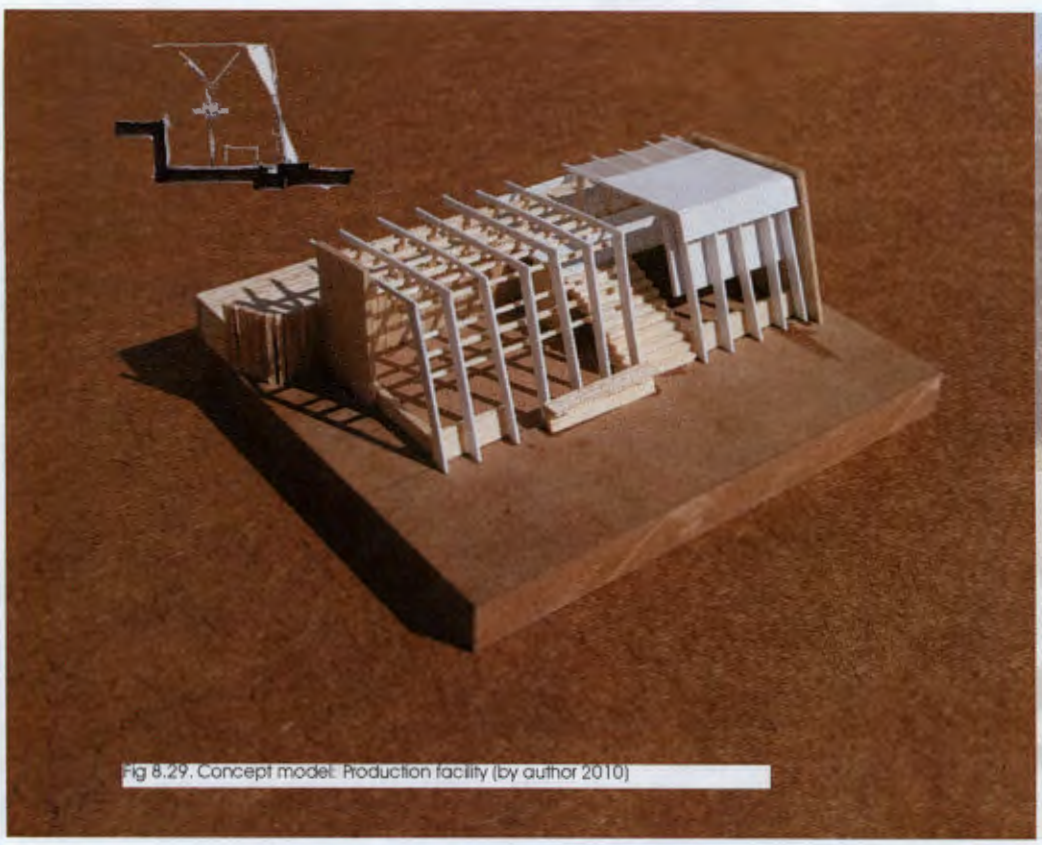


Fig 8.29. Concept model: Production facility (by author 2010)

Fig 8.30. Production facility: East elevation (by author 2010)

Fig 8.31. Production facility: West elevation (by author 2010)

Fig 8.32. Production facility: North elevation (by author 2010)

Fig 8.33. Production facility: 3d from South East (by author 2010)

_urban design and landscape strategies

As a first step in providing an urban design response, a scale comparison study was done whereby a few residential areas were compared in terms of erf size. This was done in order to get a sense of the size and extent of the Protea village site and surrounding contexts.
Further calculations was done to determine the area required per family to produce vegetables to meet their daily requirements. These calculations informed the selection of the final typology and erf size.

Fig 8.34. Masking areas for possible development (by author 2010)

The areas in question is shown on the images on the right which included:

_Bo Kaap
This was chosen as a result of the fairly dense typology of single residential units in close relationship to the CBD.

_Lotus River
This was chosen as a typology very familiar to the Protea Village claimants.

_Fernwood and Bishopscourt
This was chosen to indicate the immediate built contexts surrounding the Protea Village site.

Area calculations:
(refer to chapter on site analysis)

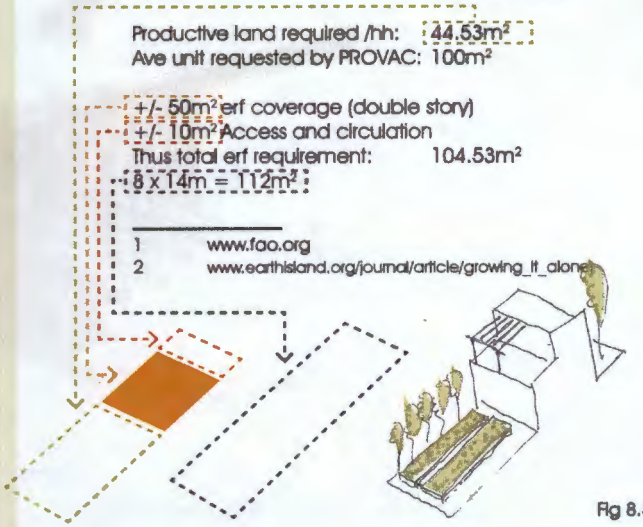
Erf 242:	3.8ha
Erf 212:	8.2ha
No-go zones (excluding trees)	
erf 242:	0.4ha
erf 212:	6.1ha
Total developable area:	5.5ha
minus 20% roads:	1.1ha
minus 20% POS:	1.1ha
Total area for housing: /86 (claimants)	3.3ha

383m²/ erf

This area is roughly in between the Bo Kaap and Lotus River typologies

Productive yield:
(refer to chapter on Working the land)

Ave claimant household size	4p
Daily Vegetable requirement	305g/pp[1]
Yearly requirement	445.3kg /hh
Possible Produce yield:	10kg/m² / year[2]
Productive land required /hh:	44.53m²
Ave unit requested by PROVAC:	100m²
+/- 50m² erf coverage (double story)	
+/- 10m² Access and circulation	
Thus total erf requirement:	104.53m²
8 x 14m = 112m²	



1 www.fao.org
2 www.earthisland.org/journal/article/growing_it_alone

Fig 8.35. Scale comparison (Googleearth image edited by author 20

Proposal # 1

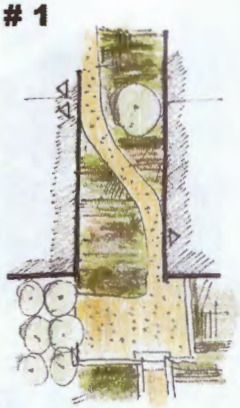


Fig 8.36. Semi-Private backyard alley (image by author 2010)

The main aim of this proposal was to test the principles of the initial explorations. The main driving force was the response to the existing tree canopy as well as the natural drainage lines and no-go zones.

The landscape and urban design strategies consists of the following components:

_1 Porous pedestrian routes combined with sub-surface drainage channels. All surface runoff to drain towards these channels and to be collected on site for productive landscape usage.

_2 Productive landscape to structure main pedestrian movement

_3 Built form set within landscape with main interface with natural context. Backyard alleys to form semi-private spaces to be utilised as productive or recreational space

_4 Minimal hard surfaced roads connecting vehicular movement to porous parking courts.

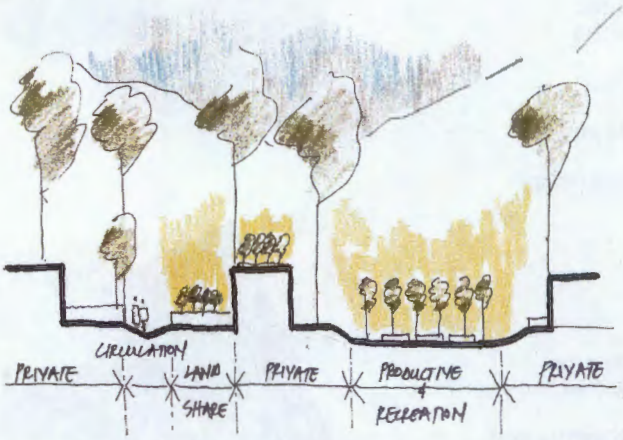


Fig 8.37. Relationship of built form, circulation and landscape (image by author 2010)

Fig 8.38. Site plan: Porous Pedestrian links/ drainage lines (image by author 2010)

Fig 8.39. Site plan: Productive landscape to structure pedestrian movement (image by author 2010)

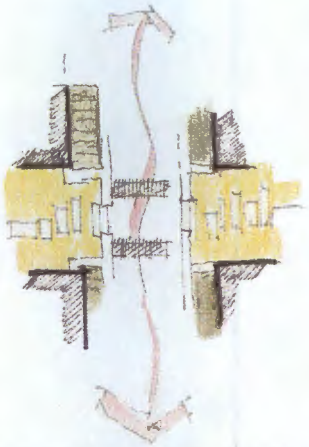


Fig 8.40. Intersection of productive landscape and hard surfaced roads (image by author 2010)

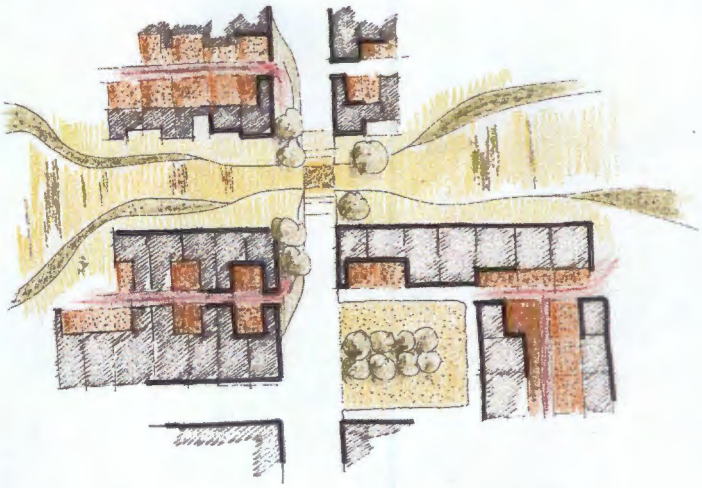


Fig 8.41. Relationship of built form, parking courts, roads and landscape (image by author 2010)

Fig 8.42. Site plan: Built form (image by author 2010)

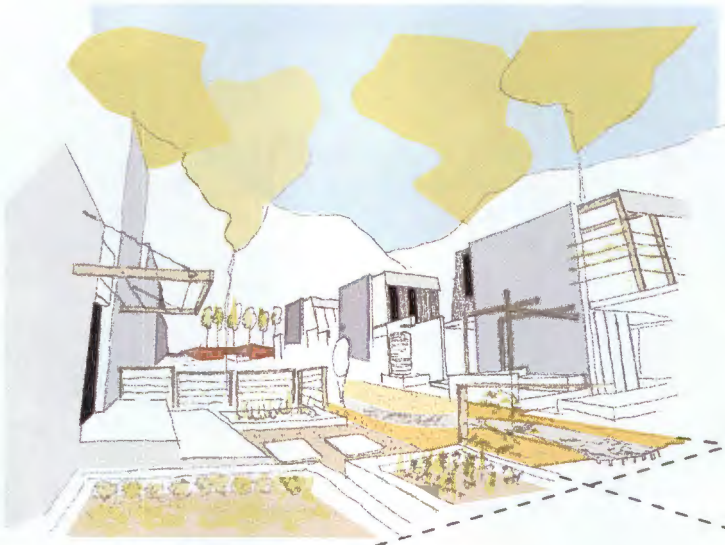


Fig 8.44. Semi-Private Backyard alley (image by author 2010)

Fig 8.45. Site plan (erf 242, South Western portion: Proposal 1 (image by author 2010)

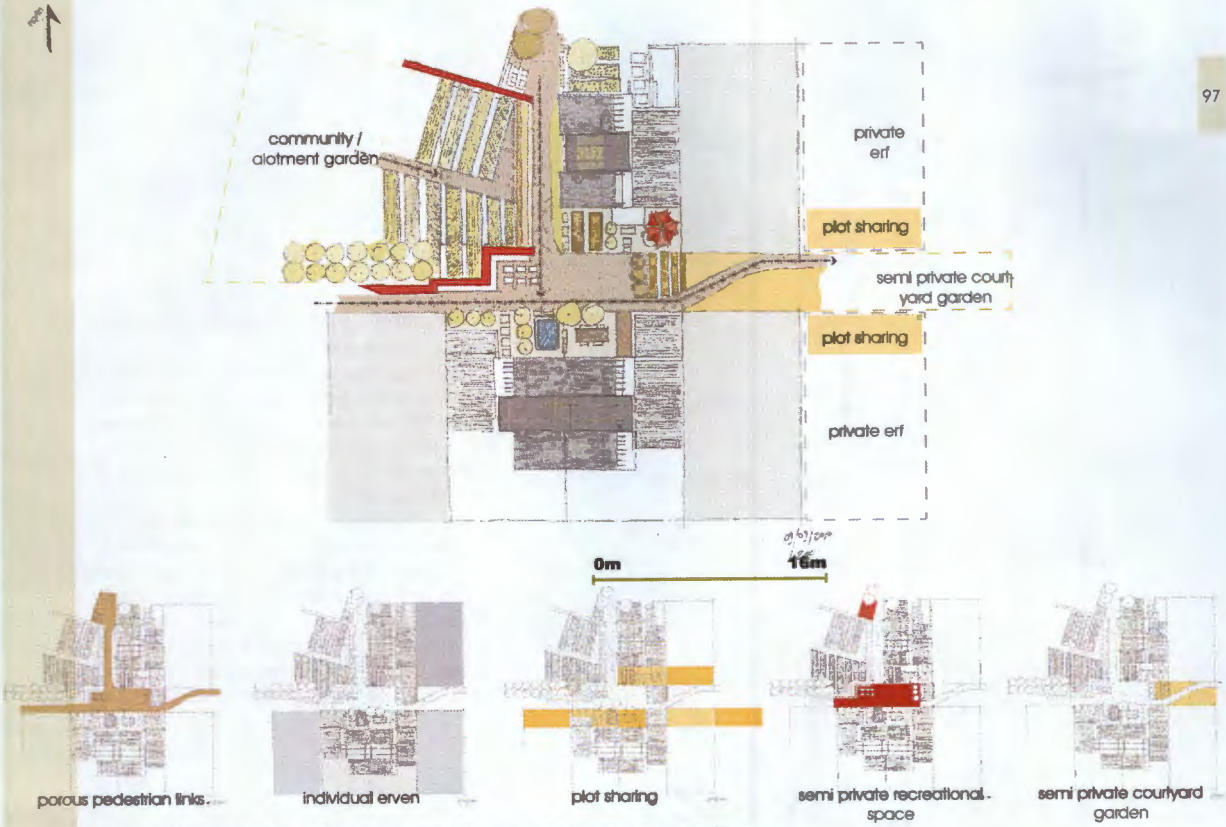


Fig 8.46. Site plan: Semi-Private courtyard/ backyard alley (image by author 2010)

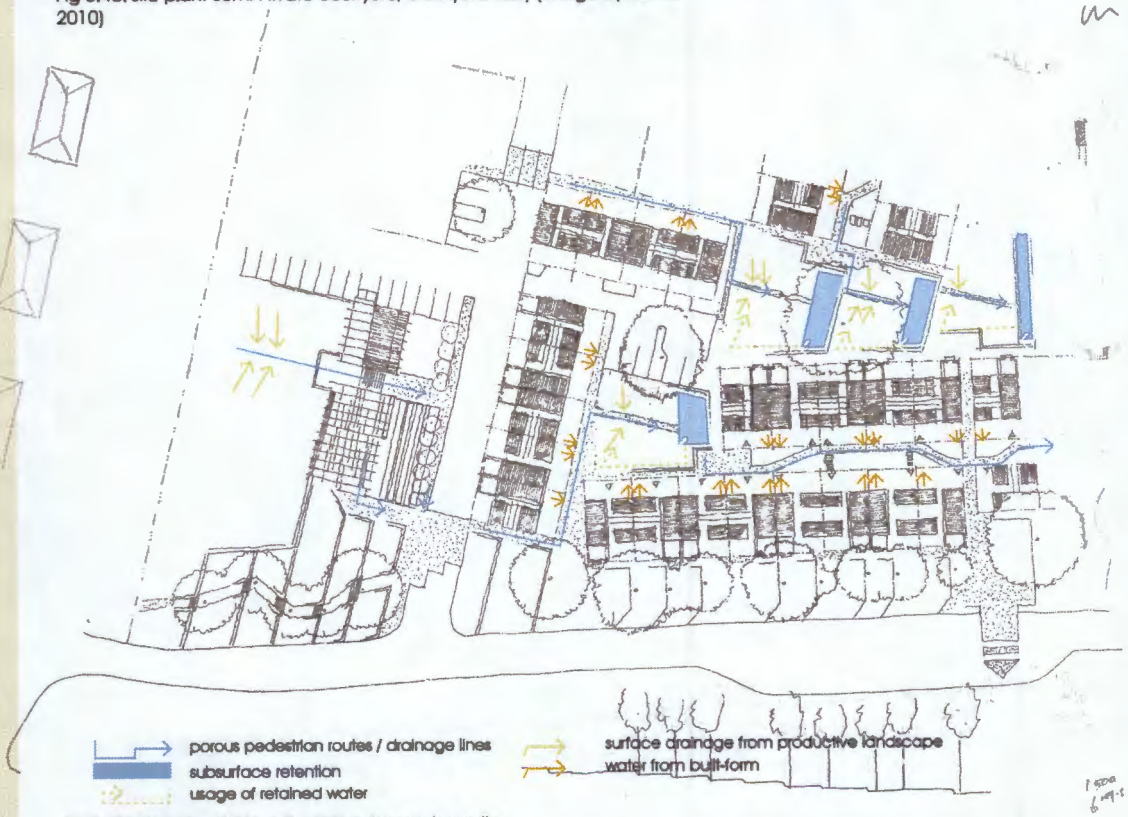


Fig 8.47. Site plan: Water reticulation (image by author 2010)

Proposal # 2

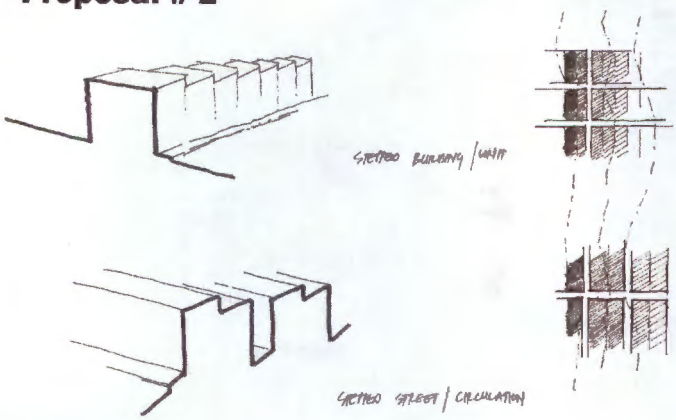


Fig 8.48. Stepped building vs stepped street (image by author 2010)

With critique to the previous proposal this proposal was aimed at:
_1 Creating a stronger urban form with individual units stepping down with the landscape (refer to the sketch on the left).
_2 A buffer zone was also introduced as interface zone between rural landscape and built form.
_3 A stronger productive link was introduced to allow for a free movement of pedestrians from the surrounding contexts.
_4 A stronger interface and link between erven 212 and 242 was also explored.
_5 The amount of hard surfaced road was also reduced to further enforce the idea of 'building set within the landscape'.

Fig 8.49. Concept sketch: Proposal 2 (image by author 2010)

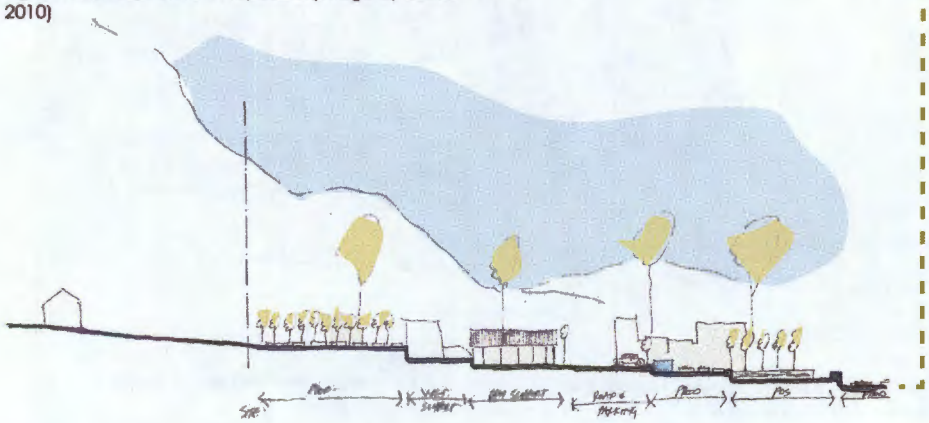


Fig 8.50. Section through main productive strip (image by author 2010)

Fig 8.51. Site plan: Proposal 2 (Image by author 2010)

Fig 8.52. Physical model exploration: Proposal 2 (by author 2010)

Architecture is never complete

Conclusion

This thesis explored the notion of architecture as a process of enablement with specific response to the Protea Village restitution claim. It critiqued the traditional final-solution approach and argued for a level of uncertainty and possibility for change. The thesis proposed an approach of incremental development in order to critique government housing delivery policies but also to propose an alternative that promise economic opportunity and promote a stronger sense of ownership with residents.

Responding to the particularities of the Protea Village site, the feasibility of a productive landscape component was also explored as to further this process of enablement.

The proposal responded to the initial theoretical stance of appropriate architecture with the believe that the intervention would be specific both in terms of natural and socio-economic contexts.

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