The New Commune: a design proposal that aims to create an alternative living environment for the city dweller.

Design Research Project APG5058S

Submitted in partial fulfilment of the requirements for the degree
Master of Architecture (Professional)

By

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the New Commune
A design proposal that aims to provide the city dweller with an alternative living module that is based on simplicity, nature and community

Index

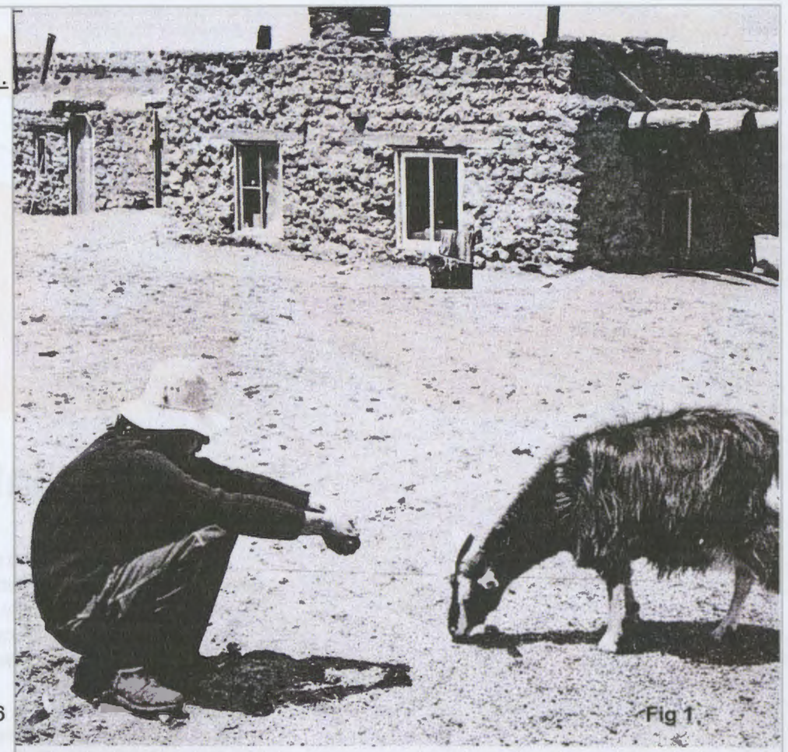
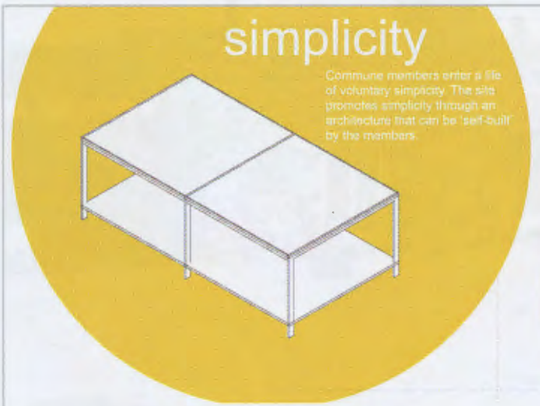
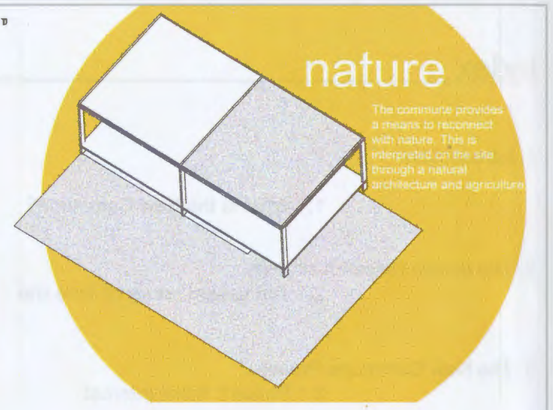


Fig 1

They find that to exist is to become related with others, and instinctively attuned, as well, to the sunny sanity of Nature with a wakened spirit of sustained wonder.





1. Introduction

The New Commune is a design proposal that aims to create an alternative living environment for the city dweller that revolves around simplicity and community, where nature plays the main role and elements of self-sufficiency become a reality. The design proposal merges the principles of an urban commune with that of agricultural density.
This document traces the evolution of the design process, from the initial interest of the commune ideology explored in phase 1 to the analyses of the urban implications of this design proposal in phase 6, providing an understanding of the commune concept not only as a concept for alternative living but also an architectural scheme that promotes simplicity and community.

This document illustrates the investigations that were conducted in order to achieve an understanding of the commune as a design dissertation topic. Phase 2, 'Exploration', investigates an extensive array of commune precedents, local and international, to demonstrate that the commune is a realistic proposal. The investigation was defined in Phase 3, 'Implementation', through the completion of a Theory and Technology paper that explored the quantitive and qualitative aspects of the commune ideology. The next phase, 'Realisation', introduced the Oude Molen (in Pinelands) site as an appropriate setting for the New Commune, as it presents a sufficiently large area, that is serenely located next to the Black River, for a self-sufficient agricultural endeavor as well as being located close to the CBD to accommodate the urban needs of the inhabitants. The final two phases of the document explore the commune subject architecturally, examining issues such as density, site usage, site design, programmatic requirements and dwelling concepts.

This documentation of the several phases experienced by the New Commune will provide the reader with insight into the several issues examined in order to make the commune ideology a viable thesis topic.

1.1 The New Commune is a living module that has evolved from the counter culture commune movement that flourished in the 70's flower power era but has roots that date back to the 1500's. The New Commune seeks to evolve this social experiment of community cooperation and to transform it into a viable contemporary alternative for the city dweller. The alternative describes a lifestyle that reconnects with the simpler elements in life. Establishing nature, community and cooperation as the main tools for living. An alternative that contradicts the concrete jungle where the automobile dominates and the individualists thrive. The commune framework provides the appropriate programmatic scheme for the alternative residential notion. A programmatic scheme that basis its foundation on a common ideology shared by all its members, an ideology formed around a spiritual, religious or political goal. While the common ideology binds the group of individuals, the programmatic scheme integrates cooperation and interaction into each principle on site. A site that seeks to enhance humanity's bond with nature and restore the earth's resources. The commune provides the belief system and spatial framework to create a sustainable, environmental development in a contemporary urban setting.

The 'alternative' lifestyle that is provided through the New commune framework is an alternative to the typical notions of urban living. Where people are disconnected from nature through the dominance of the built fabric, and disconnected from each other through the separated living units. This separation translates further into the relationship between one's living and working environment. The alternative commune arrangement aims to decrease this alienation and disconnection through collective living and a multipurpose site.

The commune principle acts as an inspiration tool for the creation of this alternative living module, as it already conveys an alternative and experimental connotation. From the extreme experimental nature of Drop City in North America, to the social experiment of Twin Oaks in Virginia to the extreme simplicity of Khula Dhamma in the Eastern Cape. The commune sets up the framework, spatially, programmatically, spiritually and socially for the alternative that seeks to portray this same connotation.

The New Commune is a design proposal that aims to provide the city dweller with a natural setting where simplicity and community interaction can be practiced, while still participating in daily urban activities such as jobs and shopping. It is a proposal for a site that establishes a hierarchy between nature and the built environment, through a multipurpose programmatic scheme.

The aim of this document is to prove the viability of the commune movement through the analysis of several successful international communes. Through this analysis, a framework will be made evident that can then be applied to the New Commune. This framework will propose a Manifesto, which states the various principles of this alternative living module.

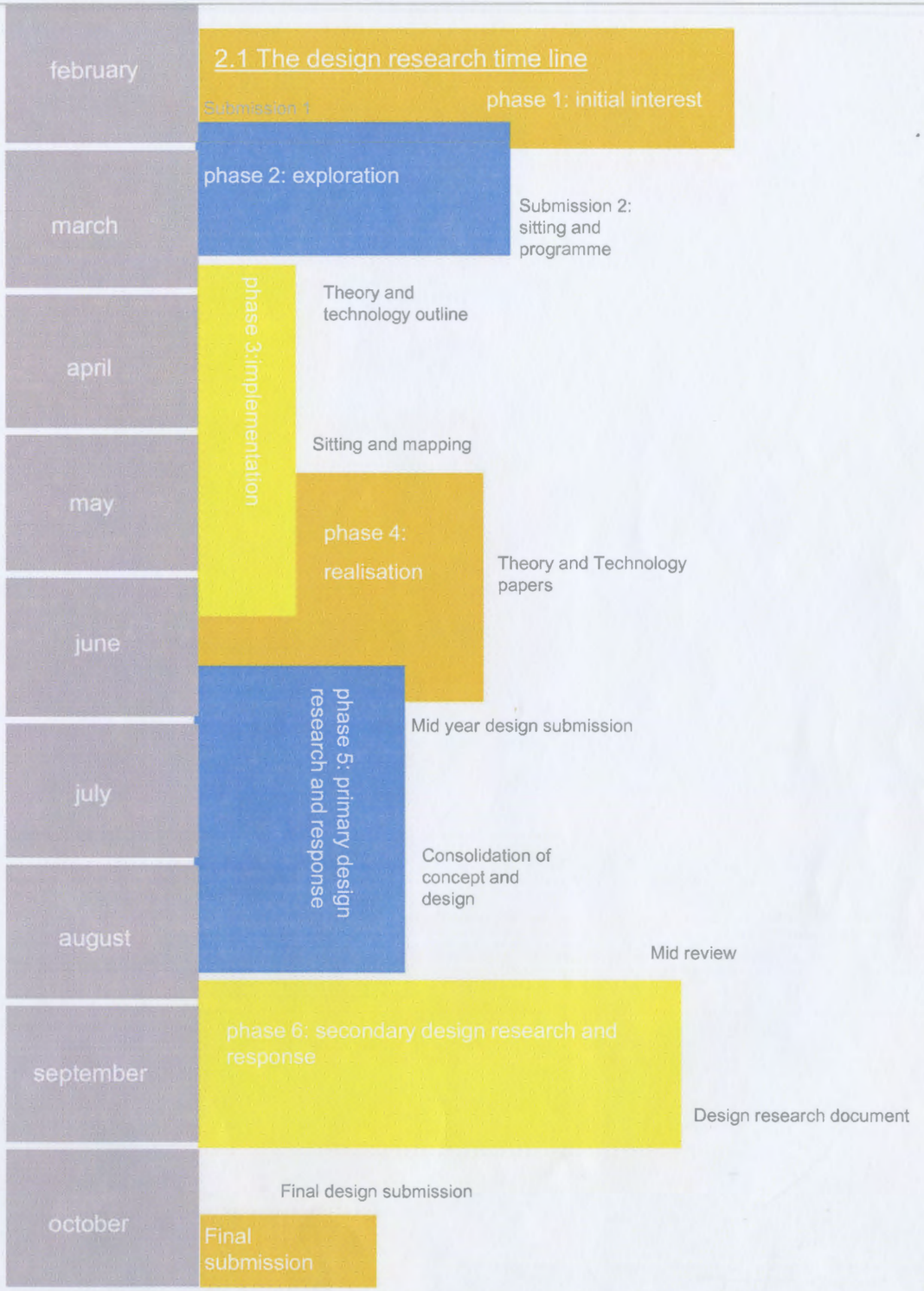
Fig.2

2. The design research strategy

A commune, in principle, evolves over time. This evolution adopts a piecemeal process, where the site, the buildings and the number of members mature over the years. Often a commune starts with only a few members dwellings and one primary communal structure on the site. Over the years these structures increase to accommodate more economic and social ventures and with this expansion, membership grows. This ongoing piecemeal process reflects the strategy that was adopted for the design research. With each new design step, new aspects of the project became evident.

This document demonstrates the various steps that were involved in the evolution of the design process..

2.1 The design research time line



3. the new commune process

3.1 Initial interest

The idea of a 'commune' as a thesis design topic arose from the concept of designing something that was organic, not only in aesthetics but also in function. The topic would incorporate the present obsession with an organic lifestyle. This obsession is evident in the increase of organic produce available in grocery stores and the various organic markets scattered around Cape Town and Johannesburg. This eco-conscious driven attitude sets up the framework for a much needed alternative living module that provides the city dweller with a setting to practice an organic lifestyle, while still participating in various urban activities. The commune presents an appropriate example of an alternative living module that seeks to integrate self-sufficiency notions with community driven ideals.

The commune provides a viable design enquiry that can be explored through the thesis design process, demonstrating how the initial interest of the 'organic' successfully leads to the design proposal of the 'commune'.

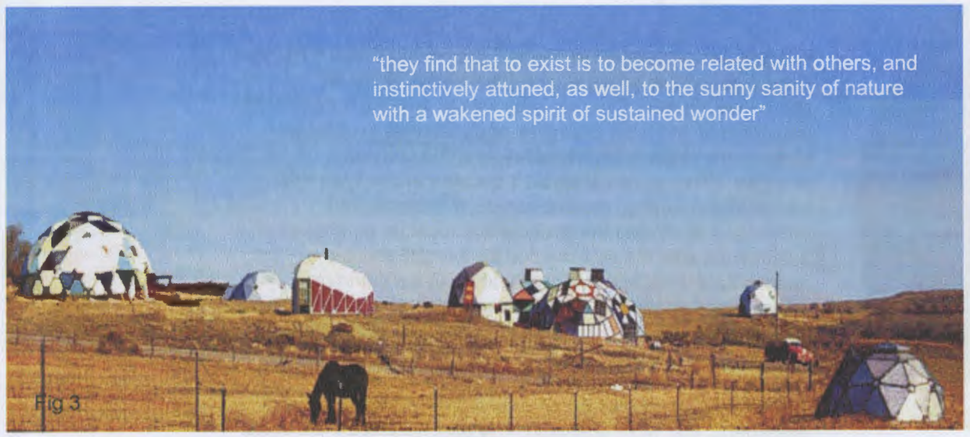


Fig 3


Fig 4

commune: A commune is a relatively small group of people who have chosen to live or work together in pursuit of a common goal. These planned residential communities, often termed as 'Intentional communities', seek a higher degree of teamwork and community cooperation. Communal cohesion is achieved through common political, social, religious or spiritual goals. "A community is to be formed to promote more effectively the great purpose of human culture"[2] , as George Ripley states, demonstrates this natural urge to create a better environment through community initiatives, where ideologies are shared and harmony between nature and man is promoted.

alternative: The 'alternative' lifestyle that is provided through the New Commune framework is an alternative to the typical notions of urban living. Where people are disconnected from nature through the dominance of the built fabric, and disconnected from each other through the separated living units. This separation translates further into the relationship between one's living and working environment. The alternative commune arrangement aims to decrease this alienation and disconnection through collective living and a multipurpose site.

architecture: The architectural themes of the New Commune will include: duality, flexibility, expandable, ecological and organic themes. Simplicity should always be the main driving force behind the design initiative, as the site provides the commune member with an escape from the complex city life. The interplay between private spaces and communal areas should be explored, and the role that nature will play in both these spaces should be made evident.

3.2 Exploration

Through the exploration in phase 1, it became evident that the commune module provides a viable framework for an alternative lifestyle. The next step was to analyse a number of international and local examples of communes in order to observe the realistic implementation of the commune principle. Through this analysis it became evident just how successful this living module can be, if implemented correctly. It illustrated the aspects that must be addressed on a commune site, the size needed for this site and the architectural language evident throughout the commune theme. Another vital aspect that was demonstrated through this analysis was the difference between rural and urban communes.

The first section of phase 2 illustrates the various commune precedents that were analysed. The second section illustrates the design response gained from this analysis.

Content

3.2.1. Commune Precedents

A brief description of the various international intentional communities that were analyzed for this document. These communes informed the Manifesto for the New Commune, as all of them present a successful element that can be integrated into the pragmatic and physical framework of the proposed scheme.

Section 1

Communes:	Location:
Jindibah	Australia
Khula Dhamma	Eastern Cape
Drop City	North America
Twin Oaks	North America
Auroville	India
The Farm	North America
Riverside	New Zealand
Ein Hod	Israel
Findhorn	England
The Zen Centre	Los Angeles
Yamatoyama	Japan
Hohenhort Hotel	Cape Town
Seoul Commune	Korea
Boase	Denmark
Lynedoch	Cape Town

main stream integration

Jindibah, Australia

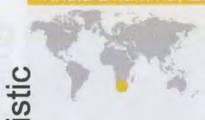
This rural commune, of 46 HA, contains 12 households which average 1, 7 acres each. It is located in the Hinterland, close to various amenities such as airports, schools and hospitals. Thus demonstrating the prominent link it maintains with main stream society. The aim of the commune is to provide self-sufficiency through 'agribusiness'. This aim provides a way to reconnect with nature and to escape the stresses of city living. Sustainability is achieved through environmental concern and through social and economic factors. ESD (Ecological Sustainable Development) is employed, ranging from permaculture to rainforest regeneration.
This commune is a good example of how it is possible to maintain a good relationship with the outer community while still creating a secluded natural haven for its members. It also creates awareness about the legal matters that accompany a commune structure. A Multiple Occupancy was changed to Community Title in 2007.

Fig 10

Fig 11

natural and simplistic

Khula Dhamma, Eastern Cape



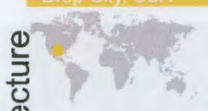
This local commune's name means "to grow a path of awakening", utilising the eternal forces of nature to nurture spiritual growth. The rural setting of 691,9 acres houses 14 residents and 12 non residents. The aim of the commune is to restore balance with nature, employing ecological tactics such as solar power and earth construction for the architecture that is comfortable for human scale. Sustainability is not only achieved through environmental concern, but through social and spiritual too. Buildings are constructed by the residents, creating a holistic healing mechanism through group activity. Simplicity is achieved through a simple, low maintenance lifestyle with home schooling for small children.

Fig 12

Fig 13

experimental architecture

Drop City, USA



This experimental commune, of 7 acres and 10 members, had a very short life span but had a great affect on American popular culture. It was an artist community that was created by a few students who left their universities in order to pursue a life according to their own desires. It was a space where one can live cheaply in geodesic domes which were clad with recycled materials (mostly old vehicle roofs). The dry and bleak landscape contained 8 domes and various other geometric buildings. Meals were shared and certain public spaces, such as the Theatre, were used by all members. The aim was to create a 'live-in' artwork through the use of these Buckminster inspired domes and zomes. Overwhelming media coverage lead to the failure of the community, as common goals were no longer shared by new members, thus resulting in internal conflict. The site was abandoned in 1977 and completely taken down by 1990.

Fig 14

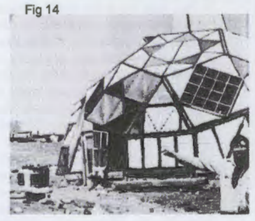


Fig 15

walden two inspiration

self-build and self-sufficiency

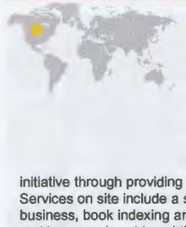
collective node and education

contemporary urban

environmental education

nature and education

Twin Oaks, USA 1967



This rural intentional community was founded by radical members, influenced by B.F Skinners 'Walden Two', in search of a better life. The income sharing commune, of 85 adult members and 15 children, employs a self-sufficient initiative through providing its own goods and services. Services on site include a small diary, hammock business, book indexing and vegetable crops. Balance and harmony is achieved through group activities such as maintaining crops, milking cows and gardening. As there is no central leader, democracy is practiced as the main governing tool. The simple timber framed barn architecture is utulised with various ecological initiatives such as cellulose insulation (recycled). Dwellings are clustered and with each household minimizing resources with the use of fluorescent light bulbs and central wood heat. This is a good example of a farm community that uses several commercial tactics to maintain links with main stream society, and also a demonstration of how a Walden Two inspired its creation.

Fig 16

Fig 17

Riverside Community, New Zealand 1941

This rural commune is located on 520 acres with 20 houses which house 70 members. It was started originally by a husband and wife team as a form of religious protest which later transferred more to a spiritual orientation. The fertile soil makes production of vegetables on site possible, with crops being sold at markets and commercial crops sold to co-operatives. Interaction outside the community is promoted with children attending public schools and universities. The site also includes a hostel, church, shops, offices and community hall. This is a good example of a successful farm community that builds its own structures from resources found on site. It also provides an example of how an agrarian community still maintains contact with mainstream culture.

Fig 4

Fig 5

Auroville, India

This 'experimental township' of 2047 people is one of the largest that was studied for this document. It is located on flat land in the Viluppuran district where human unity is the main focus. It is a place of education and constant progress. When complete it aims to house 50 000 people. The commune generates most of its income through several industry and commercial initiatives, along with each member contributing a monthly maintenance fee. The Master plan locates a central node, known as the Peace Area, from which all the other zones (Residential, Industrial, Cultural and academic) radiate from. This is a good example of how a collective centre creates community cohesion, as this structure becomes the symbol and mass meeting space for the community. It also illustrates how education provides an ideal foundation for research and experimentation, as well as attracting several visitors each year.

Fig 18

Fig 19

Ein Hod, New Israel 1950

This artist's village can be seen as an urban commune, as it lies close to the heart of the city, but creates an space where one can escape to for short visits. The members, mostly artists, believe in artistic expression and the appreciation of beauty. There are individual houses with various shared spaces such as the amphitheatre, restaurant, art gallery and studios. The paintings and gallery generate most of the income for the commune. Most of the original architecture was made of stone, but other design are welcome as long as the board of directors approve it.

It is a good example of a successful contemporary commune as it allows for individualists who still want to participate in the main stream politics of society, along with enhancing community cooperation. This commune demonstrates that a passion, such as art, can unify a group of people.

Fig 6

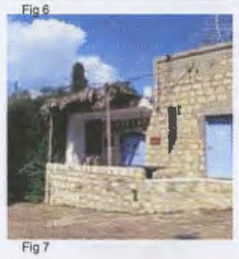


Fig 7

The Farm, USA

Located 75 miles southwest of Nashville on 1750 acres with 250 residents, this commune aims to create a space where one can discard old social structures fro something more meaningful, spiritual and non-wasteful. The 'we are all one' and 'save the world' attitude can be seen in the several implementations on site: An eco-village school, Gaia University, Greenhouses and Hippie Museum. The farm was originally initiated as a means of producing food for the Gaskin community, and has grown today to be one of the biggest (in terms of area) communes in the world, with a multitude of commercial and industry initiatives on site. Nature and man coexist in harmony, inviting visitors to do the same in the campground provided. This commune demonstrates a good method of placing all amenities along a main road, making it easily accessible for residents and visitors.

Fig 20

Fig 21

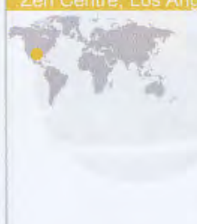
Findhorn, Scotland 1960

This Scottish commune is one of the most famous intentional communities and has endured a very successful span with a continuous influx of new members. The main ideology is based on the 'eternal forces' of nature, with an aim for self-sufficiency. It started off as a temporary caravan community, and has evolved into an ecovillage that spans over a whole town. It was started as a means of generating food for the founders who lost their jobs at the nearby hotel.
The educational focus is a successful element, as it attracts numerous visitors each year to a series of workshops and university classes. The community, despite its size of about 400, still acts as a close knit group with several shared spaces such as the Universal Hall and Community centre. It showcases sustainable architecture along with a sustainable society.

Fig 8

Fig 9

Zen Centre, Los Angeles



A desire to practice the art of Zen in a communal space inspired the creation of the Zen Centre, located in the busy metropolitan town of Los Angeles. There are about 125 members, some long term residents, others short term who come for Zen classes on a regular basis. Eventually a whole city block was purchased to house the community, rezoning it so as to include a medical centre

Fig 22

and education wing. Zen offers the members to invite simplicity in their lives, establishing a collective desire that binds the group together. Meals and classes are shared. Most members still work in the city, demonstrating how one can maintain contact with the outside world within this secluded haven. Members pay a monthly fee to the centre which covers their room and board, along with classes and meditations. This is a good example of how a community based movement can operate in a harsh urban environment.

Fig 23

Yamatoyama, Japan

This intimate community, of nature worshippers, is housed on 5000 acres in Honshu. The Shinto religion, which is a form of nature worship where humanity is seen as an integral part of nature, is practiced by all members. Establishing a common ideology amongst the group, securing communal success as cohesion is assured. It is located close to a train station

Fig 24

with several public buildings such as the worship hall, greenhouses and dining halls. Children attend public schools outside the community. The organic fertilizer and vegetable crop production provides the communes main income source. This commune illustrates the important role that nature assumes in communal life, being integrated in all aspects of the members daily routine.

Fig 25

Hohenhort Hotel, Cape Town

This Constantia commune, although no longer in existence, illustrates how peace was achieved in a time of extreme political upheaval through community cooperation. Originally housed in one hotel structure, it eventually grew to include some of the surrounding lots, totaling in 7, 5 acres. It was started by the Emissaries of Devine Light, who bough the hotel in order to house the community so that they can

Fig 26

practice their religion together. Rupert Maskell wanted a place close to the city, but also to provide a means of generating income through a hotel business for visitors. The hotel contained 27 bedrooms; swimming pool, dance hall and a restaurant were all meals were shared. Several surrounding houses were purchased to house the growing commune. There are several other Emissaries located in Johannesburg, Durban and England.

urban commune

nature as religion

urban collective

future commune

land regeneration

sustainable and local

Seoul Commune Korea

The Seoul commune (by Mass Studies) aims is to propose the viability of future sustainability community structures in dense metropolitan areas. The concept was to rethink the idea of towers in the park by designing organically

shaped structures that turn the park into towers themselves. The internal facilities are separated into public, private and commercial. The private rooms are integrated with communal public activity space. The users will be short term nomadic members that are integrated with long term permanent members. The skeleton is constructed out of different types of glass, then overlaid with a geotextile that allows for the growth of vines and flora.

These towers range from dome shapes to conical and cylindrical modules.

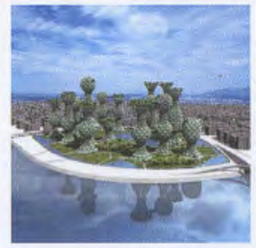


Fig 16

Fig 17

Boase, Denmark

The aim of this proposal is to transform the contaminated urban areas through a scheme that provides an alternative way of living. The concept of 'an oasis in the city' where the forest becomes a structuring element

Fig 18

creating a place of escape from the concrete jungle. The units are raised above the ground on columns. These units are prefabricated off site and placed amongst the trees. Units are flexible and duality is explored.

Several units surround a communal area (which will be the social heart of the settlement) on each level. Energy accumulating glass facades with integrated semi-transparent solar cells and temperature regulating PCM-plates are used.

Units are shaped to accommodate the human body.

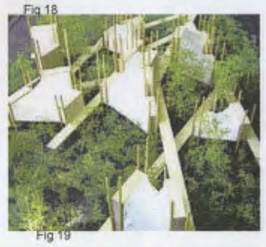


Fig 19

Lynedoch, South Africa

This 7 ha site located in a the rural wine land area of Stellenbosch provides a local example of a communal design proposal. The aim was to create a socially and economically viable

Fig 20

mixed community which is a practical example of a ecologically designed urban system. This pilot project will showcase sustainable living, proposing that this settlement will evolve into a small rural society compromising a several families.

Various ecological practices are located within this project ranging from: storm water management, biolytic system, biogas, LED lighting, solar and hydro electricity and wetland systems.

Fig 21

Section 2

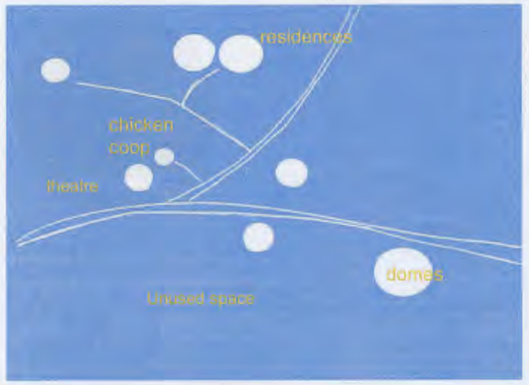
This section illustrates the design response gained from the research done in the previous section. Through this precedent analysis certain quantitive and qualitative aspects were explored. These aspects included the site layout of each commune, the architectural language of the site, various applied technologies and program

requirements.

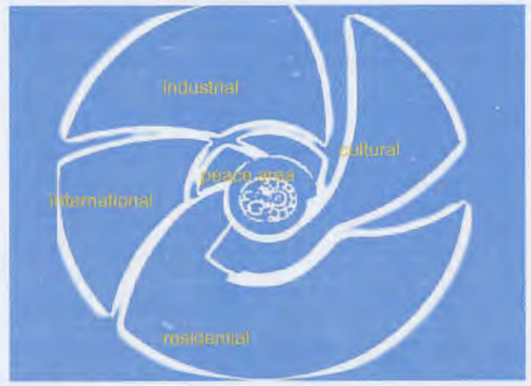
3.2.2 Site layout:

The site layouts of select rural and urban communes were explored for this exercise. It was noted that rural communes generally require more ground as members dwellings are spread out across the site with various agricultural belts running either along the periphery or between the dwellings (such as Jindibah). Generally one primary vehicle route connects all the dwellings on a rural site, either in a ring road formation (such as Arcosanti) or linear formation (such as The Farm and Twin Oaks). Centrally located primary communal spaces are scattered on the rural site with the remainder on the settlement, either gravitating towards these nodules (such as Auroville) or spreading adjacent to them (such as The Farm).

Urban communes adopt a more compact approach. Vehicle routes are achieved through the existing city network. Dwellings are presented as units in either one primary building such as the Zen Centre, or several multi-storey developments such as the Seoul Commune in Korea. Communal spaces are either located on one primary floor or spread throughout the living structures, creating an interplay between private and public space.



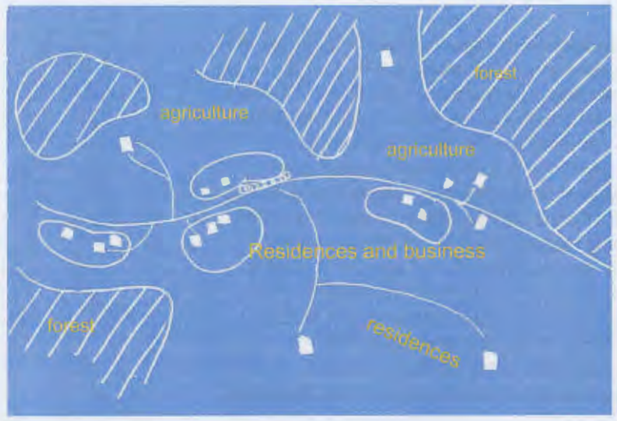
Drop City, USA



Auroville, India

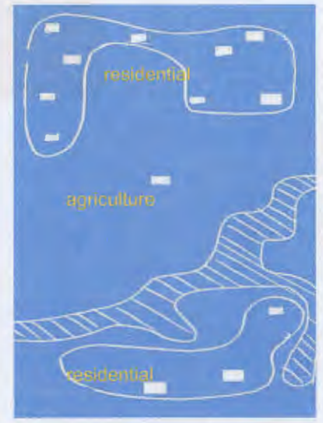
The Farm, USA

rural



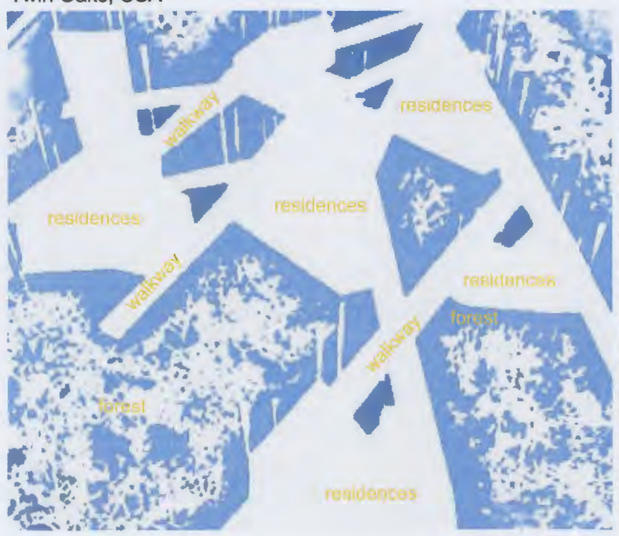
Twin Oaks, USA

Arcosanti, USA



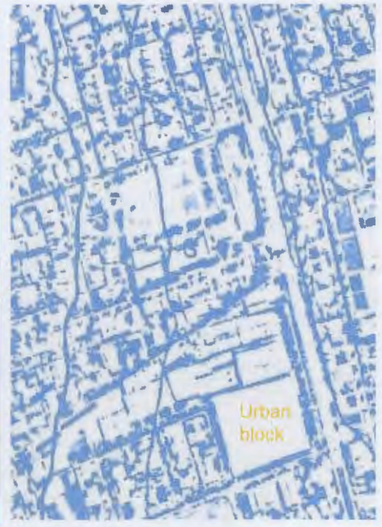
Riverside, New Zealand

rural



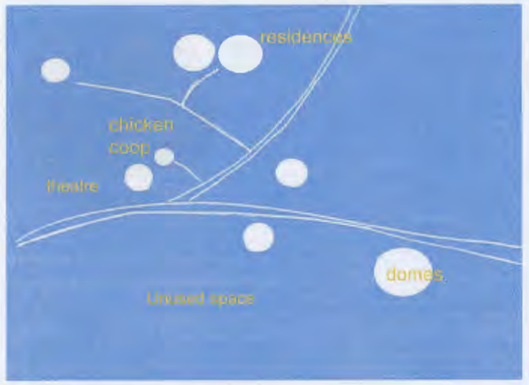
Boas, Denmark

Seoul Commune, Korea

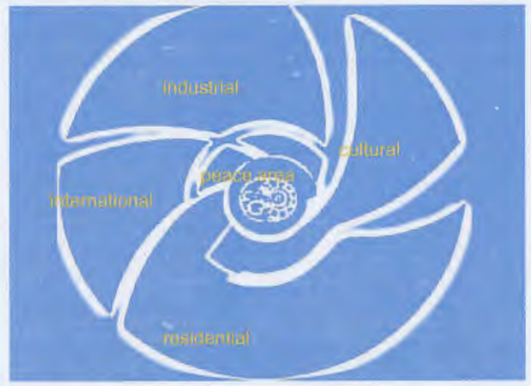


Zen Centre, Los Angeles

urban



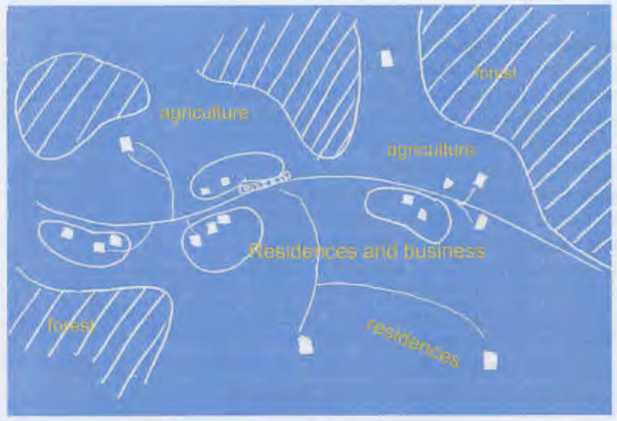
Drop City, USA



Auroville, India

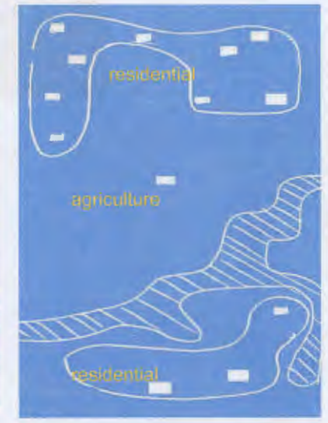
The Farm, USA

rural



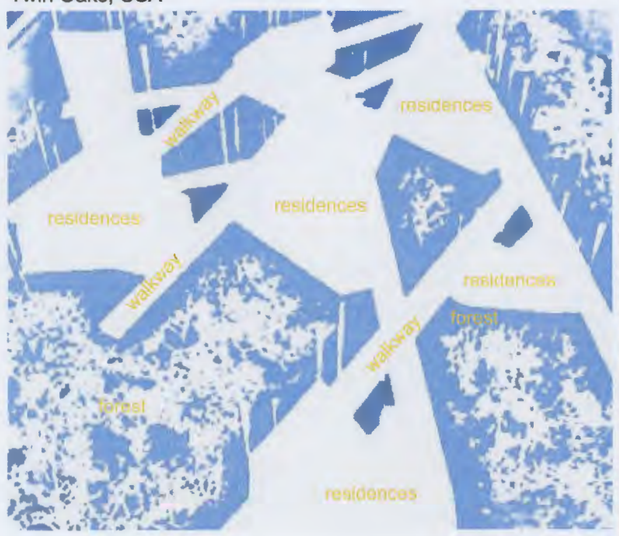
Twin Oaks, USA

Arcosanti, USA



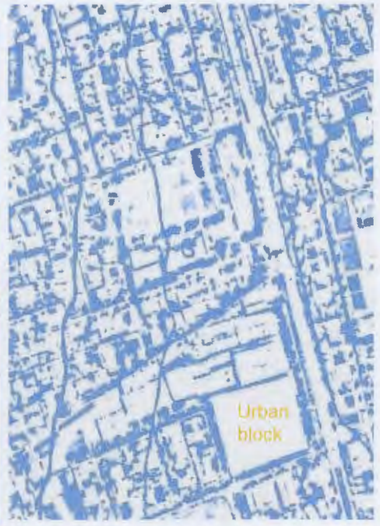
Riverside, New Zealand

rural



Boas, Denmark

Seoul Commune, Korea



Zen Centre, Los Angeles

urban

Section 3

3.2.3 Technology:

Various technologies are applied in the commune precedents that were analysed. Some communes such as Drop City and Auroville adopt an experimental technical language, where the architecture on site is used to communicate the ethos of the commune. Drop City's geodesic domes demonstrate the anti-establishment philosophy by creating dwellings out of unusual shapes and materials. Auroville locates a large central golden domed building in the area known as the Peace Centre, which makes the visitor aware of the peaceful and respectful nature of the settlement. Several communes such as Findhorn, Twin Oaks and Lynedoch assume a sustainable and ecological technical language, thus clearly demonstrating the integration and preservation of nature within the commune. Permaculture and agricultural self-sufficiency is explored especially within these ecological communes, establishing a defined landscape technical language for the site.

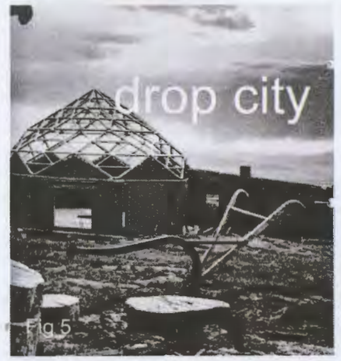


Fig 5


Fig 6

The experimental nature of Drop City is communicated through the geodesic and other experimental structures on site


Fig 7

Aroville;s Matrimandir (the golden dome) makes the visitor aware of the natural, experimental presence on site. Other structures on site also adopt an experimental architectural language such as the residences depicted above. The site plan illustrates how the Matrimandir acts as the central nodule from which the rest of the settlement works off.

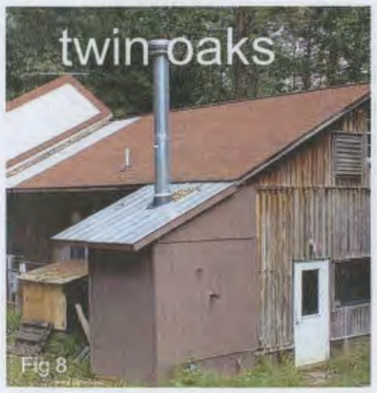


Fig 8

Through the years Twin Oaks evolved to an eco-conscious commune. Where practices include compost toilets, solar heating and sustainable materials.

Lynedoch as a local example of a ecological community where sustainable practices include the use of adobe bricks and solar panels. The centrally located Sustainable Institute communicate this ecological philosophy.

Section 4

3.2.4. Architecture:

The general architectural principles of the commune ideology include flexibility, duality, simplicity and an awareness of nature. Various communes such as Riverside in New Zealand and Khula Dhamma in the Eastern Cape explore the concept of the self-build, where certain elements are predefined and the members then add their own amendments to the site. The use of nature as a guiding principle also helps the site to adopt an organic nature, where piecemeal growth happens naturally. The interplay between private dwelling space and public communal space is also a primary force that shapes the architecture on site. Another approach to promote social and economic sustainability is the implementation of mixed use facilities on site that symbolize the work-play-live concept.

SOFT TECHNOLOGY

OWNER-BUILT HOMES 22

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Lloyd Kahn

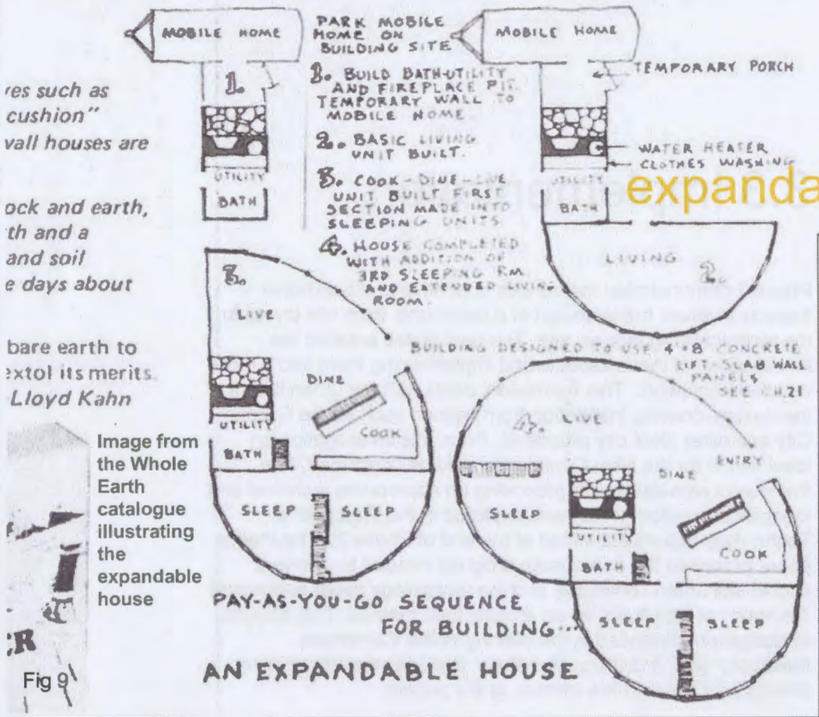
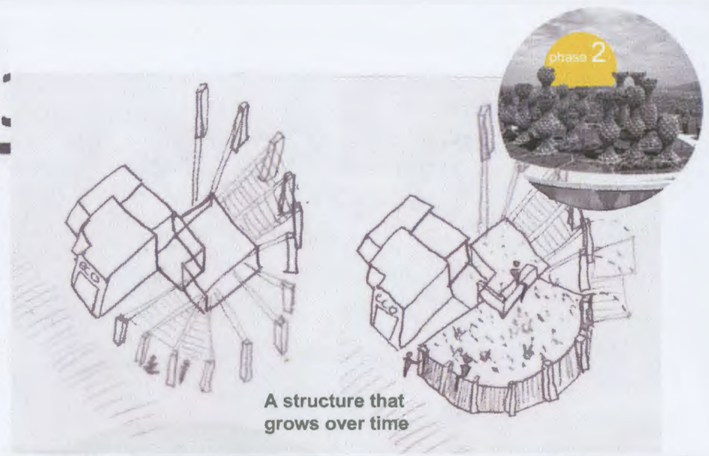


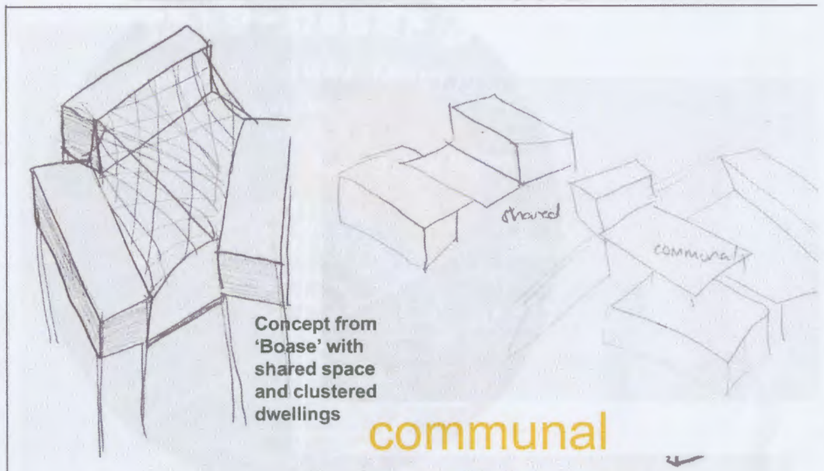
Image from the Whole Earth catalogue illustrating the expandable house

Fig 9

expandable



A structure that grows over time



Concept from 'Boase' with shared space and clustered dwellings

communal

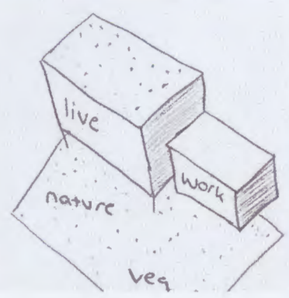
Two units share communal space between dwellings

SOFT TECHNOLOGY
ARCHITECTURAL STANDARD 21

Greenhouse and permaculture as deign principles

nature

Nature as inspirat ion tool



the notion of live-work-play in one module

mixed-use

3.3 Implementation

Phase 2 demonstrated the various quantitive and qualitative aspects involved in the design of a commune, from site layout to the technical language on site. The next phase entailed the investigation of these aspects and implementing them into a more detailed framework. This framework deals with the urban layout of the design, drawing inspiration from notions such as the Garden City and other ideal city proposals. From this investigation an ideal layout for the New Commune could be concluded. The framework also deals with proposing an appropriate technical and theoretical position (which was explored in the Theory and Technology papers submitted at the end of Phase 2). The theory paper proposed the appropriate program needed to create a successful urban commune, and the technology paper suggested the notion of 'self-build' as an architectural method. This specific investigation concluded in the making of the 'Commune Manifesto' and 'Architects Manifesto' that becomes the guiding principle for the next few phases of the project.

Content

Section 1

3.3.1 The Theory Factor:

The theory factor creates a foundation from which the design process can grow. This factor was introduced in the form of a Theory document (completed at the end of phase 2) that dealt with the concept of the commune as a design proposal. An array of topics was explored, from the early influences of the Gaia Theory and James Lovelock, to Walden Two (published in 1948) and the Whole Earth Catalogue (a series published from 1968 promoting self-sufficiency). The historical development was traced back to the Essences (1st century AD) and the European socialists of the 18th century, the Kibbutz phenomenon and the 1970's hippie movement that brought it to the public's attention.

Various quantitive and qualitative topics were discussed which informed the Manifesto for the New Commune. A number of these topics included issues such as the need to create a spiritually ordered urban commune (unlike a religious one); to enhance humanity's bond with nature; to adopt an environmental and ecological design approach; to establish grounds for agricultural production and to establish a collective node in the centre of the site.

Through the above analysis, it was demonstrated what the role of the architect had to be within this design proposal, having as result the creation of the Architects Manifesto. This manifesto defines the role of the architect amidst the self-build concept on the site.

The theory document proved to be a successful investigation of the commune ideology and provided the subsequent design phases (primary and secondary) with vital information to create the design proposal for the New Commune.

Fig 10

The New Commune

A design proposal that aims to provide the city dweller with an alternative living module that is based on simplicity, nature and community

Submitted in partial fulfillment of the degree Master of Architecture (Professional 2009)

Monique Fouche

FCHMON001

Contents pg

introduction

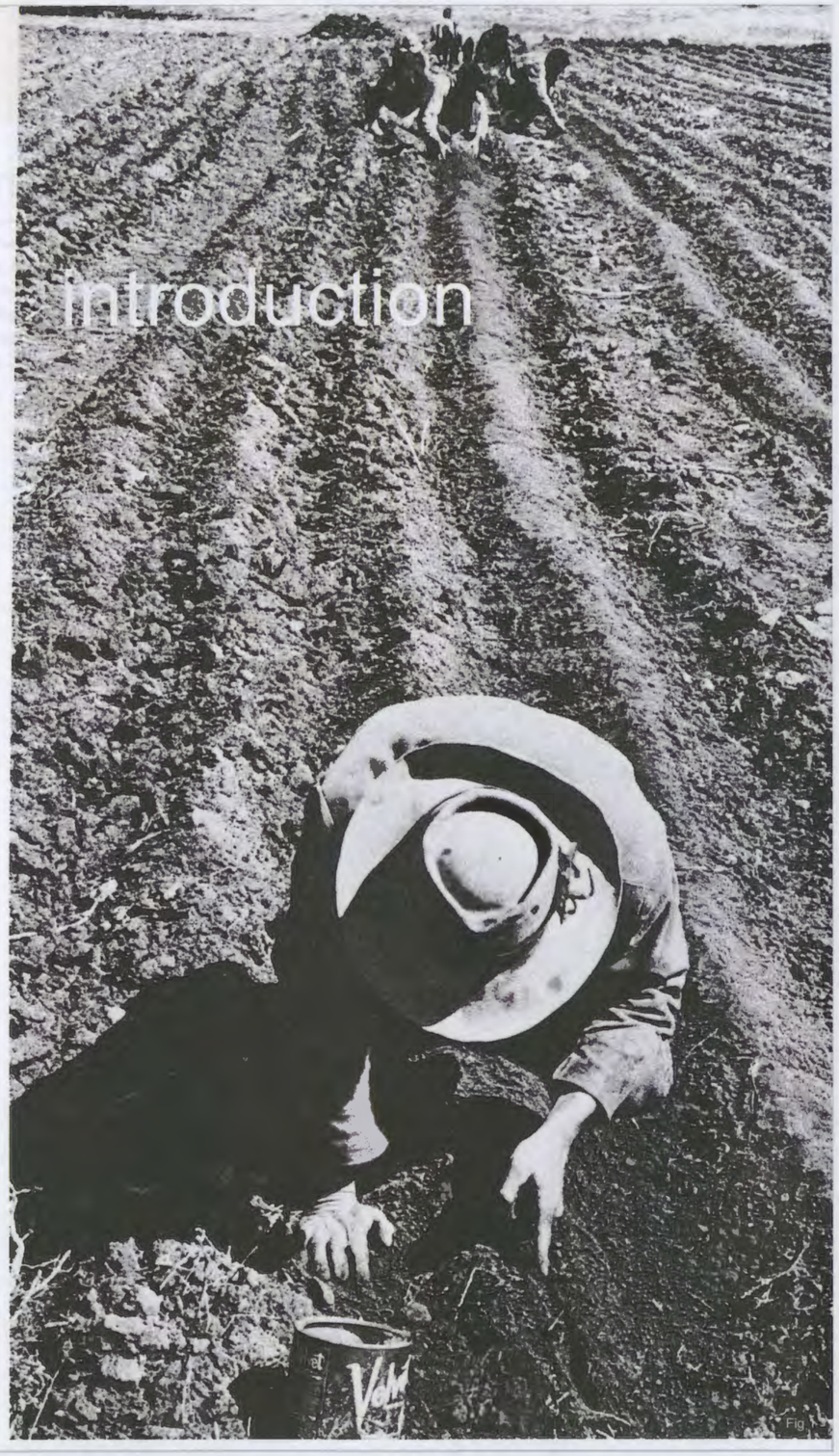
The New Commune is a living module that has evolved from the counter culture commune movement that flourished in the 70's flower power era but has roots that date back to the 1500's. The New Commune seeks to evolve this social experiment of community cooperation and to transform it into a viable contemporary alternative for the city dweller. The alternative describes a lifestyle that reconnects with the simpler elements in life. Establishing nature, community and cooperation as the main tools for living. An alternative that contradicts the concrete jungle where the automobile dominates and the individualists thrive. The commune framework provides the appropriate programmatic scheme for the alternative residential notion. A programmatic scheme that basis its foundation on a common ideology shared by all its members, an ideology formed around a spiritual, religious or political goal. While the common ideology binds the group of individuals, the programmatic scheme integrates cooperation and interaction into each principle on site. A site that seeks to enhance humanity's bond with nature and restore the earth's resources. The commune provides the belief system and spatial framework to create a sustainable, environmental development in a contemporary urban setting.

The 'alternative' lifestyle that is provided through the New commune framework is an alternative to the typical notions of urban living. Where people are disconnected from nature through the dominance of the built fabric, and disconnected from each other through the separated living units. This separation translates further into the relationship between one's living and working environment. The alternative commune arrangement aims to decrease this alienation and disconnection through collective living and a multipurpose site.

The commune principle acts as an inspiration tool for the creation of this alternative living module, as it already conveys an alternative and experimental connotation. From the extreme experimental nature of Drop City in North America, to the social experiment of Twin Oaks in Virginia to the extreme simplicity of Khula Dhamma in the Eastern Cape. The commune sets up the framework, spatially, programmatically, spiritually and socially for the alternative that seeks to portray this same connotation.

The New Commune is a design proposal that aims to provide the city dweller with a natural setting where simplicity and community interaction can be practiced, while still participating in daily urban activities such as jobs and shopping. It is a proposal for a site that establishes a hierarchy between nature and the built environment, through a multipurpose programmatic scheme.

The aim of this document is to prove the viability of the commune movement through the analysis of several successful international communes. Through this analysis, a framework will be made evident that can then be applied to the New Commune. This framework will propose a Manifesto, which states the various principles of this alternative living module.



Fig

2. What is a commune?

"They find that to exist is to become related with others, and instinctively attuned, as well, to the sunny sanity of nature with a wakened spirit of sustained wonder"[1]

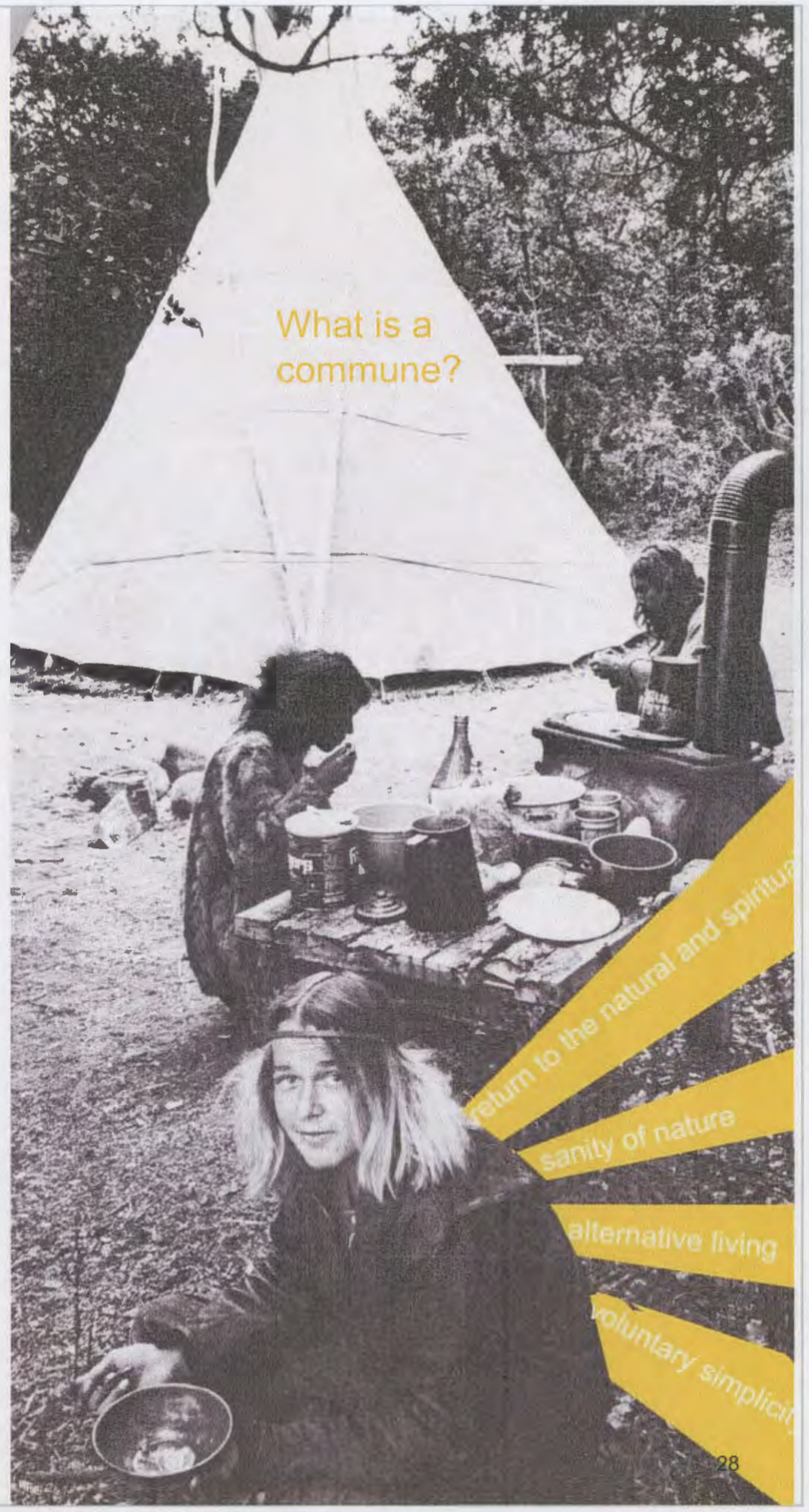
A commune is a relatively small group of people who have chosen to live or work together in pursuit of a common goal. These planned residential communities, require termed as 'intentional communities', seek a higher degree of teamwork and community cooperation than the norm. Communal cohesion is achieved through common political, social, religious or spiritual goals. "A community is to be formed to promote more effectively the great purpose of human culture"[2] , as George Ripley states, demonstrates this natural urge to create a better environment through community initiatives, where ideologies are shared and harmony between nature and man is promoted.

These microcosms usually occur in times of social, economic or political upheaval, providing the individual with a way of with dealing these realities in a collective way. Katherine Tingley, founder of the famous Twin Oaks commune in Virginia states that "the curse of our nations is separateness. We are not agreed upon any scheme of life or thought or action. We are separated one from another by the imaginary interest of daily life"[3].The commune, therefore, provides a means of counteracting certain negatives by enhancing intimacy, sense of community and a return to the natural and spiritual components of life. This "natural world is the way"[4] attitude is interpreted in various communal practices from the subsistence agrarian communes that seek cohesion with nature through agricultural means, to spiritual communes that base belief systems around the eternal forces of nature.

Communes adopt alternative ordering principles, with its own government, economy, beliefs, architecture and programmatic systems. Some communes believe that in order to achieve true communal status all property, resources, capital and belongings must be shared. Others maintain individual property rights and finances but create a system of sharing through, inter alia, the use of cars, community activities, (such as child caring and education), and commercial enterprises that generate communal profit. Most communes are located on rural sites, creating an area that is separated from main stream society, where communal ideals can be followed without interference. These rural sites provide enough space for food production initiatives, whereby farming becomes a community activity as well as an economic endeavor. Urban communes, a contemporary venture that can deal adequately with today's realities, provide "an alternative way for people to share a more meaningful, intimate household in the city while they continue to participate in the mainstream culture for the rest of their lives".[5]

It can be concluded that there is not one single definition for what a commune is as there are many types of communes which adopt different philosophies and practices, some more extremists than others. Sami Kriyanananda, founder of the Ananda communes, states that "there can be no perfect system, for its members will always be the determining factor in its performance"[6]. This alternative living module seeks to create a better environment through the emphasis on community, nature and a return to simplicity. It provides a means of creating an alternative lifestyle where nature and man have the opportunity to play the main roles.

[1] William Hedgepeth, "The Alternative", Collier-Macmillan Canada Ltd, New York, 1970
[2] Rosabeth Kanter, "Communes: Creating an Managing collective life", Harper & Row Publishers, New York, 1973
[3] Donald Pitzer, "America's Communal Utopias:, University of North California Press, USA, 1997
[4] Stewart Brand, "Understanding whole systems", Whole Earth Catalogue, Random House Inc, New York, 1980, pp 4-6
[5] Rosabeth Kanter, "Communes: Creating an Managing collective life", Harper & Row Publishers, New York, 1973
[6] Sami Kriyananda, "Cooperative Communities", Ananda Publications, California, 1968



2. 1 Ideologies and Influences

A brief description of how various scientific and literary movements shaped the commune module.

3. Ideologies and Influences

"All communities share a belief that the larger society is failing to deal adequately with the important issues of people's relationships to each other, to their work and to the world around them"[1].

A commune is the result of social protest and forms a critique on contemporary society and its belief system. It prioritises nature, friendship, community and social factors above monetary and material concerns. A life of voluntary simplicity and community cooperation is idealised. This idealised existence was influenced by various literary and scientific elements, ranging from the Gaia Hypothesis to Walden Two.

Fig 3

The Gaia Hypothesis, that states that all living organisms on earth are part of one single organism, was introduced by James Lovelock and plays one of main influences in the commune belief system, where every aspect should be suitable to its own environment and that people create their own self- regulating system. Thus every individual should live "from each according to his ability, to each according to his need"[2], implying the importance of creating a balance with nature and a balance between people. The constant strive to create the 'super organism'.

Fig 4

James Lovelock, a UK chemist, did propose the first scientific notion of the Gaia philosophy. However visionaries such as Buckminster Fuller are credited for promoting the idea in Western society, proposing notions such as the Dymaxiom map of the Earth. Other scholars include Lewis Thomas and Pierre Teilhard de Chardin, a paleontologist and geologist, who viewed the earth as a single cell.

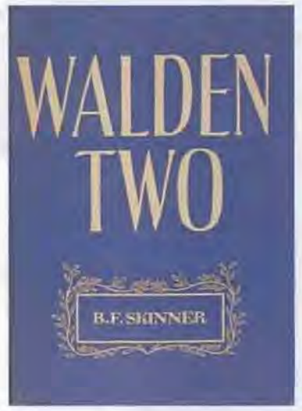


Fig 5

Another source that shaped the commune movement was B.F Skinner's 'Walden Two', published in 1948. This was a fictional account of a modern utopia, which took the shape of a commune where several resources and activities were shared. This literary source lead to the creation of several communities who wished to create this fictional utopia into a physical reality. Some of these communes include Twin Oaks (Virginia), Walden Three (California) and Ginnel (Iowa).

Fig 6

The Whole Earth Catalogue, a source book that explored self-sufficiency, was a prominent influence in the 1970's communes. It dealt with topics from gardening, permaculture, medical advice, conservation and architecture. This acts as a symbol for the independence that these community members desired in their everyday lifestyle, making it possible for commune inhabitants to rely on their own resources and skill to create a functioning society.

[1] Oliver Popenoe, "Seeds of tomorrow: New Age communities that work", Harper & Row Publishers, San Francisco, 1984
[2] www.planetfriendly.com, 06/05/09

2.2 historical development

A description of how the community arts movement evolved through history, with a timeline illustrating the juxta position of prominent sociocultural events, tied to the formation of several international communities.

Fig 7

historical development

The 'hippie' culture exploded onto the social scene in the 1970's, forming extravagant protest movements against the Vietnam War and adopting nature as a form of religion. This counterculture movement became synonymous with the commune development as some university scholars, especially in North America, wanted to improve their surroundings and rejected the accepted norms of society. This was expressed in the form of alternative housing experiments such as Drop City that transformed individual activity into communal activity.

The commune movement experienced a surge in the 1960's and 1970's, however this radical form of alternative living has been evident throughout human development, from the Essences (1st century AD) and early Christians to the Hutterite and Shaker communes of the 16th century. Thomas Mores' "Utopia" in 1516 professed the ideals of a perfect society where a place of refuge could be created which counteracted the strains and troubles of society. Similar themes were explored in B.F Skinner's 'Walden Two" and Plato's "Republic".

Commune movements usually form in times of social and political turmoil. They present a means to create a safe haven from the wrongs of society. European socialists in the 18th century used the commune as a means of alleviating hardship during the Industrial Revolution. In Israel the kibbutz development was a means to secure Jewish safety and to create a self-sufficient agrarian society in the 1940's and has evolved by the 1980's to symbolize an educational forum, where spiritual lessons are learnt through various farming techniques, and are now located in various countries such as the Yamagishi-kai kibbutz in Japan which was initiated in 1953. Even Hitler and Stalin were the creators of imaginary private utopias, where the commune notion represented a purer and moral society.

Each commune throughout history put forward their own manifesto which stated what they wanted to achieve and set out the means whereby they would pursue this. This manifesto plays a vital role in the commune practice, as it secures a common goal for all members and creates public awareness of the group's intention. In order to create the manifesto for the New Commune, several international communes were analysed. Each commune demonstrates an alternative method and approach, from the extreme experimental nature of Drop City to the spiritual approach of the Zen Centre.

Fig 8


Fig 9


Fig 10

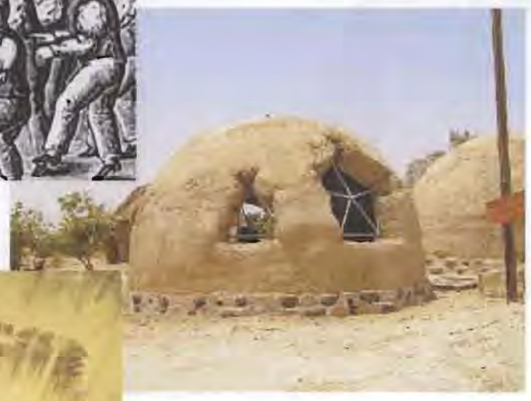
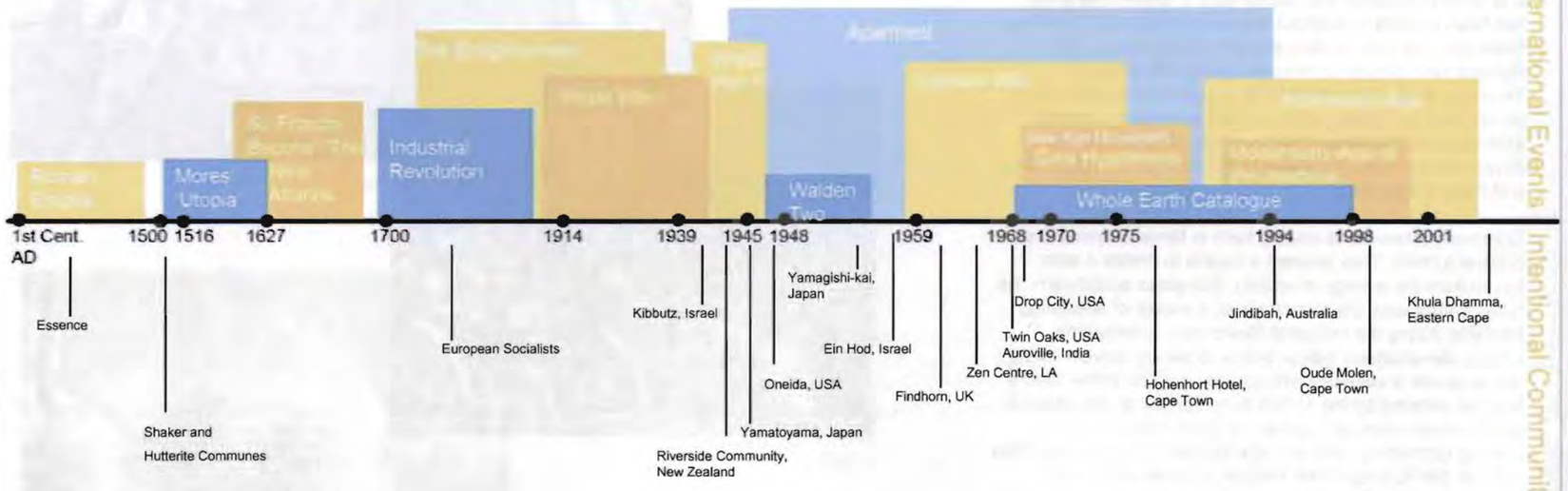


Fig 11


Fig 12

historical development

This timeline maps out the relevant communes that were used for this document, demonstrating their relationship to prominent historical events such as the Industrial revolution, the Vietnam War and Apartheid. This timeline clearly illustrates the interest in this alternative living module at an international scale, and the increase in the use of this module in the 20th Century.



3. Commune Manifesto

This manifesto has been shaped by the analysis of the commons in the previous section of this document (2.3 Commune Precedents). This analysis has lead to the list of points, on the next page, which sets our [illegible] and the conditions we aim to achieve.

Fig.36

Commune Manifesto

1.To create a space that promotes an alternative lifestyle based community cooperation.

2. To established an ordered spiritual community where common ideologies unite a group of individuals.

3. To enhance humanity's bond with nature:

4.Environmental, ecological and sustainable design approach.

5.To establish grounds for agricultural production.

6. To provide the framework for partial to total self-sufficiency

7. To provide a space of voluntary simplicity.

8. To create a democratic space.

9. To form a place of healing and holistic well-being.

10. To focus on the role of education.

11. To integrate private and public spaces.

12. To establish a collective node.

13. To promote interaction with mainstream society and other non-residents.

14. To establish the framework for a community 'self-build' architecture.

name/date
To be signed by members on arrival

name/date
To be signed by architect

3.1 Commune Manifesto Points

An explanation of each point made in the Commune Manifesto. These explanations include the analysis of appropriate precedents and personnel interpretations.

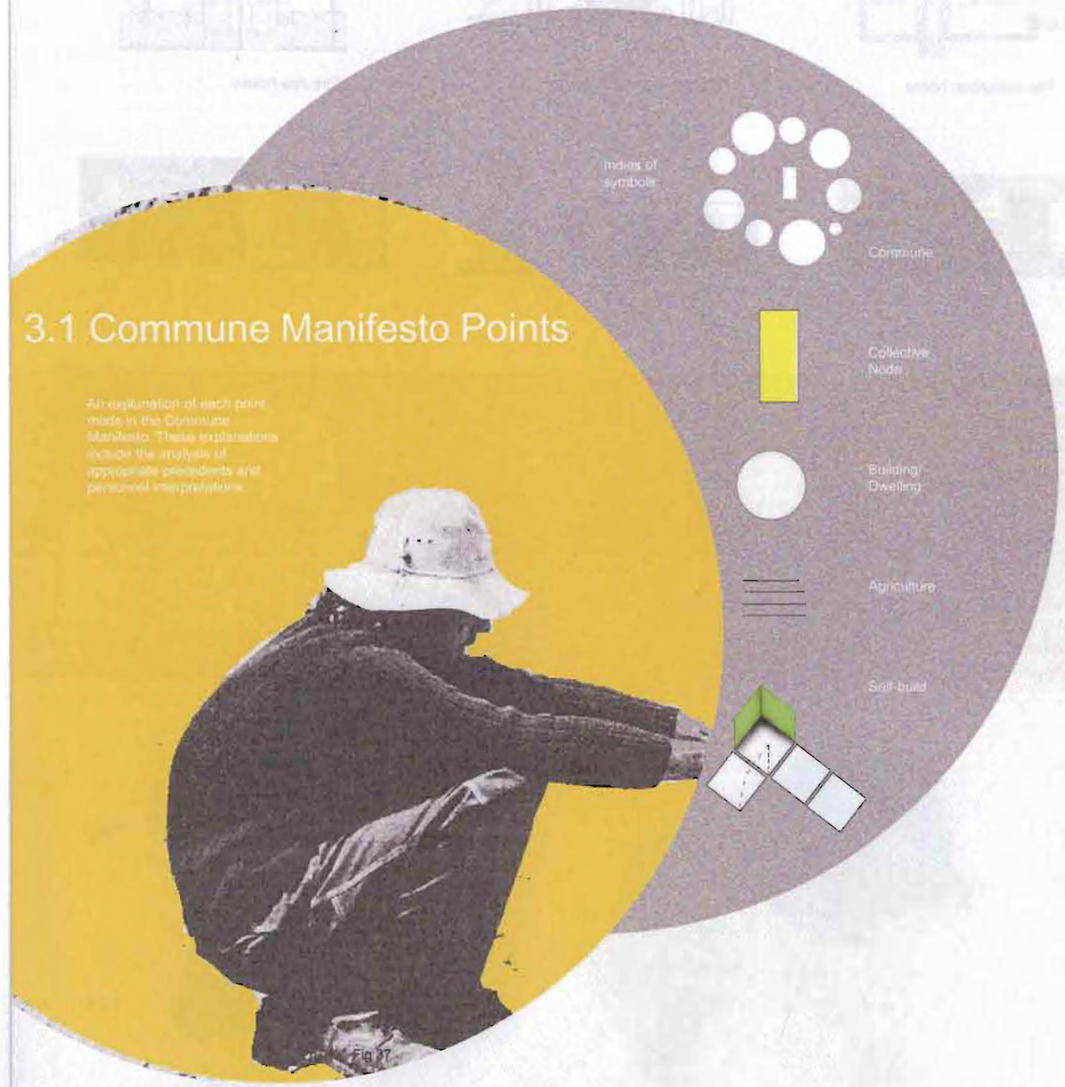


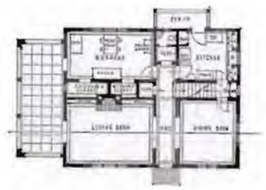
Fig 27

precedent analysis

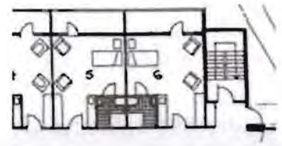
The typical suburban home, usually located in smaller residential communities, illustrates a residential notion for the individualist. It has a lower population density than inner city neighbourhoods, with typically high traffic flow as no amenities are shared and residents have to drive to their desired service. Very little interaction is promoted amongst neighbours due to this lack of common facilities and due to vehicle domination. Pedestrians and cyclist are rarely accommodated in the suburban context. The diagram below illustrates how each unit retains its privacy how all programmatic functions are separated within each household. Cross pollination between sectors are lost due to this segregation.

The residential notion of apartment living demonstrates a more collective principle as all the residents are housed in a single structure. These self-contained housing units, which can either be rented or owned, occupy only part of the building. Each unit usually only has one entrance with all amenities (bathroom, kitchen, bedroom) separated from each other. Shared facilities occasionally include a common laundry room, reception foyer and garden. However these common areas still adopt a singular attitude as residents are confined to their own unit and use the common areas at alternating times, that hinder socialising and communication opportunities. The diagram below illustrates how each unit is designed separately and how apartment blocks tend to stand alone on their own lot, with roads presenting a way of reconnecting with other facilities in the urban environment.

This form of medium density housing, which originated in Europe in the late 17th century, moves closer to the notion of a collective living module. Living units , usually identical or mirror-image in design, are still designed separately but common spaces are more promoted. Such as the common garden or court, illustrated below, or children's play areas. Thus there is a greater chance of community integration as more meeting points are presented. However community cooperation is not fully realized as there is very little integration of work and business initiatives amongst residents, as the multi-functional concept has not been completely integrated.

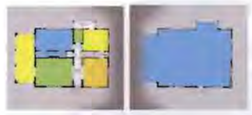


The suburban home



The apartment block

The row house



1.

To create a space that promotes an alternative lifestyle based community cooperation

own interpretation

The alternative assumes the shape of a commune as this residential movement sets up the framework for a community based living arrangement that enhances humanity's link with nature, simplicity and sustainability. It provides a forum where the individual is granted the opportunity to become familiar with his neighbours and interact with them on a daily basis. In such an environment materialistic needs are replaced by spiritual ones, and holistic healing helps to counteract the particular wrongs of society experienced by each individual. This living arrangement is termed as an alternative as it is not based on the ideals expressed above in the suburban, apartment and co-housing initiatives. It does not segregate the nuclear family into its own private, solitary confinement. It does not separate the residential component by a vehicular movement dependant system from other commercial, industrial and business components. It seeks to merge all these facets into one unit. A unit that can be termed as experimental, due to the fact that it is proposing a social experimentation based on the group, not the individual. It can be termed as 'counter-culture', as it in linked to New Age 1960's and 1970's hippie revolution movement that wanted to replace the norms of society with a more peaceful existence. It can also be termed as a form of 'voluntary simplicity', as members discard notions of capitalist and consumerist materiality in return for a simpler agrarian community.
This alternative proposes a more harmonious society which deals more adequately with human scale and human needs. Human needs that revolve around companionship and community. Exploring a distinct urge to reconnect with the natural aspects of life, ultimately aiming to restore the greater balance between man and the 'super organism', Earth

[1] (Popenoe, O, "Seeds of tomorrow: New Age communities that work", Harper & Row Publishers, San Francisco, 1984)

The community that is compromised of cooperation and interaction layers

Experimental

Fig 39

Counterculture

Fig 40

Voluntary Simplicity

Fig 41

Ein Hod, a commune located in Israel, provides an appropriate example of a contemporary commune where a shared passion for art creates the basis of a successful spiritual commune. This artist's commune, which started in 1950 by Dada painter Marcel Janco, is located in a picturesque setting with grounds that are useless for agriculture. Thus the ideology of art acts as the unifying factor for the group of individuals. Most of its members still maintain their city jobs and property while residing in the commune occasionally on weekends or for long term visits. This commune demonstrates that it is not vital for commune members to lead an extremist life where every aspect revolves around communal living, but can be a spiritual base camp where main stream culture is integrated into its framework. Ein Hod locates several facilities on its site that do no revolve around a specific religious or political order. Instead all these facilities seek to express artistic freedom and individual activity. These facilities include workshops, amphitheatres, galleries and café's. Therefore illustrating that a spiritual commune does not rely on one prominent institute such as a church (that is needed in a religious commune) to centre its other facilities around. Instead all the facilities on site together create a spiritual basis from which the programmatic order can evolve.
Khula Dhamma, a local commune in the Eastern Cape, provides another example of a spiritual commune. A single mass religion is not practiced by the entire group. Instead the whole site lends itself to individual spiritual freedom and growth with facilities such as a Meditation Tipi. It clearly states that "people of all ages, races and creeds live together in harmony and devote their goodwill, intelligence, capital and labour to meet common goals of living peaceful and meaningful existence while honouring and nurturing all life-systems"[1]

[1] www.khuladhamma.org, published by the Khula Dhama community , 2003

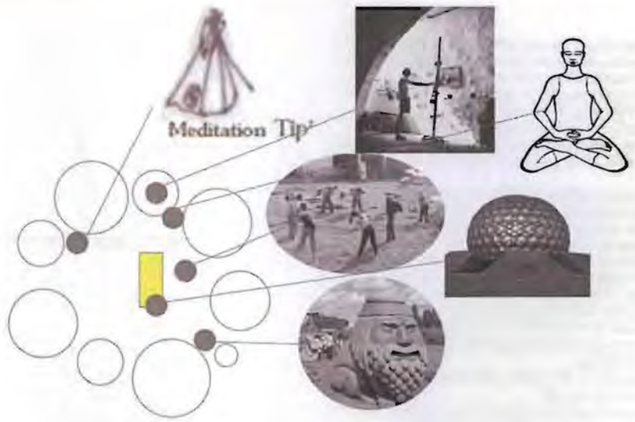
Fig 42
Map of Ein hod. All the dots represent the variety of facilities that make up the spiritual framework

Map of Khula Dhamma. All the green area represent the main spiritual framework of the community.

2.

To established an ordered spiritual community where common ideologies unite a group of individuals.

A common ideology that is shared by all the members in the group must be set up in the primary phases of the commune. This ideology should be based on a spiritual nature, as it allows for the ordered framework of an individualist society and does not create as many personal restrictions and rules as a commune of a political or religious nature. There should be an adequate amount of places made available on site where members can practice their own spiritual growth. One solitary building will not satisfy this goal. These facilities can assume a number of programmatic schemes according to each member's desire. As long as it is based on the spatial framework that was set up before the commune took shape physically. The collective node, in the centre of the settlement, provides a good basis from which this ideology can grow. The ideology can be showcased and explained in this facility. Therefore supplying visitors with the appropriate knowledge on how to approach the site, and providing members with a reference point from which they should base their ideals. It is vital for this common ideology to be in place before the programmatic sequence starts. An appropriate ideology that can be used for the New Commune is the desire to create a sustainable and ecological society. This sustainable attitude can help form the spiritual basis for the commune, which will ultimately lead to the spatial organization of the site as it has to be designed according to an environmentally sound method. Thus the role of nature, one of the most important components of a successful commune, is integrated on a spiritual and physical basis.



A representation of the programmatic requirements of a spiritual commune: for example meditation space, sculpture gardens and workshop space, and how the collective node can be the base point for all these initiatives.

[2] Oliver Popenoe, "Seeds of tomorrow: New Age communities that work", Harper & Row Publishers, San Francisco, 1984

precedent analysis

Findhorn, a Scottish commune in the town of Forres, based its own belief system on the eternal forces of nature, where cooperation between nature and humans is placed at utmost importance. The community, originally of a temporary nature, established from the start a clear hierarchy between nature and the built form. The built fabric of the site, even at present, does not overwhelm the natural landscape of the entire area. The role of nature seeped through every activity on site, from the production of homegrown food to the creation of natural dwellings. The Garden School was set up as a education tool to teach members and visitors the role of nature in society and what tools can be employed to enhance this connection. The magazine, "The Findhorn Garden", depicts the site as a community based on the garden principle where nature rules the urban environment. By 1982, the site started to shift towards ecological soundness, incorporating eco-village tactics into its design. This commune demonstrates a community that was formed on the basis of reconnecting with nature and has evolved to the meet the challenges of preserving nature.

Yamagishi-kai, a Japanese commune that started in 1953, places the slogan "I a part of nature, do my best to prosper with all men, the sun and the soil"[2] at its entrance. This slogan sets the tone for the commune as all actions are based on respecting nature and remembering that everything in the Universe is one.

Another Japanese commune, Yamatoyama, practices the Shinto religion, which is a form of nature worship where humanity is seen as an integral part of nature. Demonstrating how a community's aim to save the planet can translate into a religion based on nature. The lifestyle and the architecture adopt a sustainable quality, where every actions impacts the earth lightly and is mindful of its resources.

Khula Dhamma, a South African commune located in the Eastern Cape, wanted to create a lifestyle based on natural activities and surroundings. The architecture assumes natural aesthetic. Activities include bonding and worshiping nature. Thus representing the contemporary urge to reconnect with one's natural surroundings.

[2] Oliver Popenoe, "Seeds of tomorrow: New Age communities that work", Harper & Row Publishers, San Francisco, 1984

Fig 43 Findhorn original trailers with gardens

Fig 44 Findhorn eco-village

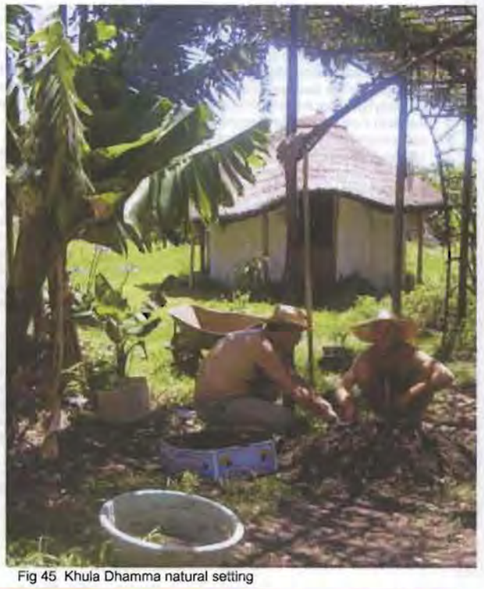


Fig 45 Khula Dhamma natural setting

3.

To enhance humanity's bond with nature:

own interpretation

The commune framework should adequately deal with the communities desire to enhance their relationship with nature. Nature must dominate the site, so as to create a clear contradiction to the other residential alternatives available in the urban environment. It creates a juxta position against the neighbouring concrete jungle. A method in which to ensure that this natural hierarchy is achieved is create adequate green space, either for leisure or for agriculture. Every dwelling should also be equipped with its own green refuge, so as to create a built form that is dependant on nature.
The architecture must also assume a natural aesthetic that blends into the landscape, creating unity between nature and built form. Thus refers to materials that are natural and sustainable, not alien to the site. The Organic Movement, made famous by Frank Lloyd Wright, can acts as an inspiration tool for the design of the buildings. The Organic architecture speaks of a method where form follows function and where a building is designed from its internal forces. An architecture that follows nature's curvaceous forms, such as Gaudi's Casa Mila. An architecture that allows nature to enter the built form, such as Bruce Goff's "House for lover of plants". Or an architecture that merges into the landscape such as Malcolm Wells's notion of the living roof.
This Organic movement can establish a few guiding principles for the architects framework of the built fabric on site.
However this natural enhancement does not only rely on the built form, it is also about the spaces in between. There should be an adequate amount of areas where nature can be experienced such as walking from building to building. The entrance portal can also serve as a powerful tool to set the tone of the nature conscious setting of the commune.

architectural inspiration

Gaudi's nature inspired forms

Bruce Goff's nature lover residence

Areas where nature dominates the site

Malcolm Wells notion of the living roof

Several communes, which have been analysed for this document, employ an ESD (Ecologically sustainable Development) approach. Where sustainable design and lifestyle is mans first step to restoring harmony with nature. Jindibah, Findhorn, Lynedoch, Khula Dhamma, Twin Oaks, Auroville and The Farm illustrate how the sustainable architecture can influence a sustainable lifestyle.
Jindibah, the rural Australian commune located in Byron Bay, adopts an eco-village ethos through developing social, economic and built sectors into sustainable entities. Each house, which averages about 1, 7 acres, incorporates its own waste water set up, green electricity, solar power, sustainable materials and recycling unit. The Rural Settlement strategy was adopted in 1998, enforcing the use of sustainable clustered housing with onsite sewage management, permaculture and rainforest regeneration program. Each house is built and maintained by the community members, adopting an attitude "if it's not fun, it's not sustainable". Most of the buildings are designed by Edwin Buivds, who sets up the framework for members homes.

Auroville, an Indian commune in the Viluppran district, explores the notion of green architecture even further, with the site becoming a forum for experimentation in 'green design'. Materials and methods are researched on site so as to create a more eco-friendly, climate responsive and cost effective architecture that blends in with its natural surroundings. Vernacular architecture acts as a inspiration tool, influencing several material choices such as palm leaves and thatch. Earth construction is also widely used with materials such as CEB (compact earth blocks).

Lynedoch, a sustainable community located in Stellenbosch, aims to create a socially and economically viable mixed community that can become an example for an ecologically designed urban system. This eco-village integrates a sustainable approach into every sector of design. Issues that are addressed include waster and storm water management, household effluent, energy, refuse, water consumption, building materials, education and agriculture. This is a good example of a local community that employs sustainable techniques to create a sustainable society.

Fig 46 Jindibah, house design by Edwin Buivds

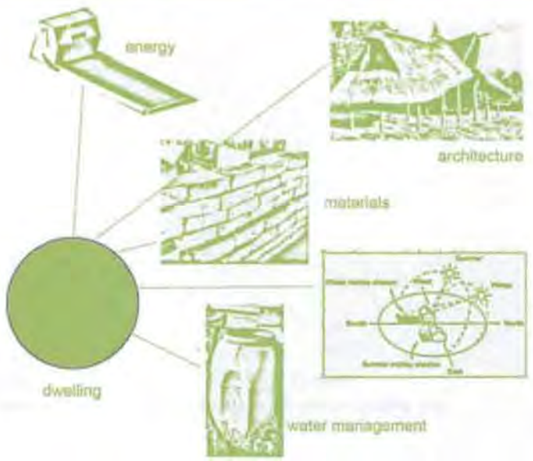
Fig 47 Auroville, community centre built from rammed earth

Fig 48 Lynedoch, house with solar power panel

4.

Environmental, ecological and sustainable design approach.

The New Commune must adapt an ecologically sound approach. This must not only be made evident through the member's lifestyle, but also through the architecture and design of the site. Through the analysis of several communes, it is made evident that each member's house must adopt a 'green design' tactic. Giving each member the tools to reduce his impact on the earth through the means of his own abode. These tactics must be made clear by the architect in the formal framework of the house design, and then be employed by the members. These ecological initiatives can include several devices, which will vary from house to house according to each member's financial means, ranging from solar power, rainwater collection, storm water management, waste management, recycling, sustainable materials, dual water supply, energy, passive ventilation and thermal mass.
The site must also facilitate a place where recycling can be organized, waste managed, possible wind generators, solar pumps and compost heap. This will provide a communal sustainable initiative that can benefit the whole site. The size and scale of this initiative will vary from commune to commune due to the size restrictions needed for such an initiative.
The educational focus of the community will also benefit from this ecological initiative on site, as it creates an interactive basis from which environmental subjects can be taught. The school can also teach members the founding principles of ecological design which they can employ in their houses.
The site will ultimately become a showcase for sustainable design, where visitors can observe how an environmentally aware group of people respond to the daily realities through ecologically sound design.



Each building designed according to ecological principles

Facility on site that deals with reducing environmental impact.

precedent analysis

Findhorn and Auroville display appropriate methods of how to incorporate the agricultural sector into the commune framework. Findhorn, a Scottish commune of a spiritual orientation, is a good example of a contemporary commune that incorporates present realities into its system. It originally started as a means of generating food for the founders, but has today evolved into a community that spans the size of the town Forres (where Findhorn is located) and revolves its agricultural sector around an educational core, which houses world acclaimed schools and universities that teach the principles of sustainable living and design. Through the cooperation between humans and nature, Findhorn has achieved a harmonious balance between built fabric and vegetation. Each house incorporates its own vegetable garden, along with communal gardens where greenhouses are located. Thus the individual can partake in his own garden along with socializing with the community members in the public gardens. This commune is also a excellent example of how a site should evolve through time to incorporate change. It started off as a trailer park commune with vegetables gardens, and then started to incorporate more permanent structures and has lately evolved to include the eco-village ethos, where houses are designed according to environmental principles.
Auroville, a commune of 2047 people in India, provides another example of where to locate the agricultural sector. The master plan, designed by Roger Anger, places a node in the centre from which different activity zones radiate. These zones are then enclosed with a Green Belt, which runs along the entire circumference of the commune. This belt is 1,25km in width and contains organic farms, diaries, orchards, recreation and forests. The belt also focuses on water and environmental management through research and experiments. This belt provides an appropriate element that can be used as a buffer zone between the commune and neighbouring area.

Fig 49 Findhorn: Trailers with vegetable gardens.

Fig 50 Findhorn: Communal Greenhouses

Fig 51
Findhorn: Eco-village design

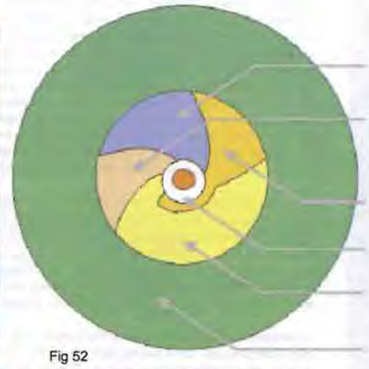


Fig 52
Auroville: Mater plan illustrating the Green Belt along the periphery

5.

To establish grounds for agricultural production

own interpretation

The agricultural sector can be incorporated into the commune framework in several ways. Each method should emphasise the importance of nature in the commune. This hierarchy should be established in the primary phases of the community, in order to ensure a harmonious balance between man and nature. This agricultural tool not only presents a method to reconnect with nature, but to provide a level of subsistence within the group, complementing the 'self-build' notion of the community. The notion of simplicity is also addressed, as it provides one with the opportunity to reconnect with the simpler things in life such as gardening.
The fist method provides each individual member in the group with his own agricultural space. Each member manages his own garden, thus making it easier to maintain as no group consensus is needed for every desired change or new implementation. This also establishes a continuous green language throughout the settlement, where each dwelling becomes synonymous with its garden. This method however does not maximize community cooperation and interaction as it is more based on an individualist notion. Therefore the second method of a communal agricultural space must be incorporated. This allows for a cluster of dwellings to surround a public green space, where all members work together to manage the crops. Another method, which can act as a buffer zone between the commune settlement and neighbouring areas, is the agricultural belt that encloses the commune, either partially or completely. This becomes a large public communal space where various amenities can be placed such as gardening, recreation and other industrial initiatives such as a diary.
If all three of these methods are incorporated into the commune framework, a natural hierarchy will be assured as nature, though the means of agriculture will play one of the main roles in the commune aesthetic and purpose.

Method 1
Each dwelling equipped with an agricultural space

Method 2
Communal agricultural space

Method 3
Agricultural belt

Some communes pride themselves on being completely self-sufficient, with minimal to no dependence on external sources. The Riverside community in New Zealand produces all its own food, thus creating a community exchange system with each residents produce. Other goods are sold at a community convenience store, which either works on goods exchange on rental (for example clothing). Extra income is achieved through the selling of fruit from the orchards to outside business. Yamagishi-kai in Japan practices this same agricultural dependant economy.
Another successful economic principle to follow is the creation of several small businesses on site that all contribute to the greater income of the community. All the communes that have been analysed for this thesis have their own publishing and magazine distribution company. This profit tool serves as an advertising mechanism, attracting visitors, members and sponsorship. Oneida (USA), Yamatoyama (Japan), Auroville (India) and The Farm (USA) employ several industrial and commercial operations ranging from restaurants, flour mills, blacksmiths, sawmills, orchards, exhibition spaces, theatres, research facilities and forestation.
Ein Hod, the Israeli commune, provides an example of a commune that is not reliant on its agricultural produce, but rather creates an element of partial self-sufficiency through its artistic endeavours. These endeavors include art galleries, workshops and studios where spaces are rented out to clients. These initiatives generate an extra income for each member as artists receive 60% of the original painting price, and the rest is contributed to the community.

Fig 53 Riverside Community: Note the size of the agricultural landscape in comparison to the built fabric of the commune. This large agricultural ground makes self-sufficiency possible.

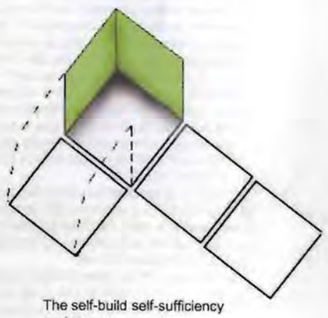
Fig 54 The gallery and studio space at the Ein Hod settlement

6. To provide the framework for partial to total self-sufficiency

The practicality of total self-sufficiency depends largely on the size of the commune site. Agricultural dependence requires a large amount of land where crops can be harvested. So unless this size of land can be assured, partial self-sufficiency is a more realistic notion that the New Commune can aim, especially as the New Commune is termed as an Urban Commune. This partial self-sufficiency requires more focus on the individual, and not the group, as it must become the members' choice as to what his role will be in this self-sufficient quest.
The individual, according to the agricultural framework already set up in an earlier manifestation, has the opportunity to incorporate a garden facility at his dwelling where vegetables and fruit can be grown. This will ultimately require less dependence on outside sources for this produce, but still secure a good relationship with mainstream consumerist culture as other produce will still have to be bought at supermarkets and grocers. The communal gardens, where a number of residents share a piece of land, can also deliver this same goal.
Another form of self-sufficiency is the use of the multifunctional facility. Where the 'live and work' notion can be integrated into one structure. This will allow the resident to generate an extra income from his dwelling, as the dwelling will incorporate a commercial or work space such as a studio or workshop, from which he can either work or rent to prospective clients.
The self-build notion that is widely explored in the framework of existing and proposed communes allows for the self-sufficient notion to manifest itself in the built form. As members have a chance to rely on their own skill to shape the building. The architect will design the framework and programmatic scheme, and the resident will physically help make his own structure.

The multifunctional self-sufficiency. Where 'live and work' generate extra income

The agricultural self-sufficiency. Minimizes dependence on external sources.



The self-build self-sufficiency system.

precedent analysis

Khula Dhamma Community in the Eastern Cape is a commune on 280 hectares of land with 5 complete residences and various other structures such as a solar pump, bee hives, meditation tipi and guest rondawel. The members of this commune wanted to revert back to a simplistic lifestyle, where nature serves as a main inspiration tool and spiritual growth is the main goal. This way of existence could only be achieved by leaving behind the complicated urban metropolis and establishing a natural haven where a simple, low impact lifestyle could be practiced. This system of voluntary simplicity was seen as a means of restoring humanity's balance with nature and creating a sustainable human existence. This simplistic notion can be seen in the architectural expression on site. All building are built by the members are follow a simple method of construction with the integration of earth materials such as cob and straw bale. The cultural activities are based on spiritual activities such as communal yoga or meditating. The layout of the commune is also easy to interpret for the visitor, as there is a collective node in the centre where the seminar room is located and other facilities branch off from this point. The presence of nature dominates the site, establishing agriculture as a viable tool for voluntary simplicity expression.
This is a good example of how the role of simplicity can be interpreted on many levels of the commune framework.

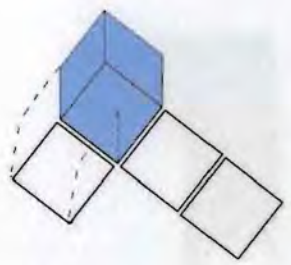
Fig 55 Khula Dhamma members making the materials for the buildings

Fig 56 Khula Dhamma: overwhelming presence of nature

7. To provide a space of voluntary simplicity.

own interpretation

The architectural expression can communicate the simplistic ideology of the commune. Simple forms of construction which can be used by the members on the site can translate into the voluntary simplicity notion that each member agreed upon when entering the site. These forms of construction can include earth materials, such as rammed earth, cob and straw bale. Timber framed buildings are also quite a popular building technique in existing communes. Technologies and materials should be employed that are not too difficult to source and employ on site.
The layout of the commune can also contribute to this simplicity. A programmatic framework that creates an easy interface for members to use and visitors to locate specific buildings should be employed on site.
The presence of the natural sector should also be obvious, as it provides one of the most direct roots for the individual to reconnect with the simpler aspects of life. The agricultural crops can serve this function.



The self-build notion

Simple forms of construction

Simple layout of site

Nature as a tool to reconnect with simplicity

precedent analysis

Findhorn and the Zen Centre used to be examples of communes that were governed by one individual, but have both transferred these governing rights to a community association now. This community association makes all the main decisions, but integrates the principle of consensus on each level. The Zen Centre, located in Los Angeles, is an urban commune that occupies a whole city block, unlike the rural communes that occupy hectares of land. This community that started in 1960 by a group of Americans who were interested in practicing the art of Zen in a collective space was originally lead by Taizan Maezumi (a teacher of Zen). Through the years responsibility was transferred to a board of directors. The board elects a president and vice presidents who are in charge of different activities. Spatially this translates as the need for one central space where the president can hold meetings and then several other spaces across the site where the vice presidents can supervise their activities. The Hohenhort Hotel, a no longer existing commune in Cape Town, practices a similar method where each community member is in charge of separate sections of the community. Findhorn provides another example of how this originally autocratic community changed to a democratic system where a Board of Trustees practice all the executive decisions and a Village Council makes up the representative body of the community. This insinuates the need for two main spaces within the site where each respective body can hold meetings and conduct work.
A democratic space creates the framework for a balanced community where each individual retains personal rights, but works together collectively to ensure the communities rights.

Fig 57 Findhorn Community Centre with seminar rooms and office space and below the original dwellings of the past founders/leaders

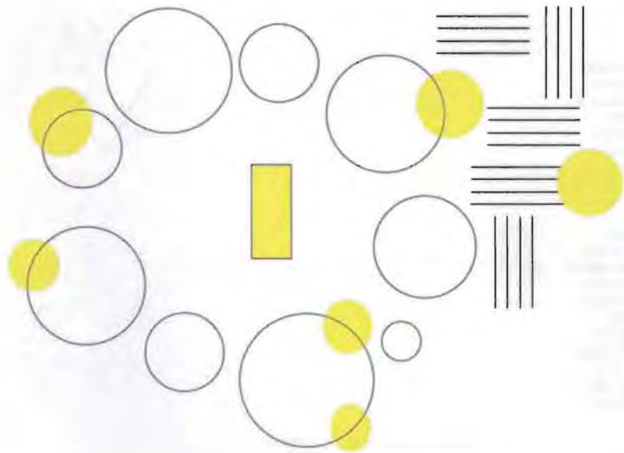
Fig 58 Khula Dhamma: the location of the building that houses the governing body. Note the centrality of the building and its hierarchy in size.

8 To create a democratic space

The commune movement was born out of counter culture protest, which developed on the wings of artistic and perceived political reformations. These historical social and political turning points, as the 1970's New Age movement that was influenced by the Vietnam War, spurred on the community based initiative, where a group of individuals wished to create a better environment, with their own political and social ideals. Most communes adopted a different method of governance from main stream culture. Some communities, such as Tennessyma and the Hohenhort Hotel, originated from one leader who shaped the group. Communes such as Rudenstein and Twin Oaks were, rather, a collection of people who wished to be in control of their own environment, establishing their own governing body and living by consensus. Mostly within a democratic based system. The communes that implemented this system of democracy usually enjoyed a long life span as order was maintained and internal conflict (one of the main causes for communal failure) minimized. A space where the governing body or board of directors can have meetings therefore into an adequate proposal for the creation of a democratic space.

own interpretation

A presence of order must be installed on the site so as to ensure that all the sectors are maintained and that each individual right is not infringed. This order makes sure that everyone is content, which ultimately increases the longevity of the commune life. A governing body in the form of a Village Association proves to be the best method to ensure community consensus. This governing body should elect members to be in charge of the different activities on the site such as Agriculture, Industry, Education, Leisure and Resource Management. The collective node presents an ideal place for the head offices for the main governing body. This space should be large enough to house a few members offices as well as a large meeting room where all vice presidents can conduct meetings. This location makes it easy for visitors to find and members to reach. Note the centrality of the Khula Dhamma governing building. The vice presidents of each activity should have headquarters at each location where the activity is practiced. Thus making it possible manage each activity within its relevant area. Each governing space should implement a sense of hierarchy, but not dominate so as to create a peaceful state on the site. Simplicity and community cooperation are always the main aims that need to be maintained at any level of the commune framework.



The location of a central space for the governing body at the collective node (in the centre) and other headquarters at each activity area.

precedent analysis

Khula Dhamma, the Eastern Cape Commune, is a very spiritual group that relies on the eternal forces of nature to act as a healing tool for the injured soul. In the vision statement is explains that "spiritual growth is the pervasive essence and reason for all our actions and interactions. To support this we will build a retreat centre specifically for meditation and mindfulness practices". Along with establishing that a "constructive and rewarding livelihood can be gained without sacrificing time for family, friends, play and creativity"[2]. The site is structures in a way to enhance humanity's connection with nature. Each dwelling assumes a natural aesthetic while providing nature the opportunity to dominate the site. Several spiritual elements are found on site such as the meditation tipi, open yoga court, communal dining room and various garden/ agriculture spaces for recreation. Khula Dhamma locates its peace area in a quite space where not a lot of people congestion can occur. Whereas Auroville, the commune in India, locates its Peace Area in the centre in a structure known as the Matrimandir where silence is maintained at all times and tranquility is achieved. Auroville uses the Matrimandir to set the tone of the settlement, with all the other activity zones radiating from this centre. Through initiative such as these, aims such as progressive harmony and human unity can be realized.
Ein Hod provides a series of common areas where spiritual healing can take place through the presence of people. These common areas include for example restaurants, café's and galleries.
Jindibah, the Australian commune, wanted to create a simpler life without the stresses of city living through the implementation of agribusiness. This agriculture provides a healing tool as the inhabitants receive spiritual guidance from nature.

[2] www.khuladhamma.org, published by the Khula Dhamma community , 2003


Fig 59 Khula Dhamma master plan

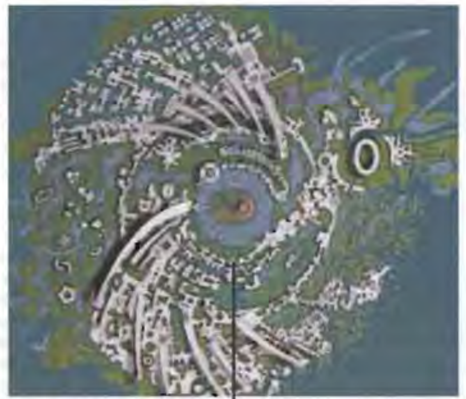


Fig 64 Auroville master plan


Fig 60 Group yoga

Fig 61 Meditation Tipi


Fig 62 Communal dining room


Fig 63 Matrimandir

9. To form a place of healing and holistic well-being.

own interpretation

A commune presents an alternative where individual spiritual growth is placed above material ideals. It provides a way to regain a spiritual balance and implement holistic methods into one's daily routine. Where a simpler, agrarian society creates the ideal forum for a balanced sustainable community. The common ideology that is agreed upon by each member before entering the commune sets the tone for a balanced holistic community. This common ideology then translates into the spatial framework of the community. This framework provides a series of spaces that can lead to the creation of a balanced, content individual. These spaces can include meditation facilities (either enclosed or closed), green spaces (either recreational or agricultural), communal areas such as a dining room, amphitheatre and café's. All these spaces rely either on nature or people to restore balance in a wholesome manner.

Spiritual facilities such as meditation spaces that are located either in a quiet area of in the centre t set the tone for the settlement.

Using nature as a spiritual tool. Either as a purely recreational or agricultural method.


The use of people as a healing tool through communal areas such as a dining room.

Findhorn and Auroville illustrate the importance of education as part of the commune framework. It provides a common space where members and visitors can interact. Findhorn, a Scottish commune in Forres, is a contemporary example of how education can be incorporated. The Findhorn Foundation is an educational resource centre which teaches the principles of sustainable living and ecological design. Various facilities are scattered across the large site, and range from the Gaia Waldorf School, Garden school (which takes up about 8 acres), Workshops and an Eco-Village sector that started in 1982 which teaches the principles of ecological design. The education sector makes up 52% of its annual income, demonstrating that it adds a viable economic factor to the site. These teaching facilities also created the need for several other institutions on site such as a library, greenhouses, craft studios and meeting rooms. Findhorn demonstrates that the educational sector can provide a prominent programmatic framework to the site, as well as emphasizing the community ethos and uniting all members under one common goal.

Auroville, a commune in India, demonstrates an alternative method of incorporating educational facilities into the community. The master plan of the site places a collective node, known as the Peace Area, in the centre from which all the other activity zones radiate. Each activity zone specializes in a particular field. Most of the educational institutions are located in the 'Cultural Zone' of 103 hectares. These facilities include 2 crèches, 1 kindergarten, 2 primary schools, a High School, Youth Centre, Music Centre, Centre for Performing Arts and sports grounds. The 'crown road', known as the cultural boulevard connects all these facilities. Even though the Cultural Zone houses the educational core of the commune, school facilities are spread out through the entire settlement. The Residential Zone, of 189 hectares, integrates its dwelling units with local amenities such as schools, health facilities and playgrounds.

Findhorn and Auroville both place their educational facilities throughout the entire site, with some areas specialising in specific fields (such as the Eco-Village in Findhorn and the Cultural Zone in Auroville). The educational focus of these communes have a distinct effect on the programmatic layout and spatial organization of the site.

Fig 65 Auroville Master plan highlighting the cultural zone

Fig 66: Findhorn Eco-Village sector with wind generators in the background

Fig 67: Auroville High School

Fig 68: Findhorn Universal Hall

Fig 69 Findhorn Greenhouse experiments

10.

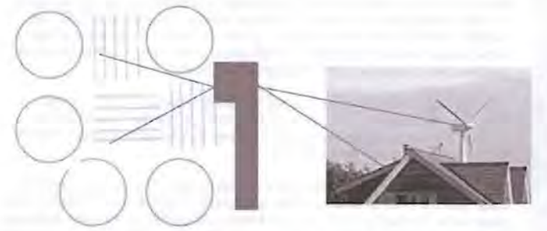
To focus on the role of education.

The education initiative provides a means to communicate he ideologies of the commune, attract visitors and new members through classes and workshops and unite the community through a common focus. Thus it is a prominent principle in the commune programmatic framework. The commune proposed in this document has very strong ties with nature and agriculture. The education initiative provides a means to connect these elements to a practical program. Agriculture can be used as an education tool, teaching members the principles of subjects such as permaculture. The school, especially ones affiliated with the Gaia Waldorf method, teaches the principle of human sustainability though natural activities.

The educational facilities can also be used as a means to promote sustainable and ecological design. Therefore it becomes important for these institutions not only to be connected with the agricultural and ecological elements on site, but also provide an easy access point for visitors and students who do not live in the commune. The collective node in the centre of the settlement provides an ideal place for the primary institute, as it is easily identifiable for visitors and central for members to reach. Various other institutions can then be scattered on the site, according to the relevant program needs (for example garden school to be located close to agricultural fields). It is important that the educational core does assume an ecological and sustainable focus, in order to further implement the sustainable community ethos and practice of ecological design.

Institution as part of the collective node

Education linked to agriculture and ecological sectors



Additional institutions scattered across site according to the programmatic needs. For example Garden School close to agricultural fields.

precedent analysis

Ein Hod, the Israeli artist's commune, presents a realistic method of integrating public and private. The space was originally acquired by Marcel Janco (a Dadaist painter) who came upon a demolished stone village. He enlisted a few artist and friends to help him restore the ruins. "This was not a group who moved to the country to make a new life. This was a group of city people, with jobs and homes back there, who were willing to devote weekends and holidays to see what they could make of this ruin"[1]. At present this artist's village compromises of individual houses, which are privately owned by the members and are solely the owner's responsibility to maintain. The house design, originally mostly from stone, must first be approved to ensure that it fits in with the character of the village. Thus allowing for the individualists to move into the commune set up, while still maintaining a sense self in the community framework. Semi-private elements on site include a series of workshops, studios and gallery spaces that are owned by members but used by the public. Public spaces include an Amphitheatre (where rubble from the site formed the basis), communal studios, tapestry studio, restaurant and the Marcel Janco Museum. Some members make their own profit from their job outside the city as well as their activity that is housed on site. All rights of income are retained by each member. Thus private capital is ensured for each individual. Communal income, thus public capitol, is achieved mostly through the art gallery and restaurant and donations.
Private and public institutions are scattered on site, integrating it wholly into the spatial framework. However in the centre of the site, around the Amphitheatre area, there is a distinct concentration of public amenities such as toilets, studios, restaurants, galleries and cafes. Thus demonstrating that a collective centre for public activity should be provided. This method can also be seen in the layout of Auroville's Cultural and International Zones. Parking, another public space, is located at the entrance, minimizing vehicle flow within the settlement.

[1] Popenoe,O. "Seeds of tomorrow: New Age communities that work", Harper & Row Publishers, San Francisco, 1984

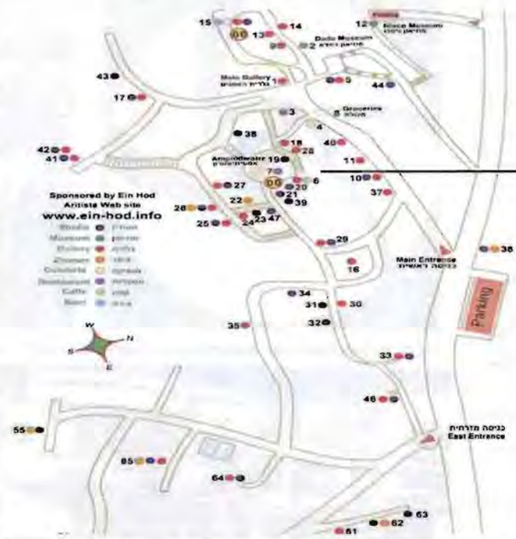
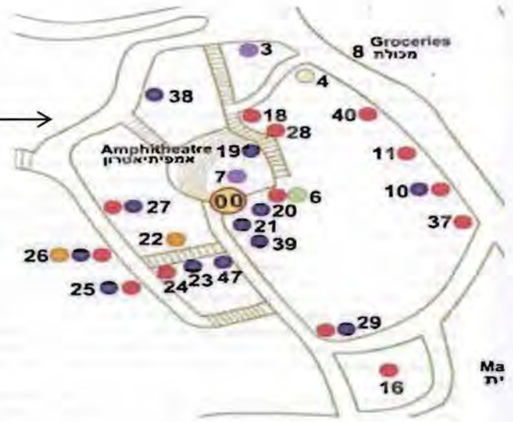


Fig 70 The Ein Hod settlement, the dots represent the public facilities on the site amongst the private institutions.



The Amphitheatre area with a concentration of public amenities.

11. To integrate private and public spaces.

own interpretation

Public amenities in a commune play a vital role as they represent the communal sharing basis the community works from. These amenities should be widely available and easily accessible on site. A sense of hierarchy should be made apparent through these amenities, as communal activities are placed above the interest of segregated and private individual activity. However to allow for the realities of today's individualist society, private ownership must be integrated within the communal framework. This will attract more members onto the site as they are able to retain all rights of property and capital.

The main private activity should be the ownership of property. All dwellings should be kept private, where each member is in charge of his house and is allowed to invest as much money into it as long as it respects the ideologies of simplicity and nature of the commune.

Public amenities should be scattered o site, all though a high concentration of these facilities must be located in the centre by the collective node (following the example set forward by Ein Hod) as it is easily accessible for members and easy to locate for visitors. These facilities become communal entities where individuals interact with each other on a daily basis. These facilities also incorporate the visitor into the site, as spaces such as studios, workshops and galleries can be rented out to non-members. Other public amenities can include an amphitheatre, swimming pools, halls, restaurants and libraries. A public parking space should be made available on the site, so as to minimize traffic flow within the settlement. This ideal would change according to the size of each settlement, as some large commune would require driving within the site to reach specific destinations.

The multifunctional entity should be incorporated on the site. These allow for a 'work and live' notion to take place, thus merging the public and private into one structure. This can be done by adding on facilities to the private dwelling, such as workshops that can be used by the property owner and rented out to customers.

Private dwellings on site

Integration of public amenities with a high concentration of facilities located in the 'collective node' area.

The multi-functional entity attached to private dwellings

precedent analysis

To demonstrate the role of the collective node in the commune structure, Auroville in India will be discussed as this clearly illustrates how this central node can create cohesion within the community, and provide a base form which the programmatic framework can evolve. This rural 'experimental township' demonstrates that an architect designed master plan has a role in the commune movement. Roger Anger proposed the framework for this community of 2047 people (which aims to house 50 000 people when complete). The framework consists of zones where one activity in particular is focused on. The residents and other architects then follow this framework and continue with their endeavours along the design guidelines set up by Anger.
The framework locates the collective node in the centre of the commune in a space called the Peace Area, from which the Industrial, International, Cultural and Residential Zones radiate. The building that has become the symbol of the town and is described as "the Divine's answer to man's inspiration for perfection", is located in the Peace Area and is called the Matrimandir. Indicating that the architectural language of this communal nucleus can be a bit more elaborate than the simplistic and naturalistic aesthetic of the other structures on site. This is a design guideline that will be taken into account. The Matrimandir as a golden metallic sphere where silence as maintained as form of meditation. There are 12 gardens, 12 petals, Amphitheatre, the Banyan Tree and proposed lakes. It has its own solar power plant that lights a 70cm crystal ball in the centre. The central dome, which took 37 years to build, is covered by golden discs. This precedent has shaped the manifesto of the New Commune by demonstrating the role of an architects programmatic framework and the importance of a collective node.

Fig 71 The Master Plan

Fig 72 The Activity zones

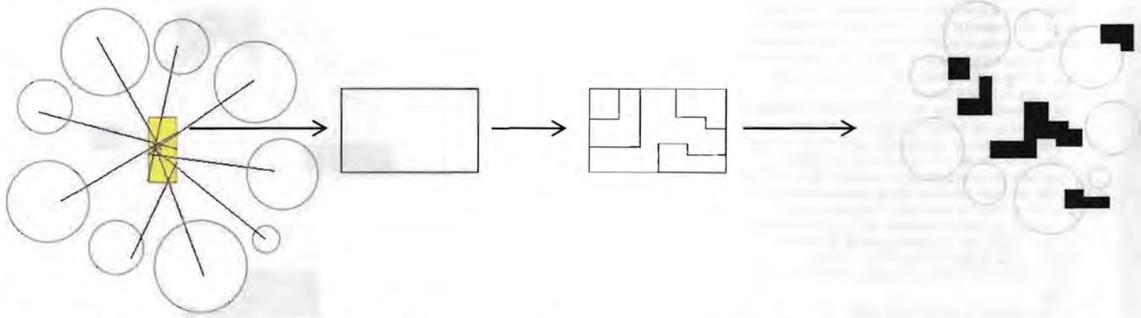
Fig 73 The golden discs of the Matrimandir

12.

To establish a collective node

own interpretation

The collective node should be placed in a central location, in order to maximize interaction opportunities as all members can reach the node with ease. Accessibility should be the main focus. It should be a place where all communication and social functions collide, to create a space that is vibrant and constantly in use. This collective node creates communal cohesion as it will combine all the aspects on the site, which may vary in function, aesthetic, size and hierarchy, as it becomes the reference point for all members. This reference point becomes the symbol of the community, as it will be most likely be the first and last structure visitors will interact with on entering the site. Thus is needs to assume an appropriate architectural language to communicate the community ideology, which can range from environmental, religious to spiritual. This collective nucleus can take the form of several functions such as a community centre, hall (such as the Universal Hall in Findhorn), seminar room (such as the proposed building in Khula Dhamma) or office for the governing body. It can also house several functions in one structure or scatter a few of the functions across the site (such as Ein Hod).
This node must be designed for social contact and assume a multifunctional character which can adapt to future change. It must also incorporate non-member facilities, such as a space that can be rented out to the neighbourhood as a dancehall or market.
The collective node can assume a variety of functions as long as it enhances community interaction and is located in a manner from which the commune framework can radiate.



Central location of collective node

Collective node can be housed in one structure or divided into a collection

This collection of nodes will then be scattered throughout the settlement.

precedent analysis

The Farm, a rural commune founded in 1971 on 1750 acres, provides an appropriate example on how to deal with visitors on site. The founders wanted to create a space where one can discard old social structures for something more meaningful. It is mostly an agrarian community, however various other commercial ventures are located on site, for example the Farm Store, Medical Clinic, Book Publishing Company and Media Ltd. All these ventures attract visitors onto the site as they are the main clientele for these businesses. The Farm also locates a Welcome Centre at the entrance of the site. This is an important tool which can be incorporated into the New Commune framework, as it provides the visitor with the desired knowledge and location of what he is looking for on site. It also acts as an entrance portal for the whole community. Other initiatives that are employed that allow for visitor interaction on site is a Campground and a Hostel.
Riverside Community also illustrates the importance of incorporating the visitor into the site. Originally regarded by neighbouring farmers as a pest, it has now earned the respect and cooperation of neighbouring communises. Several agricultural fields are shared amongst members and non-members.
Cooperatives also introduced into the economic sector, such as the diary, sheep marketing and wool marketing. Guest amenities such as a hostel are also located on site.
Ein Hod attracts visitors through its galleries and café's on site. The art works acts as a form of advertisement, luring interested prospective clients into the site.
Thus it is evident that it is possible to create an array of visitors attractions on site that ensure a proper balance between commune society and main stream society.

Fig 74 Spatial layout of the Farm, with Welcome Centre at the entrance

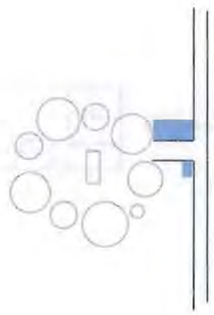

Fig 75 The entrance portal that the Welcome Centre creates.

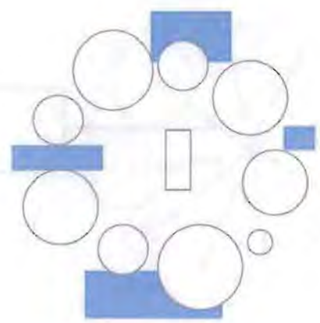
13.

To promote interaction with mainstream society and other non-residents.

own interpretation

To establish a successful commune, interaction with mainstream society must be promoted. Members should still participate in daily activities such as jobs, shopping and entertainment in the city. This factor is especially important for an urban commune that is located in close proximity to the city centre and can't rely on total self-sufficiency due to lack of agricultural space. This ensures that members are still active members in mainstream culture.
The site must also accommodate for visitors, creating a welcoming and friendly interface that attracts visitors onto the site. A welcome centre placed at the entrance of the site provides the visitor with the required information on how to navigate the site. This centre can also advertise the various amenities that are included in the commune. Signage in the commune spatial framework is of utmost importance so that visitors can locate the desired facility with ease. These facilities should include guest accommodation, such as a hostel, campground or lodge.
To incorporate neighbouring houses and communities into the site, facilities should be made available that can be shared such as sports grounds and agricultural fields. This will ensure a constant state of activity on the site, and create a peaceful understanding with the greater context of the commune.


Welcome centre located at the entrance


Various guest facilities on site such as campgrounds, hostels and lodges,


Various communal amenities should be made available to neighbouring lots, such as the agricultural fields.

The Riverside Community, located in New Zealand, originally started out as a protest movement that transferred from a religious standpoint to a spiritual one. At present 70 people reside on site with 20 houses, a church, hostel, community hall, shops, workshops, offices, orchards and other industries. All the residents share a common ideology of wanting to maximise their human abilities. Residents translated this by starting to build their own houses through timber framed construction. Windows and doors are made in the community's own woodworking shop. Most of the houses are made from fortified rammed earth, which is 15 parts of subsoil and 1 part cement, which is poured in a thin layer into a form that can be moved along the wall. This technique makes very strong, homogenous structures that grow stronger over time and does not require extensive skill and uses minimal materials.

Knula Dhamma, a Eastern Cape Commune, is another commune where members build all the houses on site. Timber framed construction is used for the larger buildings and earth construction for the houses. The self-build notion is not only seen as a self-sufficiency tool, but also as a means to minimise people's impact on earth. Through the use of sustainable building techniques and sustainable materials, a sustainable society can be created.

Jindibah in Australia demonstrates the relationship between architect and resident. The on site architect, Edwin Buivds, designed all the structures on site according to ESD (ecologically designed development) principles. Thus setting out the formal framework for each building. Each member then applied their relevant skill to construct their house. Sometimes external work had to be brought to site for issues such as plumbing and electricity.

Fig 76 Community self-build at Findhorn

Fig 77 KhulaDhamma timber frame and members making earth mixture

Fig 78 Jindibah house design by Edwin Buivds

own interpretation

14.

To establish the framework for a community 'self-build' architecture.

The relationship between the architect's role and the residents role should be established before the physicality of the site starts to take shape. The site should architecturally integrate the language of the community (their ideologies and beliefs) and the architect's vision. The final result should be based on an ecologically sound design response that respects the role of nature, allows for community cooperation and strives for voluntary simplicity.

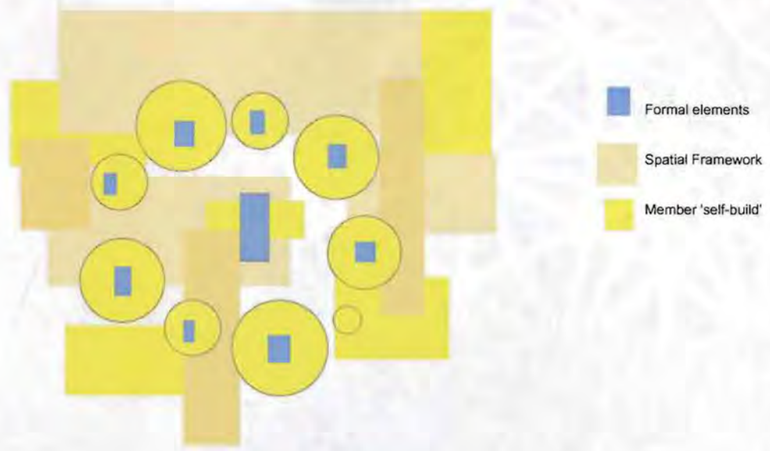
The architect will create the spatial and programmatic framework for the site. This spatial framework will deal with all the activities and ideals mentioned in the Commune Manifesto. Each function or facility on site will have a formal architectural facet that will be placed at the suitable points on site. This spatial layout will be determined by the architect, so as to create an appropriate urban design response. This formal framework will then allow the member to come and add the necessary extensions needed for the facility he wishes to run on site (such as house, business or agriculture). Several options will be made available for the extent of these extensions that the resident can employ. These options will be of a flexible and expandable nature.

In brief the architect's role:

- To design the spatial framework
- To establish the programmatic requirements
- To establish the programmatic sequence
- To establish the architectural components
- To design the formal elements on site
- To supply the material palette for the commune

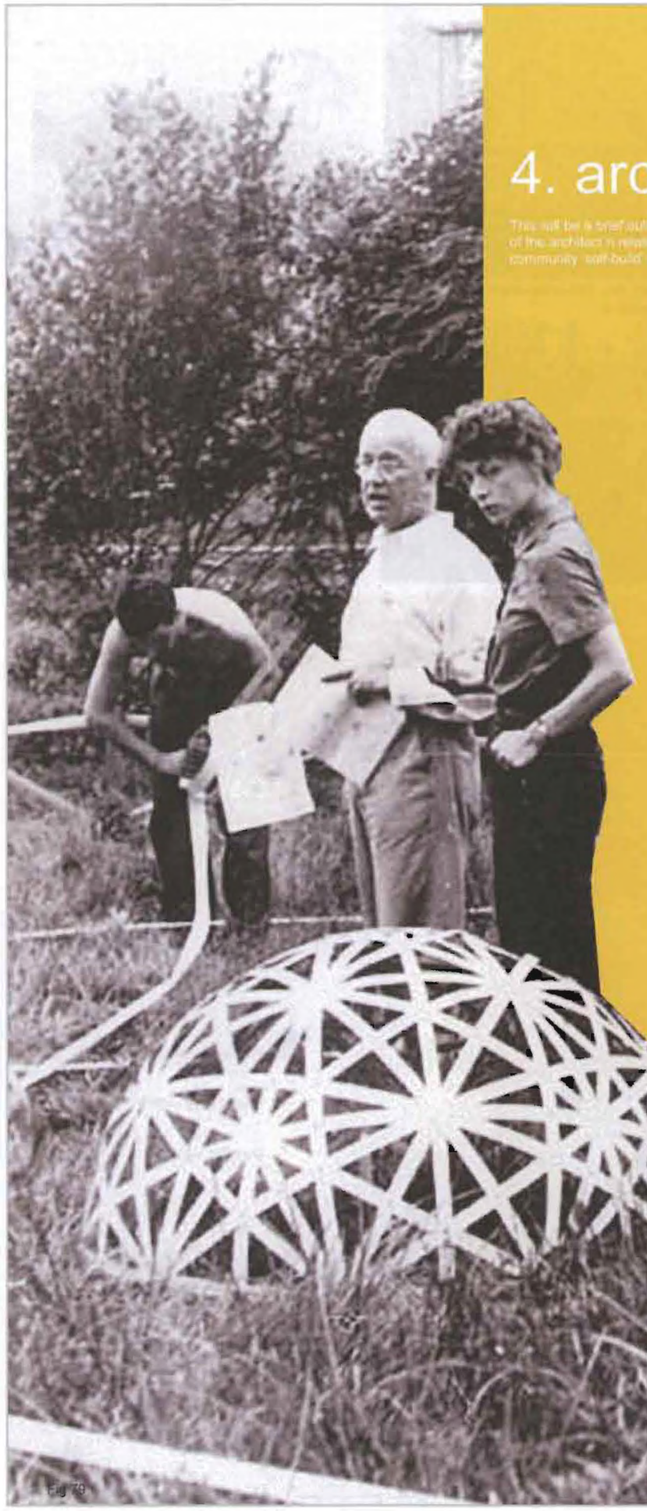
the residents role:

- To use and interpret the architectural plans according to the relevant programmatic need
- To build the structures, either with members or external aid



4. architects manifesto

This will be a brief outline stating the role of the architect in relation o the community 'self-build' notion.



Architects Manifesto:

1. I will design the spatial framework for the commune
2. I will propose the programmatic requirements for the commune
3. I will suggest the programmatic sequence of events
4. I will propose a suitable material palette
5. I will design the appropriate infrastructure for each dwelling on site and provide several options for the self-build expansions.

To be singed by architect

1. I will design the spatial framework for the commune

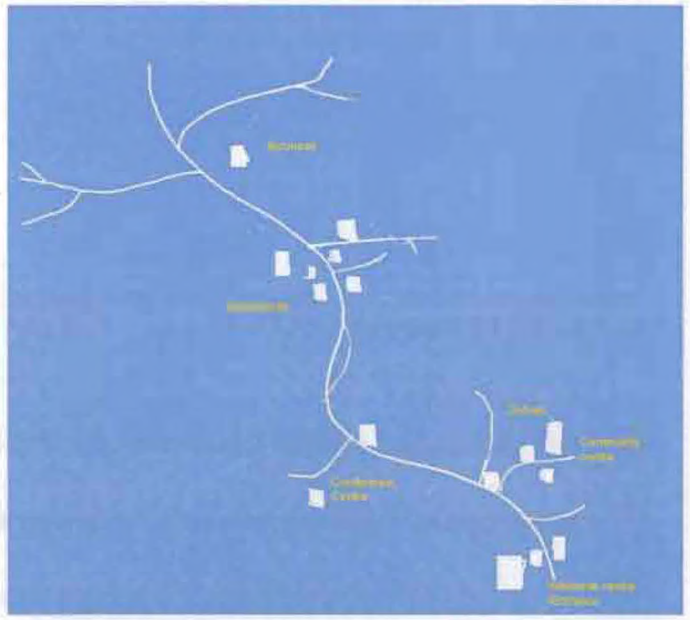
This section will propose the spatial layout of the commune. This spatial layout, or urban design, of the site will propose where the main functions and activity zones should lie. This section will [illegible] deal with establishing a hierarchy of structures and activities. Issues that will be addressed include elements such as:

- size of the commune location of entrance
- dealing with the enclosure of the site
- location of the agricultural areas
- location of the built fabric: residential, commercial, industrial, recreational)
- location of the green areas
- density
- road accessibility
- internal road network
- location of the parking
- location of the collective node
- location of the holistic and education sectors
- size and location of the ecological plant that deals with waste on site, recycling, water management, energy production and solar power
- ...list to be continued at a secondary design phase continues

This section will specifically look at what the New Commune wishes to achieve on site and what will be needed spatially in order to fulfil this.

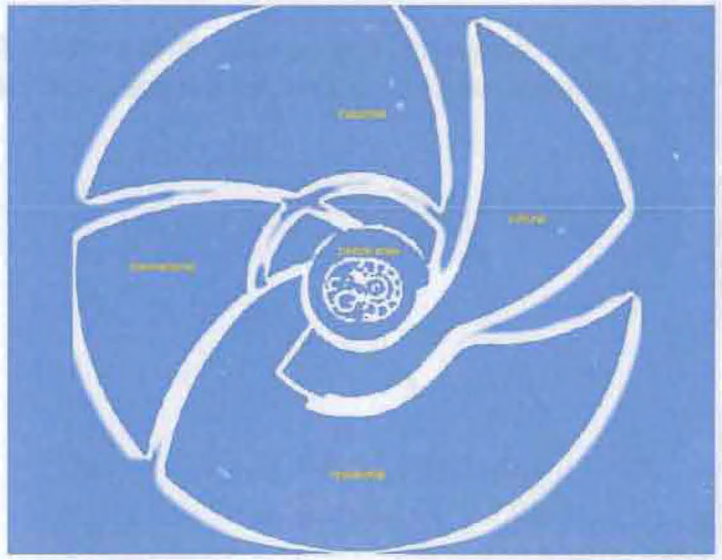
Examples of commune precedents

the farm

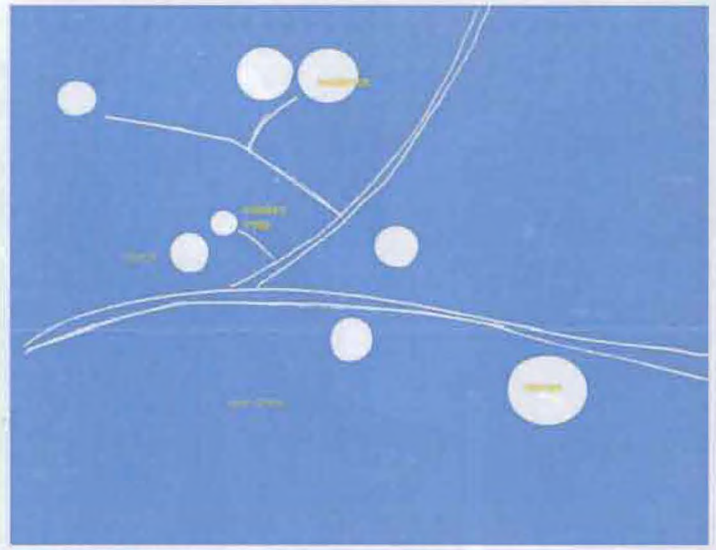


jindibah

auroville



drop city



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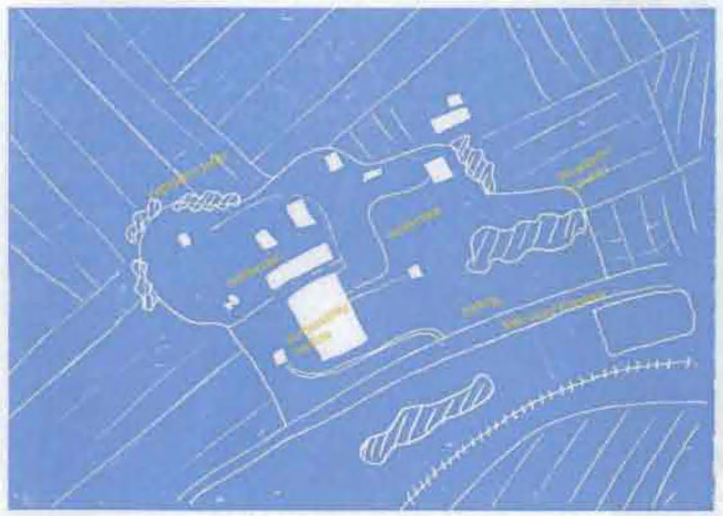
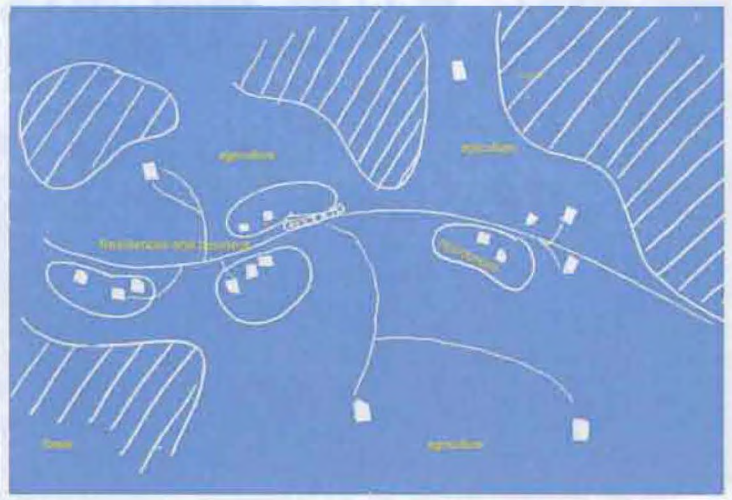


twin oaks



2. I will propose the programmatic requirements for the commune

Through the analysis of the communes provided in the appendix it can become evident that there are several programmatic requirements needed for a successful commune. The architect will propose what all the programs are to be, wedding it into the spatial design framework. This will give the member the opportunity to decide which category his implementation will fall under. Some of these categories will include for example residential, commercial or recreational sectors. Once the member has chosen his category, he can then refer to the appropriate 'self-build' manual that is set up in the technology supplement (which has been provided by the architect). This will provide the member with the appropriate tools of knowledge for completing his building.

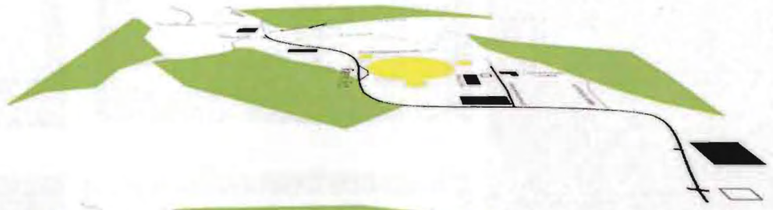
3. I will suggest the programmatic sequence of events

The architect, after designing the spatial framework for the site, will propose the sequence of events in which is aspects gets built on site. Thus the programmatic framework and the physical framework merge to create the structure needed for a commune.
The sequence would initially get started by a specific group of members who wish to create a commune. They would establish their aims and ideologies, known as the Commune Manifesto. After all members agree to the facts stated in the manifesto, a piece of land will be chosen for the development of the settlement. This land will either be bought by one of the members, such as in Ein Hod and Jiskbah, or already owned by another member such as the Riverside Community. Further land can be acquired during the growth of the community.
Appropriate infrastructure will be laid to service the community, such as roads, electricity, water and plumbing. Residents usually assume a temporary residence, such as a trailer or tent during the stage, for example the makers in Findhorn. The next step would be to establish an economic asset on site, so as to start generating income for the community. The agricultural fields usually start being prepared at this time too.
Once the agricultural fields are ready to start producing and can play a viable role in the economic development of the site, a formal collective node can be established. This will concretise the ideologies of the community into one structure or area. This will become the heart of the settlement and provide each member with the necessary amenities not provided by his individual dwelling. This node will later become the symbol for the community.
Residences will start to assume a more formal nature, adopting the sustainable and ecological building principle set forward by the Commune Manifesto. Once the residences are in place, other facilities can start to be incorporated on site such as educational and healing institutions.
Once the site runs as a successful place, visitors should be integrated into the framework. A welcome centre and guest accommodation should be provided.

The visitors

The residences

The collective node

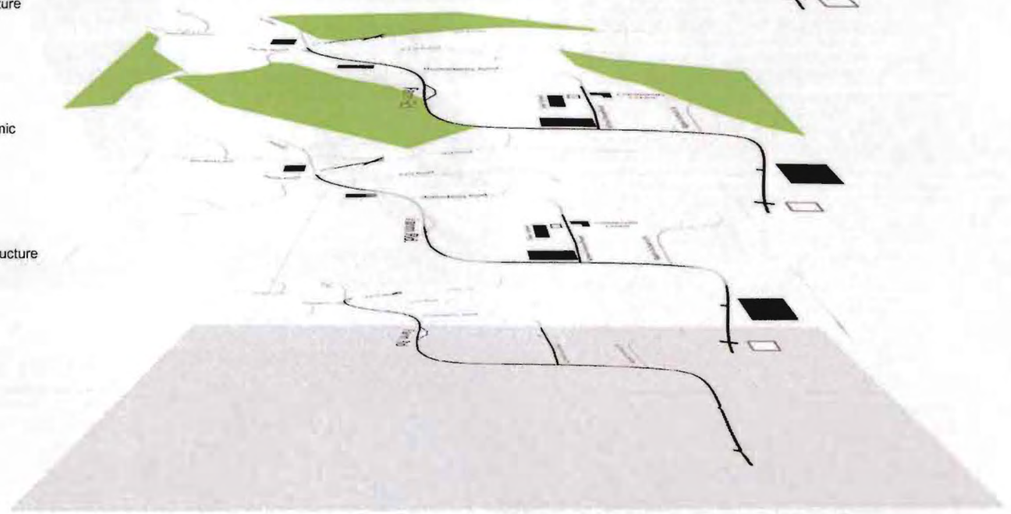


The agriculture

The economic

The infrastructure

The land



The community

4. I will propose a suitable material palette

The commune requires a material palette that does not contradict its natural surroundings. It seeks an architectural aesthetic that will enhance the natural setting, creating a settlement that is at harmony with its surroundings.
The architect will propose a series of material palette that deal adequately with these demands, explaining the theories and methods behind each technique to the member.

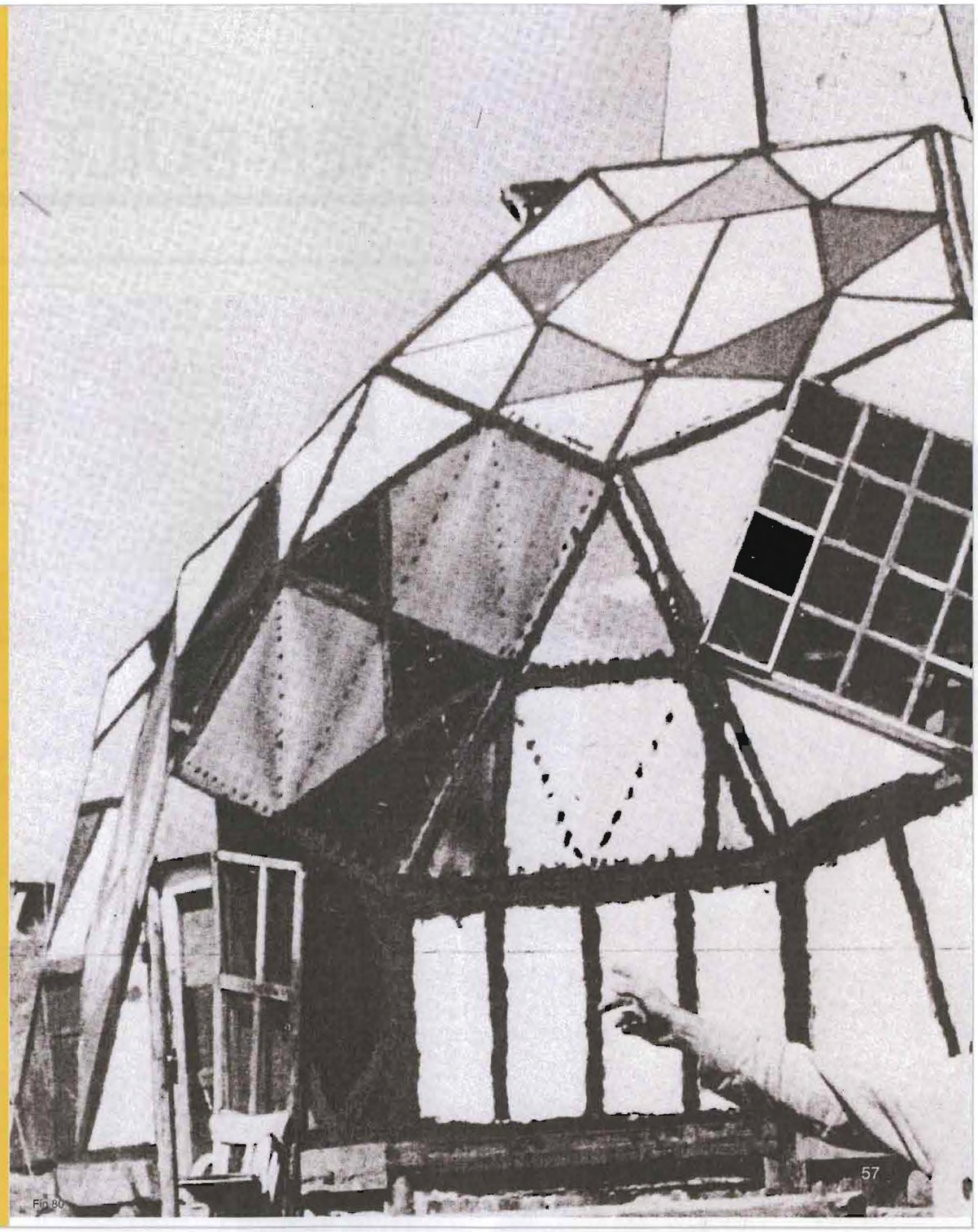


Fig 80

5. I will design the appropriate infrastructure for each dwelling on site and provide several options for the self-build expansions.

The architect will propose the framework for each structure, including the dwellings. Each framework will deal the formal elements such as the plumbing and electricity, and the extension elements which the member will be able to add. These elements will be of an expandable orientation and duality in nature. Each member will be in charge of the amendment to the framework according to financial and skill requirements. This section will be in great detail to the technology supplement for each commune programmatic function.

OWNER-BUILT HOMES 22

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-Lloyd Kahn

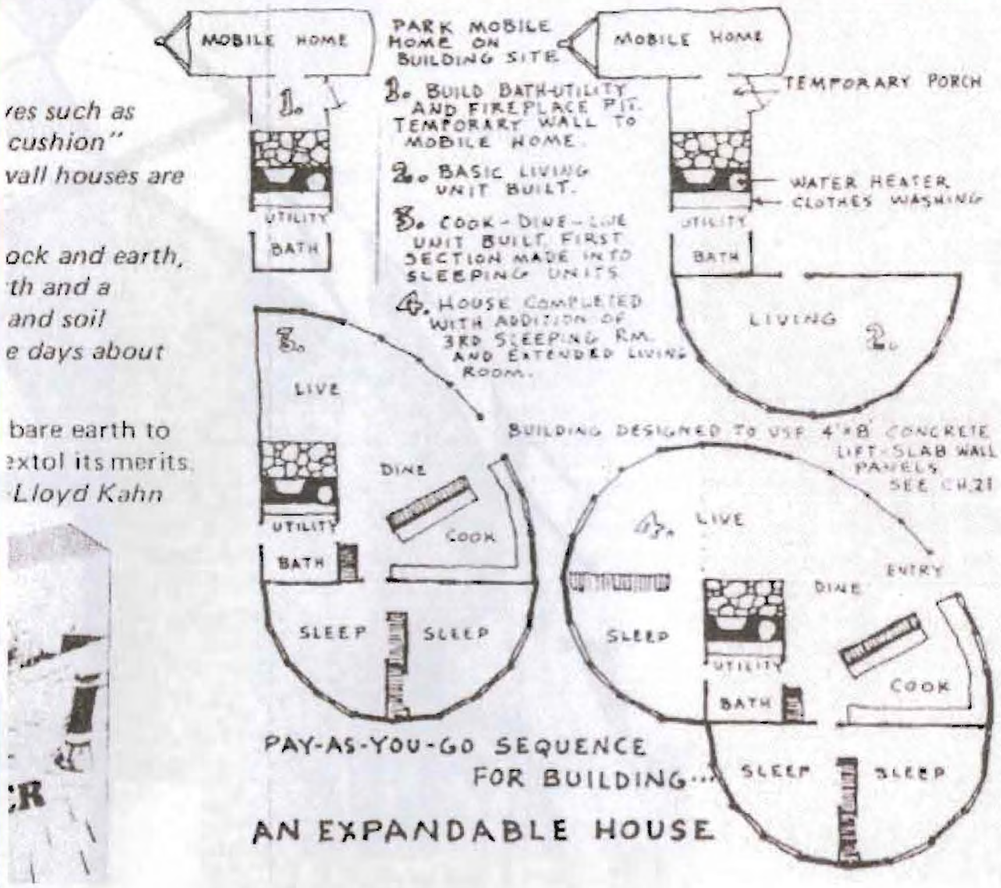


Fig 81

5 conclusion

The New Commune proves to be a viable alternative to urban living. It provides the appropriate programmatic and physical framework for a community based site. Through the analysis of the communes in this document, it proves to be a successful entity, either in a rural or urban location.
It does not need to act as a separated utopian haven in order to succeed; Main stream society can be integrated into its schematic framework, creating a realistic contemporary approach.
From the various precedents, several working elements can be sampled for the New Commune. Ein Hod and Findhorn prove to be appropriate examples of a spiritual commune in an urban environment. Ein Hod incorporates the individualist into the community framework which is an important reality to deal with, as people want private dwellings and private ownership of these dwellings. Ein Hod also proves that one doesn't have to solely live and work on the site, but off site work is promoted to earn a viable income. Communal initiatives such as a gallery, restaurants and amphitheatre prove to be good implementations for attracting visitors on site and producing an extra income for the community.
Findhorn emphasis the importance of education and nature in a commune setting. The educational facilities act as an income tool for the community, attracting visitors for its workshops and classes. This tool also creates awareness within the community about ones ecological impact and what principles can be developed on site to benefit this.
Nature is used as an educational instrument , where facilities such as the Garden School promote the creation of a healthier environment through the integration of nature and design. Findhorn also proves that a commune can act as an eco-village, employing ecological design tactics to create a sustainable community through sustainable design.
Various programmatic requirements are also provided such as the need for a community centre, hall, green houses, school, communal gardens, residences and guest

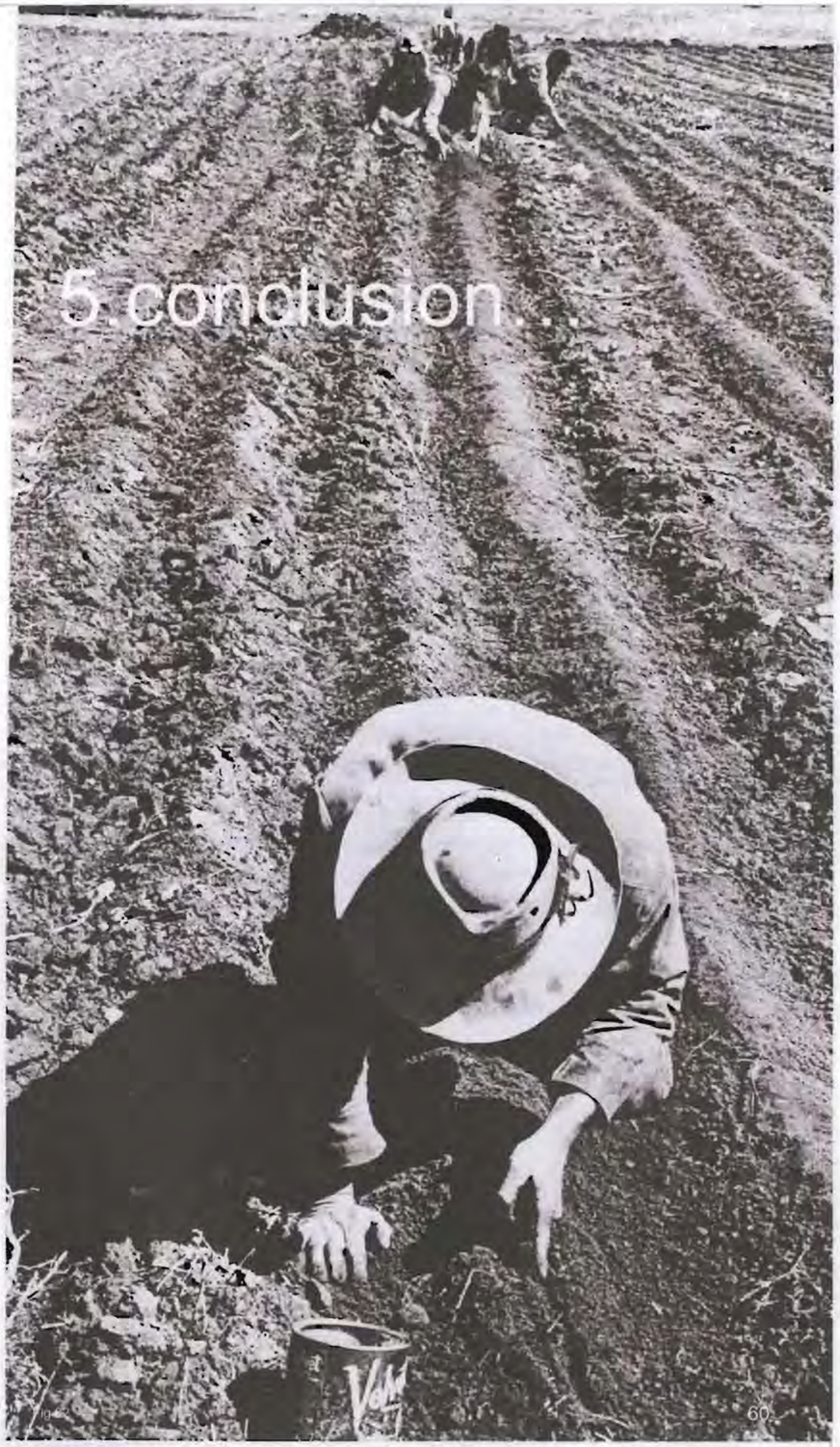
accommodation.
The other communes provide ideas such as the need for a Welcome Centre (The Farm), agricultural production (Riverside), experimental architecture (Drop City), collective communal areas (Auroville) and commercial enterprises (Twin Oaks). Each commune supplied a principle that could be incorporated into the Commune Manifesto.
The precedents proved that the commune is seen as an alternative to the typical lifestyle, as most founders created the community as a reaction against something in particular in main stream society. Stating that the commune movement has relevance in the notion of the alternative.
The Commune Manifesto will provide the New Commune designer with the appropriate spatial principles for the proposed site. A site that will prove to be a viable alternative, nature and community based, living module.

heal
The commune is an attractive alternative to many individuals as it provides a spiritual basis that seeks to restore humanity balance and peace. Each member is invited on a path of spiritual recovery and growth through the various activities on site such as agriculture, building, meditating and socialising. Making it a viable option as a healing tool for an unsustainable society that seeks to create a better and more holistic environment.

nature
It provides a framework that is designed around nature, establishing a hierarchy between nature and the built environment. It is a framework that seeks to restore humanity bond with nature. It provides the appropriate programmatic needs to create an environment that places natural ideal above materialistic ones.

sustainable
The commune also creates a forum to integrate sustainable design and sustainable living into a residential component. Where all activities on site revolve around an environmentally friendly basis. Where the common ideology of Gaia and the super organism provide an appropriate framework for a healthier living arrangement. Through this alternative living module, each member has the opportunity to reduce his impact on the earth. Thus creating, through the commune system, a showcase for sustainable development.

experimental
This alternative living module has a fantastical and experimental notion attached to it, where utopian ideals are realized through a community framework. The site provides the member with a fresh take on living, where if 'it's not fun, it's not sustainable' attitude can be translated into the architectural aesthetic, daily activities and common ideology shared by all members. This experimental alternative is a viable option that through the principles of the Manifesto can be employed on any given site. The architect, through the proposal of the spatial framework, and the resident, the commune member, both have a place in this alternative, experimental, living module.



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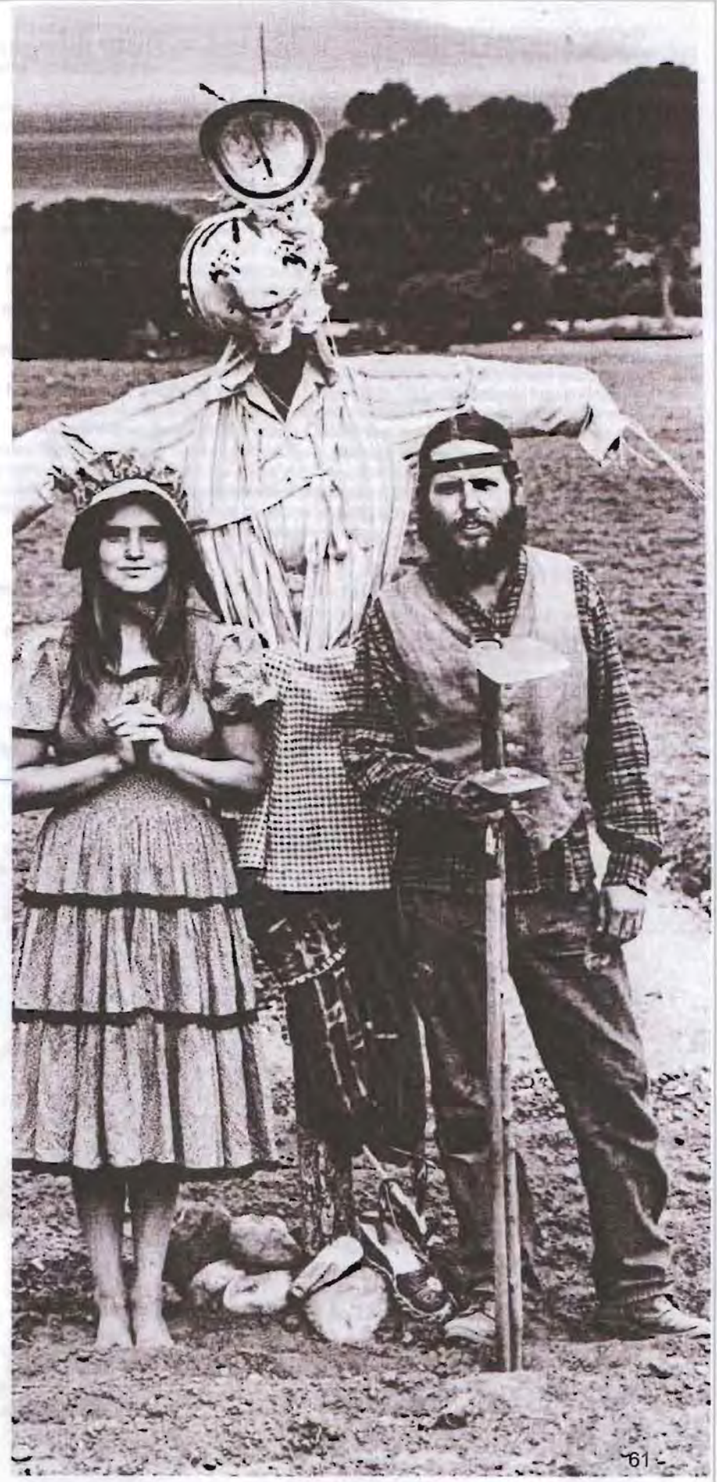

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Section 2

3.3.2 The Technology Factor:

The technology factor proposes a technical language for the New Commune design proposal. This was explored in the Technology document (completed at the end of Phase 2 along with the Theory document) which introduced the concept of the self-build as a viable technical principle for the proposed site. This document explored the theory of the self-build, relating it back to Walter Segal (one of the leading architects who had an influence on the practicality of the self-build), and who promoted the use of post and beam timber framed structures that are easy for clients to assemble and alter. While Segal provides the appropriate tools for constructing the members' dwellings, Christopher Alexander provides an appropriate ideological palette through his work such as "A Pattern Language" and "The timeless way of building". Alexander states that all inhabitants have the power to create their own surroundings and that this "timeless way of building" is accessible to everyone.

The precedent which portrayed the practicality of the self-build theory with the use of natural and earthy materials was the Green Building done by Clarke Snell and Tim Callahan. This 16m² building provides an inspirational material palette which can be applied to the New Commune's technical language.

The technology document proved that the self-build, with the assistance of natural building methods, provides an appropriate technical position from which the design process can evolve.

the New Commune catalogue

access to tools

Technology Project

Submitted in partial fulfillment of the degree Master of Architecture (professional) 20009

Monique Fouche

FCHMON001

What is the New Commune Catalogue?

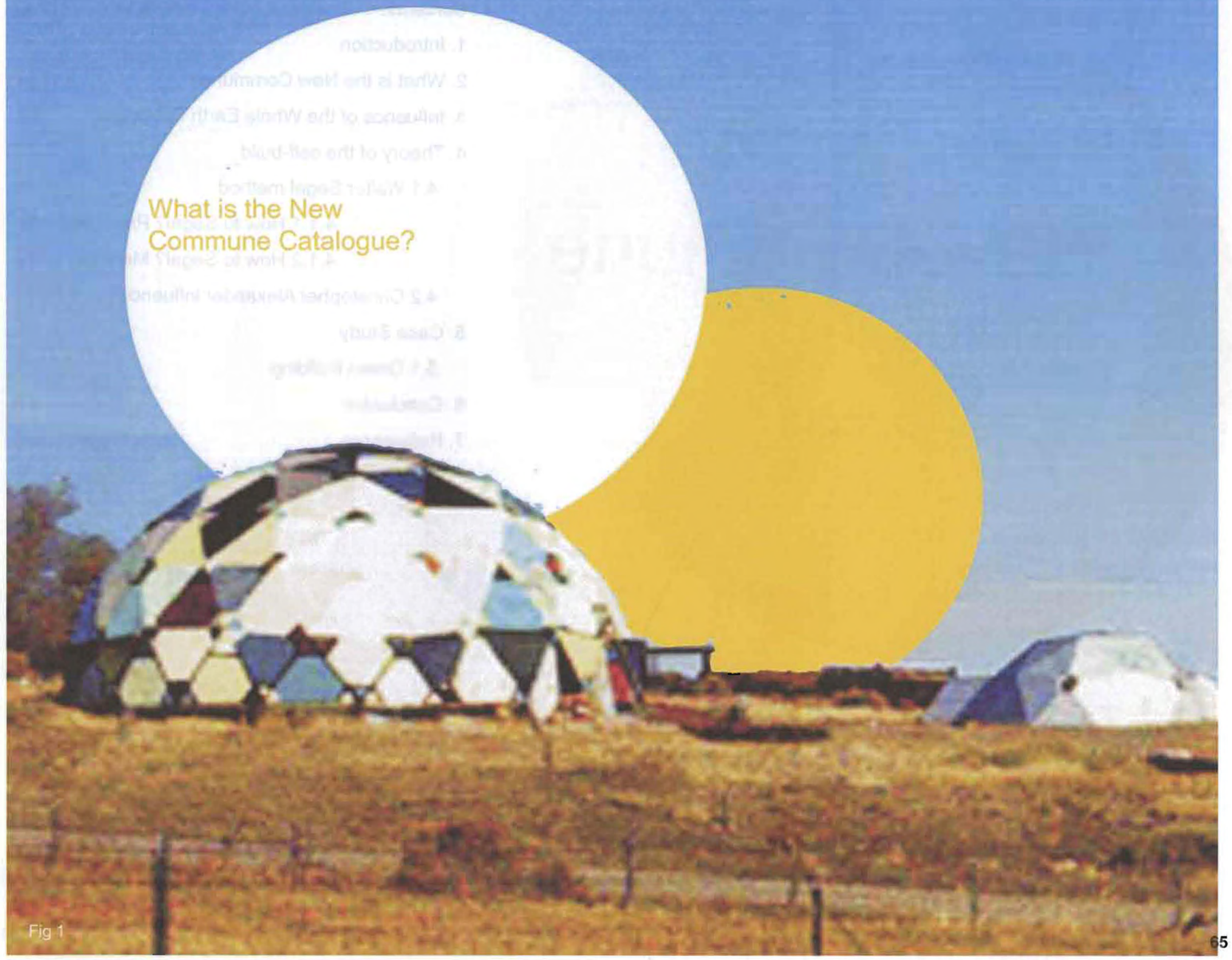


Fig 1

introduction 1.

commune: A commune is a relatively small group of people who have chosen to live or work together in pursuit of a common goal. These planned residential communities, often termed as 'Intentional communities', seek a higher degree of teamwork and community cooperation. Communal cohesion is achieved through common political, social, religious or spiritual goals. "A community is to be formed to promote more effectively the great purpose of human culture"[2] , as George Ripley states, demonstrates this natural urge to create a better environment through community initiatives, where ideologies are shared and harmony between nature and man is promoted.

alternative: The 'alternative' lifestyle that is provided through the New Commune framework is an alternative to the typical notions of urban living. Where people are disconnected from nature through the dominance of the built fabric, and disconnected from each other through the separated living units. This separation translates further into the relationship between one's living and working environment. The alternative commune arrangement aims to decrease this alienation and disconnection through collective living and a multipurpose site.

New Commune Catalogue: a catalogue for the New Commune member that explains the notion of the self-build. Practical methods that can be employed by the member on site are described through the analysis of two case studies. One is depicting the use of green technologies and another depicting local technologies.

Catalogue Series:
Edition 1: Explanation of the New Commune and the theories behind the self-build principle with relevant case studies.
Edition 2: Programmatic Framework for the New Commune
Edition 3: Programmatic Sequence for the New Commune
Edition 4: Typical plans and schemes
Edition 5: Material palette
Edition 6: Technology palette
Edition 7: to be decided

The New Commune is an alternative living module that provides the city dweller with a setting that seeks to promote a more simplistic and natural lifestyle, while still participating in daily urban activities such as holding down a job. The New Commune framework is based on the commune movement that originated in the 1500's but flourished in the New Age era of the 1970's. This framework promotes a lifestyle that enhances humanity's bond with nature, community cooperation, voluntary simplicity and sustainable living. One of the main techniques explored by the commune movement is the importance of self-sufficiency through food, business and the concept of self - build that is explored in this document.

Most communes, from Riverside in New Zealand to The Farm in Tennessee and even Khula Dhamma in the Eastern Cape, explore the concept of self-build, where all buildings on site are constructed by the members from materials either found on site, or brought from elsewhere. All structures aim to achieve a harmonious balance between the built form and the landscape, adopting an ecological attitude to design. Some communes employ an architect, which is either a member or a friend of the commune, who designs the programmatic schemes which the residents then put into practice. Other communes simply employ construction techniques which can be implemented with ease for the creation of the buildings.

One of the main sources to originate from this concept of self-sufficiency is the Whole Earth Catalogue, a 'how-to' guide for the commune member that covers a whole array of topics from architecture to medical advice.
The New Commune catalogue (inspired by the Whole Earth Catalogue) aims to provide the New Commune member with appropriate advice, especially on the subject of self-build. This catalogue specifically looks at the role between architect and resident, and illustrates what can be 'self-built'. Two case studies will be used to demonstrate the viability of the self-build principle, one case study dealing with green technologies (in order to compliment the sustainable attitude of the commune), and the other being a local example, demonstrating its local viability.
This New Commune catalogue aims to prove that the self-build principle is a viable option for a living module based on the commune movement.


the New Commune

what is the new commune? 2.

Commune Manifesto

1.To create a space that promotes an alternative lifestyle based community cooperation.

2. To established an ordered spiritual community where common ideologies unite a group of individuals.

3. To enhance humanity's bond with nature:

4.Environmental, ecological and sustainable design approach.

5.To establish grounds for agricultural production.

6. To provide the framework for partial to total self-sufficiency

7. To provide a space of voluntary simplicity.

8. To create a democratic space.

9. To form a place of healing and holistic well-being.

10. To focus on the role of education.

11. To integrate private and public spaces.

12. To establish a collective node.

13. To promote interaction with mainstream society and other non-residents.

14. To establish the framework for a community 'self-build' architecture.

To be signed by mentors on arrival

To be signed by architect

The New Commune is a living module that has evolved from the counter culture commune movement that flourished in the 70's flower power era but has roots that date back to the 1500's. The New Commune seeks to evolve this social experiment of community cooperation and to transform it into a viable contemporary alternative for the city dweller. The alternative describes a lifestyle that reconnects with the simpler elements in life. Establishing nature, community and cooperation as the main tools for living. An alternative that contradicts the concrete jungle where the automobile dominates and the individualists thrive. The commune framework provides the appropriate programmatic scheme for the alternative residential notion. A programmatic scheme that basis its foundation on a common ideology shared by all its members, an ideology formed around a spiritual, religious or political goal. While the common ideology binds the group of individuals, the programmatic scheme integrates cooperation and interaction into each principle on site. A site that seeks to enhance humanity's bond with nature and restore the earth's resources. The commune provides the belief system and spatial framework to create a sustainable, environmental development in a contemporary urban setting.

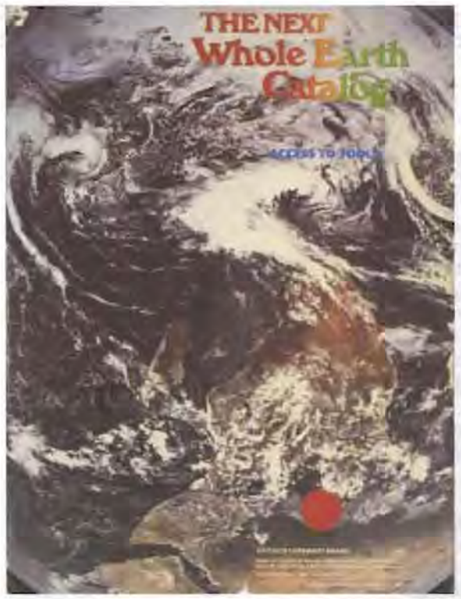
The 'alternative' lifestyle that is provided through the New Commune framework is an alternative to the typical notions of urban living. Where people are disconnected from nature through the dominance of the built fabric, and disconnected from each other through the separated living units. This separation translates further into the relationship between one's living and working environment. The alternative commune arrangement aims to decrease this alienation and disconnection through collective living and a multipurpose site.

The commune principle acts as an inspiration tool for the creation of this alternative living module, as it already conveys an alternative and experimental connotation. From the extreme experimental nature of Drop City in North America, to the social experiment of Twin Oaks in Virginia to the extreme simplicity of Khula Dhamma in the Eastern Cape. The commune sets up the framework, spatially, programmatically, spiritually and socially for the alternative that seeks to portray this same connotation.

The New Commune is a design proposal that aims to provide the city dweller with a natural setting where simplicity and community interaction can be practiced, while still participating in daily urban activities such as jobs and shopping. It is a proposal for a site that establishes a hierarchy between nature and the built environment, through a multipurpose programmatic scheme.

The aim of this document is to prove the viability of the commune movement through the analysis of several successful international communes. Through this analysis, a framework will be made evident that can then be applied to the New Commune. This framework will propose a Manifesto, which states the various principles of this alternative living module.

Influence of the Whole Earth Catalogue



Catalogue cover pages

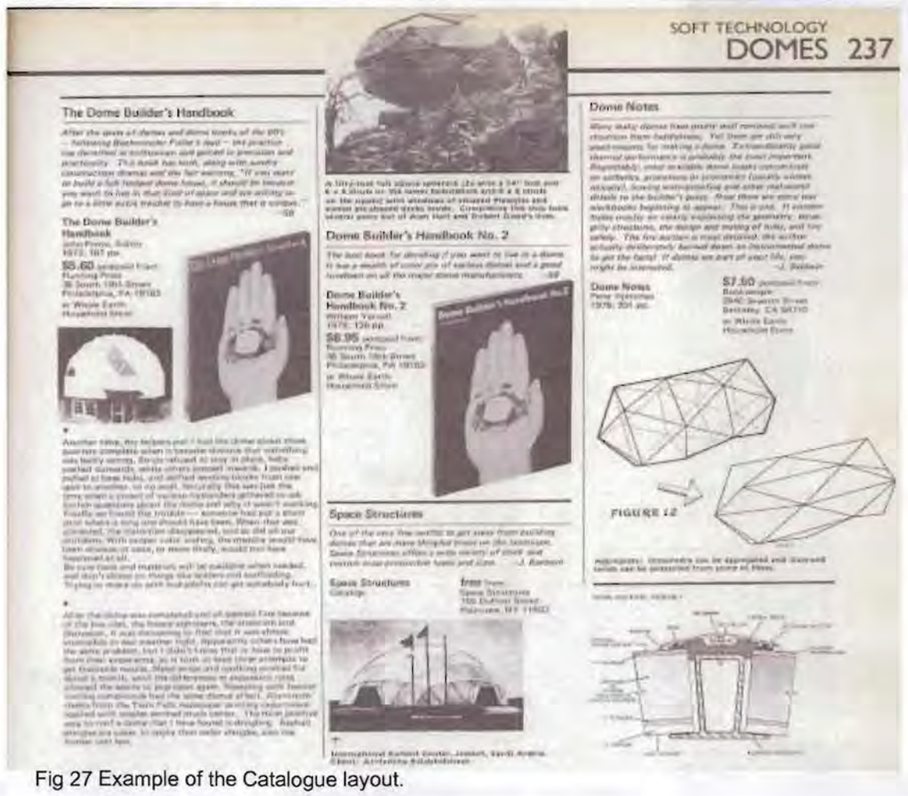


Fig 27 Example of the Catalogue layout.

The Whole Earth Catalogue was an American counterculture catalogue published between 1968 and 1972 by Steward Brand. The purpose of the catalogue was to provide the individual with education and "access to tools". Each section coverd in the book contained a list of the best names and titles of books and tool that the editors could find. The publication coincided with the New Age counter culture commune movement and proved to be a useful tool for the 'do-it-yourself' community. The quote, in the introduction of the catalogue, clearly states what Brand's intention was for the catalogue: "*We are as gods and might as well get good at it. So far, remotely done power and glory — as via government, big business, formal education, church — has succeeded to the point where gross defects obscure actual gains. In response to this dilemma and to these gains a realm of intimate, personal power is developing — power of the individual to conduct his own education, find his own inspiration, shape his own environment, and share his adventure with whoever is interested. Tools that aid this process are sought and promoted by the WHOLE EARTH CATALOG*"[1]

Influence: This 'how-to' guide for the commune members of the 70's creates a friendly interface between the content and its users. Topics are marked clearly on the page and given a sub-category such as Soft Technology or Land Use. On each A3 page, an array of subjects is covered that relates to the topic and sub-category. Each subject always gives a brief introduction, a picture or diagram and then a book or magazine that the member can refer to for more information, stating its price and postal address. These methods influenced the New Commune Catalogue, as the each subject that is analysed first gives a clear brief introductory description and then relies on pictures and diagrams to communicate the subject further. The Catalogue also tries to cover a broad range of topics, so as to give the commune member a number of options so that the element of choice if always evident. The first section of the catalogue also sets the tone and describes the theories behind the commune movement and the self-build notion, so as to provide a sense of understanding for the origins and need for this document. This is also similar to the Whole Earth method that explains the theories behind Whole Systems in the first section.

[1] Steward Brand, "The Whole Earth Catalogue", Random House Inc, New York, 1980

Influence of the Whole Earth Catalogue 3.

Fig 28

Topics covered by the Whole Earth Catalogue:

<u>Understanding Whole systems:</u>
Whole Earth
Space
Fuller
Economics
Civilization
Evolution
Biology
Plants
Water care
<u>Land Use</u>
Soil
Farming philosophy
Cannabis
Horses
Garden equipment
<u>Soft Technology</u>
Tool suppliers
Architecture
House design
Adobe
Rural water
<u>Craft</u>
Leather
Quilting
Baskets
<u>Community</u>
Living cheap
City dwelling
Childbirth
Beer
<u>Politics</u>
Rural issues
War
Women
<u>Nomadics</u>
Travel
Cars
Ocean
Flying
<u>Communications</u>
Drawing
Media culture
Computer age
<u>Learning</u>
Baby
Nature
Yoga

This is only a sample of the broad array of topics covered by the Whole Earth Catalogue

Images from the Whole Earth Catalogue 71

Theory of the self-build 4.

4. 1 Walter Segal method
41.1 How to Segal? Principle
4.1.2 How to Segal? Method
4.2 Christopher Alexander influence

Fig 29

Theory of the self-build 4.

Fig 30 Basildon

Fig 31 Seaford

Fig 32

The natural urge to create a shelter is evident throughout the urban landscape, from shacks in the informal settlements and the empty cardboard boxes of the homeless, to the luxurious mansions of the wealthy. Each shelter displays a different motive. The shack, for example, illustrates the resident's urge to create a cheap form of housing, the cardboard box creates a form of protection from the outside elements and the mansion provides a comfortable haven and status. Some of these shelters are designed and created by the inhabitant's own skill, others require professionals to make the inhabitant's ideas a reality. This section will look at the concept of the 'self-build' shelter as it communicates the commune ideology of self-sufficiency, cooperation, voluntary simplicity and independence.

The owner – builder approach has a great influence on the economic, practical and social aspects, presenting a form of conserving resources and minimizing the impact on the earth through simple buildings that require basic materials that can be sourced with ease. It presents a social influence, as the building process requires more than one person, resulting in cooperation between several individuals who share the common goal of creating a shelter. This manner of construction has been evident throughout history, but was greatly influenced by the Industrial Revolution when mass production took over. Hiring contractors to construct houses (and other buildings) became the norm. However, the self build phenomenon did not become extinct as a concept, as is illustrated in the British towns of Basildon and Seaford, where residents, after World War I all built their own dwellings as a form of mutual saving. This led to the rise of initiatives such as the Self-Build Housing Association in the United Kingdom.

By equipping the individual with the task of constructing his own abode, issues such as poor maintenance and lack of facilities will be addressed, as the inhabitant will be in control of his house. Education through building can have a great effect on the state of housing in an urban setting. Sub-contractors also play a role in the erection process, as some external help is needed for aspects of the house such as plumbing and electricity.

The architect Walter Segal had a profound influence on the concept of the owner - builder house. His research was dedicated to finding cheap, simple and dry methods of building, endeavouring to simplify construction techniques. The self-build concept is not only of economic benefit, but is also "an expression of the individual himself, and will be the highest standard to which he can aspire"[1]. This 'expression' can greatly influence a commune site that is based on community and group ventures. It presents the individualist with a way of expressing himself in his own private dwelling amidst the collection of dwellings on site.

commune precedent

Precedent Analysis

The Riverside Community, located in New Zealand, originally started out as a protest movement that transferred from a religious standpoint to a spiritual one. At present 70 people reside on site with 20 houses, a church, hostel, community hall, shops, workshops, offices, orchards and other industries. All the residents share a common ideology of wanting to maximise their human abilities. Residents translated this by starting to build their own houses through timber framed construction. Windows and doors are made in the community's own woodworking shop. Most of the houses are made from fortified rammed earth, which is 15 parts of subsoil and 1 part cement, which is poured in a thin layer into a form that can be moved along the wall. This technique makes very strong, homogenous structures that grow stronger over time and does not require extensive skill and uses minimal materials.

Knula Dhamma, a Eastern Cape Commune, is another commune where members build all the houses on site. Timber framed construction is used for the larger buildings and earth construction for the houses. The self-build notion is not only seen as a self-sufficiency tool, but also as a means to minimise people's impact on earth. Through the use of sustainable building techniques and sustainable materials, a sustainable society can be created.

Jindibah in Australia demonstrates the relationship between architect and resident. The on site architect, Edwin Buivds, designed all the structures on site according to ESD (ecologically designed development) principles. Thus setting out the formal framework for each building. Each member then applied their relevant skill to construct their house. Sometimes external work had to be brought to site for issues such as plumbing and electricity.

Fig 76 Community self-build at Findhorn

Fig 77 KhulaDhamma timber frame and members making earth mixture

Fig 78 Jindibah house design by Edwin Buivds

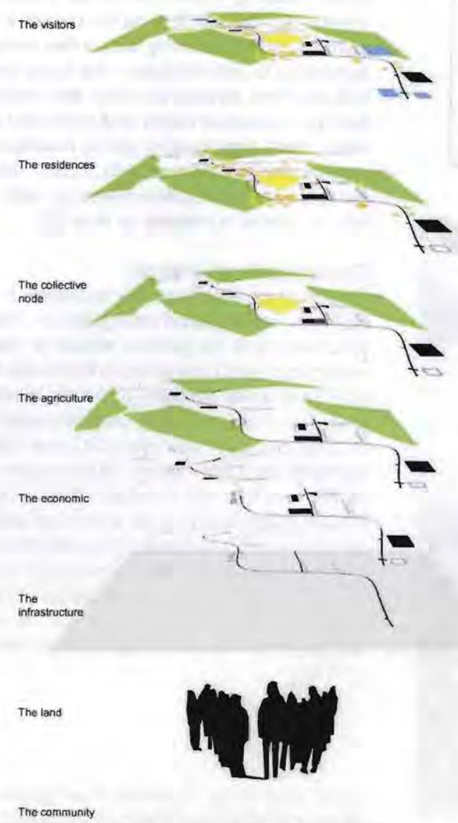
Theory of the self-build 4.

Architects Manifesto:

1. I will design the spatial framework for the commune
2. I will propose the programmatic requirements for the commune
3. I will suggest the programmatic sequence of events
4. I will propose a suitable material palette
5. I will design the appropriate infrastructure for each dwelling on site and provide several options for the self-build expansions.

To be singed by architect

Architects Manifesto for the New Commune



Programmatic sequence for the New Commune

The role of the architect in the self-build scheme is not always clear. However, the advises of an architect can greatly benefit the scheme, as it will translate the inhabitants' wishes into an ordered formal framework that will maximize each principle and integrate issues such as flow, light and space as well as respecting building restrictions. The architect has a prominent function in the New Commune framework, as stipulated in the Architect's Manifesto. The architect will be tasked with designing the spatial and programmatic framework for the site, proposing several schemes for each unit, whether of a residential, commercial or leisure nature. The extent of this framework is described in the Theory component of the New Commune that provides a diagrammatic explanation of each aspect on site. Through the formal framework provided by the architect, and the commune members' self-build interpretation of the plan, the New Commune will take shape, creating a successful community driven living module.

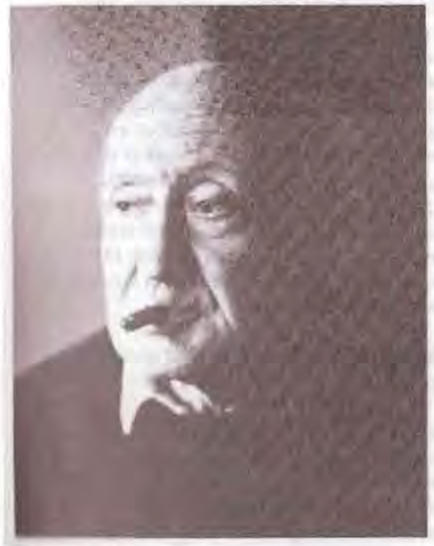
The pleasure of building one's own dwelling should always be emphasised. It is a scheme that allows you to be in control of your own environment, allowing you to determine what the house should ultimately contain programmatically and what the aesthetic will be. "All of us share the same need to live harmoniously in what we sense as a lovely environment. We should all have the opportunity of shaping it, particularly in the fashioning of our own dwellings"[2]

[1] Jon Broome, "The self-build book", Green Books, Britain, 1991
[2] Jon Broome, "The self-build book", Green Books, Britain, 1991

Walter Segal method 4.1

Sources of inspiration

We introduce two of the people, Walter Segal and Christo different but complementary ways, opened our eyes to the life



Picture of Walter Segal

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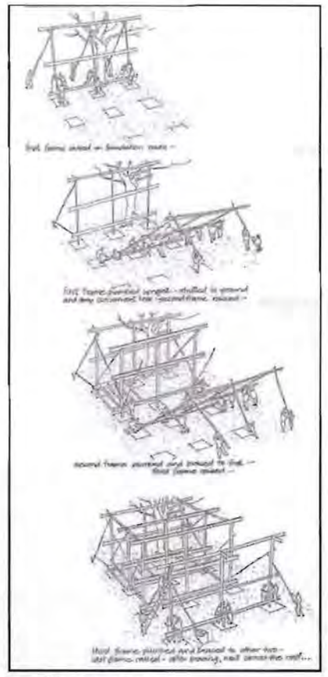


The Segal method

Walter Segal, (1907 – 1985), was an architect known for developing a system of self-build housing that worked on the post-and-beam system. He was brought up in Switzerland and then moved to London in 1936 where he taught at the Architectural Association School of Architecture. After his death in 1985, the Walter Segal Self-Build Trust was set up.

This architect believed in providing all the services for the client. He employed no staff or specialist consultants and personally did all the engineering and quantity surveying, thus be total control of the service rendered. In order to cover the scope of work, he developed a rapid freehand drawing system on foolscap sheets of paper. Business was done via the telephone, removing the need for letters and typed documents.

He wanted to evolve his business further than his wealthy clients who had the means of commissioning and building their own private houses. He wanted it to evolve to include public housing. Where the timber framed method of construction would provide the people in need of a shelter, such as council housing, with a fast economic way to housing. According to John McKean, the Segal method characteristics include: "first, structurally clear and uncalculated; second, having conceptual clarity and openness (the pieces can all read); third, designed for giving satisfaction both to those who made it and to the occupants; fourth, client satisfaction; fifth, compact and appropriate planning; sixth, built very cheaply with no waste in material or time"[1]

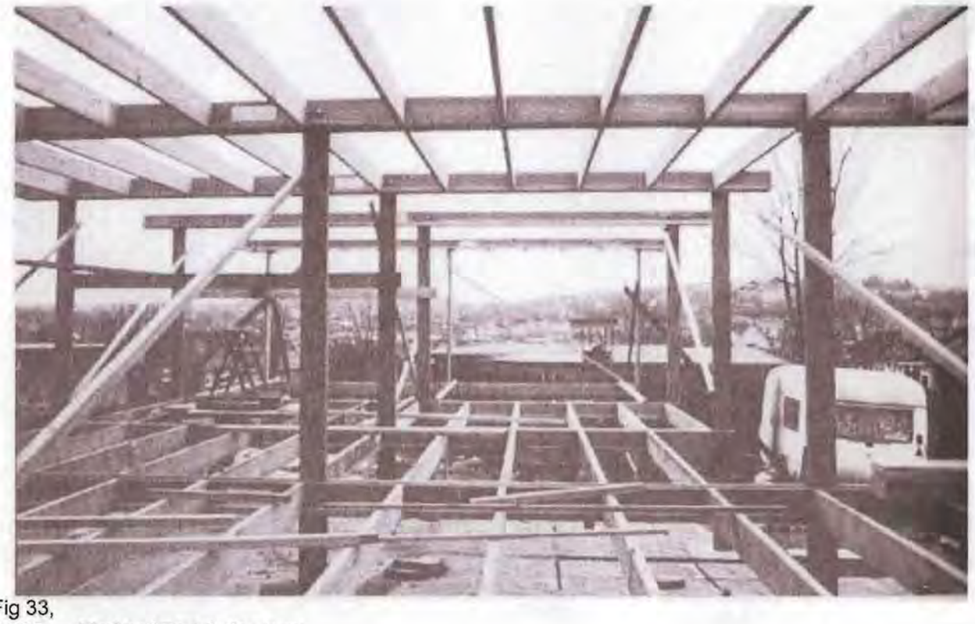


Fig 33, 34,35 Timber framed structure

The Walter Segal method:
Walter Segal employed the technique of the timber framed building, which gained recognition in 1962 when he built a little building in his garden, where he made sure that it was waterproof and it water did in fact enter the building, that it could exit so as to let the wood dry quickly again. He used materials that were easily available and tried to integrate them into the design in their manufactured state as much as possible in order to speed up production, thus illustrating the convenient role of the prefabricated principle in self-build. These prefabricated units where installed in the timber frame according to a predefined grid that complimented the size these units came in, and then used dry-jointing techniques such as bolts and screws, to connect them. Once this garden house became famous, Segal was constructed to commission two dozen of these houses over the next 15 years of his practice.

[1] John McKean, "Learning from Segal: Walter Segal's Life, Work and Influence", Basel, Birkhauser, 1989

Walter Segal method 4.1

The Segal method created a building basis for anyone interested in building his abode, whether having previous knowledge of the subject or not. Segal especially aimed to promote this method for families or small group wanting to create an economical and practical house. This example of a small group can be seen in Lewisham, England.

Other successful example includes The Coin Street Design Centre in inner-city London. The building which was erected in 8 weeks at an extremely low cost includes meeting rooms, office spaces, storage and kitchen. The floor area of 135 m² is a good example of a non residential Segal building. Another example is the meeting hall in Camden for a large council estate that need a common facility. The building of 105 m² was also completed in 8 weeks along with 4 other residences.
The Segal method does not promote a system of building, but instead how to build. It simplifies the whole building process, employing mass-produced products that are available on the local market and easily sourced. It "suggests a vernacular form of building appropriate for our times. It is not imposed for stylistic reasons but rather stems from the basic products and skill of modern industry"[2]

The Segal method has relevance in the commune movement is it equips the members with a simple and economic means to create their own buildings on site. The ideology behind the method also compliments the characteristics of a commune such as voluntary simplicity, natural, co-operation, educational and ecological. The Segal method as relevance in each characteristic, thus providing a viable process that can be proposed for the New Commune.

Advantages:
•Simple: Basic forms of construction that can be mastered by any individual
•Economical: Foundations cost decreased and elimination of sub-contractors
•Quick: Prefabricated elements reduces the time of erection
•Ground works: The post system reduces the need to level the site
•Individual design: Each resident is in control of his dwelling
•Flexible and adaptable: As the walls do not support the weight of the building, panels can be freely moved along the modular grid. Thus the house can be altered to suit the changing needs of the household.
•Extendable: It is easy to extend the house when it needs to incorporate change.

All these advantages fit in perfectly with the aims of the commune that is set out in the Commune Manifesto. The Segal method will introduce a new dimension to the New Commune site, proposing a community who can make the built fabric grow from the site, adding a cohesive layer between the built fabric and the commune principle. The Segal method binds ideology with practicality.

[2] Jon Broome, "The self-build book", Green Books, Britain, 1991

The Coin Street Design Centre

Camden Hall

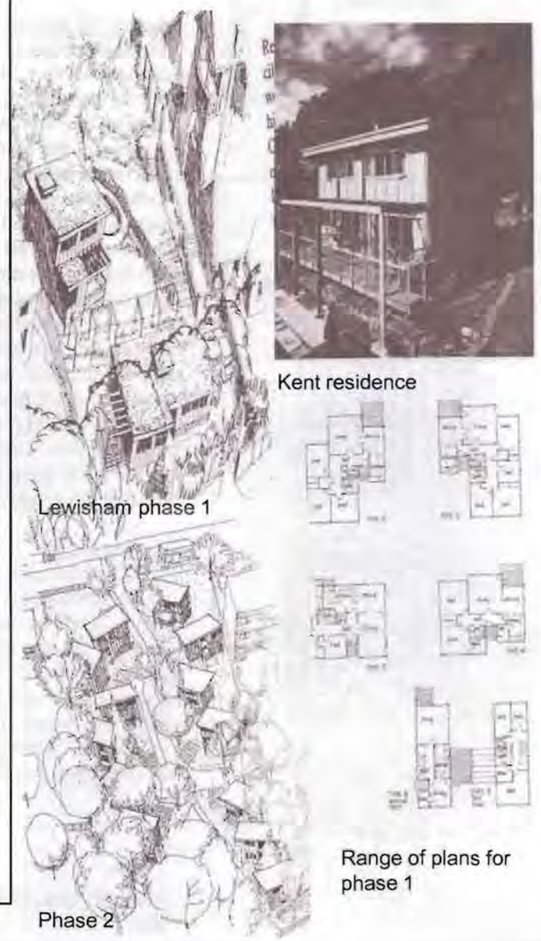
The Lewisham Scheme

In the mid-1970's Colin Ward and Walter Segal designed a scheme for a small community in Lewisham. Ward wanted to introduce a new factor into housing and Segal wanted to promote the 'self-help' building scheme for a housing project. The people of Lewisham on the council housing waiting list grew tired of waiting and wanted to be proactive in their mission for shelter.

In 1974, the London Borough incorporated proposals for alternative methods of housing such as setting up cooperatives for a self-building society. This took years of persuading the Lewisham councilors that the self-build technique is a viable option. An equity sharing scheme was put in place where the council owned the land and the residents shared the ownership of the houses. The families drew up the ideas of their ideal home, which was then interpreted by Segal who then prepared a range of house plans each with a bathroom and verandah. Each individual than chose his preferred plan and had a seminar with Segal where various amendments were made to each plan. While the formal paperwork was done, Segal held workshops were structural principles were explained and practical exercises were executed.

The first house to be built, in 1979, was Ken Atkin's residence. The post and beam construction proved easy and the foundations were quick. The foundation holes of about 600mm x 900mm was filled with concrete and capped with a paving slab. The frames were made flat on the site and then moved into position by a small group of people. Each joint was fixed with galvanised steel bolts. The roof was decked with woodwool slabs. The deck covered with bituminous felt. And so the details went on till the lead project was completed. The majority of the house was then constructed by Ken and his wife. This balance between individual work and cooperative work seemed to be a successful mechanism on site.

Twenty seven houses were completed in two Lewisham schemes. Tenants loved the fact that they no longer had to resort to high rise living in a 'concrete jungle'. Where cost effective building created detached homes with gardens.



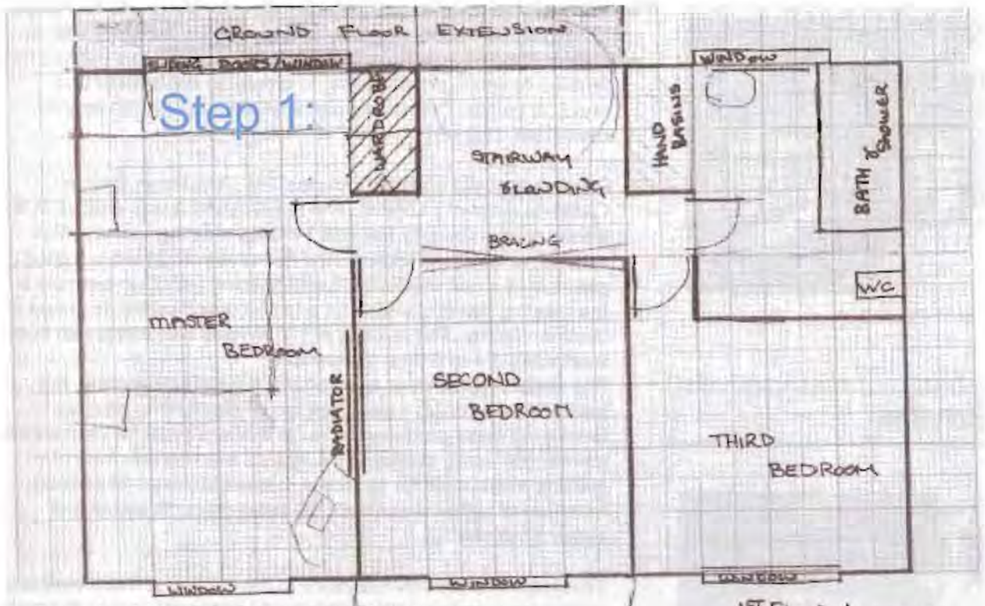
Lewisham phase 1

Kent residence

Phase 2

Range of plans for phase 1

Fig 35-37



Example of a typical plan on squared paper

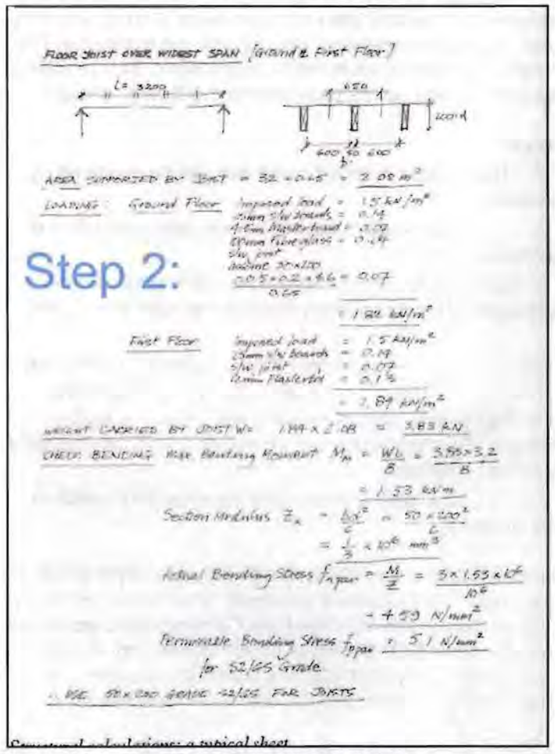
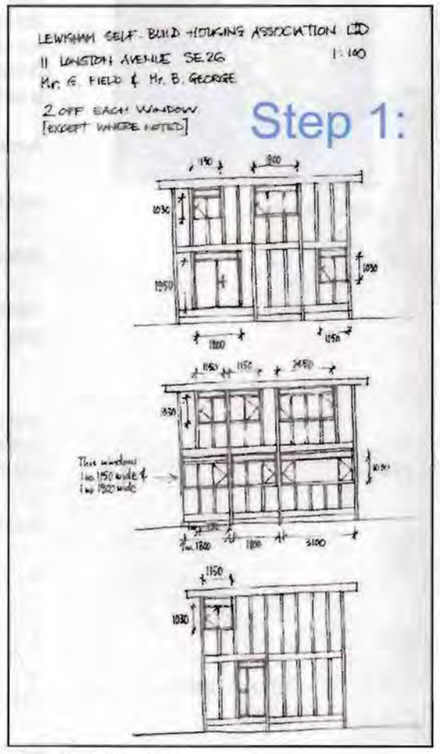


Fig 38-40 Typical sheet with calculations



Typical elevation

How to Segal? 4.1.1

principle

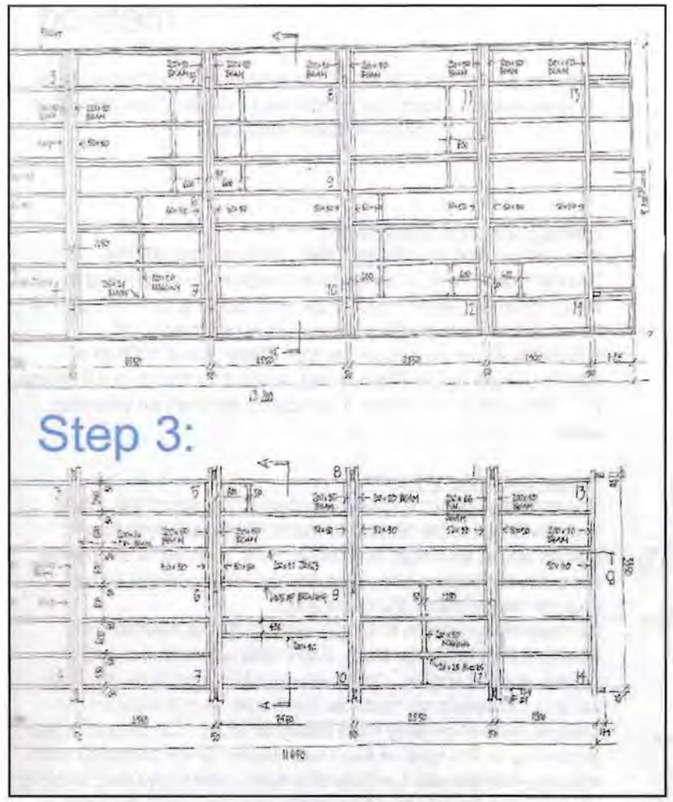
This is a description of the Segal method so as to inform the commune member about the documentation and the work which will be done on site.

Drawings:
The drawings are usually freehand diagrams on A4 sheets of paper. The documents consist of: a.
1. Layout Drawings (These show the planning grid with relation to the wall panels and doors)
2. Calculations (This is obtaining building regulations approval)
3. Framing Drawings (plans, sections, elevations and details of joints with dimensions)
4. Catalogue of elements (diagrams of typical junctions)
5. Schedule of materials (list of all the materials that is ready for pricing)
6. Building Instructions (Step by step guide)

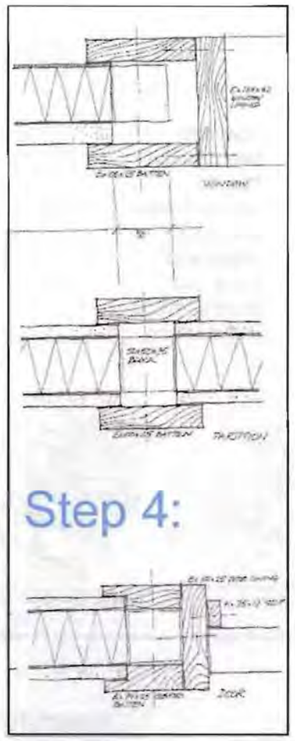
1. Layout Drawings
"The basic notion is that of combining readily available panel materials within a post-and-beam timber frame related to a dimensional grid"[1]. This grid is determined by the size of materials that will be used. The usual spacing is 50mm for the thickness of the panels and the structure, and 600mm for the width of the panels. It is recommended that furniture is included into the plans so as tor provide scale and to make sure that space is not wasted. Walls are not load bearing and can therefore be moved as the desired. One wall is required on each floor for the cross bracing.
Once this layout is determined, the structure can be located. The timber framed post-and-beam system is carried by columns that are spaced up to 4m apart. This system has two main advantages, one the loads are concentrated to a limited number of point, two there is freedom of layout. Floor posts are spaced at 3,85m in each direction usually, dealing adequately with deflection. Once structural layout is complete, integrate the plans into them and draw the elevations which show the height of the windows and external appearance of the building.

2. Calculations
The drawings need to be checked for structural adequacy by calculation. Various loads need to be tabulated and checked in relation to where they are carried and how the structure acts (tension, shear, compression or bending). Identify critical elements and select the appropriate material for each element. Next step is to calculate wind loads which is affected by the shape and height of the building. This then determines where to place the bracing elements. Lastly foundation pressure must be calculated. It is recommended to do a fire check.

[1] Jon Broome, "The self-build book", Green Books, Britain, 1991



Typical structural frame drawings



Typical catalogue of elements

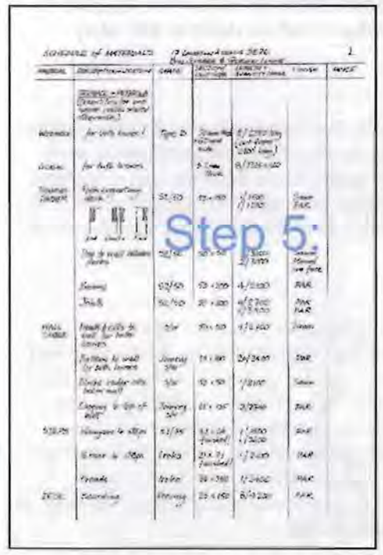


Fig 41-44 Typical schedule of materials

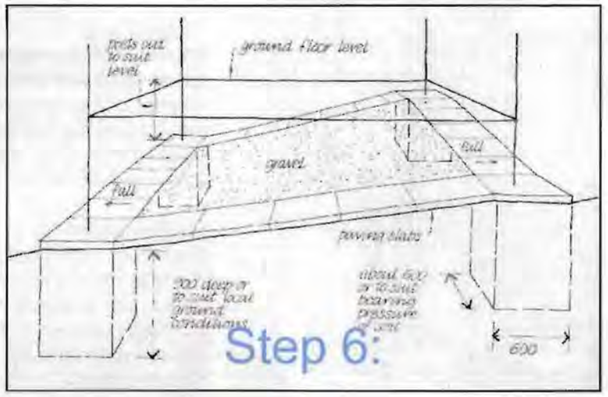


Diagram of foundation

3. Framing Drawings
A typical set of framing drawings include: a foundation plan, plans for each level, roof plan, cross-section, long section, diagrams of each of the main frames and details of joints. These sheets should contain the dimensional information.

4. Catalogue of elements
These are plans and sections that show how each part is connected to the other in the building for example how windows join walls.

5. Schedule of materials
This is a detailed list of all the materials needed for the building. Each description should state the size, quality, finish and location in the building. Diagrams are useful to demonstrate. This acts as a bill of quantities and specification.

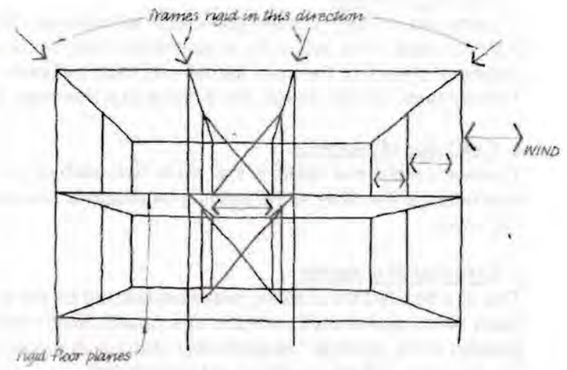
6. Building instructions
This is a step by step guide, usually with diagrams for the building of the structure. Good DIY books should be recommended for complicated joints and installation such as wiring. It is the member's decision on whether he wants to work individually, this allowing him to move at his own pace, or with a group, which will speed up erection and is needed for heavy duty elements such as raising frames. It is advised that drainage and water be laid first so as not to create unnecessary digging later. Drainage may require the help of a subcontractor. A primary feature of the Segal building is that it is built above the ground. Each post is supported on a concrete base of about 600mmx900mm. These are placed in the site without having to level. The post stands on the foundations but is not anchored to it, thus it is not dependant on the foundation system making it easier to adjust the frame at a later stage.

How to Segal? 4.1.2

method

This is a brief introduction to the process of erecting a Segal house so as to inform the commune member about the scope of work that is expected.

2.



Post and beam timber framed structure with bracing to resist wind loads and double beams in the centre.

3.

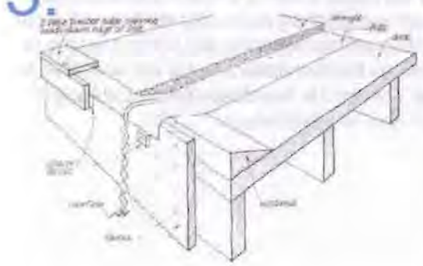
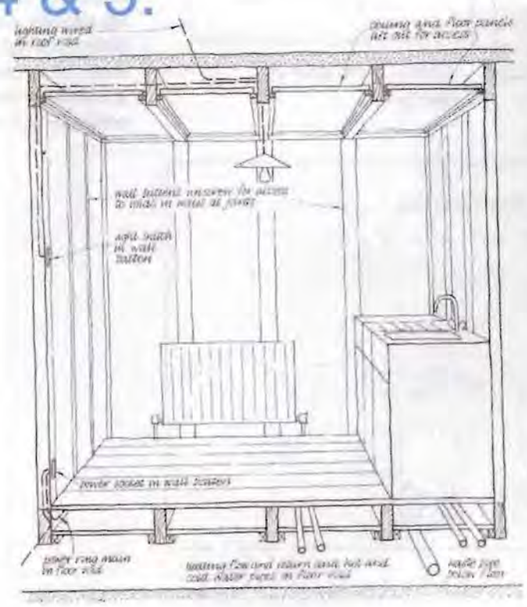


Fig 45-48 Roof

4 & 5.



Plumbing below floorboards

Phase 1: site and foundation

Position building on site and mark the positions for the foundations. The foundation hole needs to be excavated to about 900mm (depth my change from building to building). Fill holes with concrete with a precast concrete paving of 600x600x50mm paving on the top. Place about 100mm of 40mm shingle below the building, recommended to put it on top of a black polythene sheet. Foundation pictured on previous page

Phase 2: structural frame

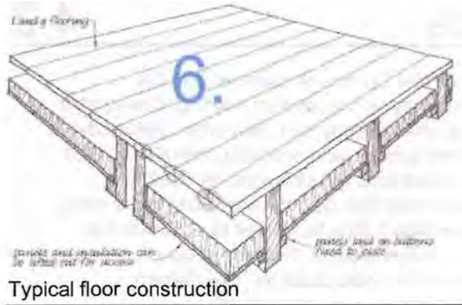
The post and beam system provides a rigid structure. Each floor level has to be braced to resist wind loads with floor planes acting as a rigid horizontal plate. Frames in the centre have double beams with edge frames having single beams, thus all beams carry the same load.
Cut beams and posts to length with all relevant joints and notches. Drill holes for bolts. Assemble a post and a pair of beams at right angles. Clamp into position and then drill hole for bolt. Complete as much as the frame as possible on the ground, but not making it too heavy to lift up. Cut post to length according to the level of each foundation. Once complete start erecting frames with the help of a team. Use temporary bracing for the edge frames and then brace each frame to the next as the structure gets built. When finished, remove temporary bracing and fix joists.

Phase 3: roof

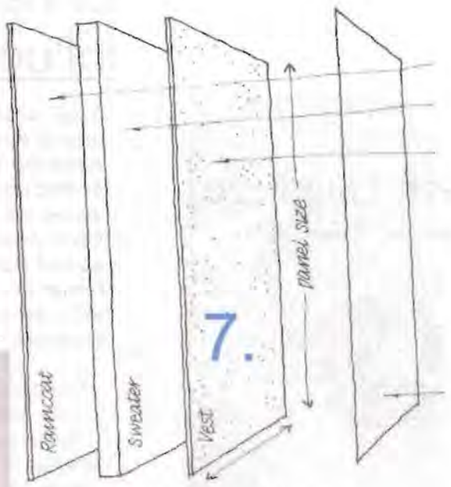
Walter Segal devised a flat roof scheme for the building method as it is quick and easy to construct. Fix fascia boards to roof, creating a V joint where boards come together. Lay woodwool slabs according to drawings. Fix angle fillet and place felt. Then create a right angle capping for the edge. Lay a 40mm layer of 20mm shingle on roof.

Phase 4: plumbing

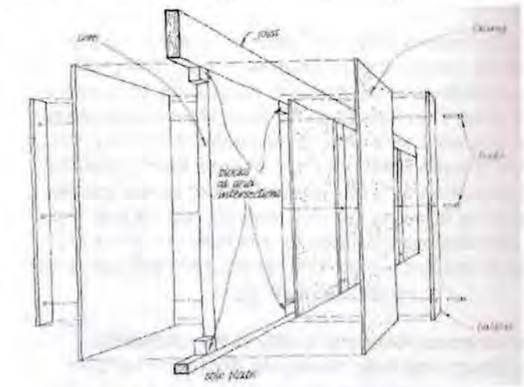
Once roof is completed the internal pipe work must be put in place before the floor can be finished. It is recommended that the hot and cold pipe work run above the floor. Waste and gas pipes can run below. The pipe work should compliment the location of the bathrooms and kitchen. The boiler must be mounted next to an external wall and be at least 300mm from an open window for ventilation. Whilst laying pipes, try to minimise the distance, as this minimizes the amount of water in the system to make it run quicker.



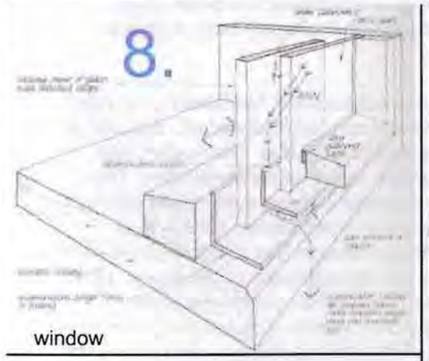
Typical floor construction



External wall with weatherproof external finish; structural insulation core; decorative internal finish and additional layer for example plastic laminate



Wall panels connected to frame



window

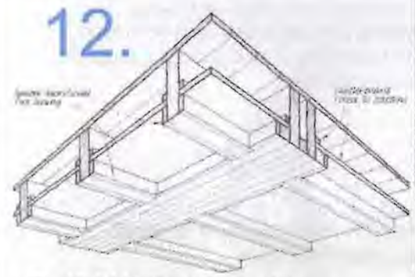
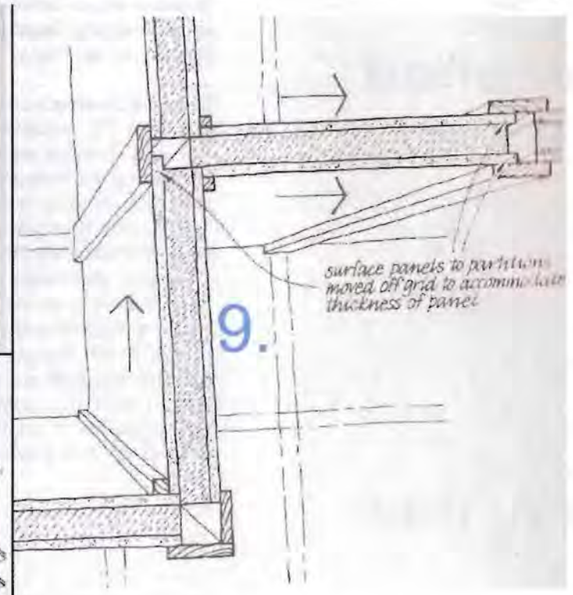


Fig 49-54 Ceiling construction



partition

How to Segal? 4.1.2 method

Phase 5: wiring
This phase might have to be completed before floor boards are put in place. A domestic installation usually requires two ring circuits for the power point run in 2.5mm²PVC twin earth and earth cable. There are two lightning circuits. A three-core cable is needed if one has a two way light switch. All metal fixtures and pipe work have to be earthed.

Phase 6: floors
Floors can be completed when the plumbing and electrical carcasses are in. This is a tongue and groove system of softwood flooring that is at least 25mm thick and can span 600mm. The ground floor should be insulated, which can be lifted when access in needed to the floor void.

Phase 7: external walls
Now that the floors are in place, a working platform has been created. The external walls are non-structural infill panels which in then clamped into the frames with timber battens. The panels are made up of a weatherproof membrane, insulation sheet and external decorative finish. Place a weep hole at the bottom of every joint to drain water if it enters the structure. Once panels are in place, fix rainwater downpipes with brackets to the wall.

Phase 8: windows
Place windows in completed walls. The Segal method suggests the making of sliding windows on site, creating frames and tracks from available materials.

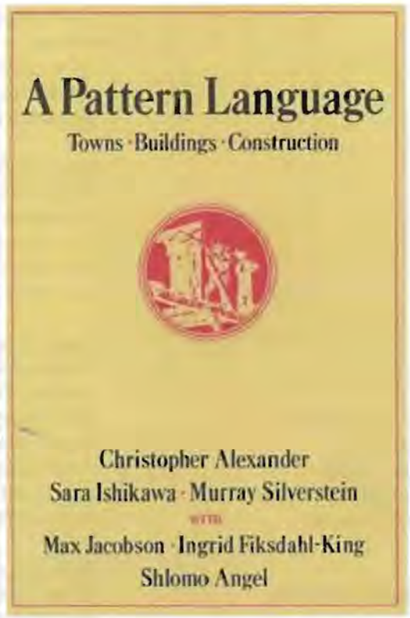
Phase 9: partitions
These internal subdivisions are made in a similar way to the external walls, with a three-layer sandwich system. Partitions are fixed to frames with battens. Holes are cut in partitions for electrical wiring. Place the head trim and the skirting.

Phase 10: plumbing
Once all panels are finished, the plumbing can be completed. Place gas meter in a well ventilated space. Fit appliances such as the bath, shower and toilet.

Phase 11: electrical
Now the electrical component can be finished with the placing of elements such as light switches.

Phase 12: ceilings
The ceiling is usually constructed from painted plasterboard that is laid between joists on battens. In a two storey house, the bottom floor should use fire resistant methods.

Phase 13: finishing
When the structure is complete, finishes can be added such as shelves, carpets and paint. Stairs should also be completed at this point. Stairs are either constructed by: suspending treads on hangers from above; supporting the stair on posts coming up from below; or supporting them on bearers fixed to the wall battens.



Alexander, Segal and the New Commune

Alexander and Segal influenced the practicality of making one's own building. Both providing architectural systems that promoted simplified construction, group cooperation, inexpensive materials and respect for the earth as buildings sit lightly on the ground. The Alexander and Segal method can enhance the New Commune site, providing a practicality to a community based movement. Both methods echo the ethos of commune living such as voluntary simplicity and collective activity. Thus the commune ideology has the option of translating into the actual building technique and process. A process where commune members are in control of their site from a ideological stand point to an architectural one

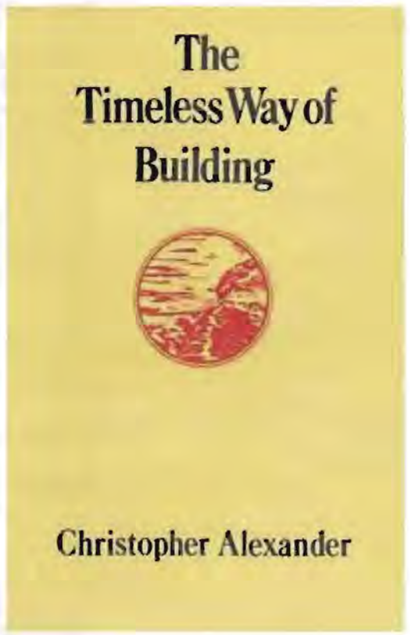


Fig 56-58

Christopher Alexander influence 4.2

Segal supplies the New Commune member with the appropriate tool to constructing his own building. Christopher Alexander supplies the ideology and inspiration. Alexander is a noted architectural scholar who moved to the USA in 1958 and who is now a teacher at the University of California, Berkley. He believed that the user of the building knew more about it than the architect, thus he strived to empower the human being with design tools so that he can build his desires structure at any scale in books such as "The Pattern Language" and "A timeless way of building".

"There is one timeless way of building. It is a thousand years old, and the same today as it has ever been. The great traditional buildings of the past, the villages and tents and temples in which man feels at home, have always been made by people who were very close to the center of this way. It is not possible to make great buildings, or great towns, beautiful places, places where you feel yourself, places where you feel alive, except by following this way. And, as you will see, this way will lead anyone who looks for it to buildings which are themselves as ancient in their form, as the trees and hills, and as our faces are."[1]

This quote illustrates Alexander's view of the relationship between buildings and their inhabitants. That all inhabitants have the power to create their own surroundings and that this 'timeless way of building' is accessible to anyone. Thus complementing Segal's notion that anyone can build and design his own home.

One of Alexander's other publications; "A Pattern Language" illustrates 253 patterns that can be translated into a practical, safe and attractive architectural system. This system was inspired by the harmonious quality of medieval cities. The book also provides a simplified building system that employs inexpensive materials and minimal labour. The Oregon University translated these ideas in "The Oregon Experiment". This publication deals with the principles of the organic order (form follows function), participation, piecemeal growth, patterns, diagnosis and coordination. Emphasising the role of growth on site, for example how a building should grow from the site, over time and can evolve to adopt to change. This ideal of piecemeal growth is very important on a commune site, as the site is not just complete in one go, it is a process of elements that matures over time.

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[1] Christopher Alexander, "A timeless way of building", Oxford University Press, New York, 1975

Case Study 5.

Case Study 5.

The ideas described by Segal and Alexander translates the self-sufficiency ideology of the New Commune through a principle of self-build that bases its methods on simplicity and group cooperation, that are coincidently two other themes present in the commune ethos. However two other dominant themes that play a part in the commune framework is that of nature and ecological design. This community based movement integrates nature into every principle of collective living, as the commune provides a means to reconnect with nature and restore its natural resources by leading a low impact life. Promoting a sustainable community through sustainable living. It is needed, therefore, to provide a self-build example of a ecological building, illustrating that it is possible for the New Commune member not only to make a timber post and beam building (through the Segal method), but an environmentally friendly one too.

The little green building

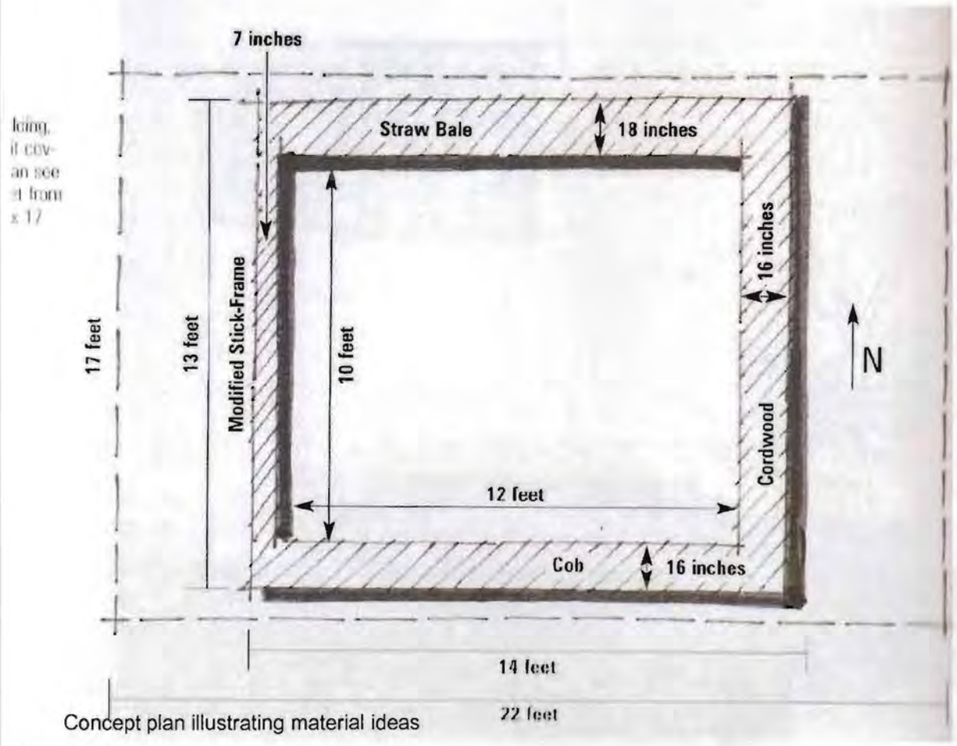
The Green Building:

Clarke Snell and Tim Callahan wanted to illustrate that it was possible to use alternative green technologies to self-build a residence. The building that was constructed is a small house in the North American countryside that incorporates an array of green technologies into one 4mx4m structure.

The creators

What is green building?
It is a sustainable form of building that aims to save the earth's resources. It has a low construction impact, uses sustainable materials, and employs techniques that conserve electricity and water consumption and nontoxic.

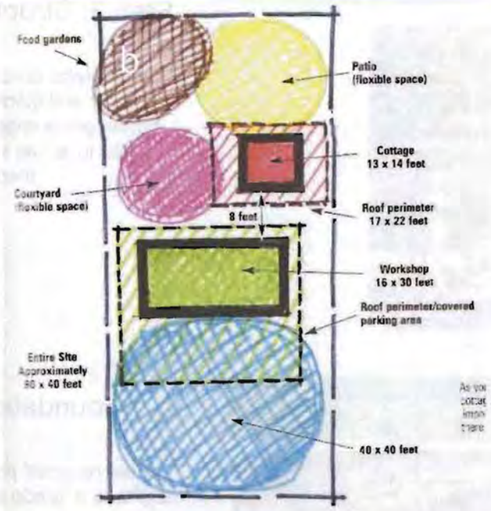
The steps include:
1. Siting
2. Site Work
3. Structure
   - 3.1 Foundation
   - 3.2 Wall
   - 3.3 Roof
4. Wall Materials
   - 4.1 Cob
   - 4.2 Cordwood
   - 4.3 Strawbale
   - 4.4 Modified stick-frame
5. External finishes
   - 5.1 Wall finish
   - 5.2 Roof finish
   - 5.3 Floor finish
6. Completion



Concept plan illustrating material ideas

Fig 59-60

Step 1



Step 1: Siting

a) Decide where the building should be located on site so as to maximize the use of sun and views.

b) Mark out the footprint of the building on the site, leaving from for a temporary workshop space during construction.

Step 2

Fig 60-67

Step 2: Site Work

a) First the site contours should be marked with long stick to mark the outline of the building.

b) Excavate to create a flat surface.

c) Build retaining wall by placing rocks found on site against the side. Fill spaces with gravel to keep the dirt from clogging the wall.

d) After marking on site (flour can be used for marking) where the four foundation footers should go, dig out the footer holes and then follow with digging the foundation trenches (that are as deep as the footers)

Step 3

Step 3.1

Fig 68-74

Step 3: Structure

A skeletal structure is use instead of a monolithic one, as it is easier and quicker to build. A timber frame skeleton with large timber posts supports the major loads of the building, leaving the walls to act as infill, not structural. This compliments the Segal theory of the post and beam structure.

3.1 Foundation

a) Use recycled plywood to create casts for pads and footers
b) Place a 'grade stake' (rebar) in the centre of each footing with a rebar reinforcement grid

c) Pour dry mix into the casts. Once concrete has stiffened, keep it wet for a few days so that it can get stronger.

d) Once these footers are complete, construct piers from concrete blocks.

e) Fill piers with concrete. Place bolts in the cast before it stiffens.

f) Clean trenches and place a foundation drain so as to lead away any water that enters the foundation area.

g) Lastly fill the remaining trench space with gravel, called the "gravel trench foundation" technique. A filter fabric that runs along the perimeter will add another waterproof mechanism for the foundations.

Step 3.2

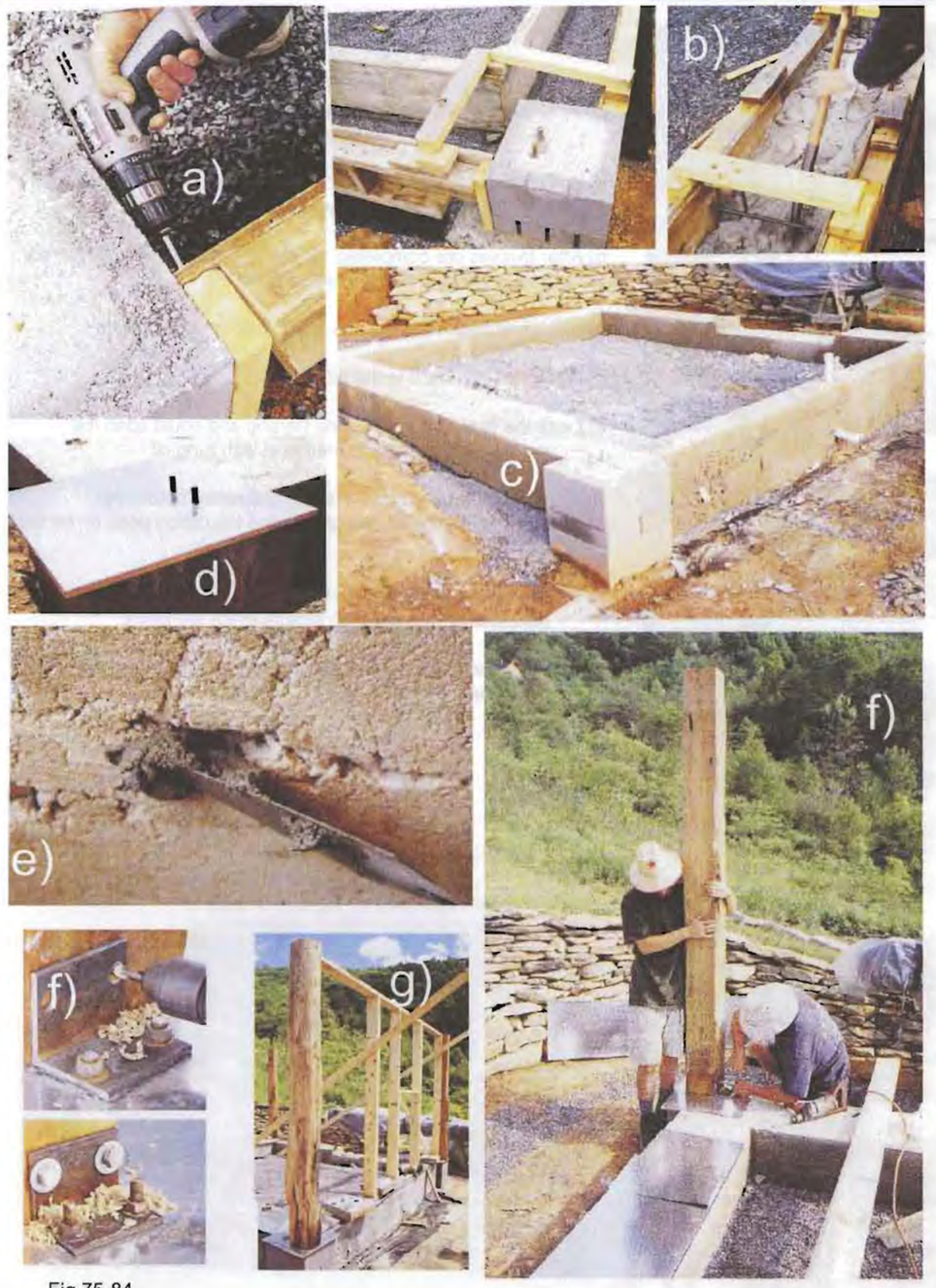


Fig 75-84

3.2 Wall

The stem walls form the structure for the walls. They are built on top of the gravel trench. The structure had to accommodate the thick cob and Strawbale materials, thus large timber posts were chosen to be placed on top of the stem walls.

a) Attached the wood form (recycled plywood) to the concrete piers. These forms run in between each of the 4 piers. Rebar is placed inside each form, before the cement is poured. Pipes for plumbing should also be accommodated at this point.

b) Mix the cement and vermiculture with water on site and pour into forms.

c) Remove formwork after 3 days.

d) Cap each pier with a metal sheet that forms a termite barrier, protecting the future infill of the walls.

e) Gaps in the stem walls should be filled and then structural stucco should be applied to the outside to protect these walls.

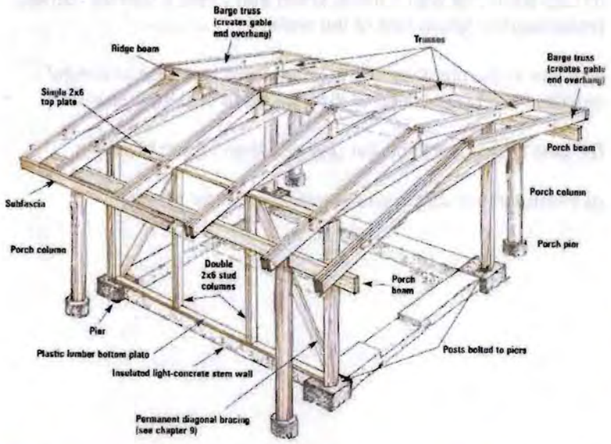
f) Place timber posts on the pier and then attach brackets

g) Place temporary beams between posts for support

Case Study 5.

the little green building

Step 3.2



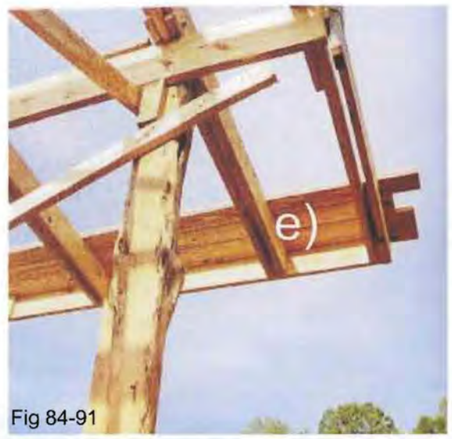


Fig 84-91

3.3 Roof

The roof had to strong so as to carry the load of the living roof, and visually attractive with large overhangs. The 1.25:12 pitch was chosen

a) Build trusses on the ground. A collar tie is used to construct the strong triangles at each side.

b) After trusses are completed, lift them in place, using temporary bracing to hold the trusses up right.

c) Make notches in the trusses and install the ridge beam

d) Attach fascia board to the edges

e) Deck the roof with yellow pine (strong and could span the required distance) and then seal with tung oil

f) Place a drip edge under the decking overlap before the waterproof membrane, gravel and insulation goes on for the living roof

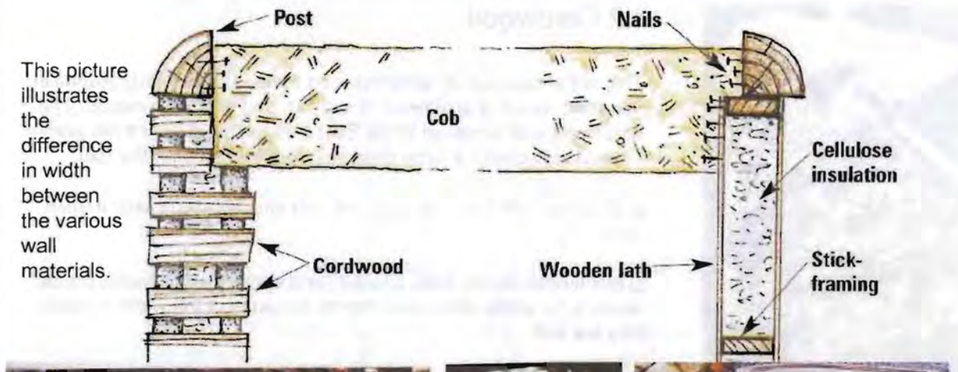
g) Create the porch piers (that support the overhang) by casting concrete bases and then attaching the log posts

h) Lastly cut notches into the log posts for porch beams and fasten with bolts

What you should have by the end of Step 3:

Step 4.1

This picture illustrates the difference in width between the various wall materials.



Location of the cob wall in the house
Fig 92-103

Step 4 Wall Materials

4.1 Cob

Cob is an inexpensive, readily available material that is easy to use. Cob walls are also hygroscopic (reacts well to water vapour) and virtually fireproof with good sound insulation. Proving that there are many advantages to using this alternative, sustainable material. Cob is used for the south wall, as it faces the sun, thus enhancing its R-value (heat flow). It would not have worked on the North side, as it would have retained the cold and pulled the heat from the inside of the building. Cob takes the longest to dry from all the wall materials, thus having to be made first on site.

a) Locate the door threshold (a place was left out in the stem walls), and pour thinset mortar and place granite top. Seal the gap between the stem wall and the granite with silicone.

b) The doors are made on site: The door frame consists of heavy rough cut, air-dried wood which is connected with heavy lag bolts to each other and then connected with steel angles to the stem walls.

c) Windows are also made on site from salvaged oak boards.

d) Cob mixture: (Make a mix of 1 part sand to one part soil and add straw) Dig a hole and soak soil before adding clay.
-Create a pit where clay mixture can be manually mixed. Keep adding sand and straw till the right texture is achieved. This can become a useful group activity, especially in a commune environment.
- Start laying the cob directly onto the cob walls. Each course is tied together using a 'cobber's thumb' wishes manually pushes the straw from the new layer to the course below.
- Wall is moulded according to the desired aesthetic
- Place window buck and sill in place
- Place bottles for an alternative light source
- Smooth rough areas with a machete or masonry wheel

What you should have by the end of Step 4.1:

Step 4.2

Fig 104-111

4.2 Cordwood

This is the practice of using firewood to build walls. Short pieces of air-dried round or split wood is laid in a bed of double mortar. The cordwood wall is placed in the East side as this is where the porch is located with a large overhang to protect it from the rain.

a) Strip the bark from the logs and split into segments with a maul (axe).

b) Mix mortar (sand, lime, sawdust and cement). Cordwood mortar needs to be stiffer than usual mortar because of the width in which they are laid.

c) Create two rows of mortar, placing loose fill insulation in the space between the beds.

d) Lay the cordwood pieces as close together as possible

e) Continue this procedure till the appropriate height is reached

f) Where the cordwood wall meet the cob wall, cut the cordwood to a smaller size, creating a small cordwood column

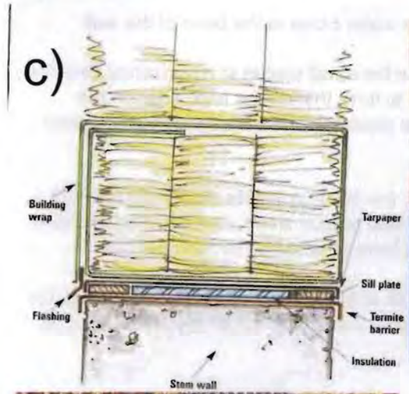
g) When the top of the wall is reached where the windows stop, a lintel needs to be placed. Use mortar to fill in the gap between lintel and wall.

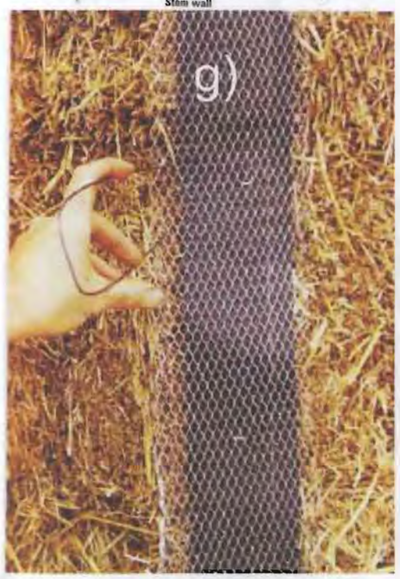
What you should have by the end of Step 4.2:

Case Study 5.

the little green building

Step 4.3





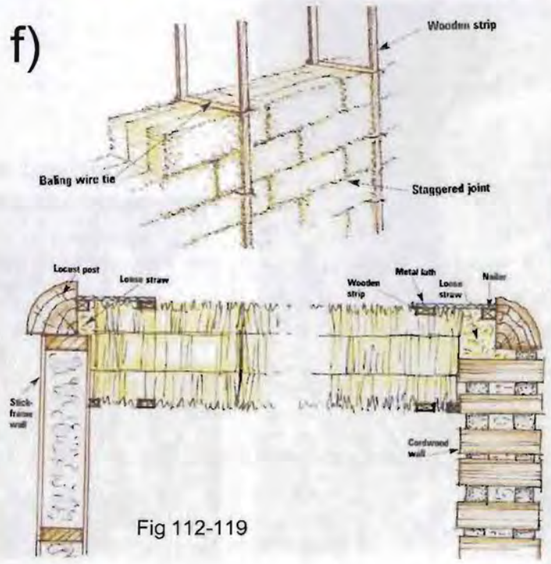


Fig 112-119

4.3 Straw bale

There are two types of straw bale construction, straw bale infill (fills the spaces between columns) and load-bearing straw bale (carries the load of the roof). The infill type will be used for this building as timber posts already carry the load of the roof. Straw bale is a very good insulator, making it a very energy-efficient material. It is sustainable, recycling it from the byproduct of food production, and acts as an excellent sound insulation barrier. The straw bale wall is located on the north of the building, which is not too ideal as it does not receive a lot of winter sun, thus making it slow to dry.

a) Place a sill plate to the stem wall at each side. Fill the gap with thick rigid foam.

b) Next cover it with tarpaper which is stapled to the sill.

c) Install a drainage plane (which protects the first course of bales from water)

d) Connect wooden tie strips that run from the sill to the roof. Place wooden tie strips on top of the first course so that exterior and interior wooded strips can be tied together later.

e) Each straw bale must have a piece of baling wire put through which then gets wrapped around each bale.

f) Follow the simple connection system in the diagram provided

g) Cover wooden strips with tarpaper, which is nailed to the strips, and then place a metal mesh over them. This is for the plaster finish in the next section.

What you should have by the end of Step 4.3:

Step 4.4

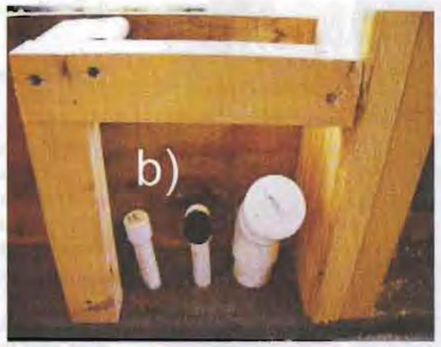


Fig 120127

4.4 Modified stick-frame

This structural system takes the load of the large timber posts (of the post and beam frame) and splits them up. These studs are attached to thin beams that run on the top and bottom of the frame. This system is placed in the west of the building, as this wall had to have the pipes for the kitchen running through it and shelving on the outside. This would have been difficult with cob and straw bale walls. This wall also had to be strong so as to carry some of the weight of the living roof.

a) Use the conventional framing method to construct the timber frame and locate where pipes will be placed.

b) Make a box around the water pipes at the base of the wall.

c) To make the lath: Place the small pieces in a horizontal direction, running from stud to stud to form the interior lath. To form the exterior lath use the same method, notice the space left between each board.

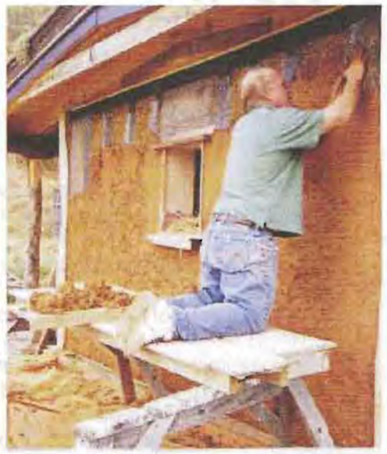
d) At the base of the wall, the flashing serves as the plaster stop. The little grey blocks are also plaster stops, so that when shelving is attached, one does not have to hammer through the plaster.

e) Small openings were left at the top of the wall to allow for space so that the insulation hose can enter. Cellulose insulation is used for this purpose.

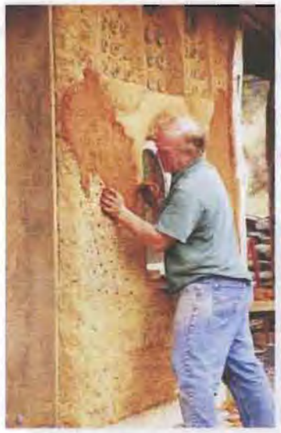
What you should have by the end of Step 4.4:

Step 5.1

straw bale



cob



stick-frame

5. External finishes

5.1 Wall finish

Earth Plaster (as clay will always have a lower water content than straw and it is easy and workable by hand which is good for irregular shapes)
a) Make the earth plaster (1:1 part sand and clay) then add straw and mix by hand.
b) Smear the mixture onto the walls with hands. When dry add another layer of plaster.
c) For the interior, use the same mix as above for the metal mesh areas and clay rich mix (without straw) for the straw bale areas.
d) When the earth plaster mix is dry, add two layers of lime plaster.

This employs the same method as above but uses the 1:1½ part mixture.
a) Use a brick to smooth out the cob walls.
b) Smear the plaster mix on the walls, wait for bottom coat to dry then add another.
c) Brush the wall first to get rid of loose materials, then put the lime plaster on.

:
a) Mix clay, lime and sand plaster and then add straw.
b) Smear the clay mix on wall
c) Add another coat when dry, and make sure that layers don't dry to quickly otherwise cracking will occur.
d) Add lime plaster layer for this purpose.

Fig 128- 140

Step 5.2

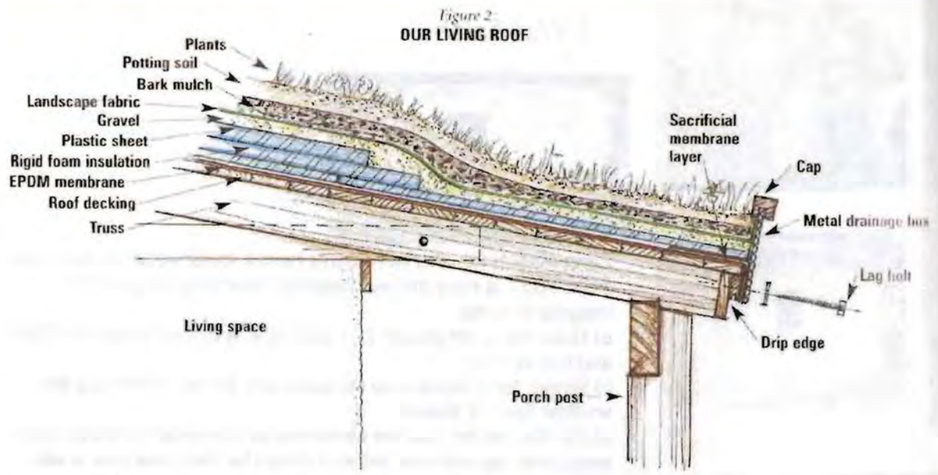


Figure 2
OUR LIVING ROOF

PART TWO: **BUILDING**

Fig 141-153

5.2 Roof finish

The Living Roof:

a) Place the waterproof membrane, EPDM (synthetic rubber) so that it drapes over the edges

b) Attach metal grating (which makes a drainage box for the plants) with a lag bolt and then trim off extra membrane

c) Line the drainage box with landscape fabric

d) Place a layer of rigid insulation over membrane

e) To create the drainage layer, the insulation was covered with plastic and a layer of gravel placed over it

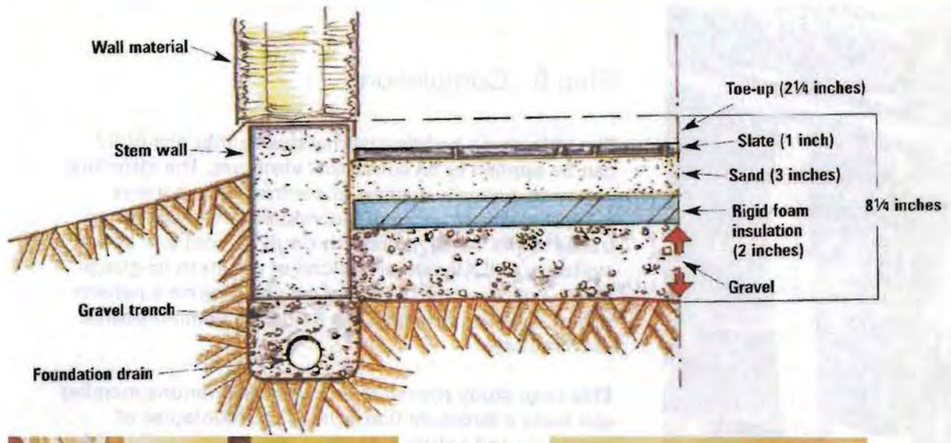
f) Cap the drainage box with a piece of composite lumber decking. Use brackets to fasten the pieces at corners.

g) Place 2 layers of landscape fabric over the gravel. Then pour the mulch onto the roof

h) Plant the desired plants

i) Construct a gutter system out of attaching a rain chain to the fascia board.

Step 5.3



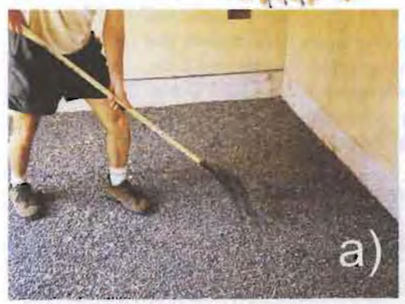


Fig 154-160

5.3 Floor finish

The design called for the creation of an on-grade floor that could collect solar heat. The stem wall created an insulated box, due to the use of vremiculture, for the layers of needed for the floor: leveling bed of gravel, vapour barrier, insulation, sand and ground slate.

a) Add gravel to the box and rake it level

b) Lay out a vapour barrier

c) Place the rigid insulation over the vapour barrier

d) Add the sand layer (add some dry cement to mixture)

e) Finish the gravel bed with a layer of Portland cement

f) Cut stone panels for the floor finish and fit into the shape of the floor

g) Put grout in the gaps between panels

Step 6








Fig 161-166

Step 6 : Completion

The little green building demonstrates that self-build can be applied to an ecological structure. The structure assumes a simple method of contractions that was completed mostly by two individuals. The system has traces of the Segal method through its post and beam systems, and Alexander notions of a pattern language as the builders were adamant on deciding on a pattern for the building where all the materials communicated this language.

This case study proves that the New Commune member can build a structure that echoes the ideologies of simplicity and nature through a sustainable self-build method. This building manages to translate the principles of the Commune Manifesto into one structure. The methods used in the Little Green Building can be applied to any desired scheme that the New Commune member implements on site.

By integrating the Segal method with the case study above, a sustainable community can be achieved through sustainable building.

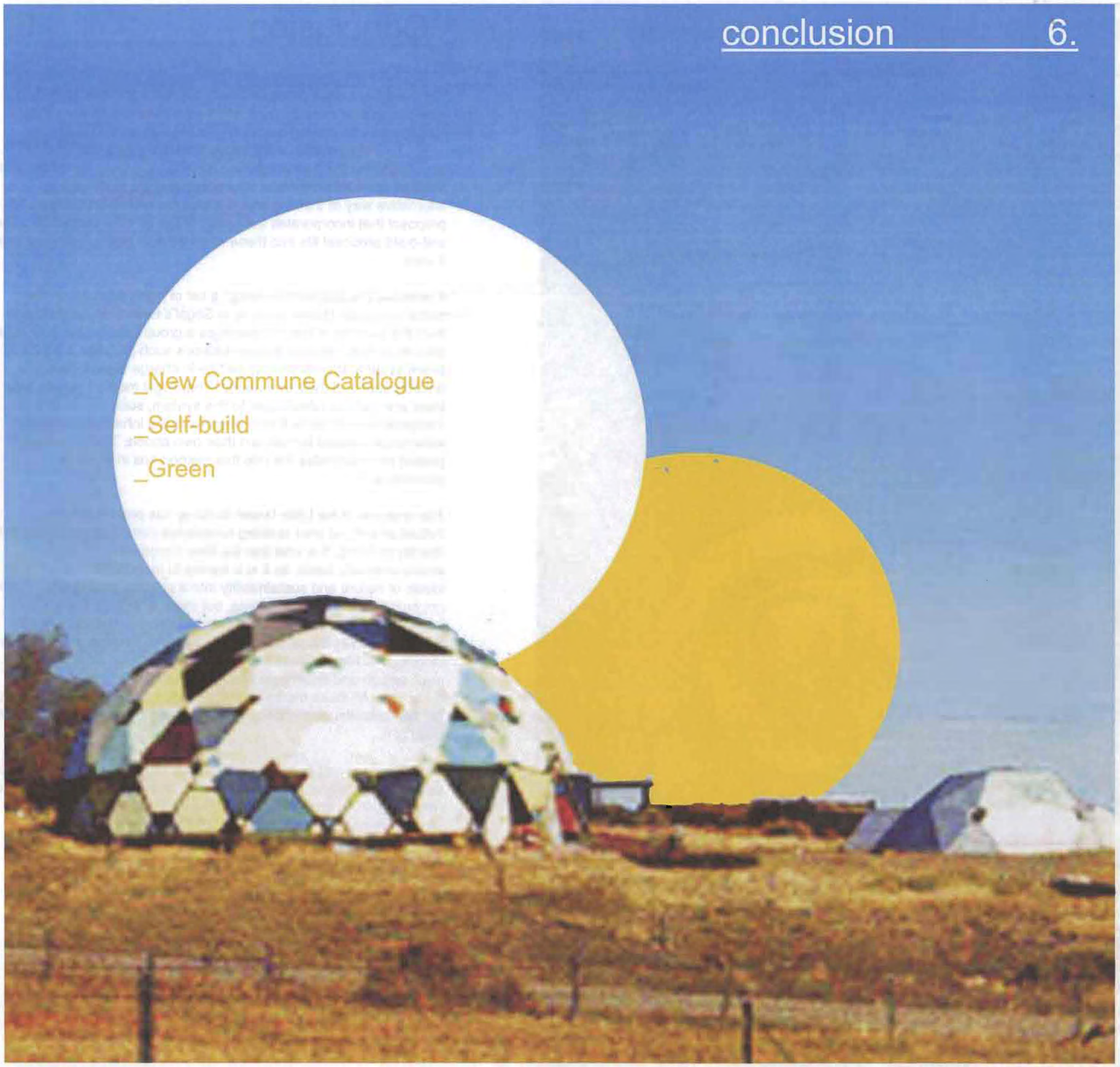

_New Commune Catalogue
_Self-build
_Green

Fig 167

Conclusion 6.

The New Commune proposal seeks to create an alternative environment for the individual who seeks to lead a lifestyle that reconnects with nature, respecting its resources, and collective living. This community based movement requires a site that can accommodate the needs professed in the New Commune Manifesto, such as self-sufficiency and education. The site demands an alternative way of thinking and requires the architect to suggest a proposal that incorporates the needs of the commune member. The self-build proposal fits into these requirements from a technical point if view.

It provides the architect to design a set of plans from which the community cam chose, such as in Segal's Lewisham project, and then the building of the site becomes a group activity that acts as an education tool. Through simple methods such as Segal's post and beam system, the community can be in charge of their own environment and their own abode. The Segal method proves that there are various advantages to this system, such as that it is inexpensive and quick. It also empowers the inhabitants with the knowledge needed to maintain their own abode. The Lewisham project also illustrates the role this method has in a group environment.

The analysis of the Little Green Building has proven that an individual with no prior building knowledge can make an ecologically friendly building. It is vital that the New Commune assumes an environmentally basis, as it is a means to translate the communes ideals of nature and sustainability into a physical built reality. Where not only the natural surrounding, but the building itself over's the inhabitant a means of reconnecting with nature. The Little Green Building evolves the post and beam ideals of Segal and the pattern language of Alexander to a green status, incorporating materials such as cob and straw bale and employing techniques such as a living roof. All these methods are briefly explained in a step by step guide, illustrating the viability of a green commune site and the self-build of it.

By refining the self-build practice already portrayed in several other communes, such as Khula Dhamma (Eastern Cape) and Riverside (New Zealand), the New Commune can create a showcase for sustainable development through the principle of self-build.

Figures:

Fig 1-3: Hedgepeth,W, "The Alternative", Collier-Macmillan Canada Ltd, New York, 1970
Fig 4:Ein Hod [online], Available: http://www.ein-hod.info/, [April 2009}
Fig 5: Ein Hod [online], Available: http://www.ein-hod.info/, [April 2009] Fig 6: The Findhorn Foundation [online], Available: http://www.findhorn.org/index.php?tz=-120, [April 2009]
Fig 7: The Findhorn Foundation [online], Available: http://www.findhorn.org/index.php?tz=-120, [April 2009]
Fig 8: Jindibah Community [online], Available: http://www.jindibah-community.org/frmain.htm, [March 2009]
Fig 9: Jindibah Community [online], Available: http://www.jindibah-community.org/frmain.htm, [March 2009]
Fig 10: The Khula Dhamma Community [online], Available: http://www.khuladhamma.org/, [April 2009]
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Fig 12: http://en.wikipedia.org/wiki/Drop_City
Fig 13: Hedgepeth,W, "The Alternative", Collier-Macmillan Canada Ltd, New York, 1970
Fig 14: http://www.twinoaks.org/
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Fig 16: Auroville in brief [online], Available: http://www.auroville.org/, [March 2009]
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Fig 18: The Farm Community (05/08/09), "The Farm" [online], Available: http://www.thefarmcommunity.com/, [March 2009]
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Fig 20: mhttp://www.zencenter.org/Programs/Upcoming/glance.php mhttp://www.zencenter.org/Programs/Upcoming/glance.php
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Fig 26: Popenoe,O, "Seeds of tomorrow: New Age communities that work", Harper & Row Publishers, San Francisco, 1984
Fig 27-28: Brand, S "The Whole Earth Catalogue", Random House Inc, New York, 1980
Fig 29: Broome, J, "The self-build book", Green Books, Britain, 1991
Fig 30 http://redbus1.media.rightmove.co.uk/2k/1181/1181_HF852265020_IMG_00_0000.JPG
Fig 31: http://www.findaproperty.com/displaystory.aspx?edid=00&salerent=0&storyid=6174
Fig 32: Broome, J, "The self-build book", Green Books, Britain, 1991
Fig 33-54: Broome, J, "The self-build book", Green Books, Britain, 1991
Fig 56-58: http://www.patternlanguage.com/portraits/c a.res.arch1small.jpg
Fig 59-166: Callahan, T, "Building Green", Lark Boks, New York, 2005
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Section 3

3.3.3 The Urban Factor:

The Theory and Technology documents provided the appropriate framework for the architectural, programmatic, quantitive, qualitative and technical issues. The implications of this proposed framework was further analysed in order to define what the urban fabric of the New Commune site will be. This analysis explored the notion of an ideal city and community with examples such as Garden City (by Ebenezer Howard) and Gloeden's "Die Inflation der gross-städte". These utopian urban proposals contributed to the creation of the New Commune ideal site concept which was later (in Phase 4) placed on the proposed site.

This urban exercise proved to be a vital step in the evolution of the design, as the New Commune thesis topic required an extensive site analysis and design. Only through the detailing of the site as a whole, could one gain perspective of the urban implications of this specific design proposal. This detailing includes issues such as the proposed site circulation, housing density and land use. Only through the understanding of the ideal urban factor of the site, could the ideal design factor of the architecture (in phase 5 and 6) take place.

3.3.1.Ideal city:

The Ideal city and community is a mapped representation of a total urban environment ranging from proposed land uses to circulation schemes. These ideal proposals, which can also be termed 'utopia', "are anticipations of an improved environment for man"[1]. These anticipations, which contrast clearly with the existing contemporary and inadequate urban fabric, either serve to support an existing social order or introduce a radical change. These ideal environments were analysed in order to conclude what the ideal New Commune environment should be. With each urban proposal the fundamental features, which proved to be of use for the New Commune urban framework, were

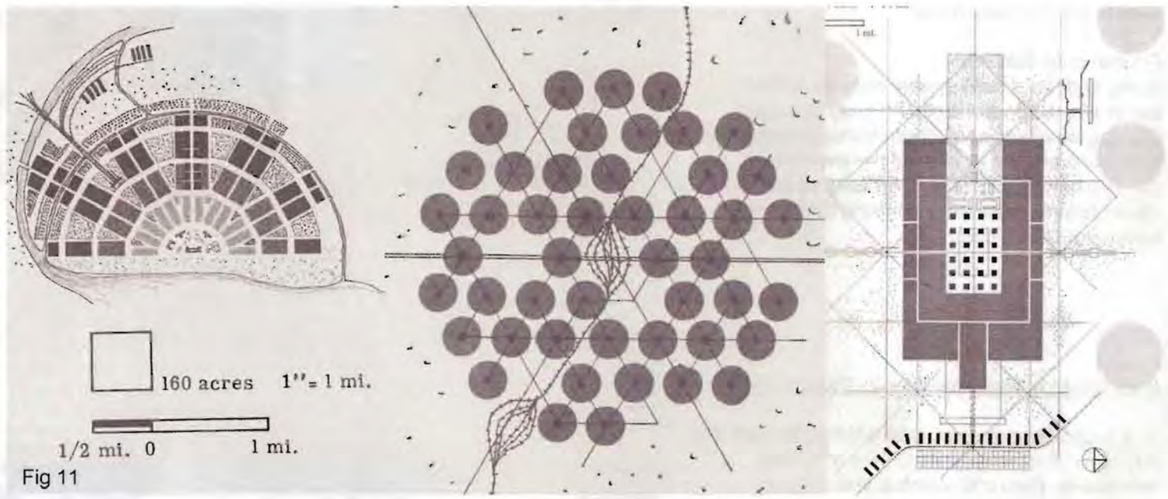


Fig 11

extracted

[1] Reiner, T, "The place of the Ideal Community in Urban planning", University of Pennsylvania Press, Philadelphia, 1963

Die stadt der Zukunft, T. Fritsch, 1896

This is a proposal for a city of the future that aims to deal with the negative effects of the Industrial Revolution, such as urbanization. The proposal includes the creation a ring city with parallel land use bands. Fritsch wanted to merge the existing realities with an implied organic growth procedure that takes place over time. This precedent serves as an example of how to approach the circulation system and land use zones.

Fundamental features:
A ring and radial road system reduces traffic; bands of use zones include an array of mixed housing densities; open green bands separate the built fabric and the location of the low-income housing bracket closest to the centre of the development (therefore minimising their need to travel great distances).

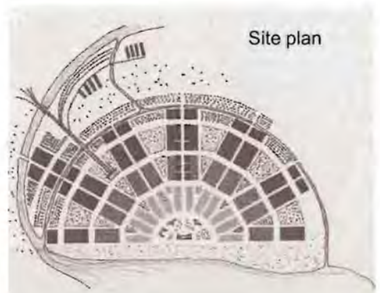
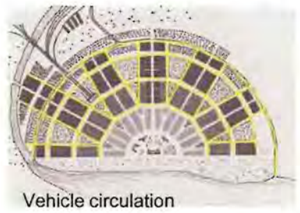


Fig 12



Die Inflation of the Large City, E. Gloeden, 1923

This urban development divides the settlement into a number of identically sized cells of 10 000 inhabitants. Each cell, which is linked by an extensive interurban railway system, performs a function which benefits the settlement as a whole. Major public facilities are located in surrounding greenbelts. This precedent serves to emphasise the importance of communal facilities within a settlement and within comfortable walking distances.

Fundamental features:
The importance of communal public facilities that serve the whole settlement; the fact that no inhabitant has to walk more than 15 minutes to reach any destination; the core of each cell contains a variety of establishments and services; housing density is varied and each cell is separated by an array of greenbelts which contain communal facilities.

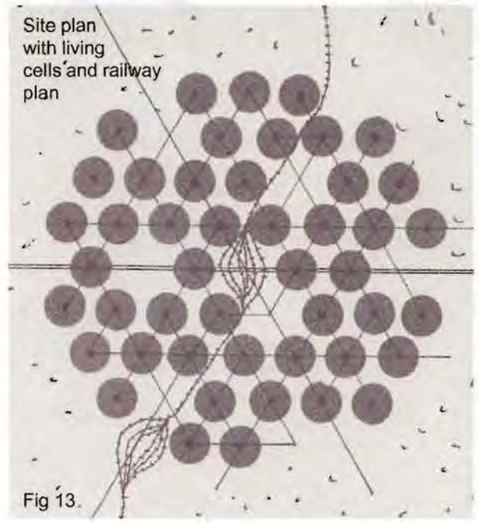
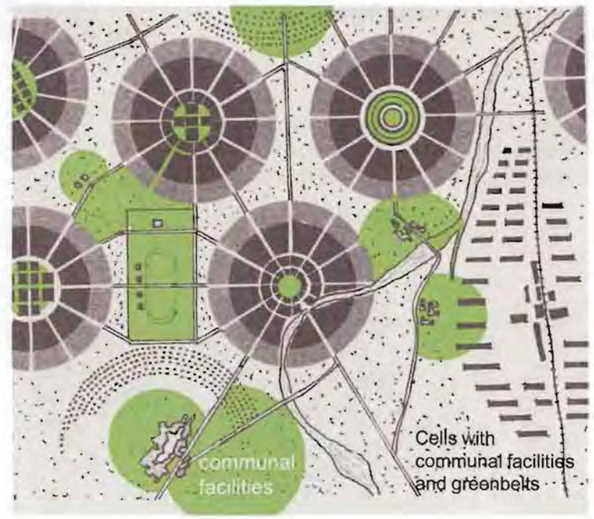


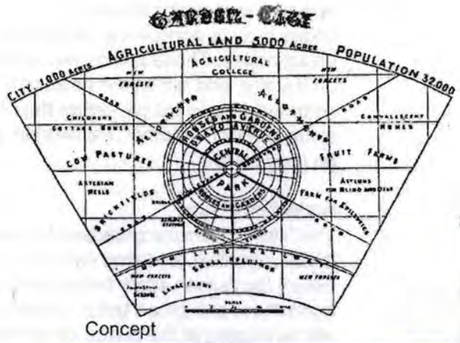
Fig 13.



Garden cities of tomorrow, E Howard, 1898

The issue of overcrowded cities is addressed in this urban proposal. Each town, with a predetermined size of about 32, 000 people, is separated from the other by greenbelts dedicated either to agriculture, institutions and recreational activities. Each town promotes economic, social and cultural sustainability through its highly developed sense of neighbourhood. This precedent serves as an example of how to integrate agricultural communal belts within a settlement that promotes low density and systematic land use.

Fundamental features:
Strong emphasis is placed on the role of cooperation between inhabitants, creating a basis for social synthesis rather than individualistic isolation. A sector-concentric form at town scale is merged with a polynucleated metropolis of coequal units; a radial ring road system is implied with heavy traffic being kept outside the settlement; pedestrian scaled circulation system and varied density options is similarly implied.



Concept

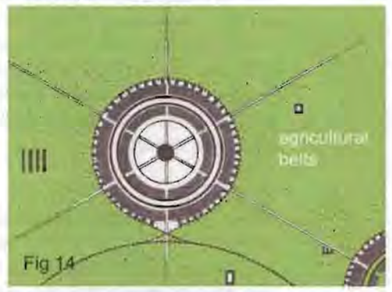


Fig 14

Section detail of planned living nodule

The city of tomorrow, Le Corbusier, 1924

This is a high-density scheme based on a linear grid (unlike the radial grids explored in the previous precedents). Skyscrapers, which house the administrative activities, are located in the centre with a residential belt surrounding it. This settlement is surrounded by a greenbelt which act as a buffer between this high density settlement, the surrounding industrial areas and residential garden cities. This precedent demonstrates an alternative urban example which proves to be inappropriate for the New Commune as the automobile dominates the design and high density is demanded (thus not addressing the fundamentals of a more human scale).

Fundamental features:
A few useful features include the location of communal facilities and institutions within the greenbelt; the notion of the superblock (200x400m grid) and integration of public transport.

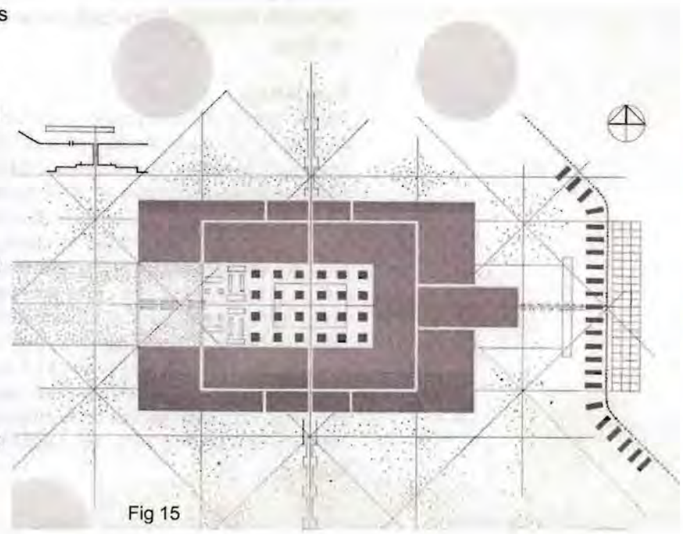
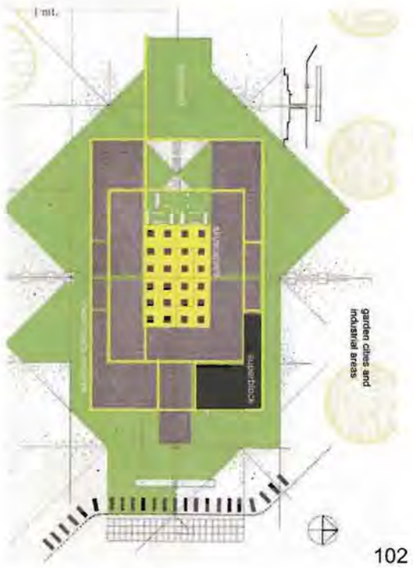


Fig 15



Section 3

3.3.4 Ideal New Commune Urban

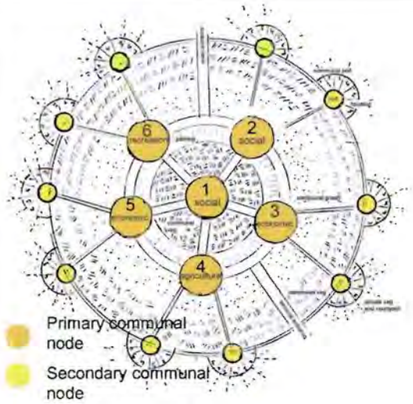
The New Commune design proposes the ideals of an alternative lifestyle that contradicts the contemporary existing urban lifestyle. This alternative is reminiscent of the ideal cities of Howard and Sitte/den, as communal facilities play a main role, pedestrian activity is promoted and agricultural belts provide a self-sufficient layer to the city.

Form:
The ideal commune concept adopts a radial plan, where the main primary social node of the Community Centre acts as the radiating force for the site. Other primary nodes include agriculture, recreation, economic and more social nodes. These communal entities share a strong link on the site, and act as the heart of the settlement. No communal node will be further than ten minutes walking distance from the other. Pedestrian comfort must always be guaranteed.

Agricultural belts:
The New Commune proposes to create a settlement of mixed densities (avoiding extreme high density as it deters the human scale factor) which is dispersed among agricultural and green belts. Communal vegetation belts will be located at the centre of the settlement where the primary communal nodes are placed. Vegetation of a more intimate scale is merged with the housing, so as to create a more comfortable space for the individual to tend to his garden. A primary green recreation area will also be shared by the community and is to be found towards the centre of the site.

Circulation:
There are two main vehicle routes present in the urban scheme. One primary route leads to the social and communal heart of the settlement, and another acts as a services entrance (the site requires a large agricultural element that demands easy access for goods and deliveries). A proposed ring road system connects all the primary communal nodes, along which the parking areas are located. An intricate pedestrian system connects all the nodes to the secondary communal nodes which include the housing zones. No vehicles are allowed to penetrate the intimate agricultural areas around the housing.

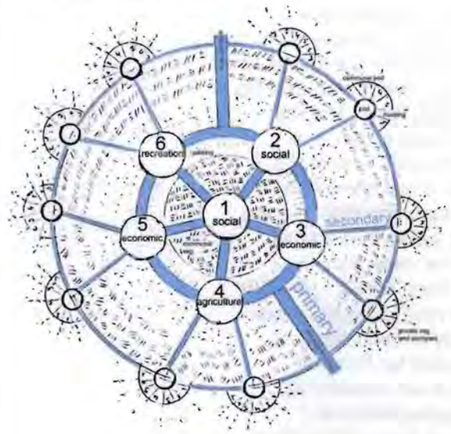
Residential:
Three types of housing options will be provided. These include high density mixed-use buildings (with a maximum height of four storey's), medium density apartment buildings (maximum 2 storey height) and low density housing (maximum 2 storey height). The high density zones will be located as close as possible to the busiest urban edge of the site, whereas the low density will gravitate towards the more subdued intimate agricultural areas of the site. Each dwelling in the low density zone will have access to communal gardens as well as private courtyard space for future expansion and space for private vegetable garden, as these dwellings are targeted as the prospective more luxurious, spacious dwelling option (thus more upmarket than the mixed-use option).



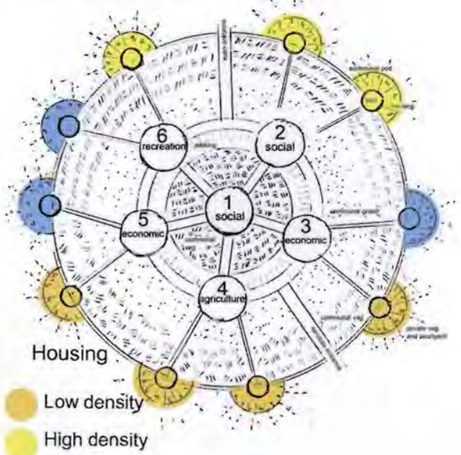
Primary communal node

Secondary communal node

Communal Nodes



Primary and secondary circulation

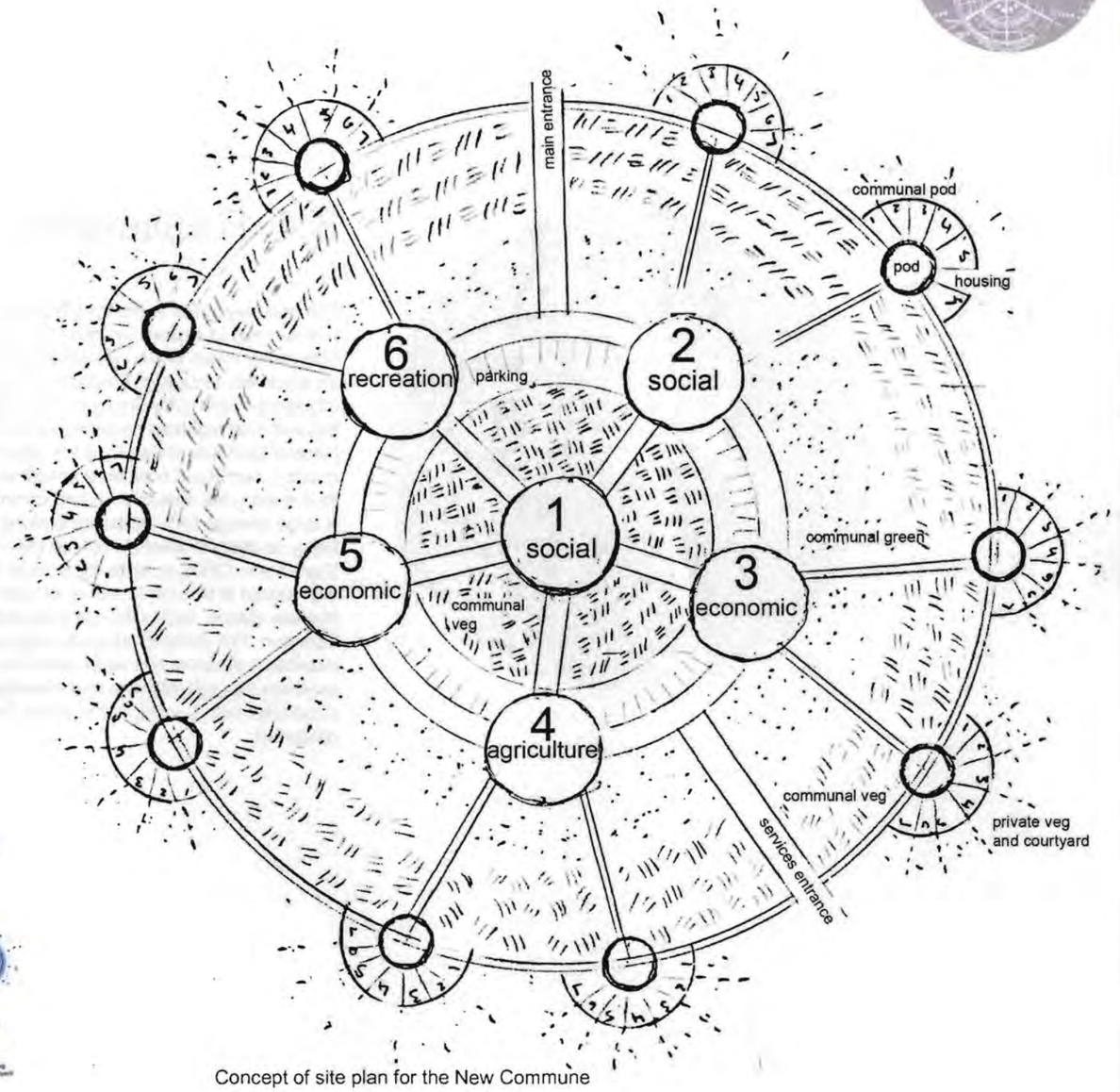


Housing

Low density

High density

Medium density



Concept of site plan for the New Commune

3.4. Realisation

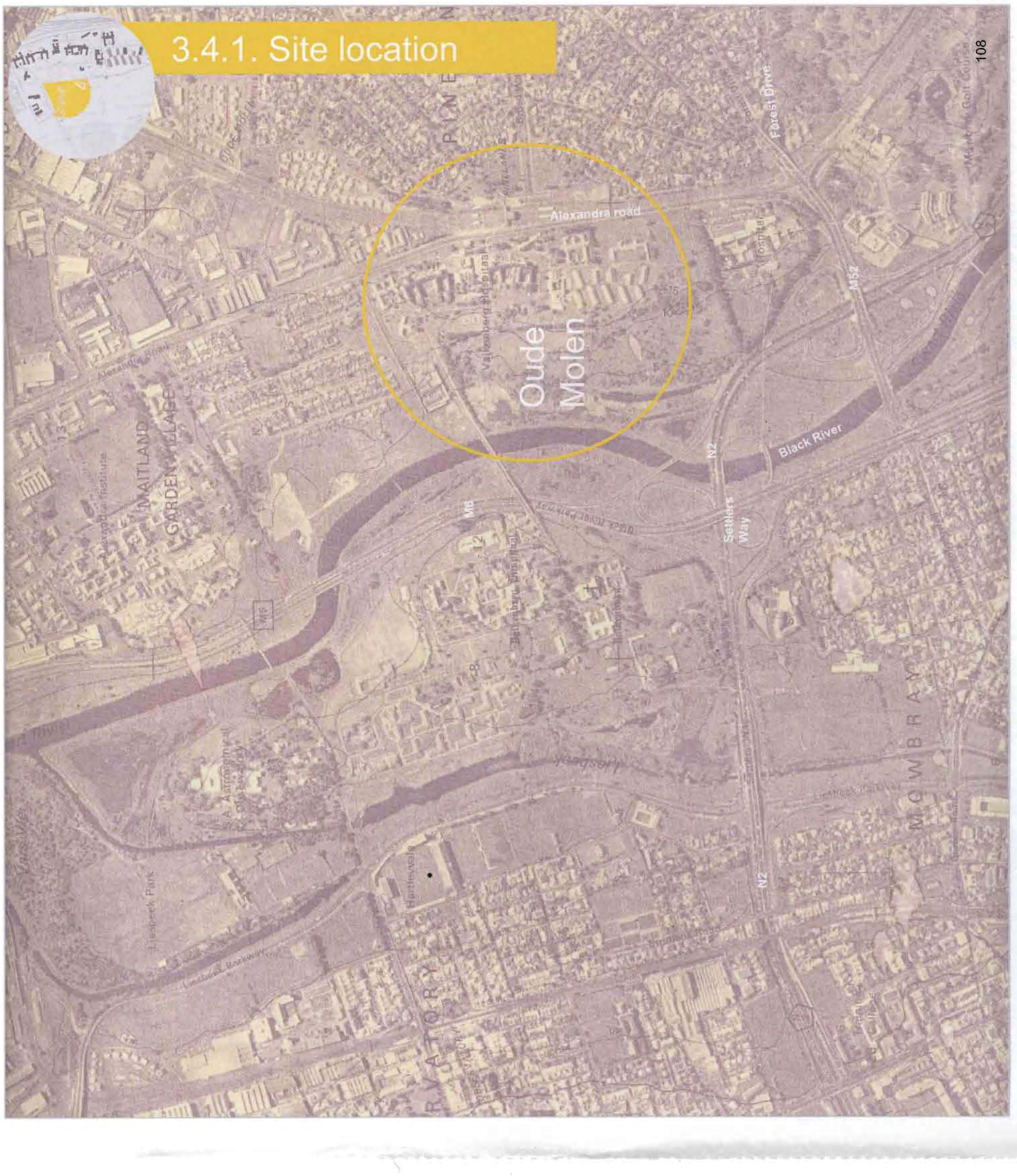
The next step, after completing the theory and technical phases, was to explore the reality of the design intervention. This reality refers to the implications of the New Commune on an actual site located in Pinelands, Cape Town, on an existing dilapidated commune site next to the Black River. The site (spread over eighteen hectares) called Oude Molen, is a piece of land that presents all the opportunities required to create a semi-rural enclosure amidst an urban framework, thus making the idea of an urban commune possible. The site is large enough for a dense agricultural initiative as well as being centrally located (about ten minutes' drive from the Cape Town CBD), suitable for a urban living scheme. Another vital aspect of this site is that is located next to the Pinelands Railway station, facilitating the possibility of non-motorised transport. The several exercises completed for Phase 4 included a series of site visits, interviews with inhabitants, analyses through mapping and investigating initiatives associated with the site (such as the Two Rivers Urban Park proposal).

Content

3.4.1. Site location

Fig 16

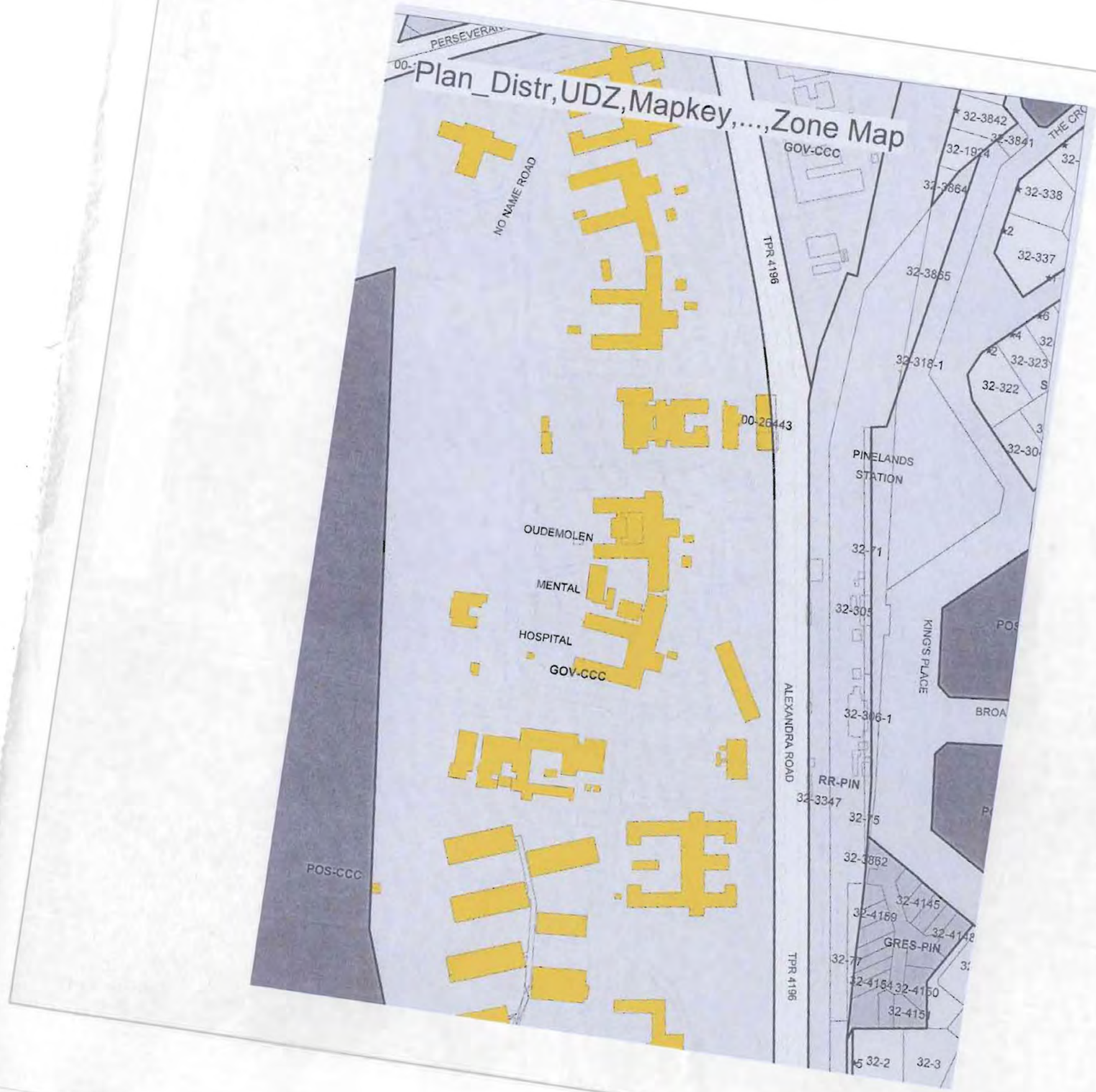
3.4.1. Site location



1. 1 Transport links

1. 2 Sustainable corridor links

1.3. Site building footprints



1.3. Site building footprints

3.4.2 Site information

2.1 Details

Address:	Oude Molen Eco Village, Alexandra Road, Pinelands, Western Cape
Website:	oudemolen.org
Email:	info@oudemolen.org
Tell:	021 447 9165
Description:	An old Mental hospital (Valkenberg) that has been converted into an eco-village in 1996. 'Friends of Valkenberg' approached Gary Hudson to 'green' the areas around the Hospital facilities so that patients have a relaxation area outside. Hudson invited several other members that started to form the present on site community which houses 70 small businesses, artists and crafters, employing over 300 people in summer.
Property:	Owned by the Provincial Government of WC
Erf number:	26439
Size:	18.8 ha

Non-resident members: 100

Specialty Areas: Arts & Culture
Ecotourism
Community Business/Microenterprise
Consensus/Decision making
Ecological Living Practices
Ecological/ Natural Building
Ecosystem Reclamation/ Protection/ Reforestation
Educational Courses/ Training
Environmental & Social Activism
Facilitation and Mediation
Fundraising skills & Volunteer programs
Internal School: Waldorf
Sustainable Economics
Organic Agriculture, Waste & Water management
Permaculture/ Design
Preventative Health Practices
Renewable Technologies
Urban Ecology

2.2 History

History of site:

1652: Area used by Khoi pastoralis

1693: The Company granted that the land along the Liesbeck River become a whet producing area by the construction of a Mill

1716: Land transfer to Valkenberg farm

1725: Oude Molen windmill becomes the first windmill in South Africa

1885: King Cetswayo captured and kept as a 'state guest' at Oude Molen

1901: Plague Epidemic: Black river becomes a 'racial barrier' and non-white's placed in periphery areas such as Maitland Plague camp

1990: Closure of the Eastern side of the hospital

1996: Gary Hudson (one of the first residents) moves to Oude Molen

1999: Transfer of land from the Department of Health to the department of Property Management

2000: Oude Molen set to become a showcase for sustainable living. MLH architects and planners appointed.

2002: Two Rivers Urban Park Spatial Development Framework prepared: Renewal of the areas between Liesbeck and the Black River

2004: MLH propoeses an application process to the PAWC

2005: Rezoming and EIA withdrawn from the City as the client can't present a final decision on the application process.

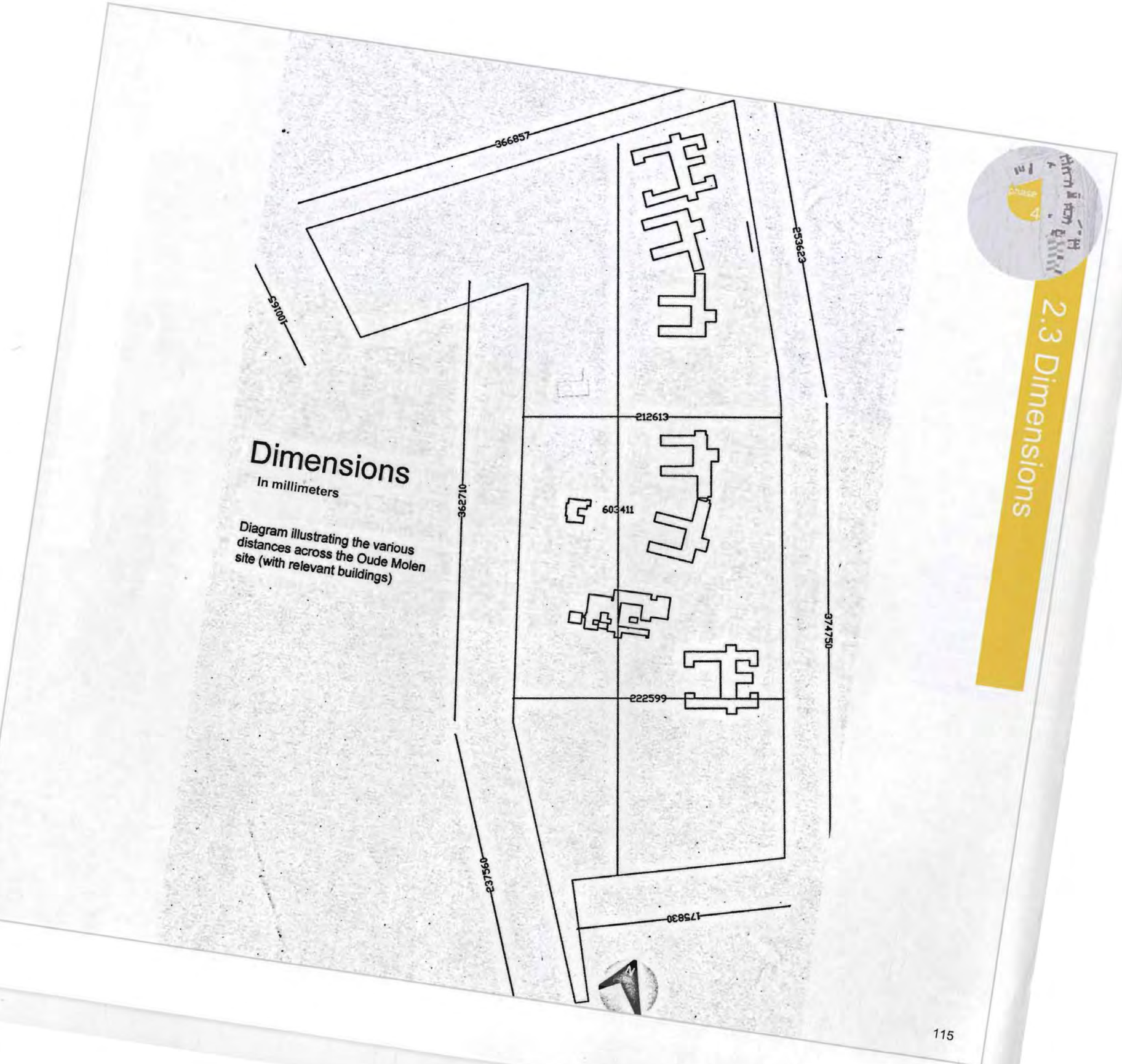
2005, Aug: Mark Swilling appointed by the PGWC to develop a strategic Framework for the development in association with Makeka Design Lab

2009: Becomes the site for Masters Architect student Monique Fouche's thesis

Dimensions

In millimeters

Diagram illustrating the various distances across the Oude Molen site (with relevant buildings)



Walking Times

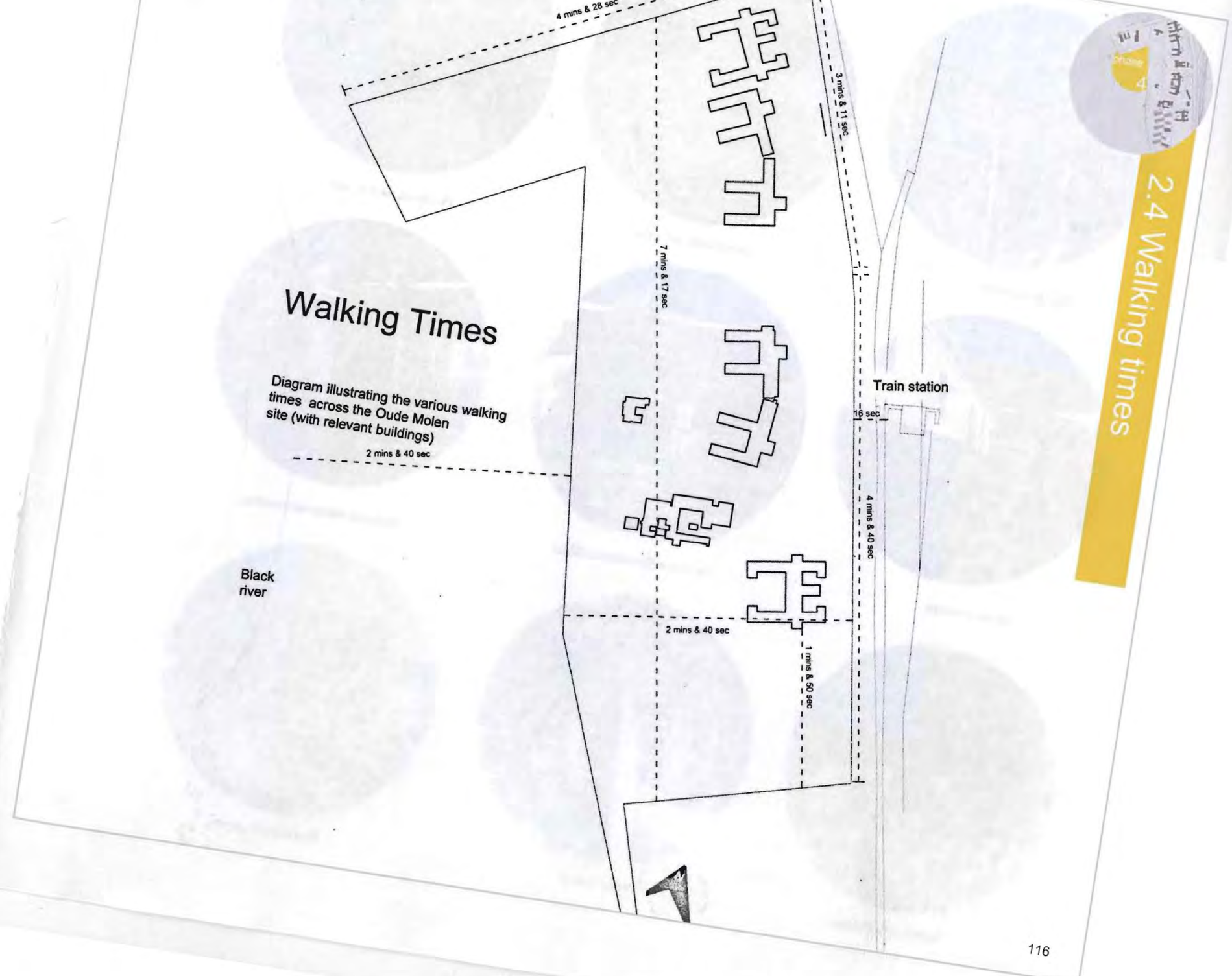


Diagram illustrating the various walking times across the Oude Molen site (with relevant buildings)

3.4.3. Site Photos

Sign at entrance

Community art work

Wetlands next to site

Old farm house

Mill Stone Restaurant/Shop

Outdoor restaurant seating

Community collage

Bread ovens

Restaurant garden

Entrance and Millstone Restaurant

Backpackers A1

Backpackers in Old hospital wing

Resident house Q1(former doctors house)

Robin Trust Frail Care Centre

Gaia Waldorf School

Business on site: All Rock& SA Paving

Old hospital wing (now crafts space)

Dishwashing liquid Manufacturer

Informal houses on site

Gary's garden next to Millstone

Waldorf interior garden

Roof covering for bees at Mosaic workshop

Youth Garden: Community Outreach

Youth Garden Sunflower patch

Shade structure next to Youth Garden

Residents garden

Residents miellie patch

Scrap wood for woodwork shop

Horse riding lessons

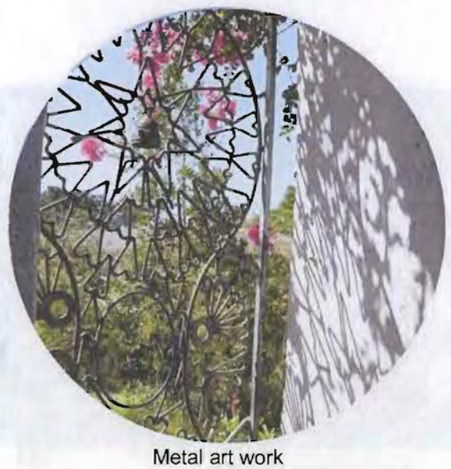
Public swimming pool

Shade structures next to pool

Labyrinth

Artificial dam

Pigs (kept as pets)



Metal art work

Artist's studios

Millstone garden sign

Helen in front of house (former doctors house)

Helen:

Helen moved there 12 years ago from Johannesburg where she was practicing lawyer but always yearned for a life more nature based with ample gardening space. Gary Hudson (one of the community founding members) approached her and a few people to move to the site and help 'greening' it so that the Valkenberg patients have a relaxation/recovery area (the 'Garden Project'). When she moved in there was no gardens, no farming, no café etc. The community has built each piece up through the years.

Her house is located next to the Millstone Café where she sells her vegetables to (from her permaculture garden) and to nearby shops. She also runs the /backpackers at the far north corner. She is part of the Oude Molen co-operative (which is made up of residents) who wish to improve various situations on site.

There is a community exchange system, along with an initiative where each resident grows different vegetables so as not to encourage competition.

The wetlands provides ample recreation space and horse trials, but the Black River is very polluted, so need to make use of alternative means to bring water to the site (such as the artificial dam to the west).

The community create a dominant presence on site, as everyone knows each other. Each person teaches his skill to another member (such as the ceramic and mosaic lessons), shares produce and a deep affection for the environment and sustainability.

Programs that are present is the Youth Program which teaches underprivileged children gardening skills; the Robin Trust is a fraisl care unit that houses patients as well as teaching nurses and sending them out into other communities; The Touch Farm (children get to interact with farm animals); Rental spaces for artists and recycling of wood for furniture and shade structures.

Her view of the Makeka design proposal:

Ignores the existing community and everything that they have built over the years (such as the bread ovens and gardens). Using a blank slate to design this new sustainable village ignores the fact that the existing village has grown organically. They need to embrace the spirit of the eco-village and acknowledge what actually successful on site and keep it. And they need to acknowledge the existing residents (so far no one is able to answer what will happen to them). The EIS assessment is still due for completion.

What's desperately needed on site:

There is no collective node, such as a community hall that can be used for Farmers market, Fundraisers, Hall for hire etc. There is also a great lack of signage on the site, making it difficult for the visitor to know where everything is and what the relation is between the business. The entrance also lacks the proper facilities such as a reception, information centre, shop initiative (to demonstrate what goes on inside/what gets produced), advertising and public toilets. There is also no nursery on site, so all seedling etc have to be bought off site.

Community ethos according to Helen:

The vision to create an economical project that could showcase the sustainable approach. To adapt an attitude of 'greening'-creating a green, positive environment and providing these facilities to the public. To promote green energy and a place of healing and enjoyment. A place that is accessible, recreational and enjoyable. And to enhance the existing social fabric and strong community spirit.

House detail

Location of Helens' house on site

Front door to Helen's house

Helen's garden and view

Joseph on the front porch

Joseph:

Joseph, 54 years, moved to Oude Molen 12 years ago with an aim to recover back to health and start a Youth program as a means of giving back to the community. He worked for a Building Management Company before moving to this site. From the 1st of April 2009 he is running a youth organiation called, Phoenix, that helps rehabilitate drug addicts by providing them with a place they can escape to and recover for up to 6 weeks. This organisation will utulise most of the existing initiatives on the site (such as the swimming pool; organic garden; Paul's woodworking workshop etc.) to create activities the youth can participate in.

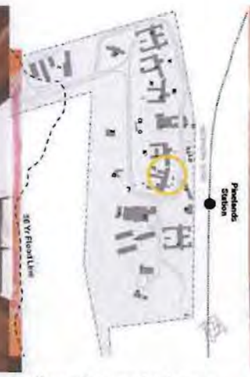
What's desperately needed on site:

The site is in desperate need of a new entrance facility according to Joseph. As it is the first impression one gets of the village and the last impression one will remember as one leaves./this entrance can help upgrade the commercial aspect of the village, and enhance existing shop such as Danny's Convenience store.

Joseph's vision:

Something needs to be implemented on site that will enhance the greenery and highlight the existing community businesses. He believes in the power of colour and how this can attract children and create a bigger impact on the site. He wants an architecture that will 'touch the earth lightly', reflecting on the style of Bedouin or Japanese building techniques. Believes that there is an opportunity to create an agreement with 'Fruit and Veg city' and place on of their commercial outlets at the entrance, luring in customers from the street.

Porch facing the front garden



Location of Josephs house

Beds for the youth

Dining Hall

Garden

3.4.5. Twin Rivers Urban Park

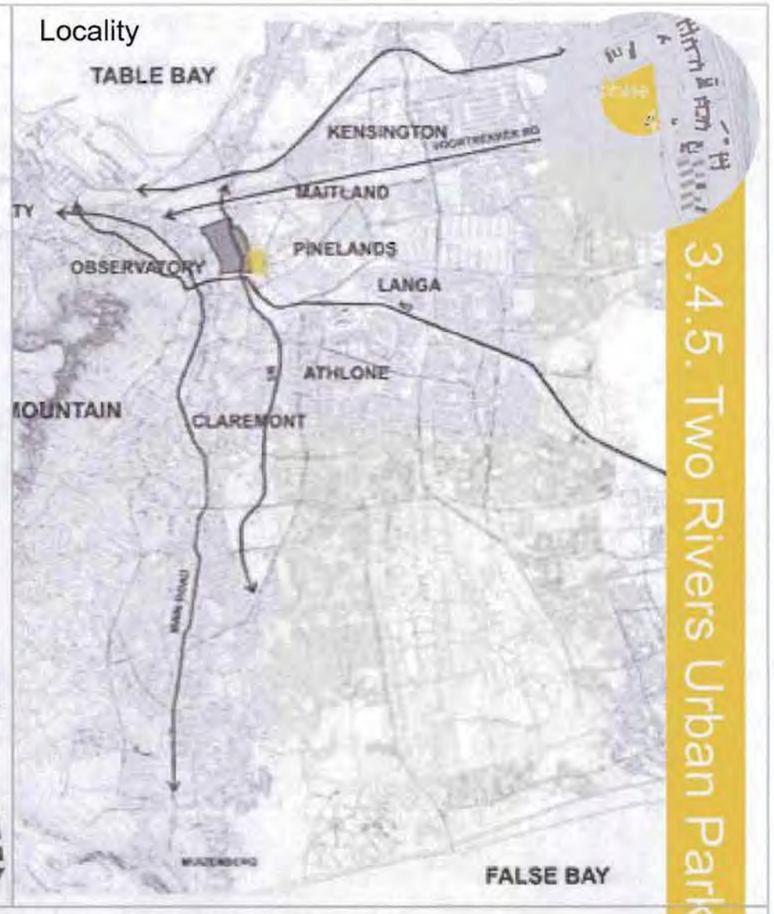
Twin Rivers Urban Park proposal:

This proposal (located in the confluence of the Black and Liesbeek Rivers) is relevant as it is situated directly next to the Oude Molen site and includes the area as part of its study area. This proposal seeks to enhance the relationship between people and the natural environment through a spatial development framework which will work in a series of phases to upgrade the area. This upgrading will focus on the rehabilitation of the ecological system through the creation of a park which will include the expansion of the Raapenburg bird sanctuary, improvement of the public open land for recreation and the upgrading of community facilities. The upgrading of the area is important as it contains a sensitive ecological system, vital open green areas, significant institutions and historical buildings and landscapes.

The New Commune can integrate the adjacent proposed public open park into the design proposal, thus adding another communal public element to the site. The diagrams to the left illustrate the study area in relation to the site and the various phases of the spatial framework.

Parkland area

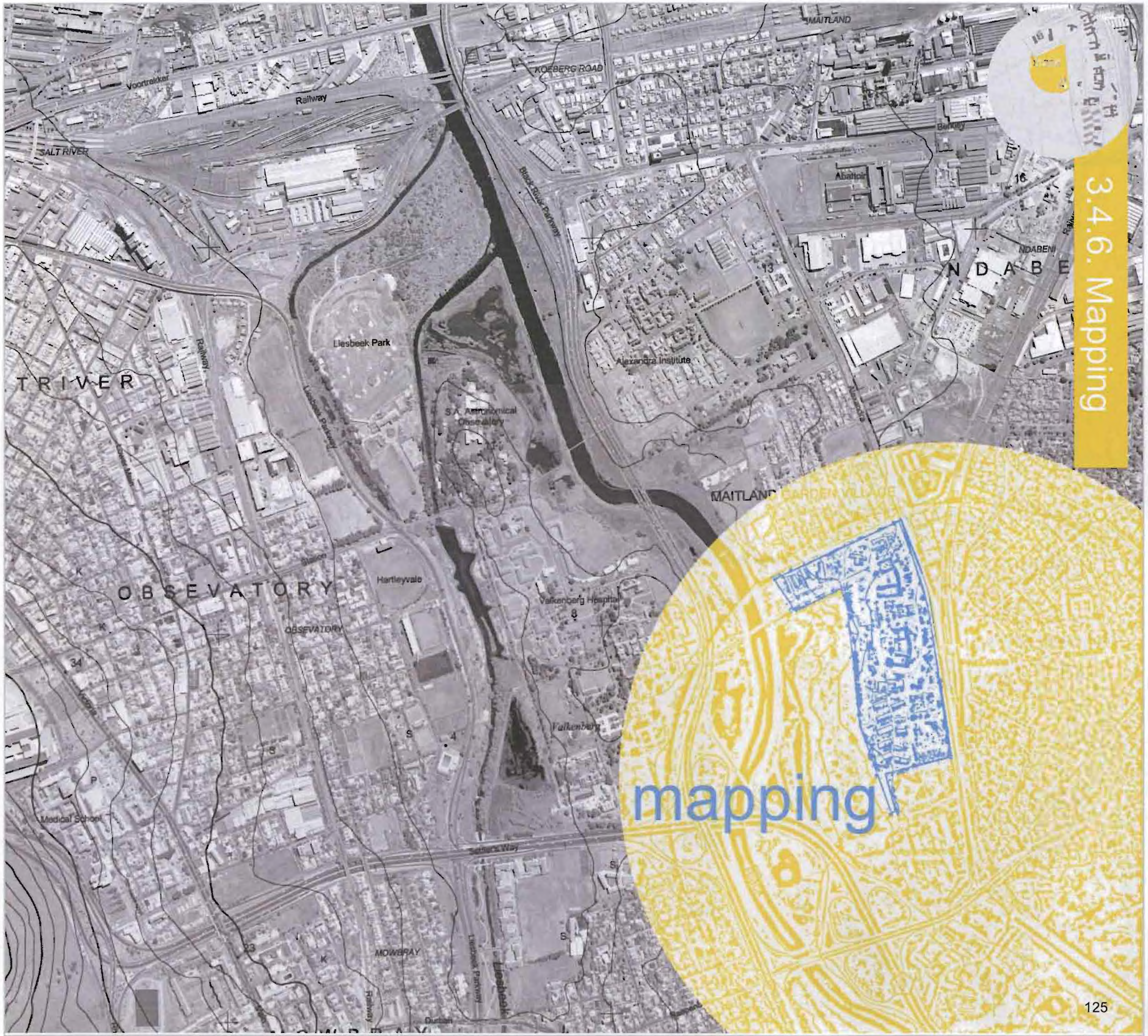
Locality



Proposed zoning

Proposed types of open space

Fig 17


KOEBERG ROAD
MAITLAND
Voortrekker
Railway
SALT RIVER
Abattoir
NDABENI
N D A B E
Liesbeek Park
Alexandra Institute
T R I V E R
S.A. Astronomical Observatory
MAITLAND
O B S E V A T O R Y
OBSEVATORY
Hartleyvale
Valkenberg Hospital
Valkenberg
Medical School
MOWBRAY
Liesbeek Parkway
mapping

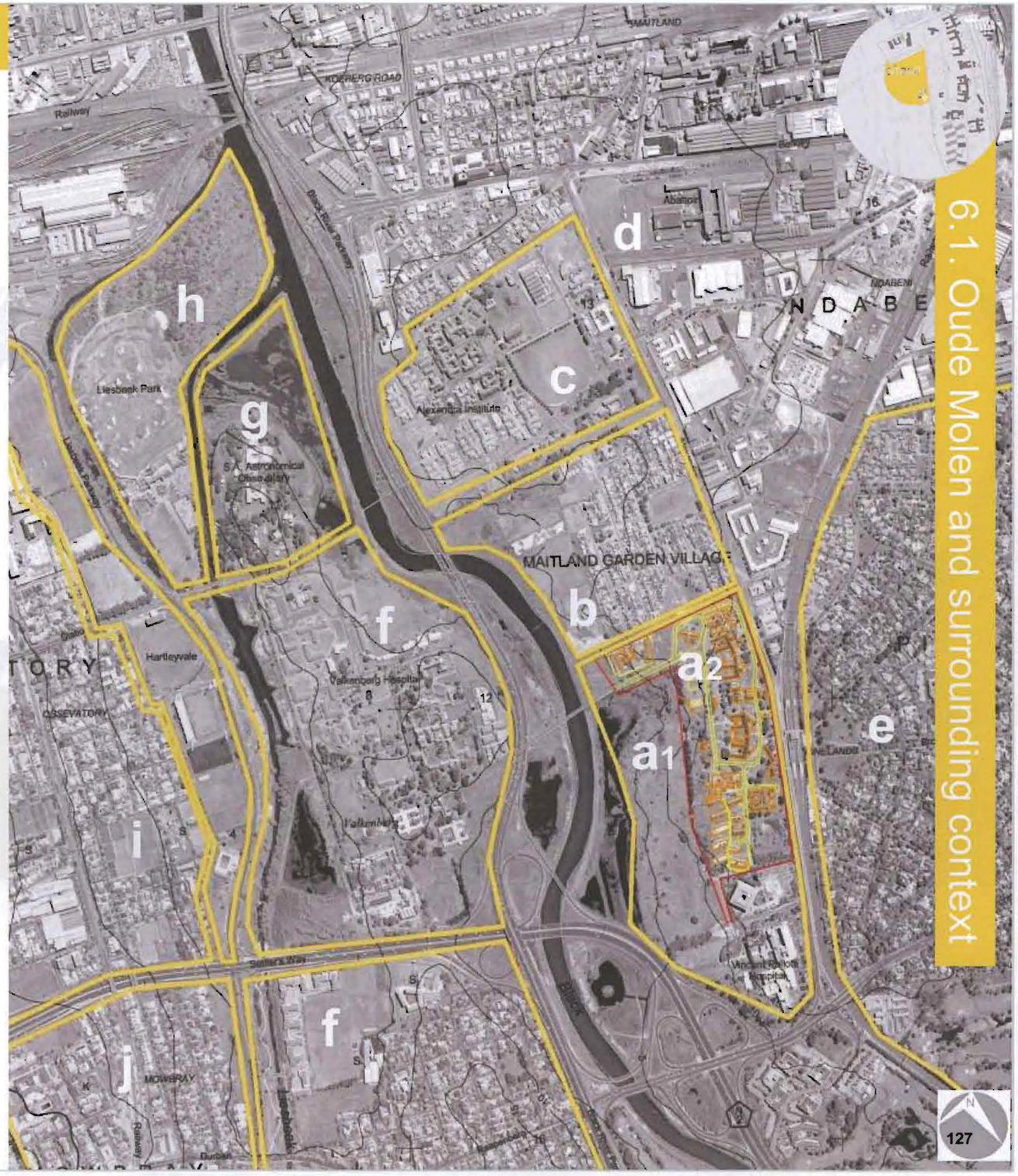
6.1. Oude Molen and surrounding context

Mapping: Oude Molen and surrounding context

1. Locality
2. Major routes
3. Surrounding Land Use
4. Heritage links
5. Natural Systems

1.locality

- a1 Valkenberg East
- a2 Oude Molen Eco Village
- b Maitland Garden Village
- c Alexandra Institution
- d Maitland
- e Pinelands
- f Valkenberg West
- g South African Astronomical Observatory
- h River Club/ Liesbeek Park
- i Observatory
- j Mowbray



6.1. Oude Molen and surrounding context

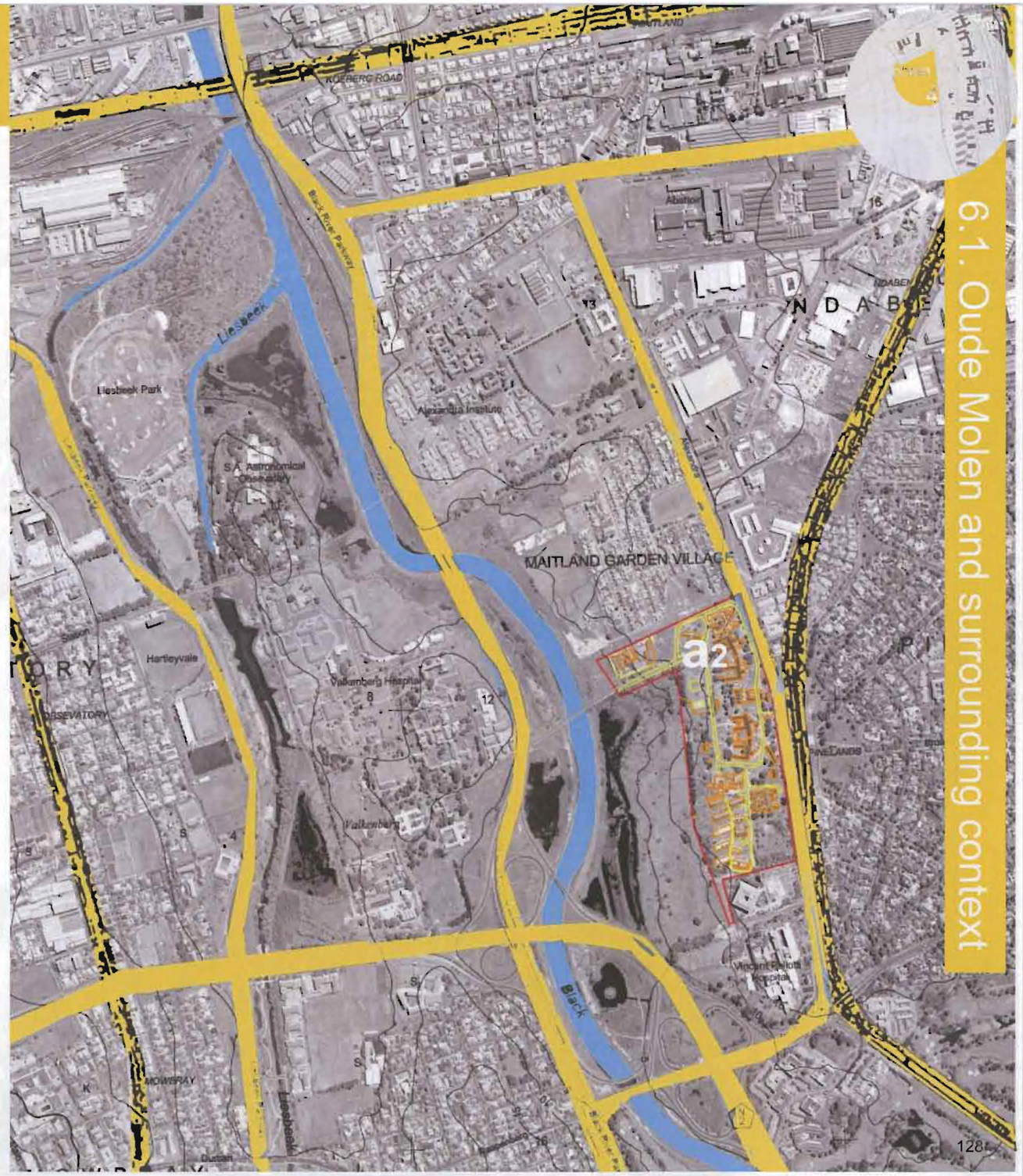
2.major routes

Black River

Major Roads

Railway

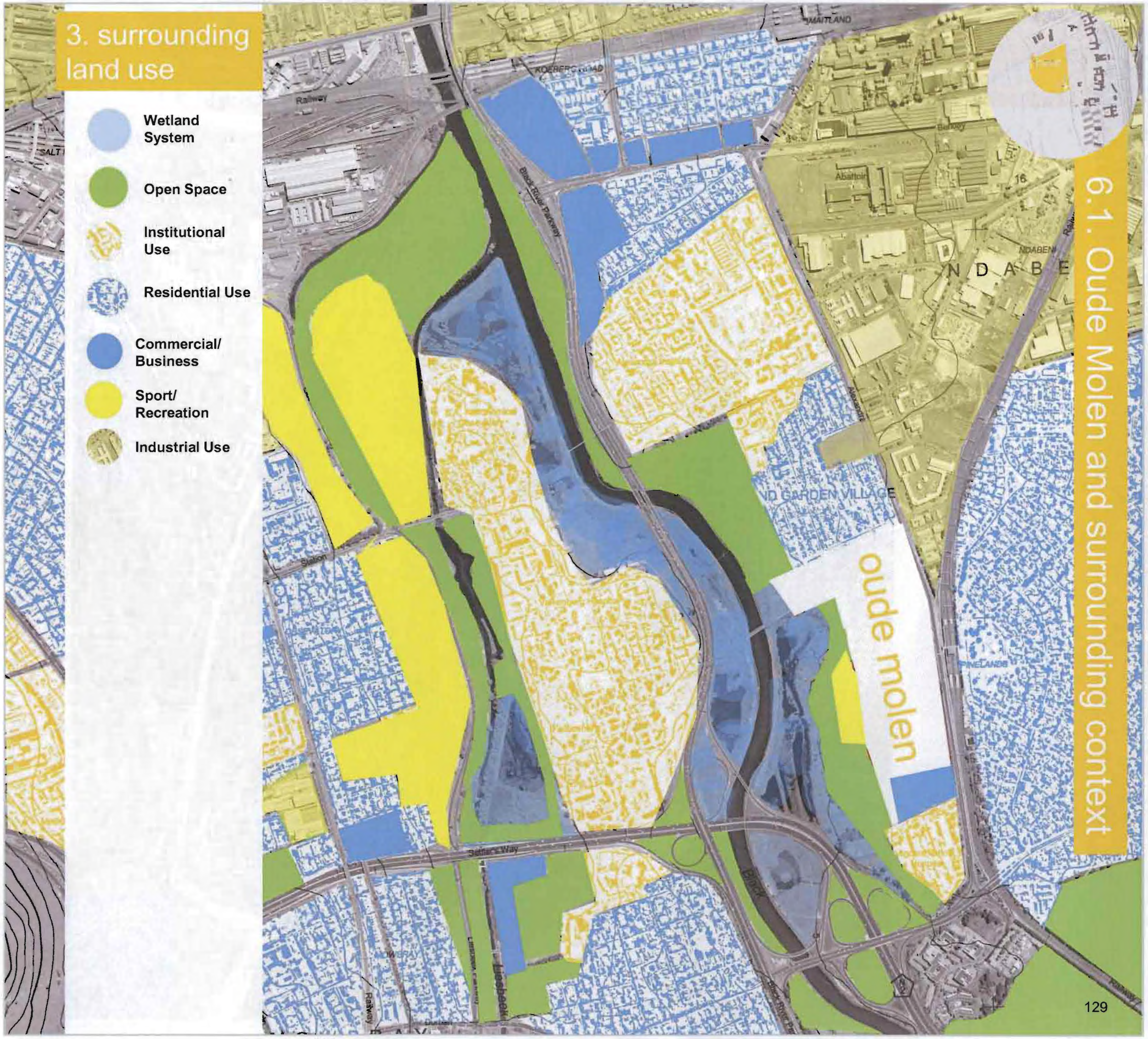
a2 Oude Molen



6.1. Oude Molen and surrounding context

6.1. Oude Molen and surrounding context

3. surrounding land use



4.heritage links

Heritage Buildings

5. natural systems

Images from a Geological survey of the site and its surrounding context.

Wetlands

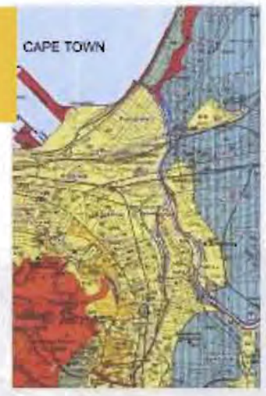
a: Non-cohesive sand that is susceptible to wind erosion with medium to high permeability. Light-grey to pale sandy soil.

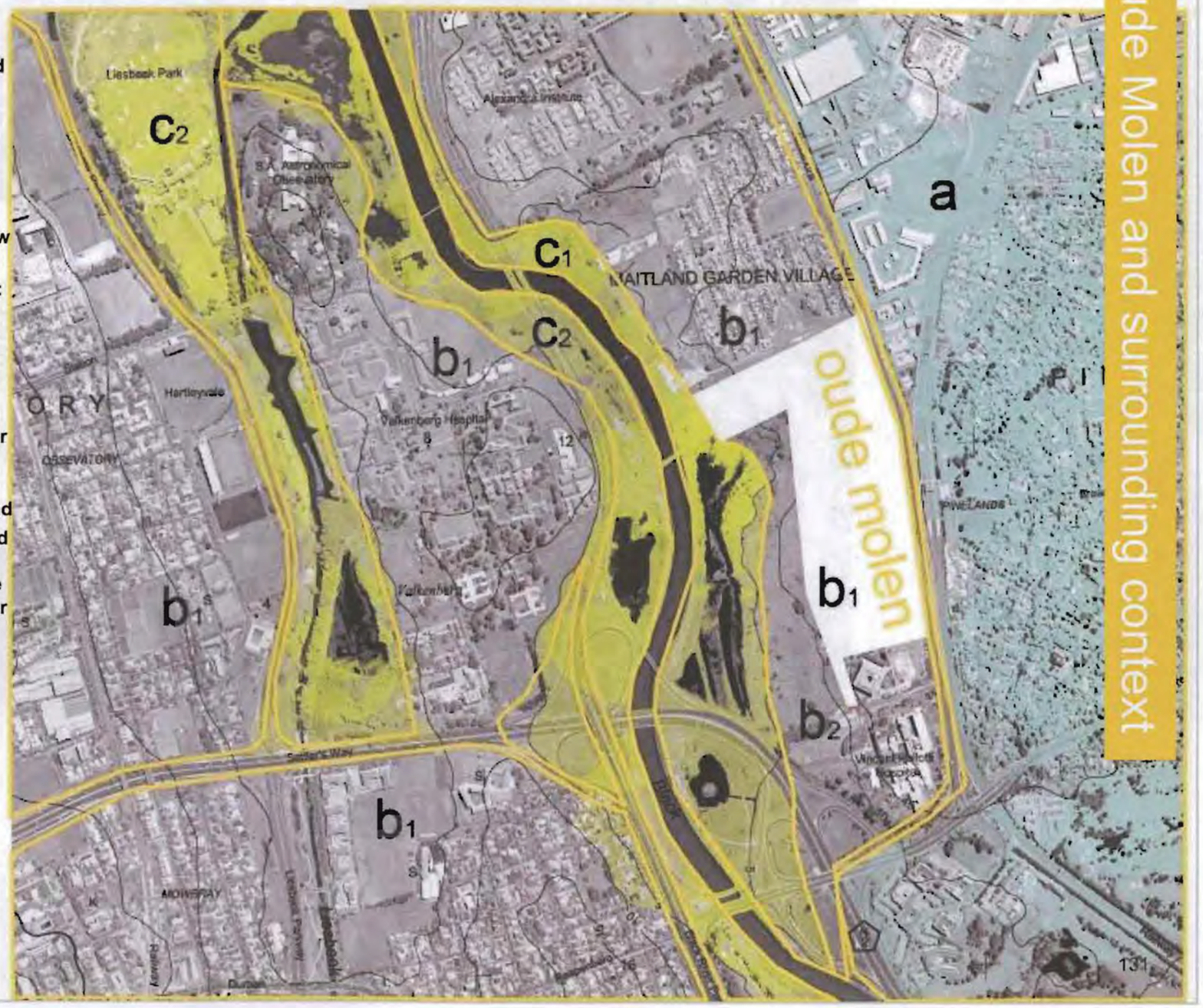
b_1: Active Clay with low permeability with a shallow water table. Soil: Phyllite; greywacke and quartsitic sandstone. Good for excavatibility.

b_2: Light-grey to pale sandy soil. Shallow water table.

c_1: Scree and gritty sand with low permeability and high water table. Good soil as it is located in the lower reaches of the river system. Good for Aloe and reeds.

c_2: Alluvium. Active clay.





6.1. Oude Molen and surrounding context

5. natural systems

Fertile Areas:

Map illustrating the sections of fertile soil (Alluvium: soil transported by water) that surround the Black River.

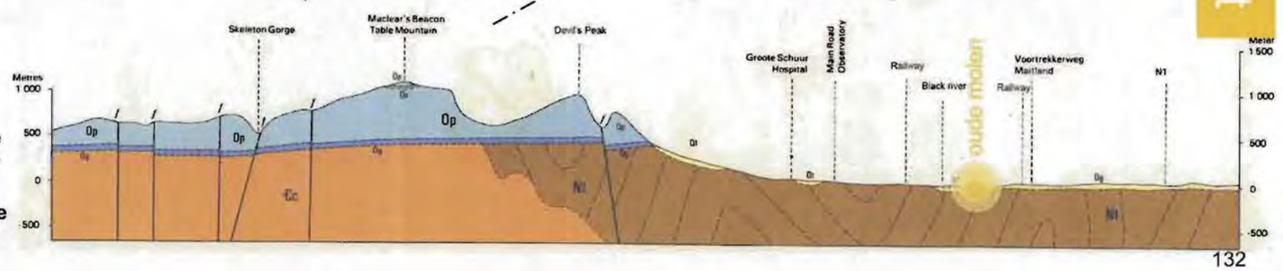
This green belt feeds into the Oude Molen site, making urban agriculture a viable option.

Oude Molen is also located next to the lower reaches of the river, making the water table higher than average, thus providing very fertile soil, full of nutrients, attracting an array of wildlife such as birds.

6.1. Oude Molen and surrounding context

Section AA:

Section through the site and context. Oude Molen lies in the lower reaches of the land, that is infiltrated by the fertile wetland system of the Black River.



Mapping: Oude Molen

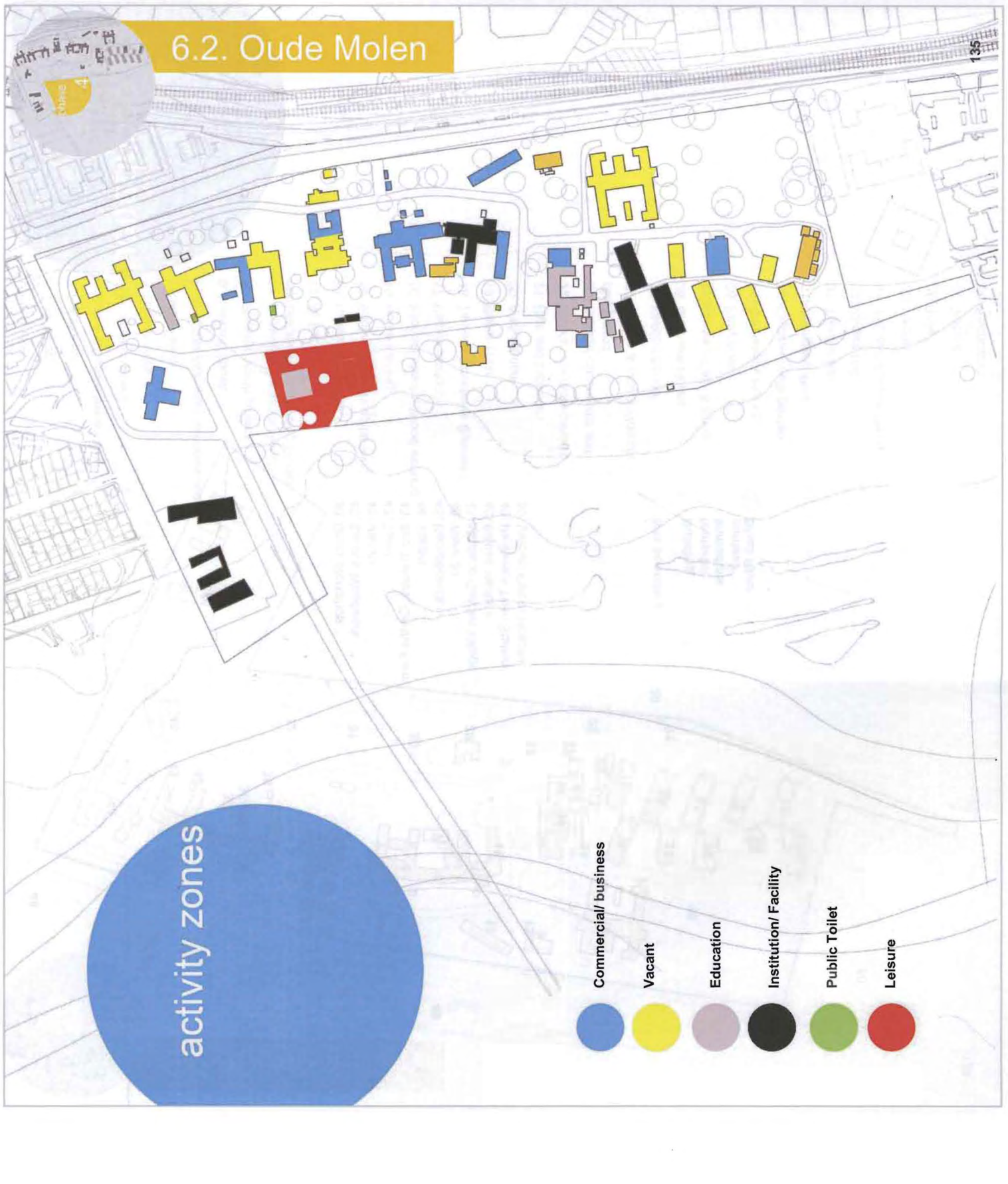
1. Site occupation
2. Structuring Elements
3. Movement: Vehicle & Pedestrian
4. Agricultural Spaces
5. Open Space
6. Formal & Informal
7. Building Heights
8. Void & Solid
9. Activity Nodes
10. Vital Institutions
11. Potential Sites

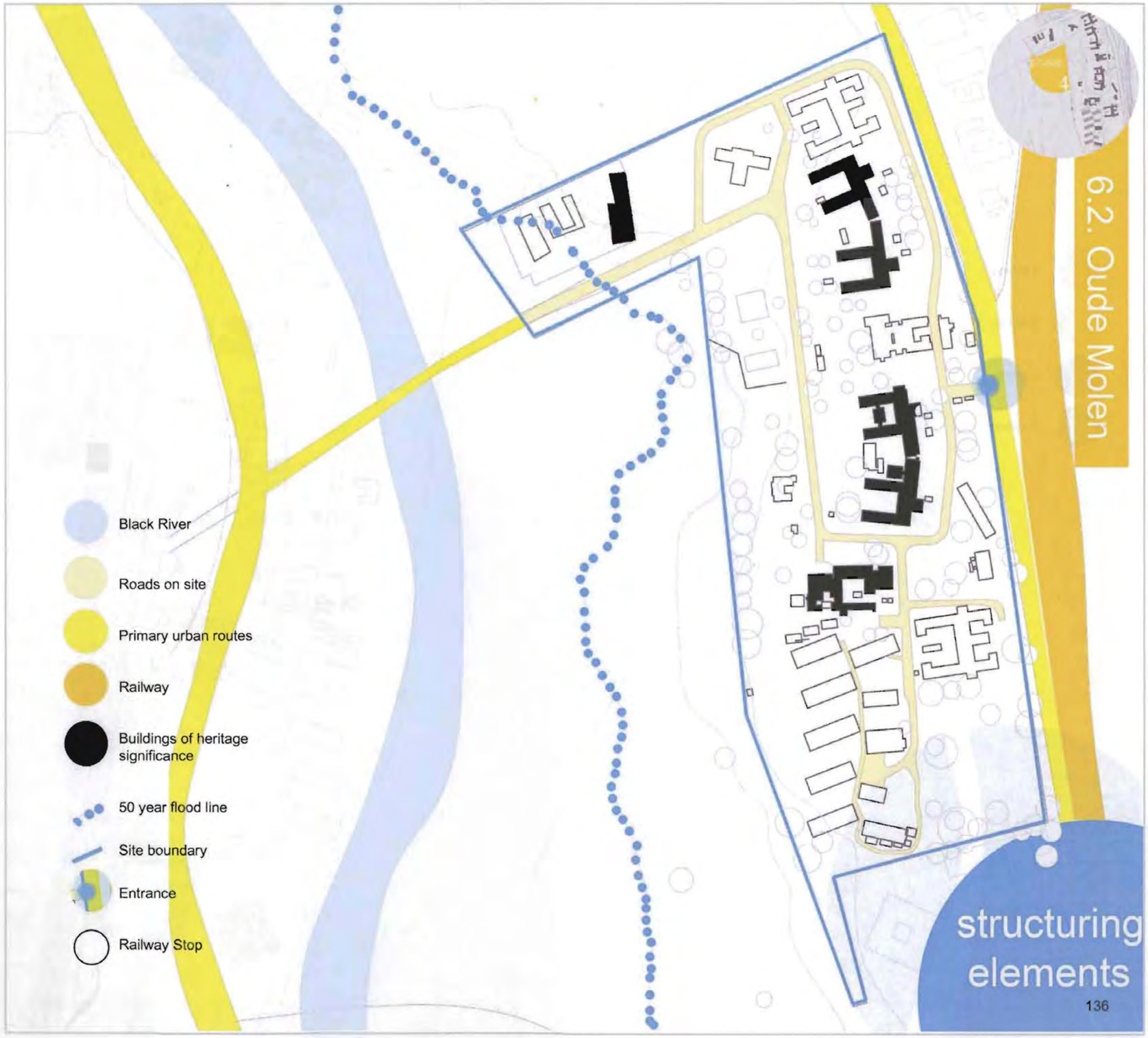
site occupation

1: Entrance
2: Tuck Shop
3: Postboxes
4: Danny's Convenience store
5: Information board
6: Backpackers
7: Seamstress
8: ALVCOR Aluminum windows/doors
9: Resident house
10: Phoenix, youth project
11: Organic dishwashing liquid manufacturer & Recording Studio
12: All Rock
13: Nurses residence
14: Vacant former hospital wing
15: Horse training
16: Informal shacks/ Wood working
17: Vacant platforms
18: Tension Structures Business
19: Robin Trust
20: Artificial dam
21: Pigs and Labyrinth
22: Gary's vegetable garden
23: Waldorf classrooms and playground
24: Mosaic & Artists Workshc
25: Waldorf School
26: Old Farm House
27:Millstone Café & Shop
28: Pony rides
29: Q1 Helen's House
30: Organic youth garden
31: Swimming Pool
32: Touch Farm
33: Vacant Hall
34: 'Flavour' Cuisine Office
35: Vacant
36: Toilet
37: Vacant
38: Earthworks
39: Drum Workshop
40: Smith's Woodwork
41: Vacant
42: Toilet
43: Eco Theatre: On the Farm
44: Vacant
45: Backpackers
46: Ward 20
47: Maitland Garden Village
48: Biovac Institute
49: Pinelands Train Station
50: Vincent Palotti Hospital

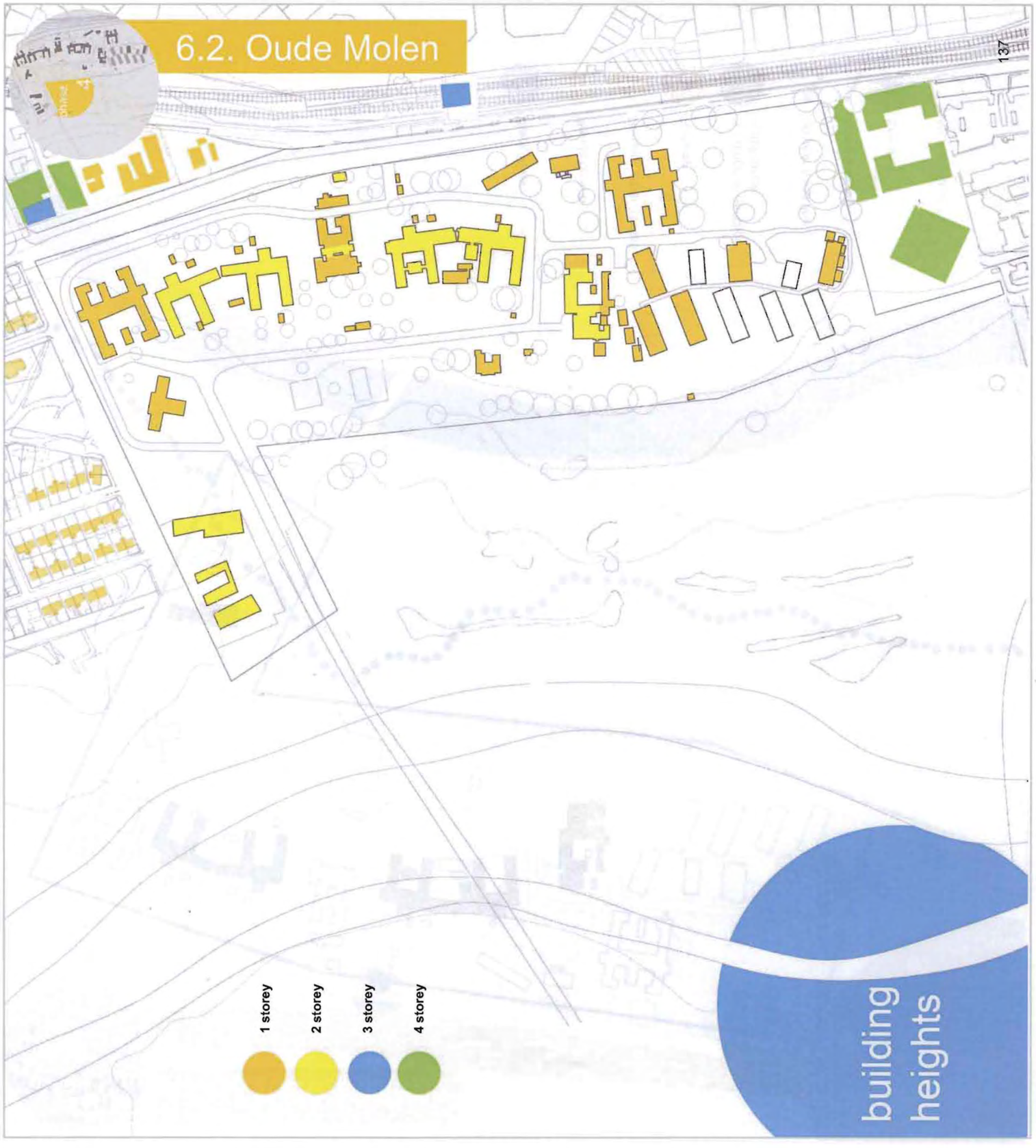
Site boundary
Building footprint
Immediate context
Black River

6.2. Oude Molen

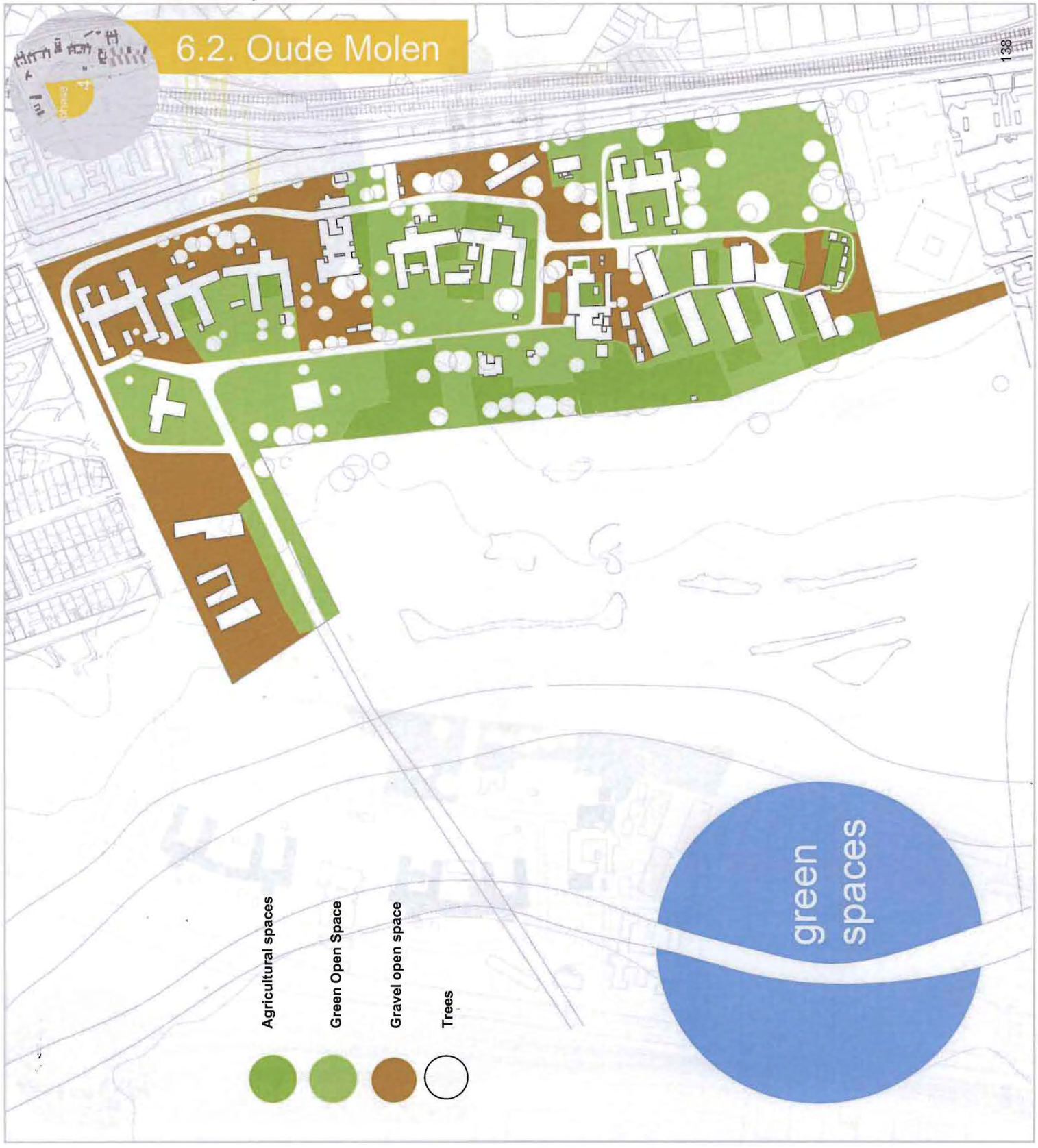



6.2. Oude Molen
Black River
Roads on site
Primary urban routes
Railway
Buildings of heritage significance
50 year flood line
Site boundary
Entrance
Railway Stop
structuring elements

6.2. Oude Molen



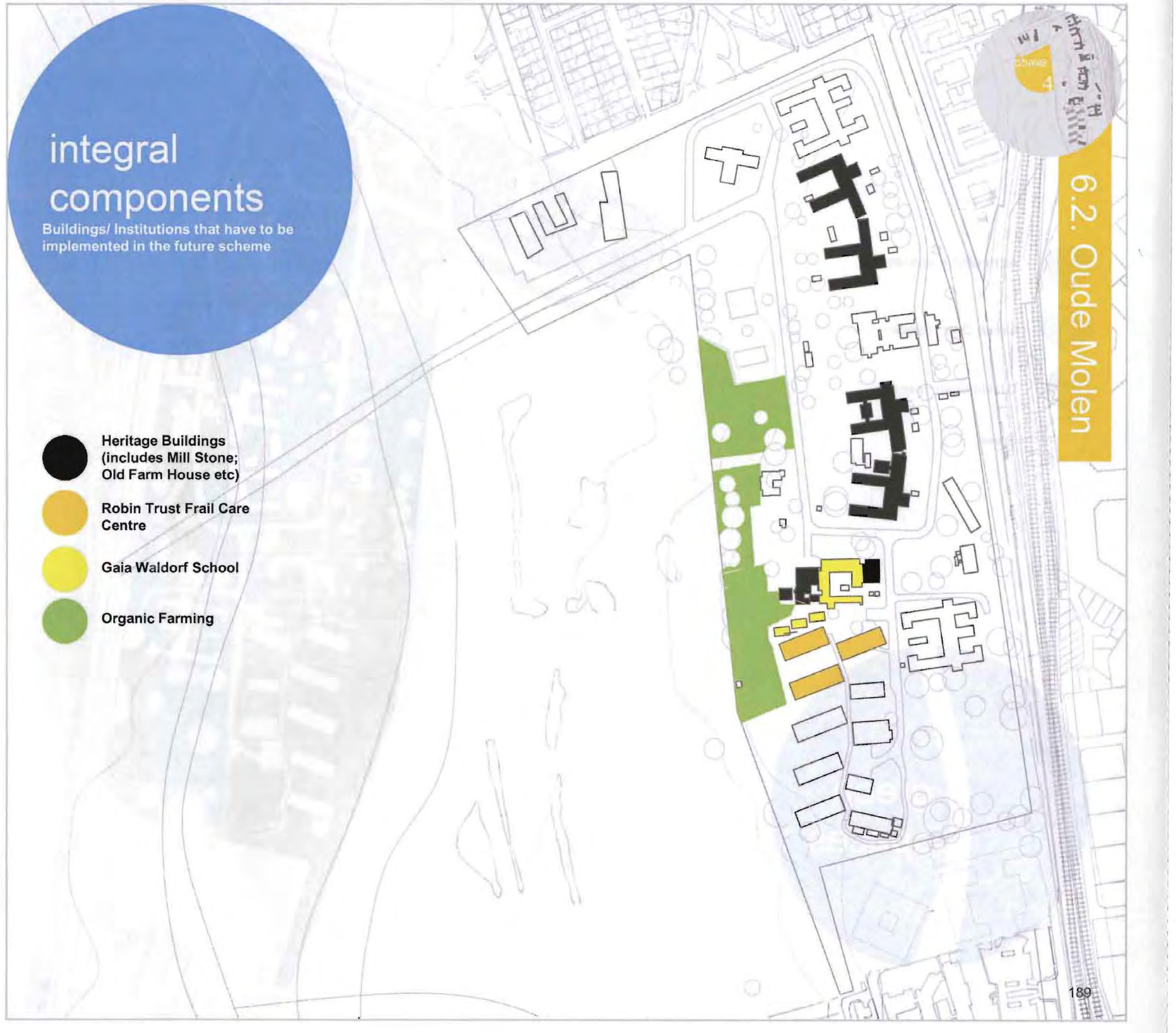
6.2. Oude Molen



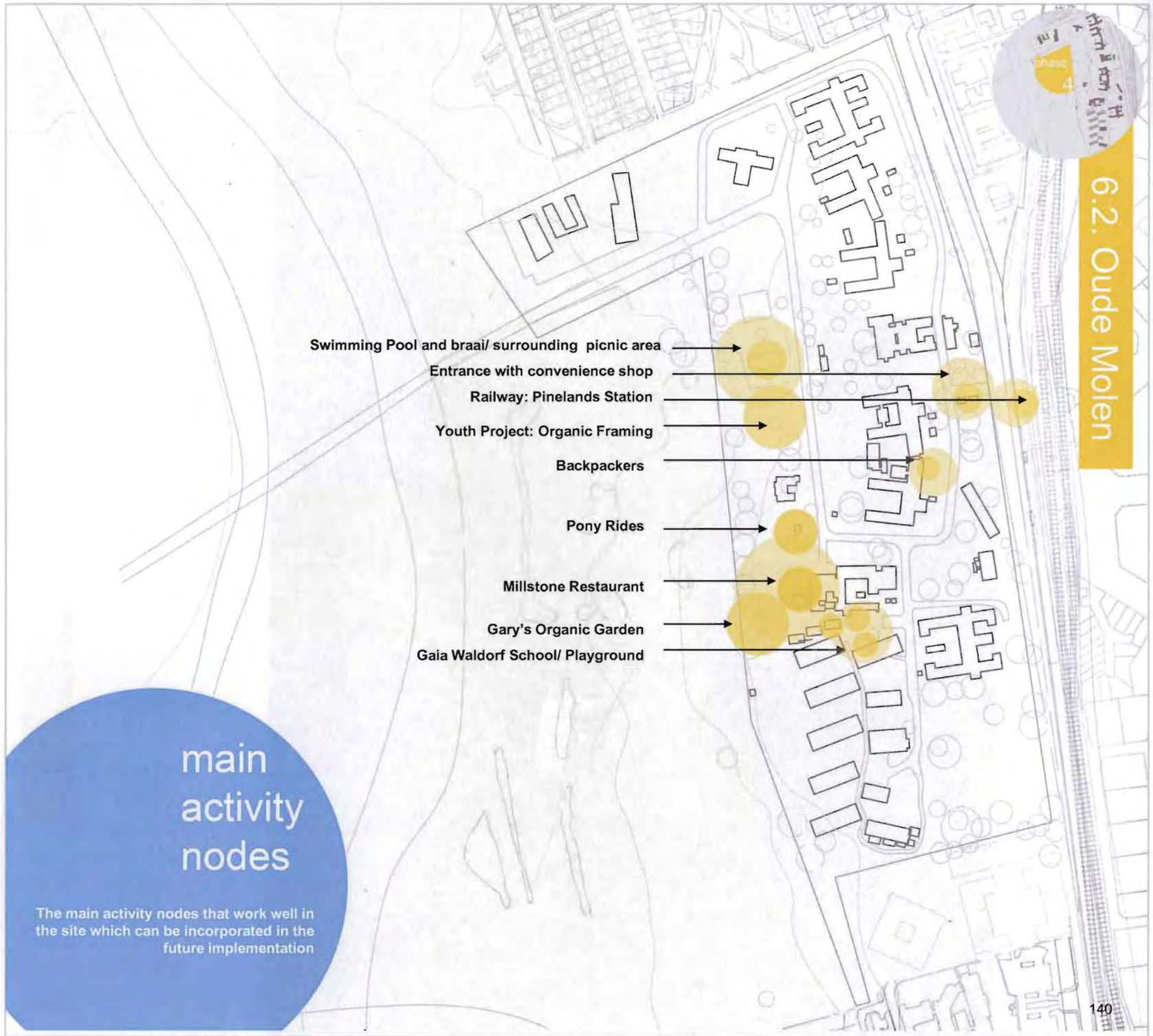
integral components

Buildings/ Institutions that have to be implemented in the future scheme

- Heritage Buildings (includes Mill Stone; Old Farm House etc)
- Robin Trust Frail Care Centre
- Gaia Waldorf School
- Organic Farming



6.2. Oude Molen

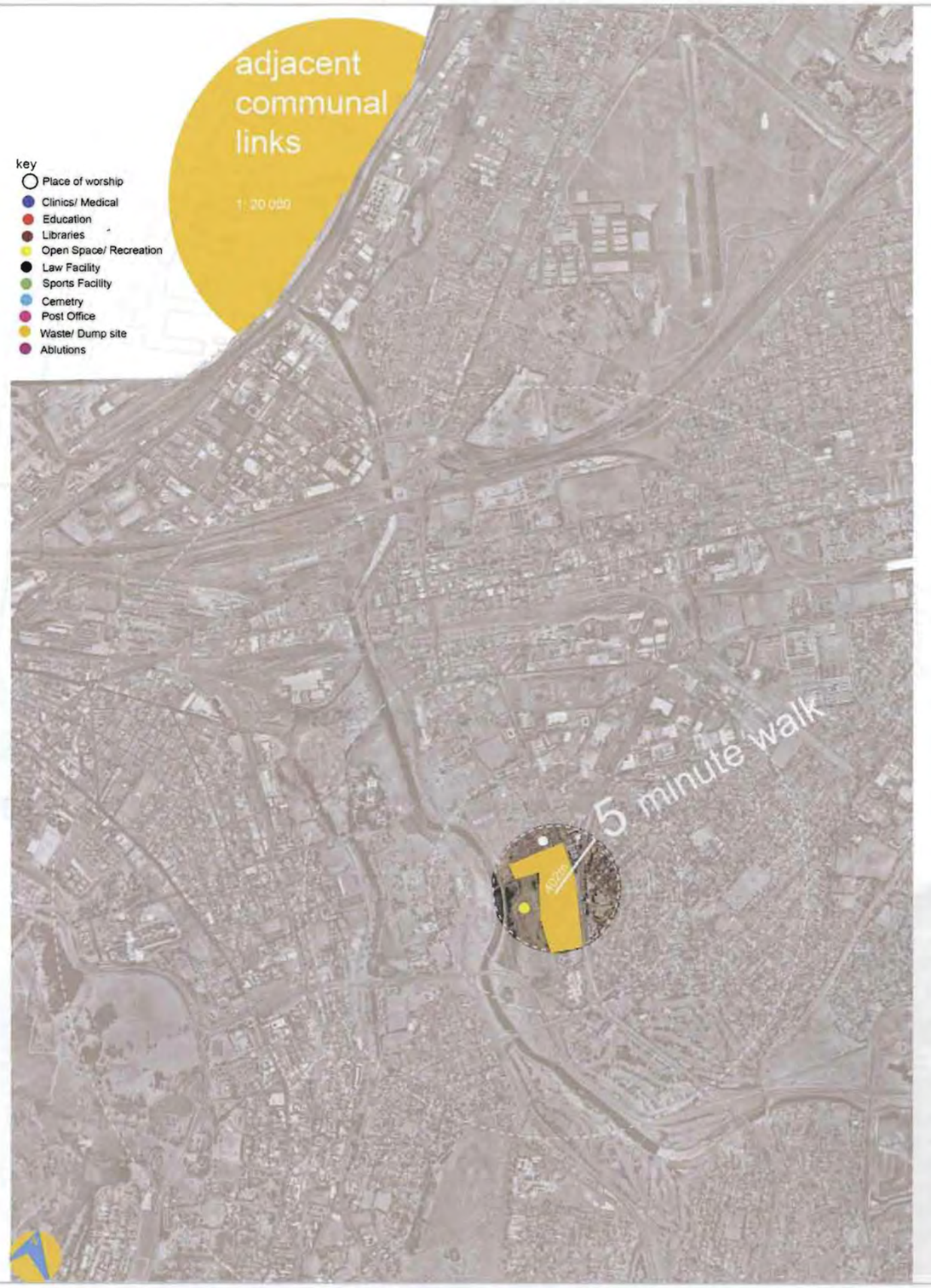


main activity nodes

The main activity nodes that work well in the site which can be incorporated in the future implementation

6.3. Surrounding facilities

5 minute walk



6.3. Surrounding facilities

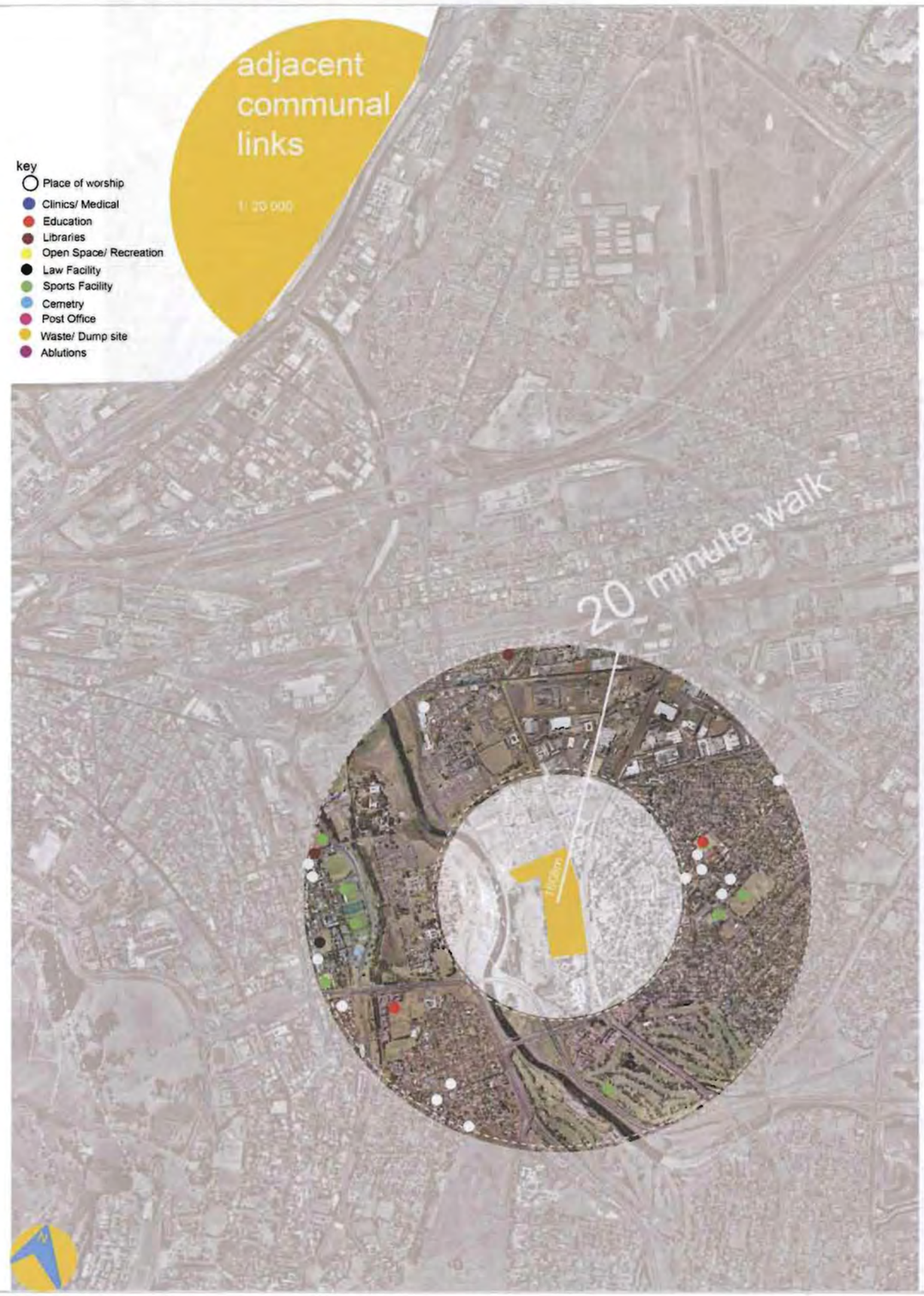
10 minute walk

adjacent communal links

1: 20 000

key
- Place of worship
- Clinics/ Medical
- Education
- Libraries
- Open Space/ Recreation
- Law Facility
- Sports Facility
- Cemetry
- Post Office
- Waste/ Dump site
- Ablutions

10 minute walk

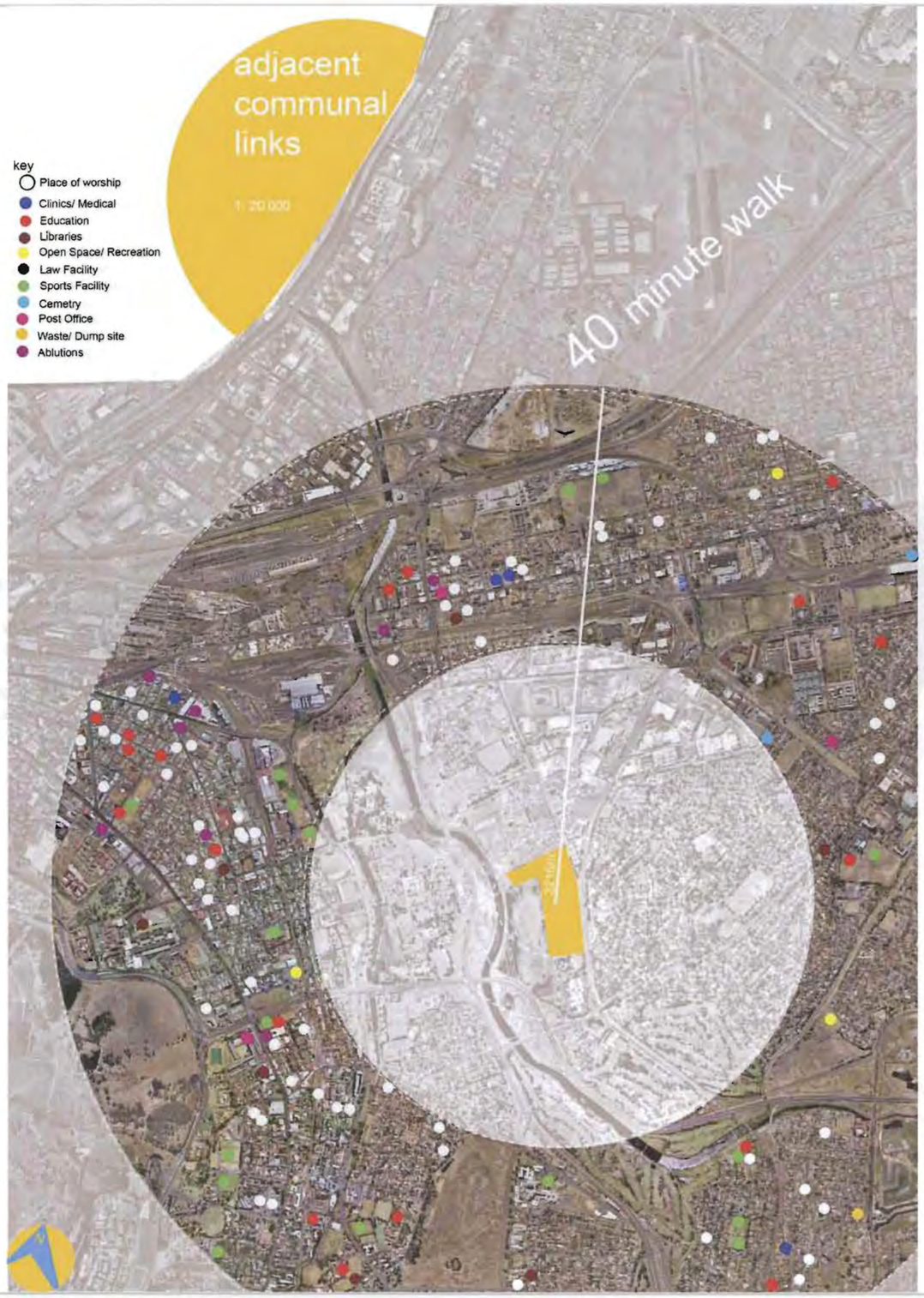


6.3. Surrounding facilities

20 minute walk

6.3. Surrounding facilities

40 minute walk

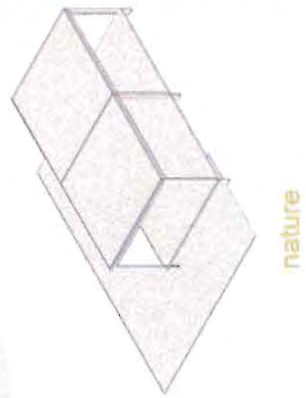


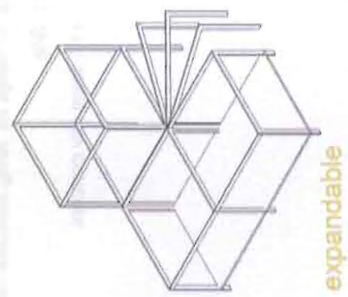
3.5 Primary design research and response

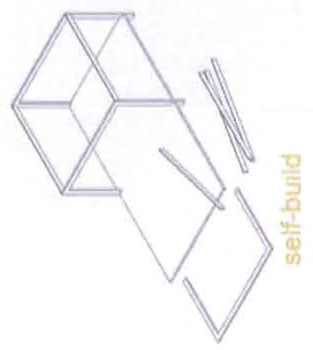
After the completion of the site analysis (Phase 4) further design research was conducted to explore the architectural possibilities of the design intervention. This primary design research aimed to merge the commune ideology, explored in the theory component, with architectural issues such as density and program requirements. In addition the ideal site concept, from Phase 3, was further explored and placed on the site to view the implications of this ideal alternative intervention. Other site elements that were examined include the notion of piecemeal growth and various housing options on site. This phase provided the fundamental design research and response needed to evolve the final design proposal.

Content

commune themes





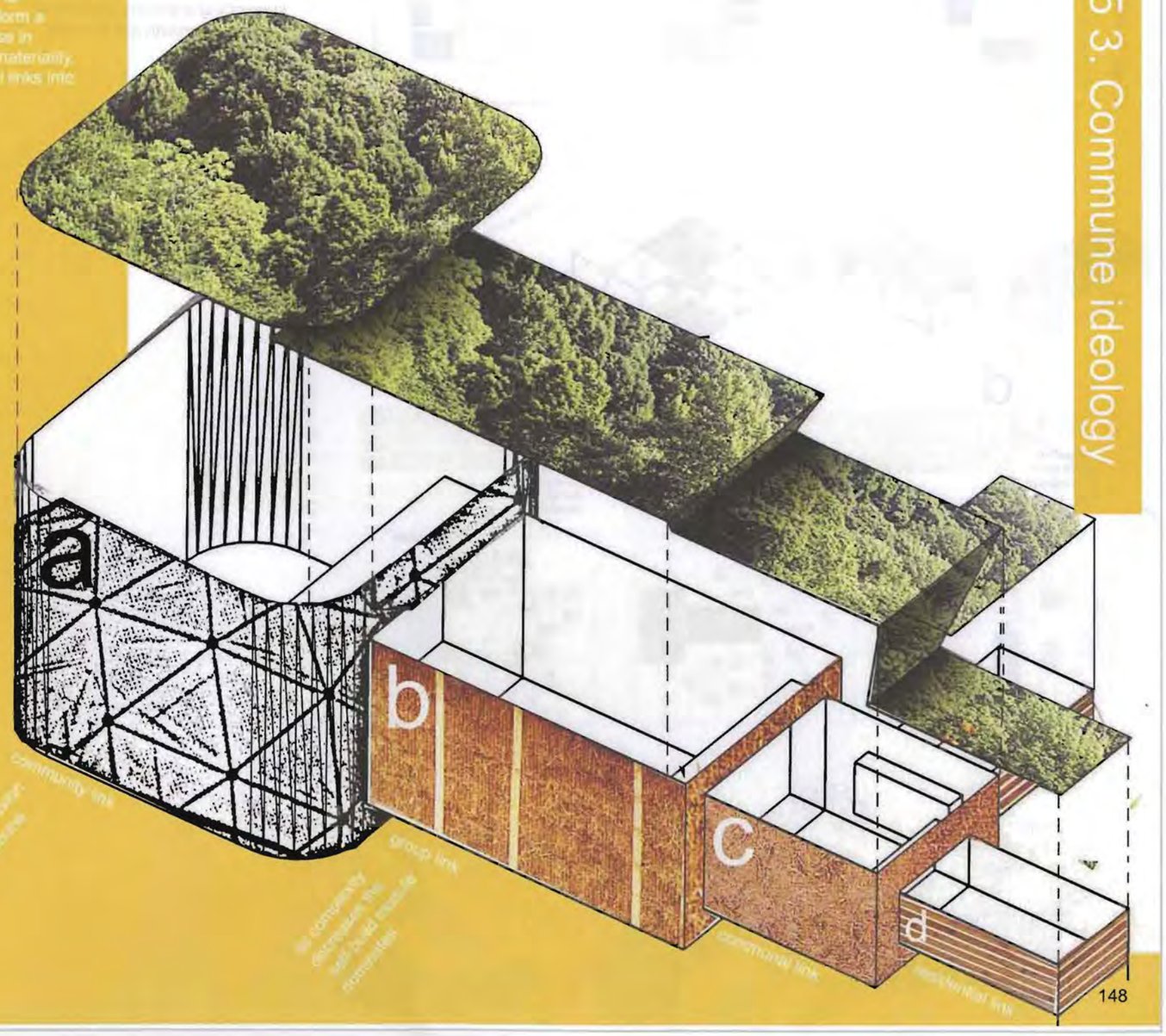


architectural themes

This diagrammatic representation of the theory and technology documents demonstrates the various links that must formed be in the architecture of the site, demonstrating hierarchy and the role of nature and a constant presence of interconnectedness.

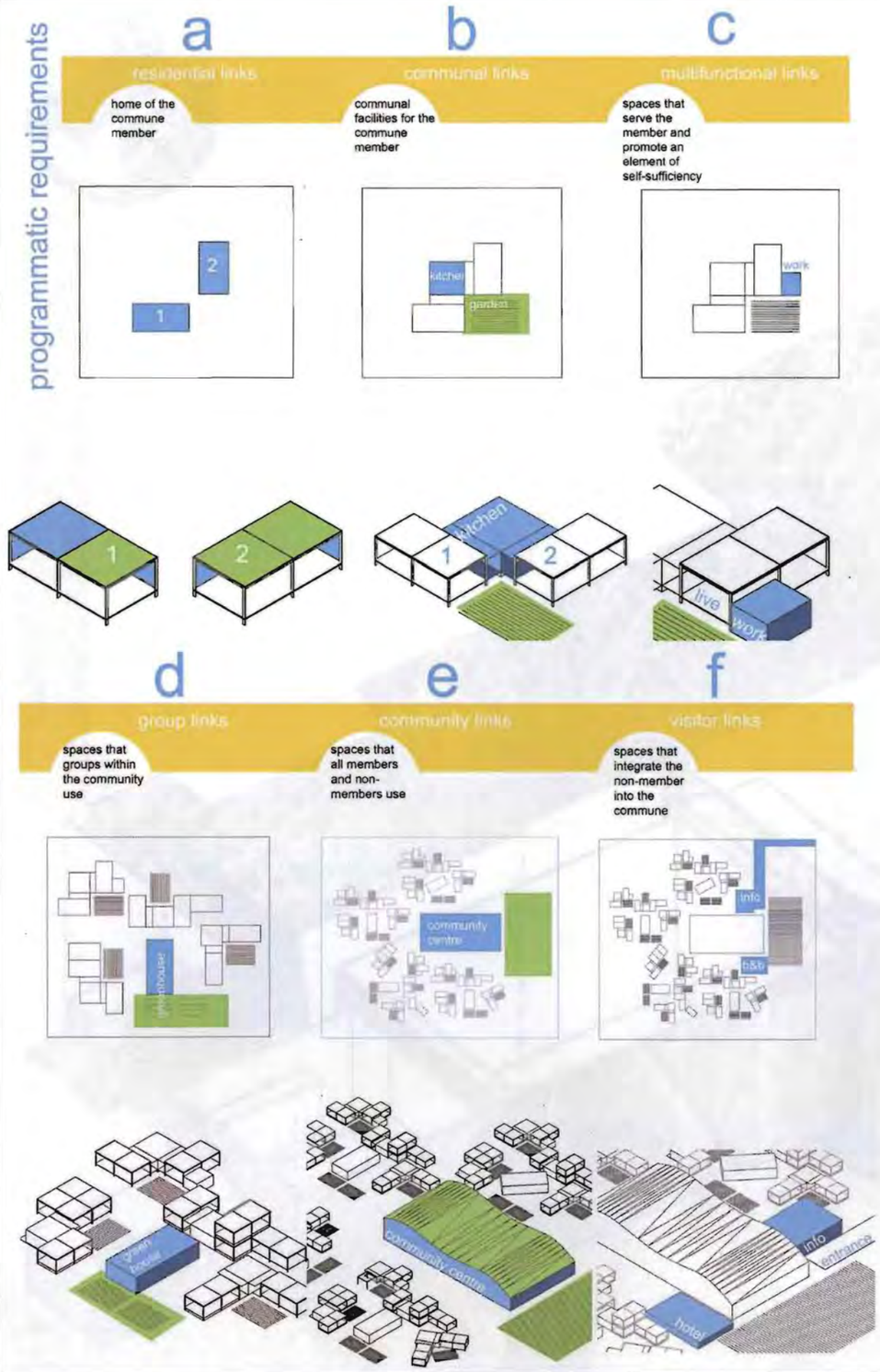
commune ideology

A diagram demonstrating the relationship between commune links and how one feeds off the other. The links, designed to promote community interaction, form a hierarchy and illustrate a decrease in complexity in elements such as materiality. Nature acts as a tool to merge all links into one cohesive site.



3.5.4. Programmatic requirements

The theory document demonstrated that there are several programmatic requirements for a successful urban commune. These requirements range from members' dwellings to communal facilities for the entire commune and visitors. These requirements are illustrated in the adjacent diagram, already suggesting a primary element of piecemeal growth within these requirements.



community links

a

commune themes:

collective
community
nature
education
ecological
public

program options:

collective node:
- community centre
- hall
- offices

collective elements:
- sportsgrounds
- market space
- outdoor stage
- swimming pool
- restaurant
- shops
- waste/recycling-depot
- gallery
- library
- school
- eco-institute
- parking

residential links

d

commune themes:

program options:

houses
apartments

group links

b

commune themes:

holistic well-being
spiritual
nature
public

program options:

greenhouse
nursery
meditation-space
recreation-space
laundry
permaculture
studios

multifunctional links

d_1

commune themes:

self sufficiency
expandable
public
private

program options:

workshop
bussiness
vegtable-garden

communal links

c

commune themes:

community
nature
agriculture
public

program options:

kitchen
lounge
workshop/ studio
vegtable-garden

visitor links

e

commune themes:

community
interaction
visitors
public

program options:

welcome/ info centre
toilets
campsite
backpackers
hostel
shops
guest house

The programmatic requirements demonstrate the need for various program options on site. These options, which follow the commune ideology diagram, are divided up into several links ranging from communal, group, residential and visitor links. With each link, several program options can be applied.

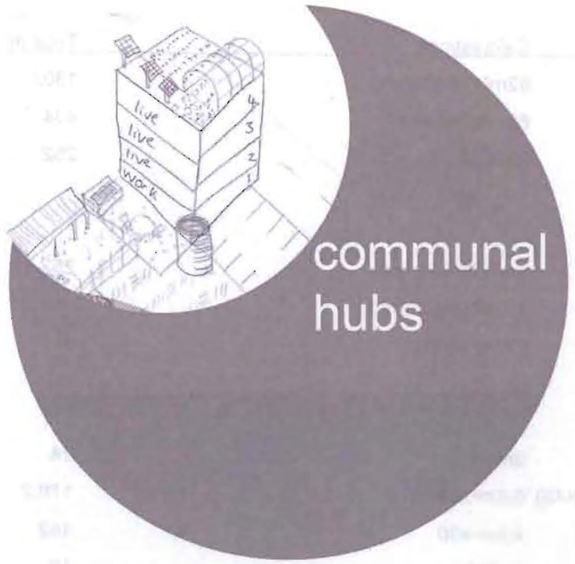
3.5 6. Density on site

As the design calls for a housing initiative, the implications pertaining to density should be considered. In order to comply with the sustainable urbanism initiatives, three density options are provided (from high to low). High density is located towards the urban edge and low density towards the Black River edge (the most rural part of the site).

density options for site

The sustainable neighbourhood provides a mix of land uses. At least 3 dwelling types must be provided, along with promoting the live_work initiative.

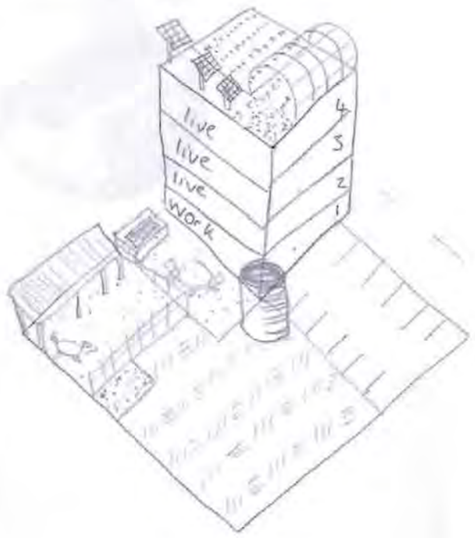
3.5.7. Density calculations



communal hubs

The density calculations were done in several components. First, the ideal land area required for each housing option was calculated, then the optimum housing mix was concluded, after which the area required for the communal facilities was calculated.

1. Mixed Use: High Density
2. Apartments: Medium density Type A and Type B
3. Low Rise dwellings: Low density
4. Community facilities



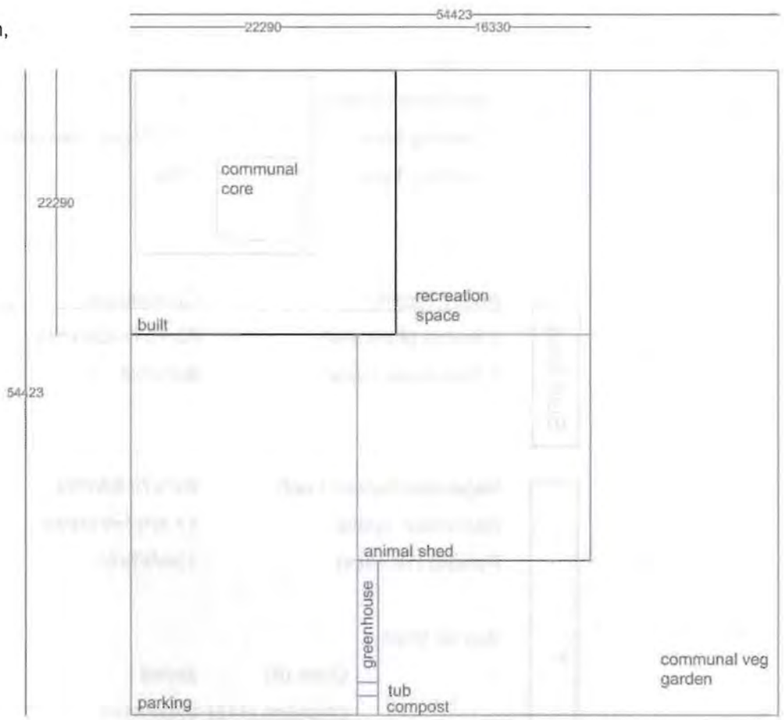
1.Mixed Use

	People:	112	
	Maximum Storeys:	4	
	Dwelling Size:	62m²/ per 4 people maximum	
	Dwelling Type:	Flat/ Maisonette	
	Room/ Facility	**Calculations**	**Total m²**
Built Area	2 Bedrm (4 people):	62m²x7=434m²x3	1302
	1 Floor Retail	62m²x7=434m²	434
	1 Communal Core	63m²x4	252
Non-built Area	Vegetable Garden (roof)	9m²x7= 63m²x4	252
	Recreation Space	13 m²x7=91m²x4	364
	Parking (47 bays)	273m²+338m²	611
	Animal Shed		
	Cows (8)	3m²x8	24
	Chickens (448)	0,4m²x448	179,2
	Goats (36)	4,5m²x36	162
	Bees	2m²x5	10
	Communal Veg Garden		1092
	Rainwater Tub		2
	Greenhouse	6m²x3	18
	Compost Heap	0,9m²x3	2,7
	Total (4 Floors)		4704,9
	Total (Ground Level)		2961,9
		Net Density	181,73
		Gross Density	121,97
		People/ha	378
		Blocks per site	64

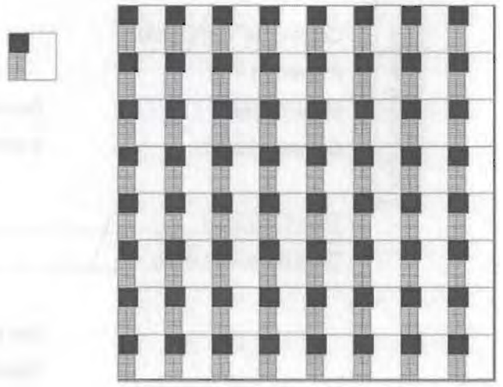
1.Mixed Use

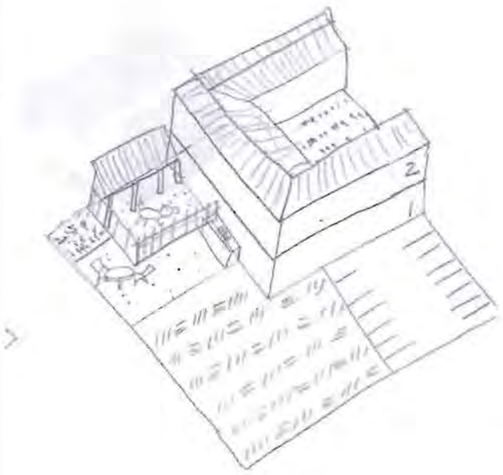
Block diagram 1:500

Diagram represents the areas required for each function, demonstrating the ratio between block components



The amount of Mixed Use blocks that can fit on the 18ha Oude Molen site





2.Apartments Type A

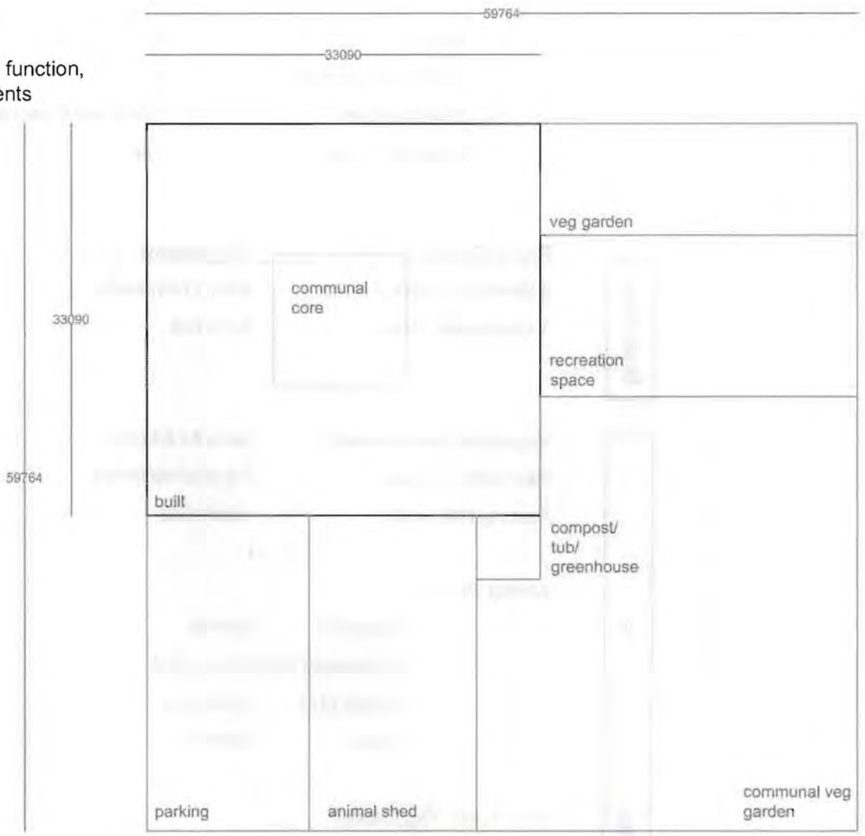
People:	112
Maximum Storeys:	2
Dwelling Size:	62m²/ per 4 people maximum
Dwelling Type:	Flat

	Room/ Facility		Calculations	Total m²
Built Area	2 Bedrm (4 people):		62m²x7=434m²x4	1736
	1 Communal Core		9m²x7x4	252
Non-built Area	Vegetable Garden (roof)		9m²x7= 63m²x4	252
	Recreation Space		13 m²x7=91m²x4	364
	Parking (18 bays)		13m²x7x4	364
	Animal Shed			
		Cows (8)	3m²x8	24
		Chickens (448)	0,4m²x448	179,2
		Goats (36)	4,5m²x36	162
		Bees	2m²x5	10
	Communal Veg Garden			1092
	Rainwater Tub			2
	Greenhouse		6m²x4	24
	Compost Heap		0,9m²x4	3,6
	Total (2 Floors)			4464,8
	Total (Ground Level)			3571,8
			Net Density	179,3
			Gross Density	107,23
			People/ha	332
			Blocks per site	52

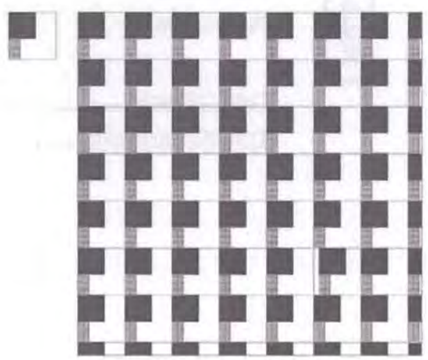
2.Apartments Type A

Block diagram 1:500

Diagram represents the areas required for each function, demonstrating the ratio between block components



The amount of Apartments Type A blocks that can fit on the 18ha Oude Molen site



2. Apartments Type B

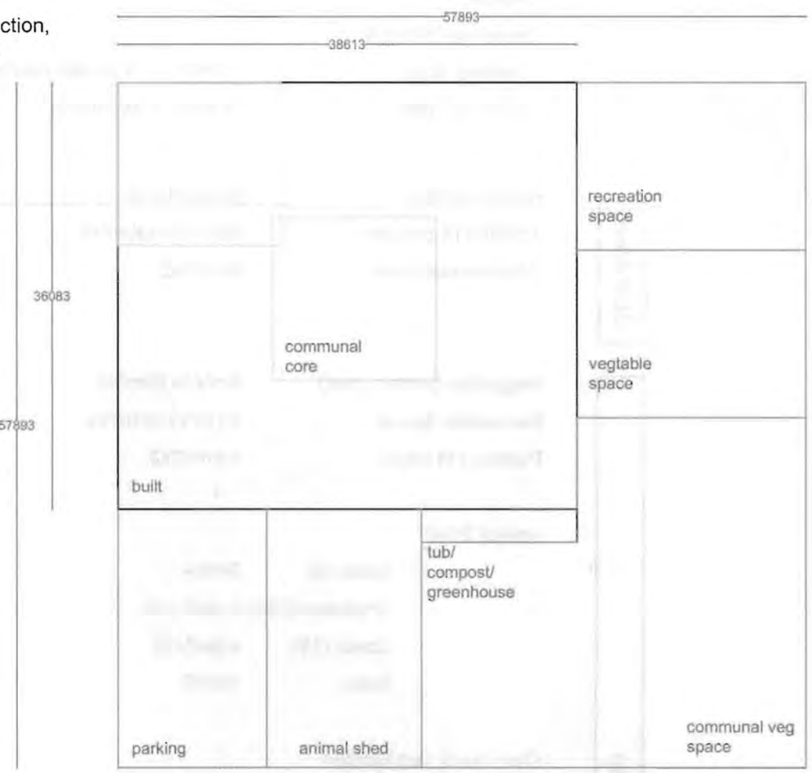
People:	84
Maximum Storeys:	1
Dwelling Size:	62m²/ per 4 people maximum
Dwelling Type:	Flat

	Room/ Facility	Calculations	Total m²
Built Area	2 Bedrm (4 people):	62m²x7=434m²x3	1302
	1 Communal Core	9m²x7x3	189
Non-built Area	Vegetable Garden (roof)	9m²x7= 63m²x3	189
	Recreation Space	13 m²x7=91m²x3	273
	Parking (18 bays)	13m²x7x3	273
	Animal Shed		
	Cows (6)	3m²x6	18
	Chickens (336)	0,4m²x336	134,4
	Goats (27)	4,5m²x27	121,5
	Bees	2m²x5	10
	Communal Veg Garden		819
	Rainwater Tub		2
	Greenhouse	6m²x3	18
	Compost Heap	0,9m²x3	2,7
	Total (2 Floors)		3351,6
	Total (Ground Level)		3351,6
		Net Density	181,73
		Gross Density	80
		People/ha	250
		Blocks per site	56

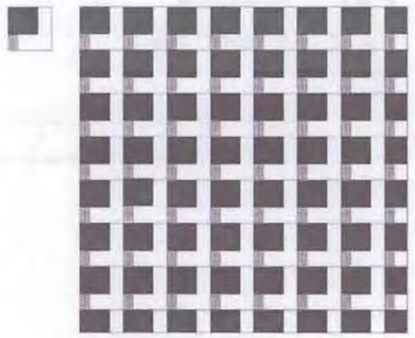
2.Apartments Type B

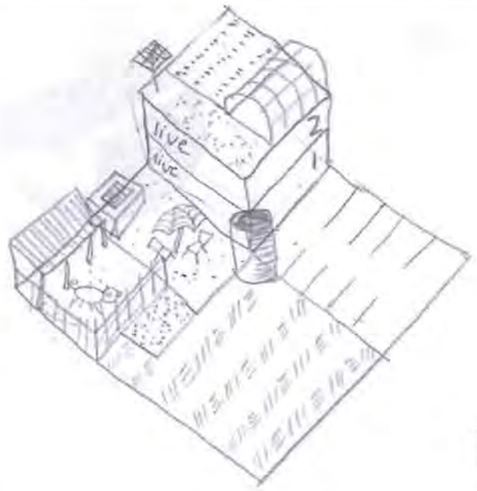
Block diagram 1:500

Diagram represents the areas required for each function, demonstrating the ratio between block components



The amount of Apartments Type B blocks that can fit on the 18ha Oude Molen site





3.Low Rise Housing

People:	56
Maximum Storeys:	2
Dwelling Size:	70m²/ per 4 people maximum
Dwelling Type:	House/ Townhouse

	Room/ Facility	Calculations	Total m²
Built Area	2 Bedrm (4 people):	70m²x7=490m²x2	980
	1 Communal Core	9m²x7x2	126
Non-built Area	Vegetable Garden (roof)	9m²x7= 63m²x2	126
	Recreation Space	13 m²x7=91m²x2	182
	Parking (18 bays)	13m²x7x2	182
	Animal Shed		
	Cows (4)	3m²x4	12
	Chickens (224)	0,4m²x224	89,6
	Goats (18)	4,5m²x18	82
	Bees	1m²x5	5
	Communal Veg Garden		546
	Rainwater Tub		2
	Greenhouse	6m²x2	12
	Compost Heap	0,9m²x2	1,8
	Total (2 Floors)		2346,4
	Total (Ground Level)		1667,4
		Net Density	163
		Gross Density	108,38
		People/ha	336
		Blocks per site	112,75

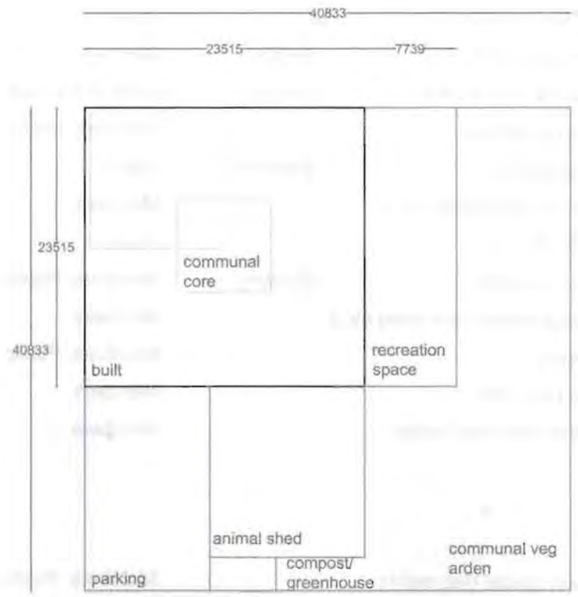
3.Low Rise Housing

3.5.7. Density calculations

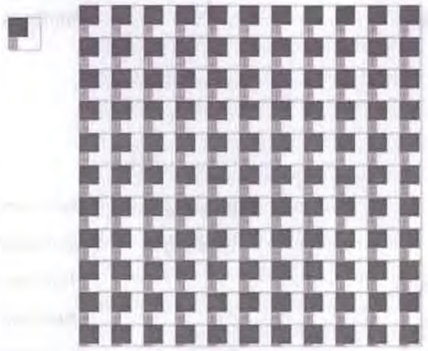
Low Rise dwellings

Block diagram 1:500

Diagram represents the areas required for each function, demonstrating the ratio between block components



The amount of Apartments Low Rise dwellings blocks that can fit on the 18ha Oude Molen site



a. Community links for site as a whole

	Facility	On site	Users	Proposed Area (ha)
Built Area	Community Centre/ Hall		Members, Public	0.26
	Info/ Visitor Centre		Public	0.05
	Gaia Waldorf School	Existing	Members, Public	0,64
	Millstone Restaurant	Existing	Members, Public	0.01
	Produce Market		Members, Public	0.28
	Backpackers	Existing	Public	0.1
	Post Office/ Corner Shop		Members	0.01
	Campsite		Public	0.1
	Clean Industry	Existing	Members, Public	0,2
	Storage rooms (tool shed etc.)		Members	0.065
	Nursery		Members, Public	0.01
	Recycling Hub		Members	0.01
	Waste treatment facility		Members	0,6
Non-built Area	Green space/ Recreation		Members, Public	0.34
	Sports field		Members, Public	1.28
	Horse Riding	Existing	Members, Public	2,0
	Swimming Pool	Existing	Members, Public	0,12
	Wind turbines		Members	0.1
Infrastructure	Road	Existing	Members, Public	1,8
	Parking	Existing	Members, Public	1,74
	Bus/ Taxi Stops		Members, Public	n/a
	Cyclist route		Members, Public	n/a
	Horse Riding trail	Existing	Members, Public	n/a
	Water Points		Members, Public	0.01

Site usage

3.5.8. Site Usage

Site Usage Areas		m²	
Community:			
	Built:	16950	1,695
	Unbuilt	37400	3,74
	Parking	5000	0,5
Circulation:			
	10%	18800	1,88
Apartments:			
	Built	7734	0,77
	Unbuilt	9200	0,92
	Parking	4000	0.4
	Total	20900	2,09
	People		616
Mixed:			
	Built	19000	1,99
	Unbuilt	28300	2,83
	Parking	6400	0,64
	Total	54200	5,42
	People		1909
Low rise:			
	Built	7600	0,76
	Unbuilt	8000	0,8
	Parking	2000	0,2
	Total	17600	1,76
	People		554
Left over:			
	Unbuilt	17150	1,715

Optimum residential mix by housing type: [according to sustainable urbanism guidelines]

Oude Molen site [18,8 ha]

20% Apartments	198,7 dwellings
18% Low Rise	178,83 dwellings
62% Mixed Use	615,97 dwellings

Apartments:

198,7 du : 616 people
: 1,9 ha self-sufficiency land
: 0,12 waste treatment
total: 2,09 ha

Low Rise:

178,83 du : 554,37 people
: 1,65 ha self-sufficiency land
: 0,11 waste treatment
total: 1,76 ha

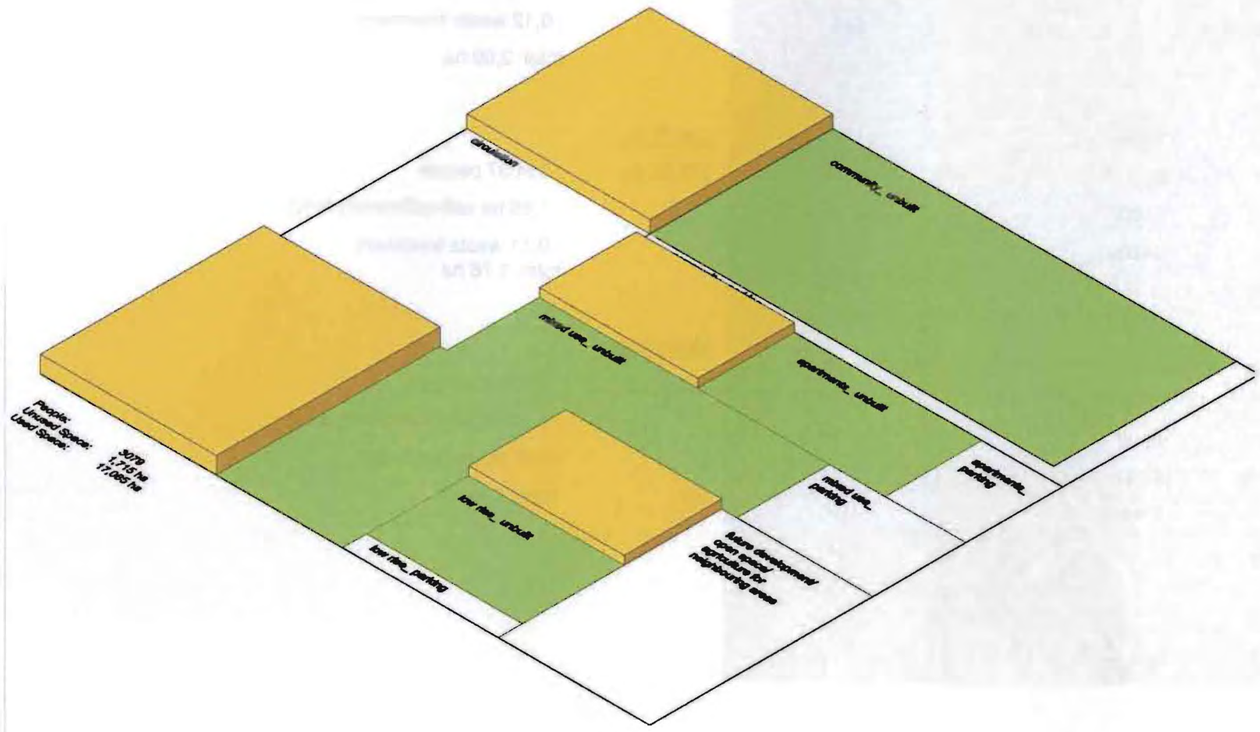
Mixed Use:

615,97 du : 1909,5 people
: 5,05 ha self-sufficiency land
:0,37 waste treatment
total: 5,42 ha

the new commune

3.5.8. Site Usage

Site Usage on 18,8 ha Oude Molen site



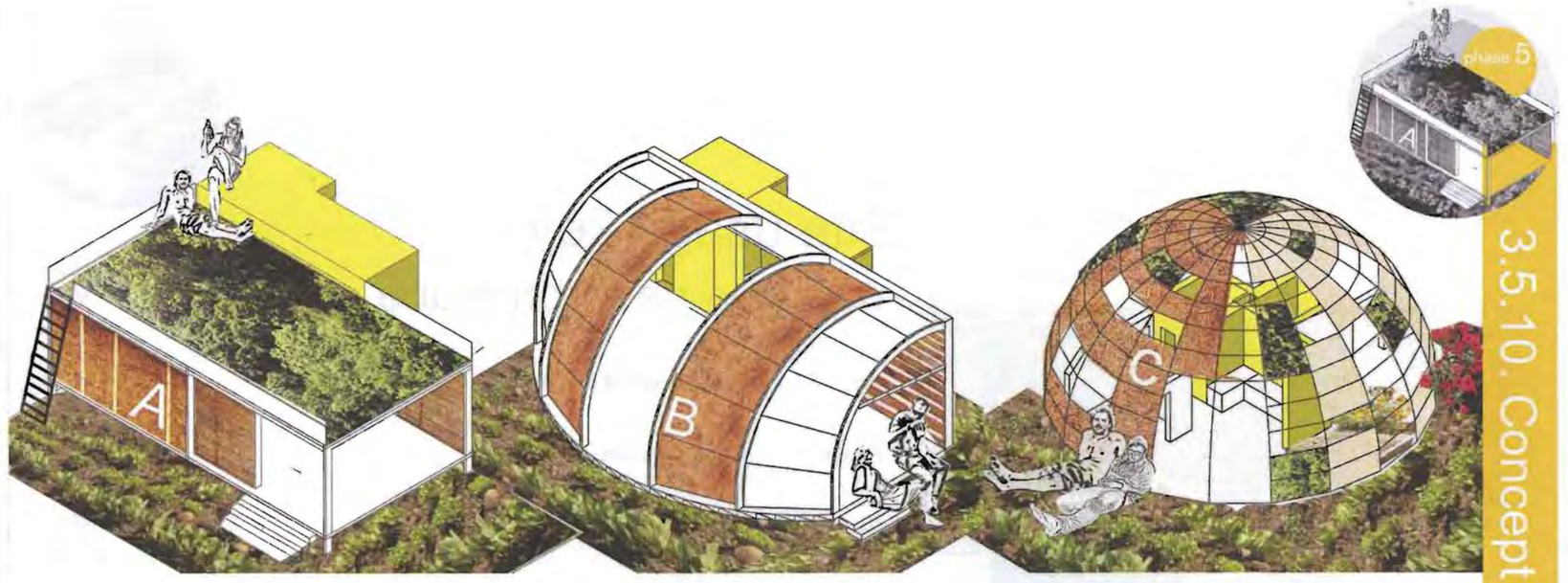
3.5.9. Site Key

Site usage key

Summary: the new commune

Site:	Oude Molen 18,8 ha area
People:	3079 maximum
Residential:	9,27 ha
Community:	5,935 ha
Circulation:	1,88 ha
Left Over:	1,715 ha [The space falls under the flood plane area which can be developed into vegetable plots that can feed about 1758 people from the neighbouring areas such as Maitland Gardens]
Density:	159 people/ ha 51 du/ ha

3.5.10. Concept for living modules: low rise housing



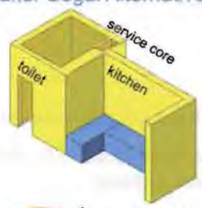
scheme A
The Walter Segal Alternative

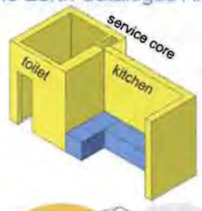
scheme B
The Whole Earth Catalogue Alternative

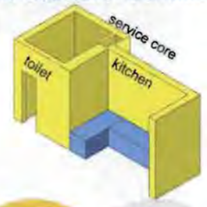
scheme C
The Geodesic Alternative

Formal

The pre-designed architectural elements that are not part of the self-build section. This is translated through a service core module which is adjusted to each scheme

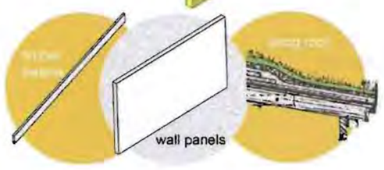






Informal

This includes the self-build sector. A series of schemes with pre-fabricated systems are designed by the architect then chosen by the commune member.

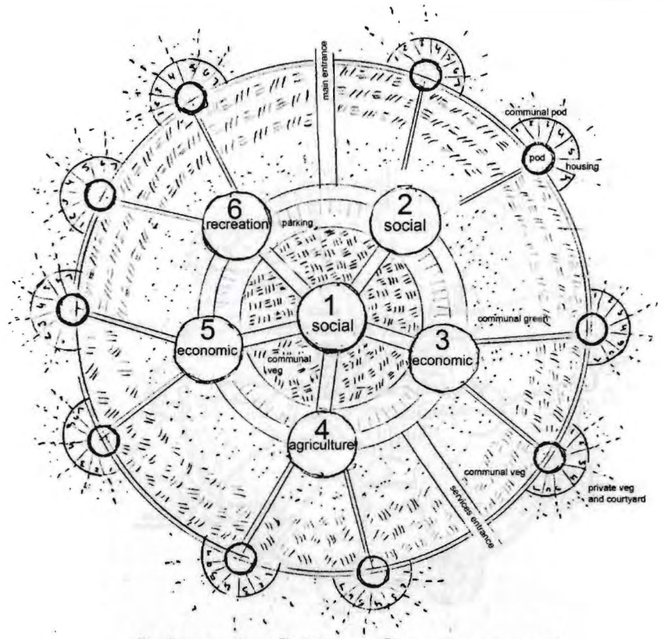


This was one of the first initial explorations of what the low-rise dwelling units could be. Some of these ideas were discarded for the final design, however the presence of nature and the natural, simplistic materials explored for the design remain as unchanging themes for the final proposal.

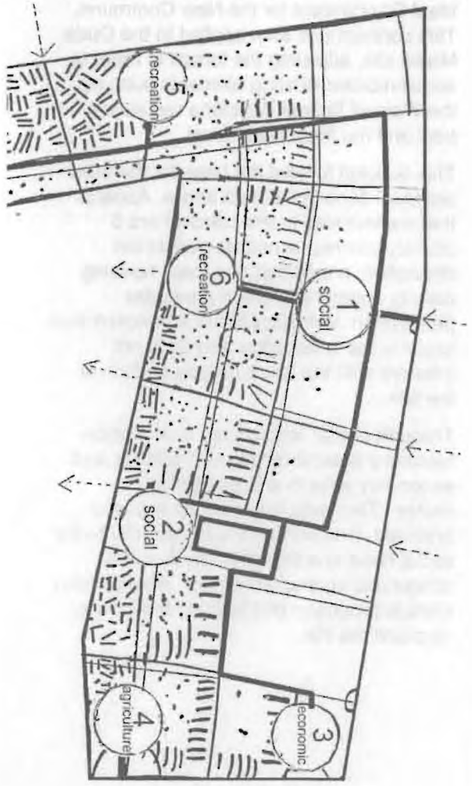
The Walter Segal simple post and beam systems of 'owner building'.

The scheme presented in the Whole Earth Catalogue which depicts the flexible house.

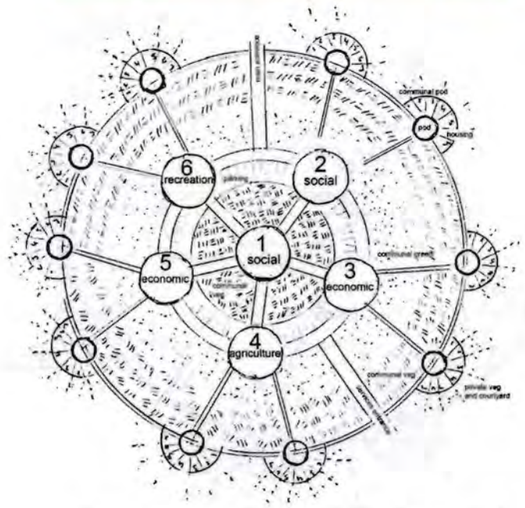
One of the main architectural themes explored in various communes is that of domed structures.



Ideal City Concept



Ideal City Concept



Phase 3 culminated in the creation of an Ideal City concept for the New Commune. This concept was then applied to the Oude Molen site, adjusting the format in order to accommodate existing elements such as the Waldorf School, Millstone restaurant, pool and the flood plane level.

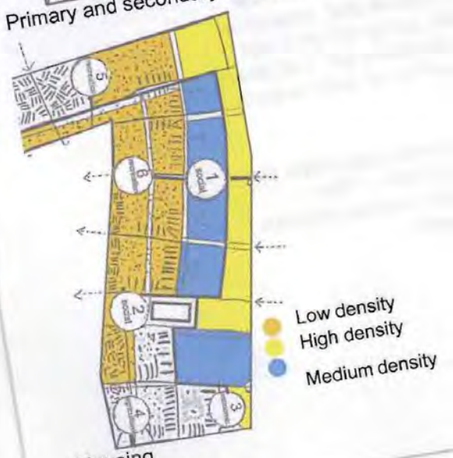
This concept formed the base for the urban proposal done in the next phase. Aspects that are included in this concept are 6 primary communal nodes; pedestrian circulation; a modified ring road; housing density options and urban perimeter penetration. Vehicular traffic is concentrated towards the urban edge and does not interfere with the lower density section of the site.

Through similar techniques, a circulation hierarchy is established, with primary and secondary vehicle and pedestrian routes. Two vehicle entrances are also provided. One entrance leads directly to the social heart and the other leads to the school and agricultural sector. A pedestrian route is proposed that links up the railway stop and the site.

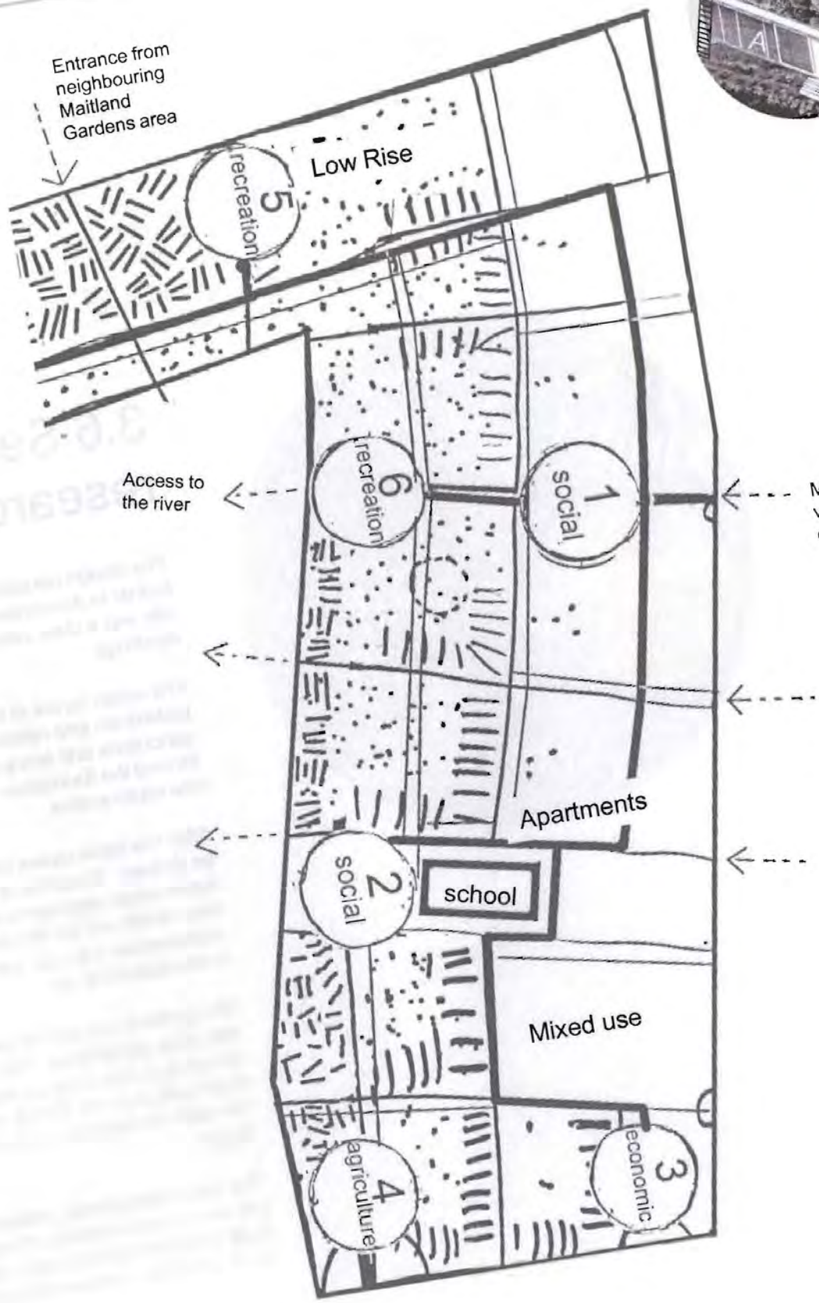
3.5.11.1 Ideal City concept

Communal Nodes

Primary and secondary circulation



Housing



3.6 Secondary design research and response

The design perspective obtained in Phase 5 was defined further to demonstrate a more detailed urban response to the site and a clear concept for the commune members' dwellings.

The urban layout of the site formalised various issues such as pedestrian and vehicular circulation; land use; parking; agriculture and entrance points into the site. This layout formed the foundation from which each program required on site could evolve.

After the basic layout was completed, the focus areas could be defined. These focus areas analysed site details such as storm water management and pedestrian path design. A site strip, which will be detailed in the next phase, will demonstrate a typical site section which can then be applied to the rest of the site.

The general concept for the dwellings and their communal links was established. This concept emphasised certain key design features, such as solar panels, compost toilets and vegetable gardens. These key features along with the general concept provided the appropriate tools for the next phase in design.

The secondary design phase does not imply any formal plans, sections or elevations for the architecture of the New Commune but rather aims to illustrate the conceptual basis upon which the design decisions are based.

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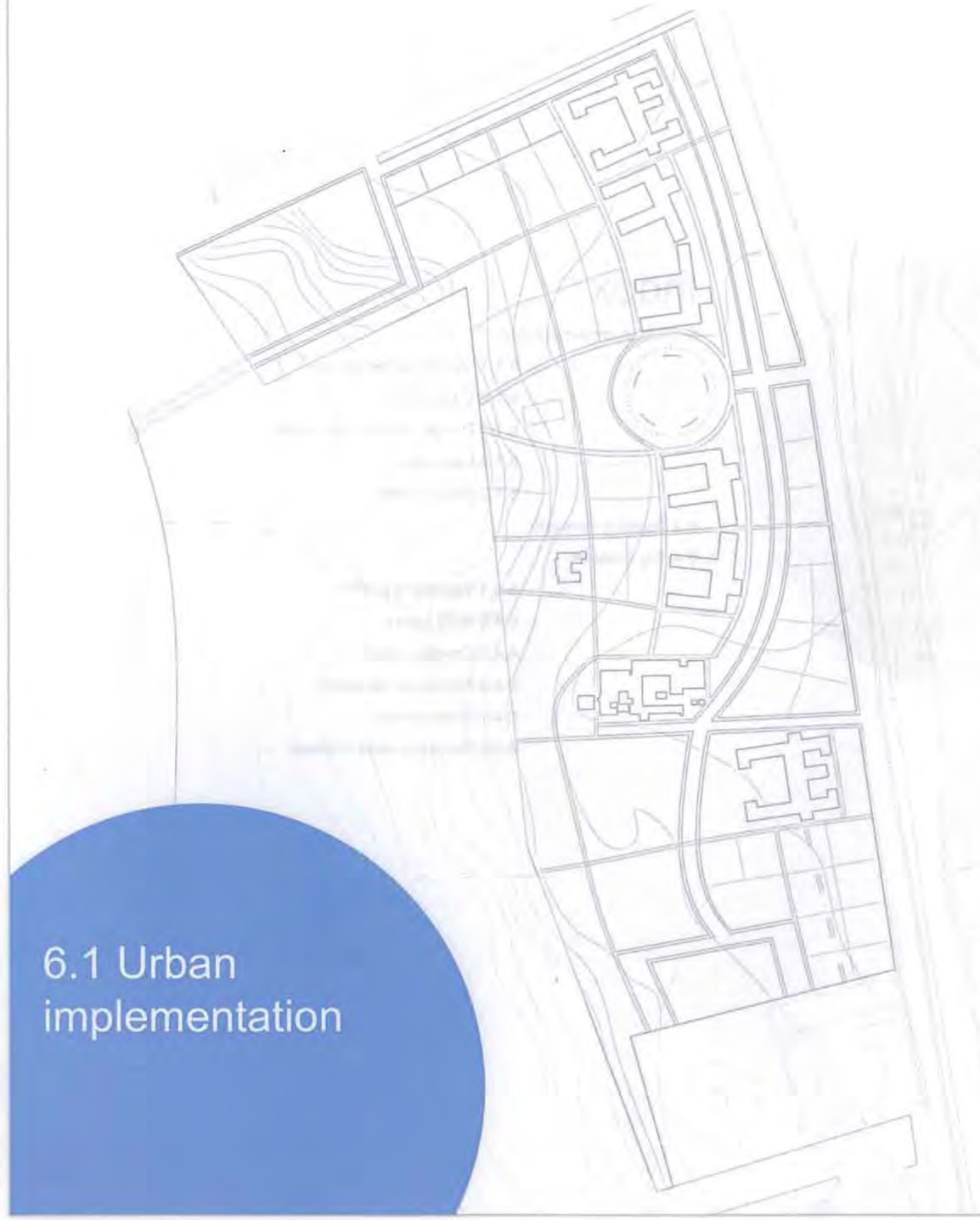


6.1 Urban implementation

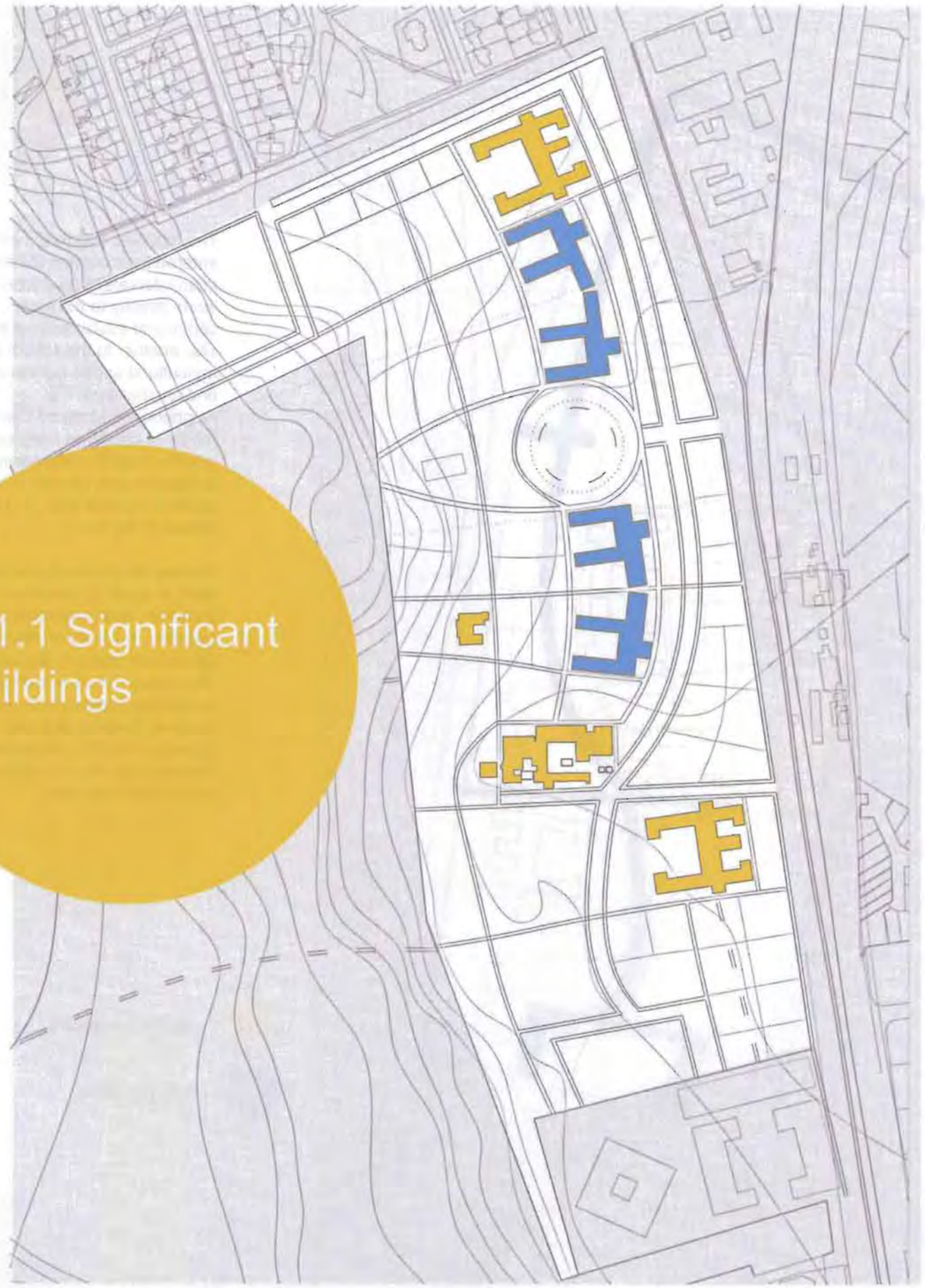
The form:
The form was derived from the original ideal city concept which was then adapted to the site. Various ideals from the concept were maintained, such as the modified ring road, pedestrian links and 6 main communal nodes.

The grid:
A grid is placed on the site to divide the land into plots of various sizes in order to accommodate the specific uses. The circulation paths play a major role in the formation of the grid, as the paths act as vectors from which the grid evolves.

The circulation:
A hierarchy is established on site between vehicular traffic and pedestrian movement. Vehicles are kept as close as possible to the main active urban edge, leaving the more western rural edge of the site free from vehicular traffic. The vehicle route connects the majority of the main communal nodes to each other, making easy access for members and visitors possible. A further hierarchy is established between the primary pedestrian routes and the secondary pedestrian routes. The primary routes are larger in width and connect all the nodes to each other on site. These routes are covered and paved, increasing the comfort level for members walking from their dwellings to the communal facilities. The secondary routes are kept natural with no coverings and act as mere movement routes between site elements.

Buildings:
The significant buildings represented on site include the heritage buildings that have to be maintained in the scheme and other working buildings, such as the Millstone, that add significant value to the site.

6.1.1 Significant buildings



The heritage buildings, which are former hospital wings, will be converted into apartment blocks. One building (the old hospital wing to the south) will retain its existing function as a Youth Centre and Backpackers' Lodge. The two other single storey vacant hospital wings will also be retained and refurbished as apartment blocks. Other significant buildings, which include the Millstone Restaurant, former doctor's house ("Helen's house") and Gaia Waldorf School, will be integrated into the proposed program and restored.

Heritage buildings

Significant buildings

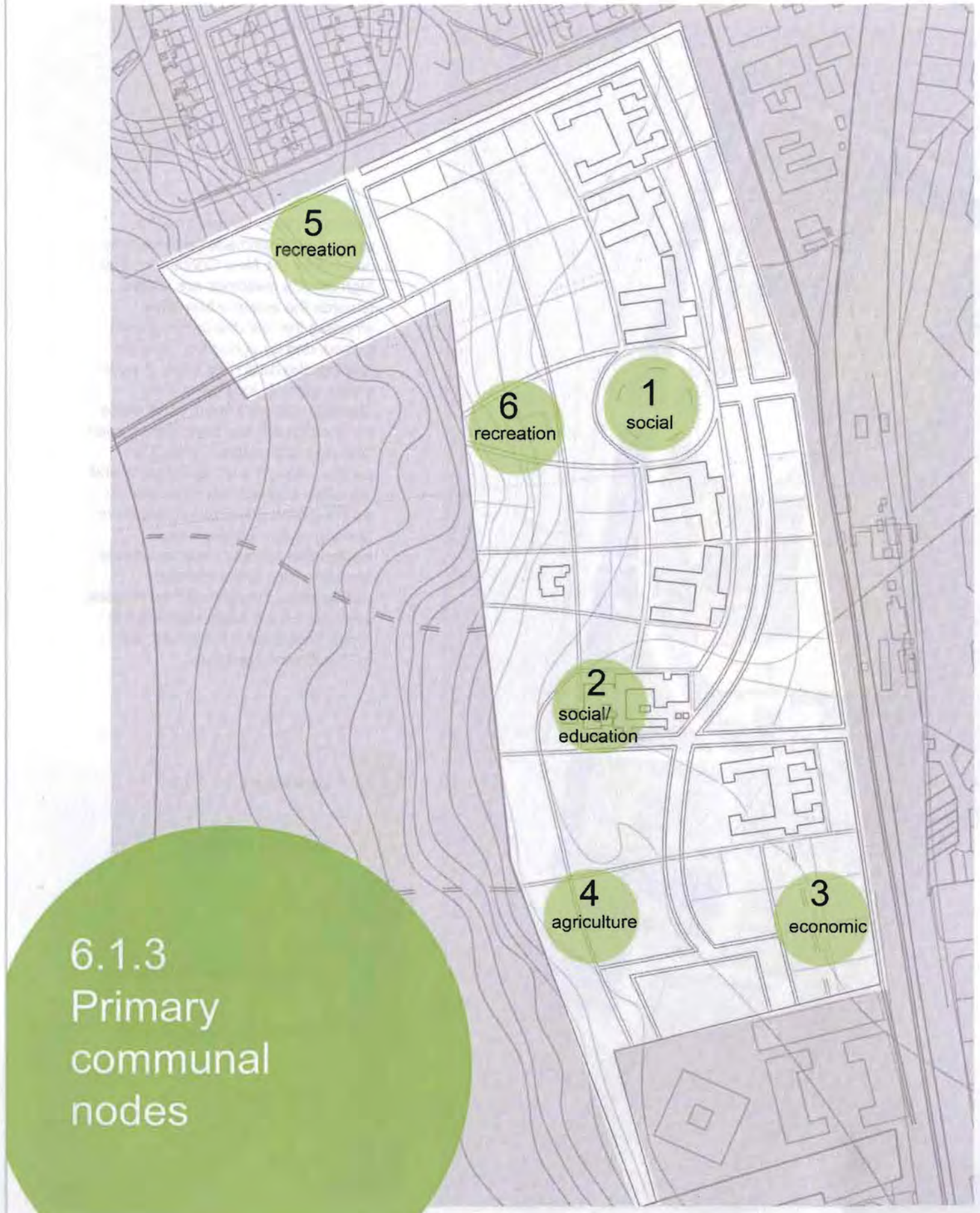
6.1.2 Circulation

The modified ring road can be entered from outside the site at 3 main intervals. One entrance leads directly to the main communal social heart of the site, another to the school and agricultural sector (for services) and another from the neighbouring Maitland Gardens (so as to create an integration into the neighbouring areas and to provide easy access to the sports amenities that will be placed in the area).

Pedestrian access is proposed at least every 91m to make walking distances as comfortable as possible. An array of alternative pedestrian routes is placed on site to connect all dwellings and communal facilities with ease. Some of these routes are extended into the proposed Two Rivers Urban Park, in order to merge park and site.

Pedestrian routes

Vehicle routes



To maintain the ideal city concept, the primary communal nodes are established on site. The '1 social' provides the communal heart of the site as this is where the Community Centre will be placed. The school and restaurant is located in '2 social and education'. '3' provides the light industry sector of the site, providing the site with an economic venture. The agriculture section, where the farm stock and large crops are located, provide the communal node '4'. Two recreation hubs are provided with the sports area (5) and the pool and braai area (6).

6.1.3 Primary communal nodes

The land use is divided into the various programmatic requirements needed for the New Commune. The high density dwellings are placed towards the active urban edge whereas the low rise dwellings are surrounded by agricultural spaces towards the rural river edge. A open green space is located next to Maitland Gardens in the flood plane zone which will accommodate a sport field and club house. Parking is located along the vehicular route and densified in areas where economic and business activities require more parking space. Large areas designated for agriculture are made available next to the low rise dwellings and towards the farm stock zone, which will accommodate the space required for the mixed use self-sufficiency grounds.

- Apartments
- Low Rise dwellings
- Mixed Use
- Agriculture/ Open Green
- Farm stock and large crops
- Open green
- Parking

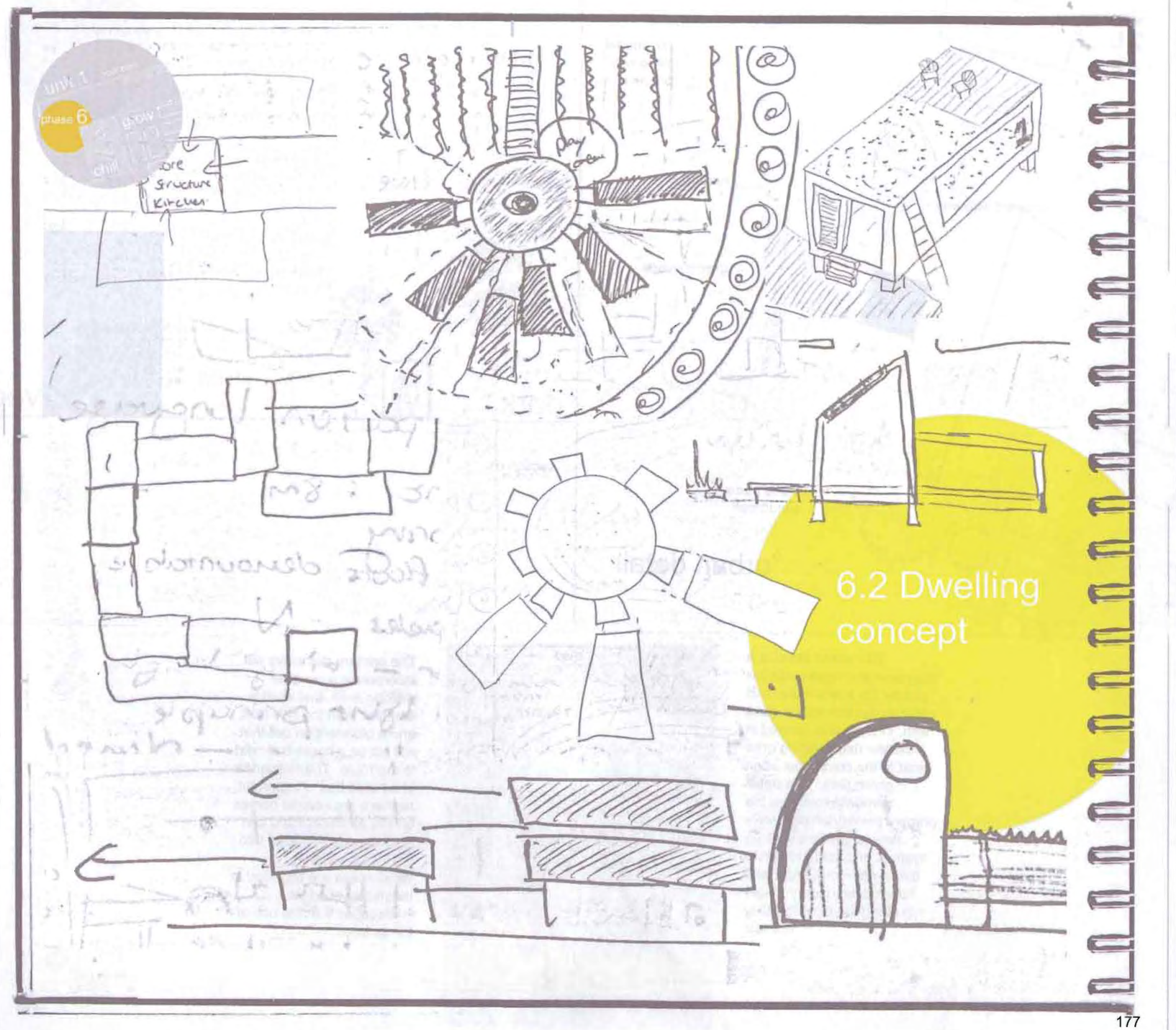
6.1.4
Land use

urban detail

section cc

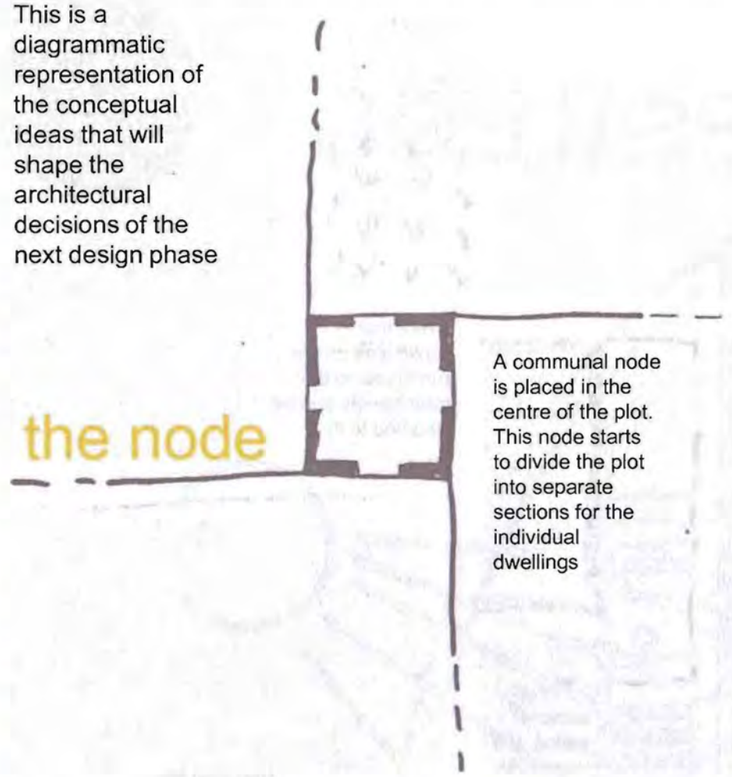
This urban detail is a diagrammatic representation of how the storm water and pathway system will be dealt with. The detail is located in the low rise dwelling area next to the communal open green park. This detail demonstrates how the primary pedestrian pathways have a covered walking system and lead straight to the low rise dwellings, and how the secondary routes run along the plots for easy access.

The primary pathways will incorporate a covered walking area, that shields the user from the NW rain, and a bioretention cell that will act as a horse trail next to the route. The relevance of a horse trail is important as there are several horses on site at present and can be better incorporated into the future scheme. Windbreaks are provided in the notion of edible landscapes with the use of Citrus trees.


phase 6
6.2 Dwelling concept

This is a diagrammatic representation of the conceptual ideas that will shape the architectural decisions of the next design phase

the node

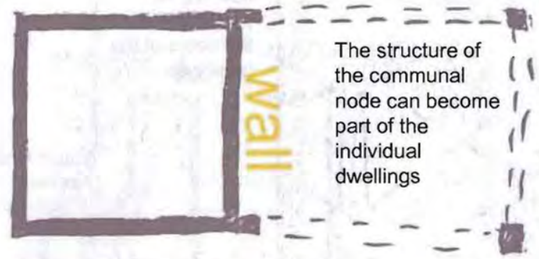


A communal node is placed in the centre of the plot. This node starts to divide the plot into separate sections for the individual dwellings

vegtable

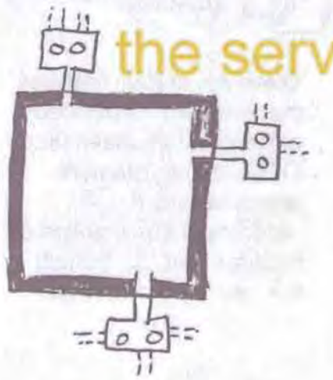
This communal node must always be directly linked with the vegetable garden as the garden supplies one of the main communal interaction spaces for the commune members

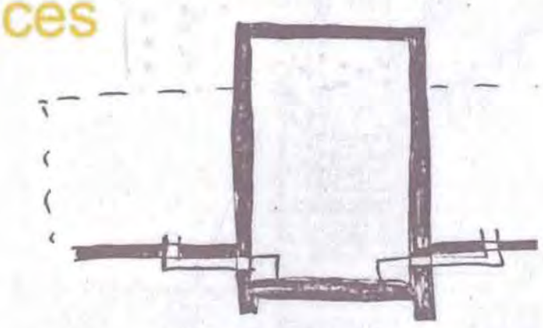
wall



The structure of the communal node can become part of the individual dwellings

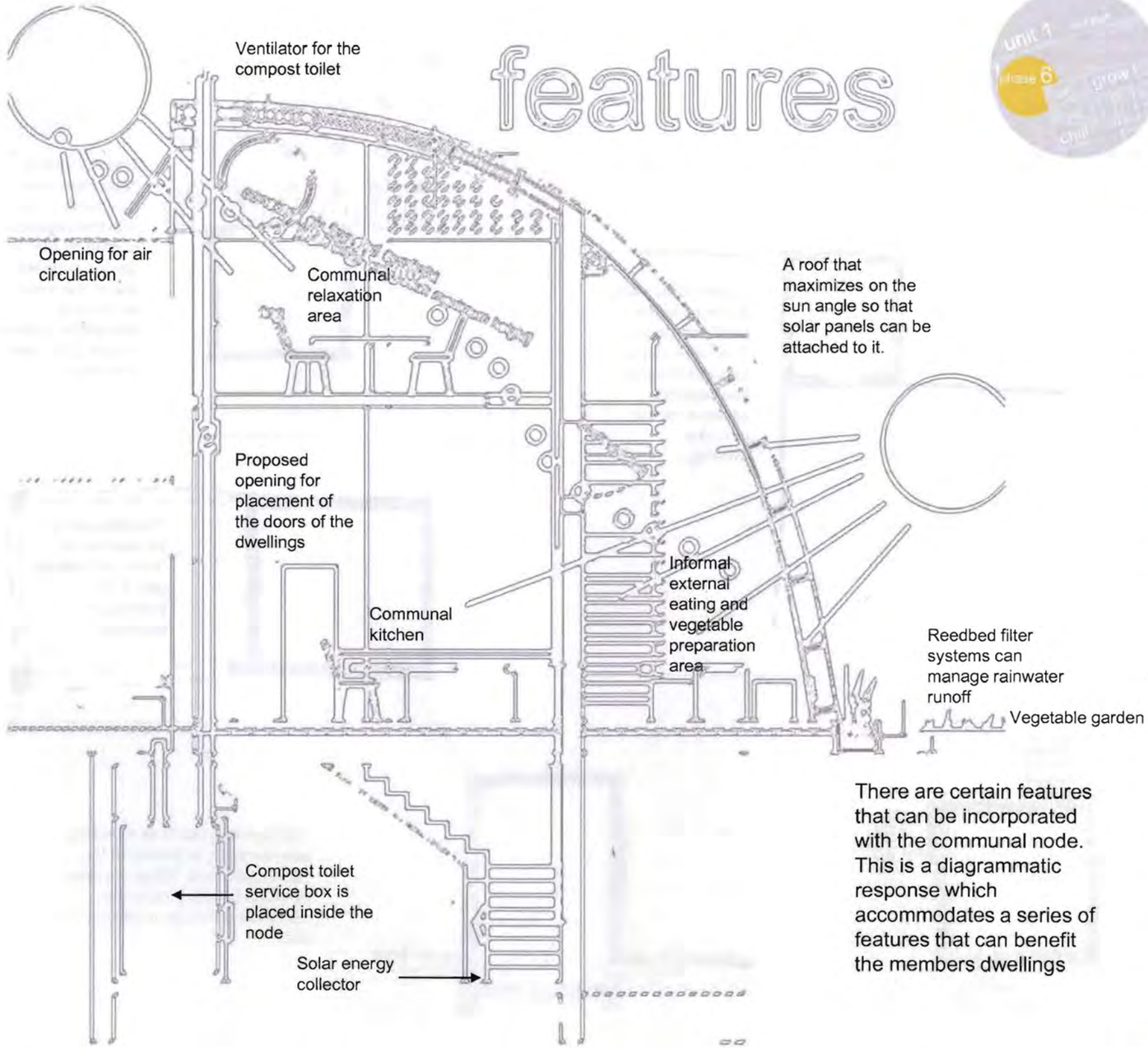
the services



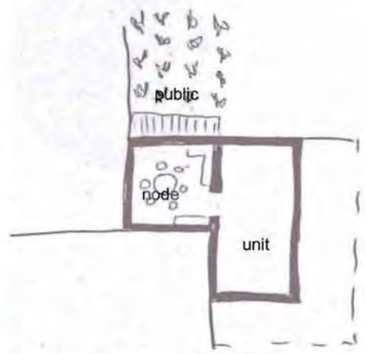


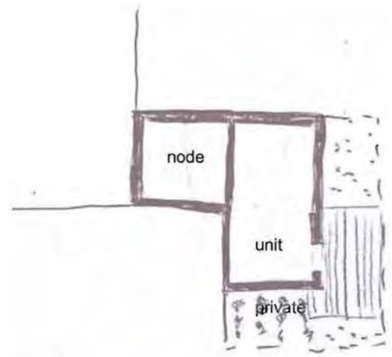
Vital services (such as plumbing and electricity is located in the communal node. These services can then be attached to the members dwellings once they are built.

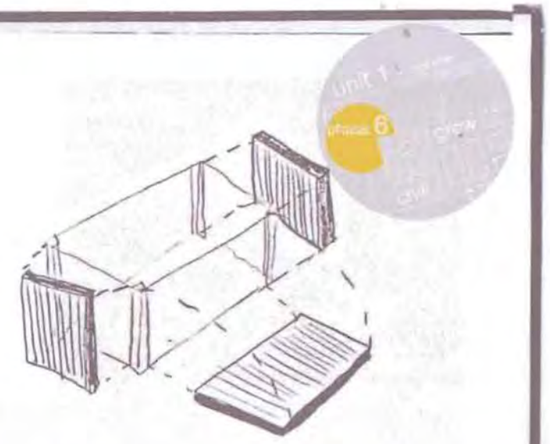
features



There are certain features that can be incorporated with the communal node. This is a diagrammatic response which accommodates a series of features that can benefit the members dwellings







Ground floor plan

Roof plan

Concept for dwelling units

This is a diagrammatic response to the requirements of the dwelling units on site.

The diagram above demonstrates how the units must be attached to the node so communal activity is ensuresd but also have private relaxation space away from the node.

The diagram to the left illustrates the typical layout of the individuals dwelling. Demonstrating how the roof forms part of the program.

The illustrations below (from the ECOMO www.ecomohome.com) demonstrates the modular notion the dwelling units will adopt.

Fig 18

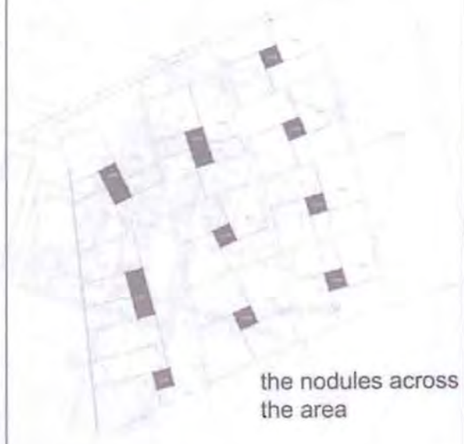
Urban implementation of the dwelling concept.

Focus area: Low rise dwellings

step a

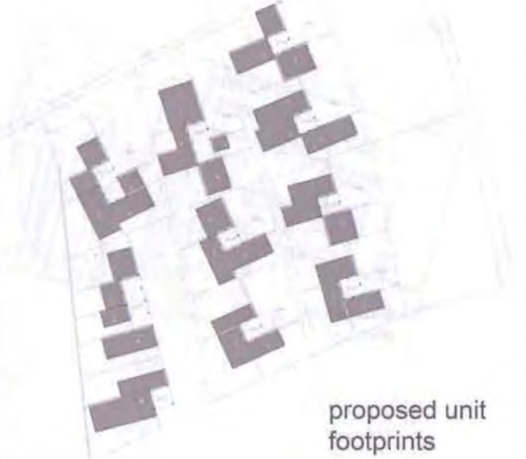
Locate the area of the design implementation on the site. In the diagram above, the area allocated for the low rise dwelling units is illustrated.

step b

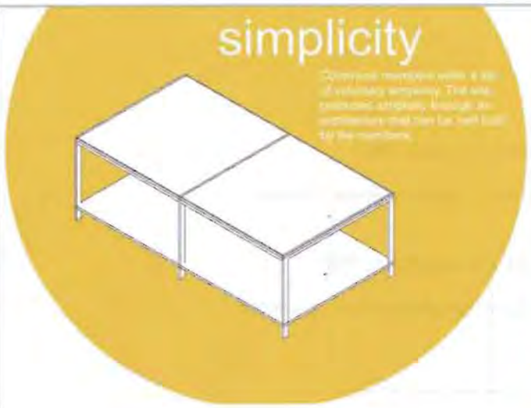


Place a communal node on each plot of land. Note how some nodes vary in size depending on how many units depend on that specific node.

step c



The building footprints illustrated above represent how the units will grow on the plot around each communal node.



4. Conclusion

This research document demonstrates the various phases required in order for the New Commune to take shape, emphasising the manner in which a new understanding was gained with each phase, ultimately leading to the next phase in the design research. The next phase in the design process will be merging all the phases explored in this document in order to create a detailed foundation from which the design can evolve, emphasising how this document provides the necessary framework needed to create the New Commune design.

The design explores the perspective gained from the theoretical research completed in the Theory and Technology papers, integrating the Oude Molen site by creating an environment where the existing elements can interact with the proposed programmatic elements. The design further creates an architecture where communal nodes shape the individual dwellings and proves that an urban commune, located in Pinelands, provides a successful living alternative for the city dweller where simplicity rules, community evolves and nature develops.

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Fig 5: Hedgepeth,W, "The Alternative", Collier-Macmillan Canada Ltd, New York, 1970
Fig 6: http://dir.salon.com/story/books/review/2003/02/27/boyle/index.html
Fig 7: Auroville in brief [online], Available: http://www.auroville.org/, [March 2009]
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Fig 18: www.ecomohome.com)