



PHILIPPI COLLECTIVE COMMERCIAL HUB

Architecture as a catalyst for socioeconomic and spatial equality in Cape Town

— an introduction to the design —

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areas of opportunity

increase opportunity

social condenser

areas that lack opportunity

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INTRODUCTION

"I have cherished the ideal of a democratic and free society in which *all persons live together in harmony* and with *equal opportunities*. It is an ideal which I hope to live for and to achieve. But if need be, it is an ideal for which I am prepared to die."

– Nelson Mandela

Rivonia Trial

1 9 9 4

Sixteen years after the abolition of apartheid, South African society may be democratic and free, but do all persons live together in harmony and with equal opportunities?

The initial interest of the M Arch (Professional) Architectural Project is the issue of persistent socioeconomic and spatial segregation and inequality in South African society and cities today, and the role *architecture* can play towards socioeconomic and spatial transformation.

South African cities, looking at Cape Town in particular, are faced with many problems common to developing countries. These include an increase in population, rapid urbanisation, poverty, homelessness, joblessness, inadequate resources, meagre living conditions in informal settlements and poorly functioning and unsustainable urban settlements that do not function to benefit the population as a whole.

In addition to these problems is the issue of segregation amongst people from different socioeconomic, class, cultural and racial backgrounds. This stems from a long and complex history dating as far back as colonial times through to the apartheid era, the effects of which are deeply embedded in post-colonial and post-apartheid

South African societies and urban environments.

Architecture and planning played an intrinsic role in the spatial manifestation of the apartheid regime, and to some extent contemporary architectural projects continue to ensure apartheid's legacy.

Architecture thus, in response, holds the potential to initiate a shift towards socioeconomic and spatial equality in South Africa today.

The long and complex history of segregation and inequality in South African societies and urban environments has resulted in socially, economically and spatially *unsustainable* urban environments.

Looking at Cape Town in particular, South African cities have developed to become polarised and fragmented. The urban form and structure of Cape Town today is such that economic and social opportunities are predominantly located in historically older areas, such as central Cape Town, the northern corridor to Belville and the southern corridor along Main Road. Affluent suburbs located around these opportune spines contrast sharply with poor, overcrowded and disadvantaged suburbs of the Cape Flats on the periphery of the city.

Sustainability has recently become a much debated about topic with the emerging evidence of climate change. The term 'sustainability' is, mistakably, predominantly understood in environmental terms. 'Sustainability', however, goes far beyond merely environmental protection and includes social and economic development.

In this Architectural Project, a fourth branch of sustainability is investigated, namely cultural sustainability.

This stems from the realisation that globalisation is significantly influencing urban and natural landscapes in South Africa today and is ensuring the demise of locally produced architecture, culturally rooted and adapted in time and space, which is being replaced by global forms that have not been adapted for local needs. This threatens culturally rooted architecture and the identity of cultural landscapes.

Sustainability is a broad topic which, in this project, focuses its attention to context specific sustainability, in terms of its cultural landscape and the theoretical aspirations of this project.

The fundamental aim of the Architectural Project is to produce architecture that performs as a catalyst in the creation of a platform upon which a paradigm shift from inequality and segregation towards socioeconomic and spatial transformation in post-apartheid South Africa can be initiated.

After establishing a theoretical approach to confronting the issues of persistent socioeconomic and spatial segregation and inequality, architecture that succeeds in this regard is investigated.

This investigation, as well as the investigation into sustainability, leads to siting and programmatic requirements. Architectural principals from precedent studies provide design clues applicable to the Architectural Project that seeks to confront the issues of persistent socioeconomic and spatial segregation and inequality.

1.1. BACKGROUND

HISTORY OF SEGREGATION

"We have got to treat the Natives where they are, in a state of barbarism. We are to be lords over them."¹

– Cecil John Rhodes, 1891

Segregation and inequality has been prevalent in southern Africa since Europeans started establishing colonies here. Europeans saw themselves as superior to native Africans and the socio-economic growth of their colonies were paramount. Building of relationships of mutual respect between themselves and the natives were thus overlooked.

Colonial governments exploited locals and disregarded their cultural heritage in order to achieve their own goals. Europeans forced Africans to work for them as labourers.

"The black man belongs to an inferior class, so severity is essential to control him."¹

– Paul Kruger

Land was the most valuable resource for Africans and Europeans thus used land control, as well as education, to strengthen the colonial paradigm. African methods of teaching were disregarded and Africans were educated to become labourers for Europeans.

"The Native who attends school must know that he must be the labourer in the country."¹

– Hendrik Verwoerd, 1953

THE ROLE OF DESIGN IN ENSURING SEGREGATION

Apartheid had a major impact on the form and structure of South African cities. Modernist principles of segregation of functions were adopted and altered to reinforce apartheid ideologies of racial segregation.

The modern movement not only seemed to provide solutions to the housing crisis and increasing traffic problems, but it also provided a way to enforce racial segregation. The

1. Mungazi: The Struggle for Social Change in Southern Africa: visions of liberty.

ideologies of modernism suited those of apartheid. Apartheid embraced and then altered and exaggerated the tenets of the modern movement. The modernist idea of the separation of functions was extended to the idea of the separation of the races. Races were located in separate areas, and were uprooted and relocated if necessary. In South Africa, there is a correlation between race and class, and it was thus the poorer communities that were uprooted and relocated to the peripheries of the city.

PERSISTENT SOCIOECONOMIC AND SPATIAL SEGREGATION

A long and complex history of segregation and inequality, dating as far back as colonial times through to the apartheid era, is deeply embedded in post-colonial and post-apartheid South African society. Due to the great inertia of the apartheid paradigm, the built environment continues to encourage persistent spatial and socioeconomic segregation.

To a great extent, contemporary architecture continues to ensure the manifestation of apartheid ideologies of socioeconomic segregation through developer-driven architecture that privatises, and thus controls, public realm and through socioeconomically segregated and secure mono-cultural developments.

Persistent social, spatial and economic segregation is discussed further in the backgrounds of both the top-down approach, subchapter 1.3, and the bottom-up approach, subchapter 1.4.

THE NEED FOR A PARADIGM SHIFT

In the preface of his book, 'The Struggle for Social Change in Southern Africa: visions of liberty', Dickson Mungazi discusses the applicability of Thomas Kuhn's theory of the structure of scientific revolutions to fundamental social change in Southern Africa. Mungazi states that difficult problems can be understood better by discussing possible solutions from a theoretical perspective.

A striking parallel exists between using the concept of

paradigms to seek solutions to the problems of natural science and seeking solutions to social problems. Models in physical science and models in social science have parallel structures and Kuhn's concept of paradigms in physical science thus corresponds with paradigms in social science.

Kuhn states that a paradigm shift is when the old paradigm is no longer able to solve the problems it was designed to solve. It is not possible for two paradigms to coexist, so the function of a paradigm shift is to eliminate the old paradigm so that a new one takes its place, not to create a void.

In South Africa, the colonial and apartheid paradigms proved to be destructive and socially and economically unsustainable. A paradigm shift was thus inevitable and began to occur in the form of internal resistance such as uprisings and protests by anti-apartheid activists.

Despite of the occurrence of the paradigm shift, from the apartheid government to a democratic state, the colonial and apartheid paradigm still underlie the thinking of South Africans today.

The theory of the M Arch (Professional) Architectural Project thus explores how architecture can aid in instilling the new paradigm of equality in the thinking of the South African public.

The theory of paradigms and the paradigm shift is also applicable to the functioning of the architectural profession. Spatially, architecture sought for the installation of apartheid ideologies. The apartheid paradigm of segregation to some extent continues to influence contemporary architecture, ensuring apartheid's legacy and resulting in unsustainable urban environments.

A paradigm shift in the thinking of design professionals towards social and spatial equality in South Africa is therefore of paramount importance.

THE ROLE OF DESIGN PROFESSIONALS

South African urban environments, rich with a great diversity of cultures, prove to be complex contexts within which architects find themselves practicing their art, and within

which students find themselves developing architectural opinion.

Despite debates, especially in academic circles, about the role of design professionals in addressing problems in South African urban environments and establishing meaningful architecture in post-apartheid South Africa, architects endlessly find themselves caught up in the material wealth the profession has to offer, juggling briefs from clients demanding architectural manifestations of designer lifestyles through either Eurocentric exhibition homes or commercial projects, pseudo-African chic, or Tuscan villas in mono-functional secure segregated 'communities'.

"We are merely functionaries, acting out, rather poorly, the scripts conceived and written by others, directed by others and produced by others."²

– omm design workshop

"As designers, we need to initiate a paradigm shift and expand our sense of the possible, question and debate the functioning of the urban form and structure of cities in South Africa, and put forth solutions to make socially and economically sustainable, equitable and accessible cities that benefit the population as a whole."³

– Fabio Todeschini

Architects need to shift from practising within their wealth-driven comfort zones to the realisation that they are design professionals with imperative social responsibilities to contribute to the spatial and social transformation of post-apartheid South Africa.

omm design workshop, as presented at the Sophia Grey Lecture, believes that there is an urgent need for radical change. Not only is there a necessity for change, but as designers, we will create new opportunities for ourselves if we do change our way of thinking. In response to this necessity and opportunity, omm design workshop argues that new starting points are called for, as well as the generation of new ideas, and new "what's?" and "why's?". "How" can come later.

2. omm design workshop: The Sophia Grey Lecture. Architecture South Africa, January/February 2007

3. Fabio Todeschini, Emeritus Professor, School of Architecture and Planning, UCT

1.2. ARCHITECTURE AS A CATALYST TOWARDS SOCIOECONOMIC AND SPATIAL TRANSFORMATION

Architecture has the potential to aid as a catalyst in the creation of a platform upon which a paradigm shift from inequality and segregation towards socioeconomic and spatial transformation in post-apartheid South Africa can be initiated.

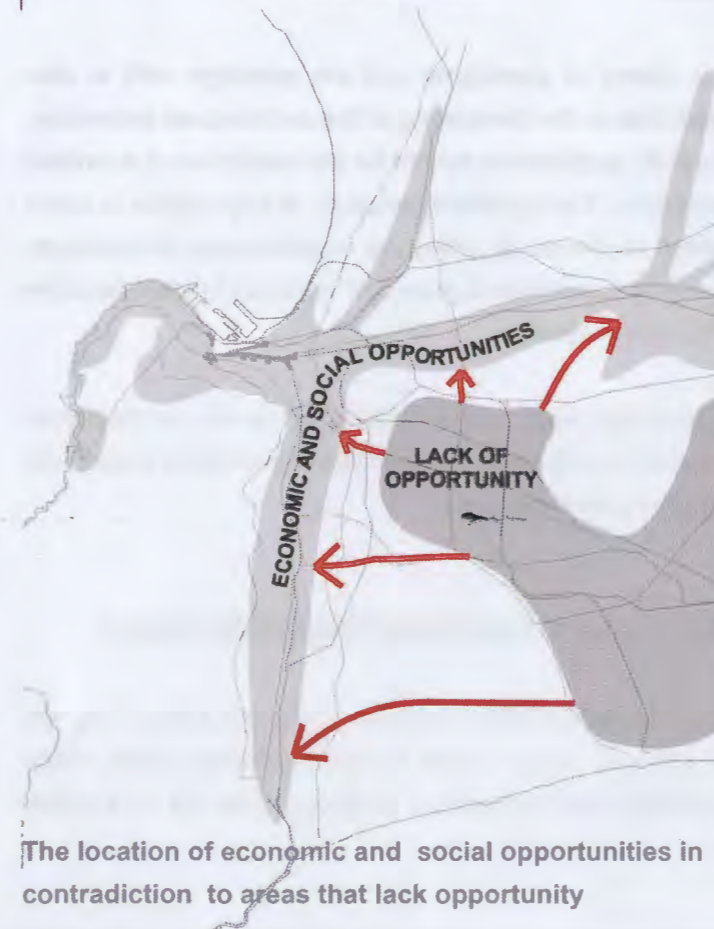
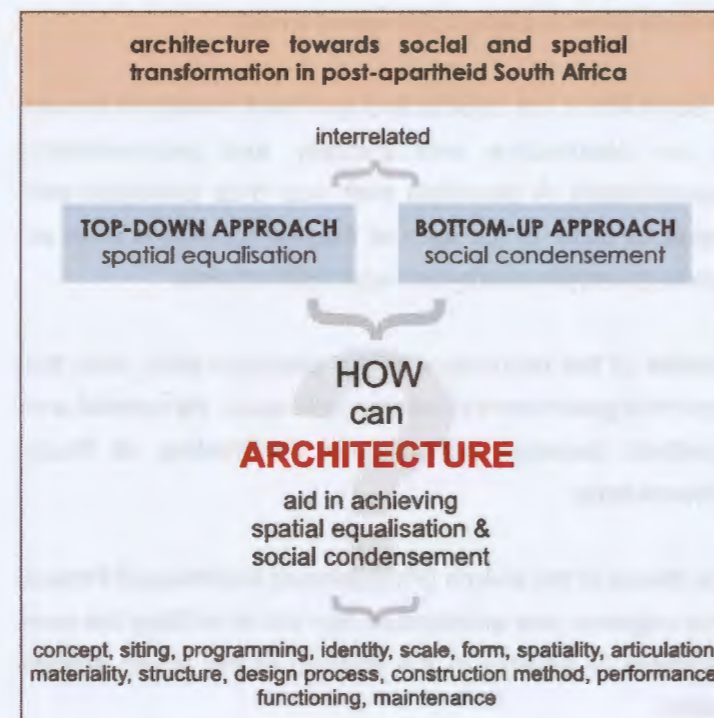
Two approaches necessary in order to achieve social, spatial and economic equality are identified, namely a top-down approach of spatial equalisation and a bottom-up approach of social condensation. These are, however, interrelated and are discussed in the following two chapters.

The reason for the argument of the two above mentioned approaches is that development, predominantly private but also public, in South African cities, looking at Cape Town in particular, will for the most part continue to occur in areas of existing opportunity. There is, however, an urgent need for development in formerly marginalised areas continuously lacking infrastructure and opportunity. In order for development to occur in these areas, and thus for architecture to succeed in creating integrated, accessible, and equitable urban fabric, spatially, first, a paradigm shift in the thinking of the South African public, from racial and socio-economic segregation towards equality, is necessary.

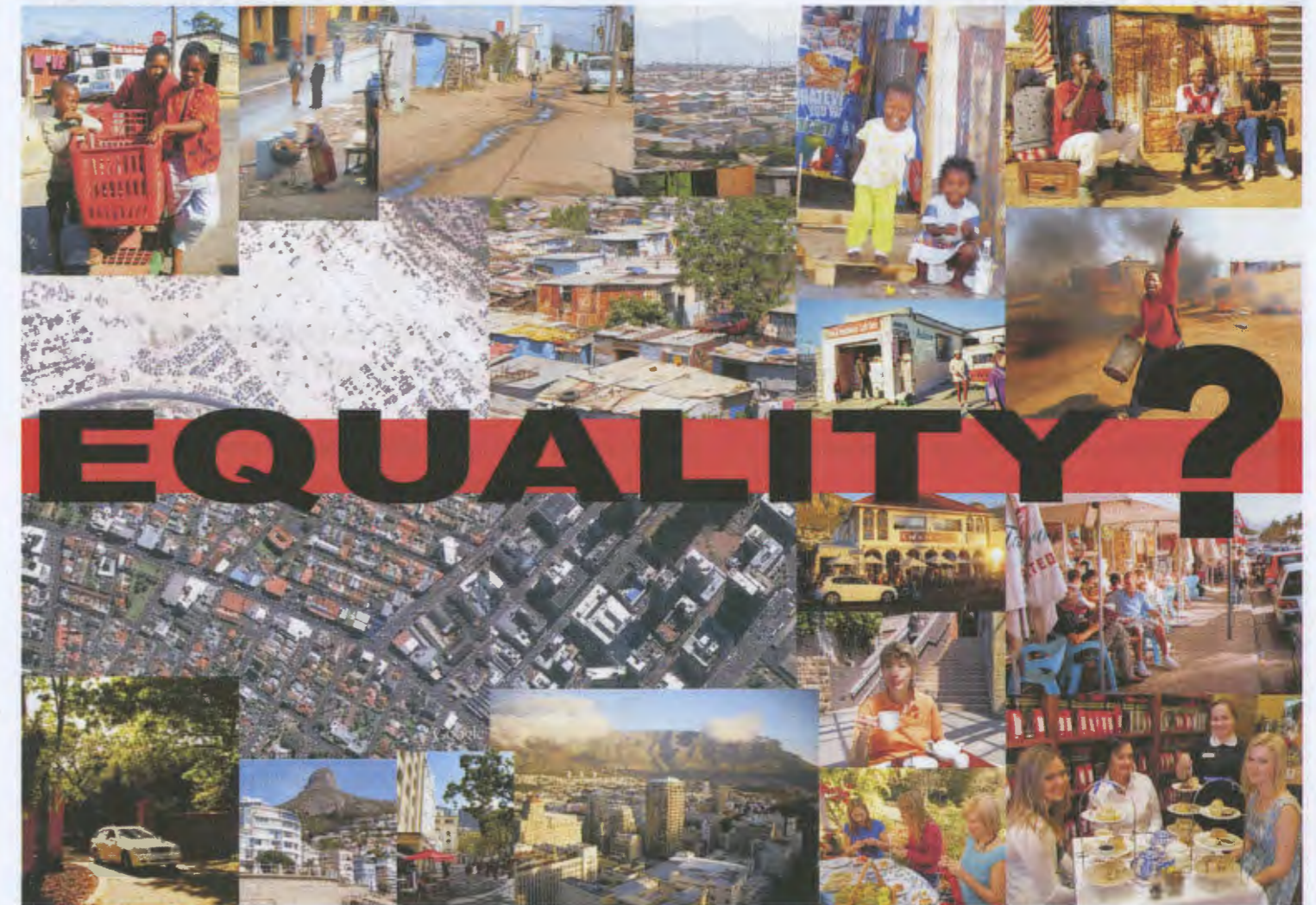
The theory of the Architectural Project, thus, explores how *architecture* performs as a catalyst in, firstly, the top-down approach of spatial equalisation through increasing opportunities in formerly marginalised areas and, secondly, in the bottom-up approach of creating a social condenser as a platform upon which a paradigm shift in the thinking of the South African public can occur.

A social condenser is defined as a place where people from different class, racial, socio-economic and cultural backgrounds use the same space at own will. It is a space that attracts a mix of people from different backgrounds for various reasons and potentially allows for 'accidental' interaction amongst different individuals and different groups of people.

Various architectural principles of projects that function in accordance with the aspirations of the top-down and bottom-up approaches are explored in the following two subchapters.



1.3. TOP-DOWN APPROACH OF SPATIAL EQUALISATION



BACKGROUND

Over time, post-colonial and post-apartheid South African cities have developed to become polarised and fragmented. The urban form and structure of Cape Town today is such that economic and social opportunities are predominantly located in historically older parts, such as central Cape Town, the northern corridor to Bellville and the southern corridor along Main Road. Affluent suburbs located around these opportune spines contrast sharply with poor, overcrowded and disadvantaged suburbs on the Cape Flats on the periphery of the city.

The social and economic, and more often than not racial, statuses of residents of the different suburbs coincide with the physical environment of their locations: the affluent suburbs are situated on the picturesque foothills of Table Mountain or along the coast, and the impoverished suburbs are located on the Cape Flats, prone to wind and flooding.

Cape Town is largely an inequitable, segregated and unsustainable urban environment that does not function to benefit its population as a whole.

Apartheid tenets continue to remain evident in the South African economy today. The apartheid regime ensured for the existence of two nations: a white, prosperous one and a black, poor one. Persistent economic inequality is evident through the existence of this dual society.

In his book 'From isolation to integration: the post-apartheid South African economy', Jean-Pierre Cling discusses the coexistence of South Africa's two nations, seemingly unconscious of each other.

"In fact, South Africa is one of the most unequal countries in the world. Most of the four million

white South Africans (out of a total population of little over 40 million inhabitants) benefit from a quality of life equivalent to that of a developed country. They are nearly unaffected by unemployment and enjoy mostly comfortable lifestyles and high salaries. At the other extreme of the social ladder are most of the black population and ethnic minorities.¹²

South Africa's dual society displays inequalities in employment and income, and even more so in living conditions.

The current inequitable urban form and structure of Cape Town is reinforced by many contemporary developer-driven architectural projects. Planning policies and practice ensured, and to some extent continue to ensure, the manifestation of apartheid ideologies of socio-economic segregation by the spatial arrangement of urban functions.

Although legislation has been amended, developer-driven architecture encourages socio-economic segregation through the privatisation, and thus control, of the public realm; and through socio-economically segregated and secure mono-cultural developments.



CITY OF CAPE TOWN | ISIXEKO SASEKAPA | STAD KAAPSTAD

Does THIS CITY WORKS FOR YOU ?



2. Cling: From isolation to integration: the post-apartheid South African economy



ABOVE: Century City is comparable to Cape Town's central business district in land size. This development comprises of housing and commercial and social facilities, but lacks low-cost housing and public facilities such as schools and libraries. Cape Town's central business district, on the other hand, provides a wide range of urban functions.

BELOW: A socio-economically segregated and secure mono-cultural housing development consisting of Tuscan-style designer homes

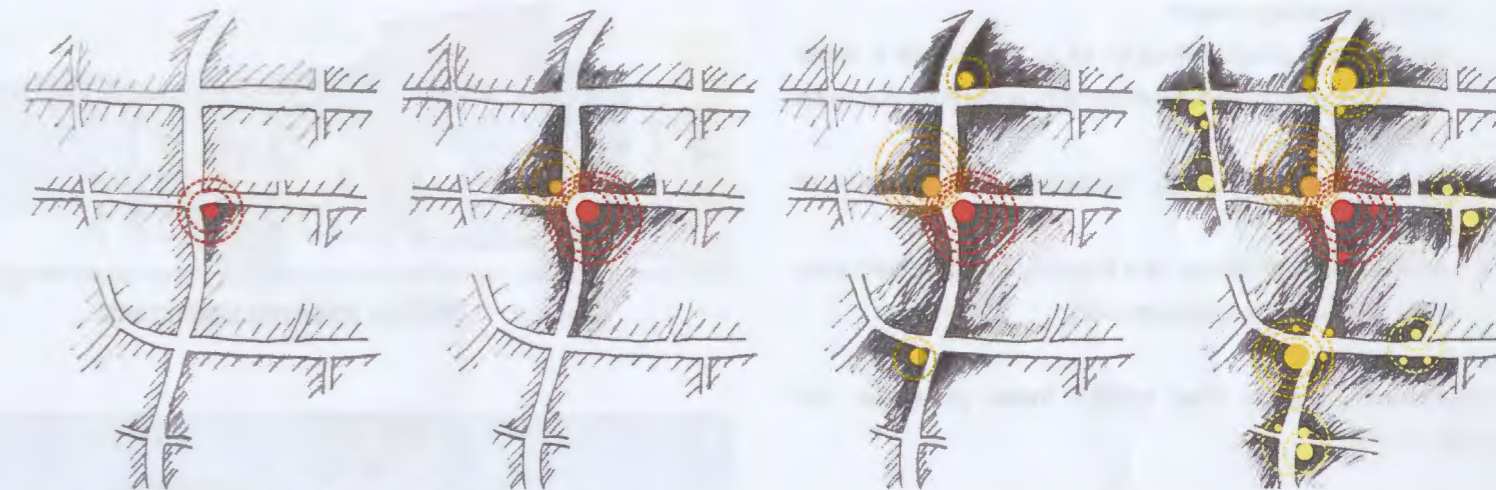
ASPIRATIONS OF THE TOP-DOWN APPROACH

The top-down approach ultimately aspires towards urban environments that are spatially equitable, integrated, accessible, sustainable, and benefit its population as a whole. The top-down approach addresses the issue of the inequitable distribution and location of and access to social and economic opportunities, by seeking to increase opportunities in formerly marginalised areas.

Projects seeking to address issues in accordance with this

BELOW:

A project designed to encourage a ripple effect of an increase in development in the area due to the initial project



ARCHITECTURE TOWARDS SPATIAL EQUALITY

Design towards spatial equality occurs at a range of scales, from that of the city to that of a building. At an urban scale, Metropolitan Spatial Development Frameworks strive towards equitable, integrated, accessible and sustainable urban environments.

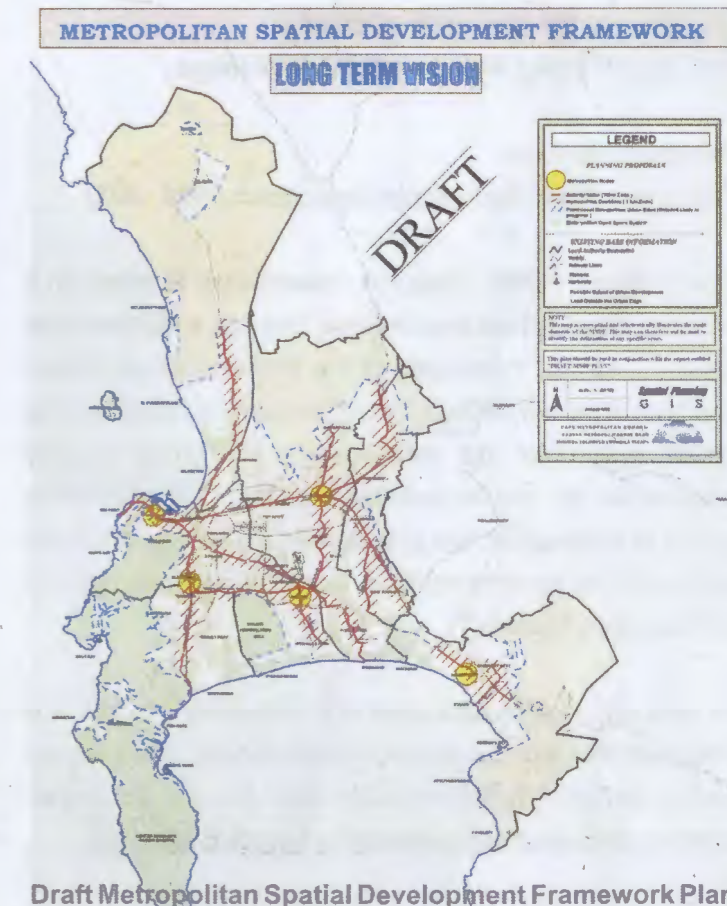
urban scale precedent study: Draft Metropolitan Spatial Development Framework

Cape Town Metropolis
Cape Metropolitan Council, 1999

The Cape Town MSDF aims to correct the fragmented, inequitable structure of the spatial and social urban fabric of Cape Town. It would be beneficial to locate a project seeking to perform in accordance with the top-down approach in a node or corridor proposed in the MSDF.

approach should theoretically be located in formerly marginalised areas and should to be designed so as to encourage a ripple effect of an increase in development in the area due to the initial project.

Architectural projects that perform as catalysts towards spatial equality are discussed in the following two subchapters.



Draft Metropolitan Spatial Development Framework Plan

ARCHITECTURE TOWARDS SPATIAL EQUALITY

At the scale of a building, architectural projects hold the potential to perform as catalysts in the transformation towards equitable integrated, accessible and sustainable urban environments. Architectural principles that encourage this to occur include:

- the location of a project in a formerly marginalised area
- improving infrastructure, facilities and opportunity, through the design and construction of applicable architecture, and through programming
- designs encouraging social and economic development in area
- granting identity to a formerly marginalised area through architectural expression
- designs and programmes so as to encourage a ripple effect of an increase in development in the area due to an initial project
- cross-programming to maximise the effects of investment
- manifesting the history of a formerly marginalised area through architectural expression

Architectural projects that exhibit these principles are explored next.

architectural precedent study: Philippi Public Transport Interchange

Philippi, Cape Town
Du Toit and Perrin, Architects in Association, 1999 - 2000

The Philippi Public Transport Interchange located in a formerly marginalised area in Cape Town, as a transport and trading premise, "forms part of the 'dignified urban places' program of the city of Cape Town. Conceived to transform the 'black townships' by readdressing the urban poverty established by the impoverished spatiality of apartheid's policy of segregation, this program intends to improve these environments by 'bringing them to the standard' enjoyed by privileged white areas."³

In reversal of apartheid's tenet of segregation, integration is obviously desired. By harnessing the energy of inter-modal nodes, transport interchanges become places of integration, allowing a range of encounters amongst different people.

3. Low, 2004. Space and Transformation: 10 Years | 10 Buildings.

The Philippi Public Transport Interchange, at the third largest train station in Cape Town, is cross-programmed to accommodate commercial activity too, and is designed to do so at the scale that it currently takes place at in the townships.

The design of the interchange aims to establish an integrated public environment that could attract future public and private investment. It is not only the commuter that is catered for, but also the local residents and general public, through the provision of a range of functions in the design.



ABOVE:
The Philippi Public Transport Interchange is cross-programmed to accommodate commercial activity, and is designed to do so at the scale that it currently takes place at in the townships.

LEFT:
Photographs of the Philippi Public Transport Interchange

Kwanobuhle Carwash

Uitenhage

Ngonyama, Okpanum and Hewitt-Coleman Architects, 2004

The Kwanobuhle Carwash is located in a deprived area of Uitenhage. The project aims to improve facilities in the area and encourages social and economic development. The client, the Uitenhage Despatch Development Initiative, is instrumental in facilitating spontaneous entrepreneurial activities in this deprived area. With its pronounced roof, the architecture of the project provides a sense of identity to the deprived area. The structure is designed to be a symbolic gesture to encourage small business.⁴

The building is not an isolated entity, but, located on the edge of the road, it attracts passers-by and performs as a spontaneous social node. Joubert⁵ deduces that Kwanobuhle Carwash is proof that a utilitarian brief, limited budget and robust materials need not result in a drab building. This building is an unusual example of Venturi's⁶ 'decorated shed' operating as a 'duck'. Acutely de-contextualised by the meagreness of its ordinary surroundings, the project succeeds in becoming a significant landmark.

"The Kwanobuhle Carwash is a fine precedent for the transformation of neglected urban areas, giving compelling architectural expression to

BELOW AND RIGHT:

Photographs of the Kwanobuhle Carwash

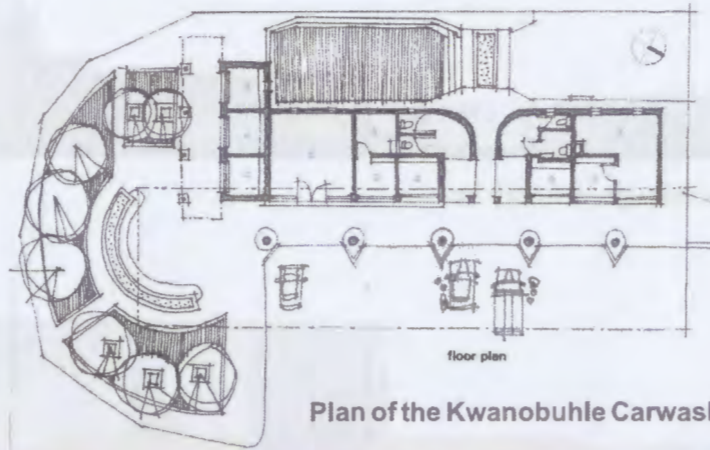


4. Joubert: 10+ Years 100+ Buildings. P374 - 377

5. Joubert: 10+ Years 100+ Buildings. P374 - 377

6. Venturi, Scott Brown, Izenour: Learning from Las Vegas.

ordinary chores. Through clarity of conception – both poetically and tectonically – it creates an urban identity by using rudimentary devices. It also spawns a novel urban typology particular to South African circumstance, whereby meaningful public space evolves from spontaneous social interaction.”



Plan of the Kwanobuhle Carwash



Ususazo Secondary School

Khayelitsha, Cape Town

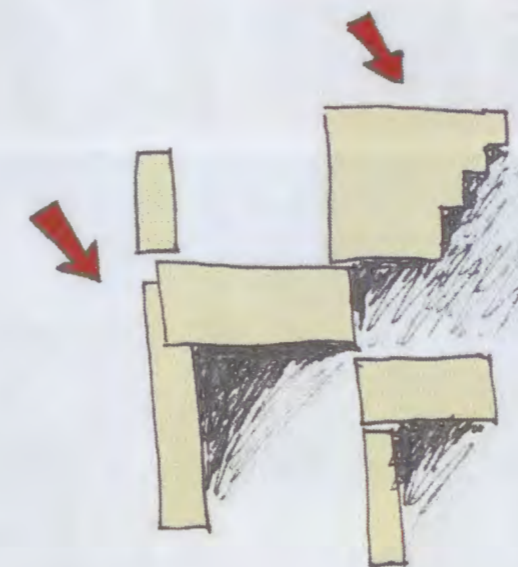
Noero Wolff Architects, 2004

Through the innovative cross-programming of education, trading, and public facilities, Ususazo Secondary School in Khayelitsha, Cape Town, as described by sharpCITY, “acts as ‘urban acupuncture’: a critical insertion into an area in need of improvement, healing and the reconciliation of competing demands and traditions.”⁷

The architecture aims to formalize the informal street condition of its context, and the school expresses its public function by accommodating public life. The project is cross-programmed through allowing street-facing classrooms to become trading hatches, interacting with the public on the street. Subjects such as car and appliance repair, hair care, and food trade are taught in these classrooms.

In terms of form, the single story series of classrooms at the scale of existing neighbouring structures are architecturally fragmented to articulate the arrangement of the informal settlement context. The institutional importance of the school is, simultaneously, expressed by large scale forms.

The architecture of Ususazo Secondary School also responds to its climatic context. L-shaped buildings protect courtyards from prevailing winds and sand common to the Cape Flats.



7. Deckler, Graupner, Rasmuss: Contemporary South African Architecture in a Landscape of Transition. pp88 -91



ABOVE:
Street View photograph of Ususazo Secondary School



ABOVE:
Aerial photograph of Ususazo Secondary School

Red Location Museum of Struggle

Port Elizabeth

Noero Wolff Architects and John Blair Architects, 2006

The architecture of the Red Location Museum of Struggle is a manifestation of the rich anti-apartheid history of the Red Location informal settlement.

During the Anglo-Boer War, the British established a concentration camp for the Boers in Uitenhage. After the war, the structures were moved to the periphery of Port Elizabeth and were occupied by British soldiers. When they moved out, the structures, comprising of corrugated iron which rusted and turned red, were taken over by African families and the settlement was named 'Red Location'.

As a location associated with the struggle against apartheid, the informal settlement, Red Location, in Port Elizabeth has a significant political history. This includes it being home to many anti-apartheid freedom fighters and the establishment of the military wing of the African National Congress (ANC). Red Location is, therefore, an ideal context within which to 'portray the horrors of Institutionalized Racism and the heroic struggles of the Anti-Apartheid movement aimed at liberating the oppressed people.'⁸

The Red Location Museum of Struggle exhibits memories and stories of the anti-apartheid struggle.

"12 identical, rusted corrugated steel boxes, 6 meter by 6 meter and 12 meters tall, arrayed in a grid, resemble oversized shacks, like a deconstruction of an otherwise familiar view of the informal dwellings, extravagantly exaggerated to monumental structures. While the township is a crowded juxtaposition of elements, the museum is taking it apart, element by element, depicting each story on its own through the oversized memory boxes, like the ones migrant workers used to for their possessions when separated from their families."⁸



east elevation



section through memory boxes



south elevation



8. www.noerowolff.com

1.4. BOTTOM-UP APPROACH OF SOCIAL CONDENSEMENT

BACKGROUND

Sixteen years after the abolition of the apartheid regime, South African cities, looking at Cape Town in particular, are faced with persistent social segregation amongst people from different socioeconomic and, coinciding, racial backgrounds. The crude apartheid tenets had, and still continue to have, destructive impacts on South African society.

Segregation is defined as both a conscious and subconscious divide between people from different class, racial, socioeconomic and cultural backgrounds, brought about both mutually and unilaterally by the people themselves, as well as by urban structure, spatially and socially.

The concept of segregation has been deeply embedded in South African mentalities right throughout its political past. This is especially prevalent in older generations. In his film *Sea Point Days*⁹, director Francois Verster films Marleen Steinberg who lives in the apartment block across the road from the pools:

"I just think that there's no place for the white man in this country. This is South Africa and it's black. It's a black country. They have every right to their country. I don't think that there's any place for the white man in this country."⁹

– Marleen Steinberg

Younger generations are, however, starting to show evidence of blurring racial boundaries. In her article, 'Real Transformation Lies in the Realm of Relationships'¹⁰, Kelly Rosenthal writes about transformation that has taken place in our society. She argues that race is no longer a divide amongst the younger generations. She concludes:

"Transformation may still be sorely lacking for the majority of South Africans, but the slow process of change has surely begun, in real and meaningful

ways. The realm of the intimate is no longer policed by the state and it is here that hope for real transformation lies."¹⁰

Social segregation in South African cities is, however, reinforced by many contemporary developer-driven architectural projects. Socioeconomically exclusive mono-cultural developments socially segregate people from different class, racial, social and cultural backgrounds.

Contemporary developer-driven privatisation of the public realm reinforces historical socioeconomic and coinciding racial, segregation. The privatisation of thematic public space allows for it to be controlled and denies access to people from certain backgrounds and of certain socioeconomic status. This increasingly encourages divisions between citizens who participate in the 'narrative of global corporate culture' and the rest of the population who continue to suffer the legacies of apartheid and poverty.¹¹

BELOW: A shopping mall, a segregated privatisation of public space, offers consumers a clean, safe and



ABOVE: Mono-functional De Zalze Golf Estate on the outskirts of Stellenbosch, housing predominantly white upper-class citizens, is socially and spatially segregated from James Town, a formerly 'Coloured' area, located across the

ASPIRATIONS OF THE BOTTOM-UP APPROACH

In order to transform South Africa's current spatially and socially segregated urban environments into an integrated and equitable public realm, first, a paradigm shift in the thinking of the South African public is necessary.

The bottom-up approach initially aspires to create social condensers that perform as platforms upon which this paradigm shift from racial and socioeconomic segregation towards social equality can occur.

The creation of these social condensers could subsequently lead to interaction amongst people from different class, racial, socioeconomic and cultural backgrounds. *Interaction* amongst people from different backgrounds is defined as ranging from merely acknowledging the presence of each

other, to greeting each other, conversing with each other, socialising with each other and eventually living in harmony with each other and associating themselves with each other as equals.

Ultimately, the architecture of the bottom-up approach aspires to become a catalyst in the creation of Nelson Mandela's 'democratic and free society in which all persons live together in harmony and with equal opportunities'.

9. Sea Point Days, a film by Francois Verster, Cape Town, 2009
10. Rosenthal, 2009. Real transformation lies in the realm of relationships. Mail&Guardian
11. Marks, 2001. From Densification to Disneyfication – Architecture and urbanism in the post-apartheid city.

ARCHITECTURE TOWARDS SOCIAL EQUALITY THROUGH SOCIAL CONDENSEMENT

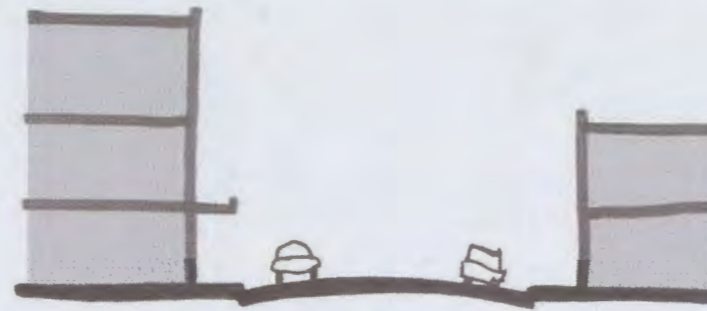
This section investigates architectural projects that perform as social condensers.

As previously stated, a social condenser is defined as a place where people from different class, racial, social and cultural backgrounds use the same space at own will. It is a space that attracts a mix of people from different backgrounds for various reasons and potentially allows for 'accidental' interaction amongst different individuals and different groups of people. Social condensers are found in the form of social, economic, sport, or cross-programmed premises.

General achitectoral principles that encourage projects to perform as social condensers include:

- sited in an area of significance that attracts people from different backgrounds either through a vibrant urban setting, or naturally beautiful environment
- programmed to attract people, either through a social, economic, sport, or cross-programmed premise
- designed to accommodate facilities needed by the local community, as well as an offering an incentive to attract people from other parts of the city
- designed so as to attract tourists by expressing significant history of the area
- spatially appealing, either large open spaces or smaller intimate spaces, according to location and programme
- visually appealing, either architecturally, or by its natural environment
- architectural forms, articulation, edges and spatial arrangement so as to provide a safe environment offering a sense of place

Architectural projects that exhibit these principles are explored next.



ABOVE AND BELOW:

Architectural forms, articulation, edges, and spatial arrangement has the potential to provide a safe environment and to create a sense of place.



Sea Point Swimming Pools

Cape Town

"Alongside the southernmost tip of Africa, separating city from ocean, lies an unusual strip of land. The Sea Point Promenade – and the public swimming pools at its centre – forms a space unlike any other in Cape Town. Once a bastion of Apartheid exclusivity, it is nowadays unique in its apparently easy mix of age, race, gender, religion, wealth status and sexual orientation... Yet, in a country that will not fully deal with past or present, is it all as it appears?"¹²

The Sea Point swimming pools, as well as the Sea Point promenade, are spaces used by people from different class, racial, social and cultural backgrounds and, thus, perform as social condensers.

Although people from different groups do not necessarily interact, the important matter is that they use the same space in harmony.

12. Sea Point Days, a film by Francois Verster, Cape Town, 2009

It is the location of the pools, in a naturally beautiful setting with a majestic mountain range as a backdrop and public space that seems to spill over into the ocean, as well as its programming of a sport and social premise that attracts such a variety of people.

The public space treats all as equals and welcomingly entertains people from different class, racial, socioeconomic and cultural backgrounds without discrimination.

Architectural principles of the Sea Point swimming pools applicable to the MArch (Prof) Architectural Project include its location in an area of significance, historically and spatially, that attracts people from different backgrounds, the programming of a social or sport function, and its spatial appeal of large open spaces in a dense surrounding urban environment, anchored by the silos and large shed as landmarks in a flat environment.



The Sea Point promenade and swimming pools attract a variety of people from different class, racial, socioeconomic and cultural backgrounds.



Mzoli's Place

Gugulethu, Cape Town

After establishing itself as a butchery, Mzoli's Place has developed to become a vibrant 'cultural enclave' that attracts locals, Capetonians, and tourists. Mzoli's Place is a prime example of a social condenser functioning through a social premise. Located in a vibrant township setting, Mzoli's comprises of small scaled areas serving food often accompanied by live music and a fashion extravaganza of ladies sporting new hairstyles and men wearing smart shoes. Whether for locals or tourists, Mzoli's offers an unforgettable experience.



BELOW: The location of Mzoli's Place in a dense urban environment of the township Gugulethu



Whether for locals or tourists, Mzoli's Place offers an unforgettable experience.

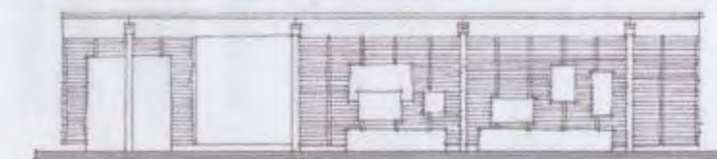
Nelson Mandela Museum Pavilions

Cohen & Judin Architects, and TCN Architects, 2000

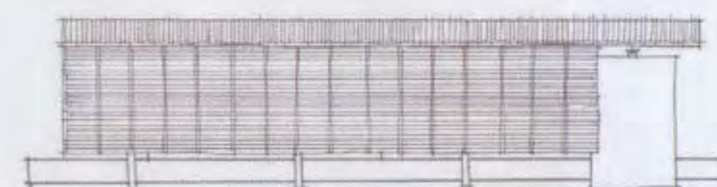
The Nelson Mandela Museum in the Eastern Cape is located on three interrelated sites: Qunu, Nelson Mandela's birthplace; Mvezu, where Mandela spent a great deal of his youth; and in the city of Umtata. This project aims to create an architecture that bridges the urban and rural divide, as well as providing local communities with political dignity.

Transformation, beyond the formal-spatial, occurred through the association between the architects and the local Public Works Department and the Department of Arts and Culture.

Memorialisation and service provision have imaginatively been combined. This cross-programming of the project does allow for interaction amongst people from different backgrounds, locals and tourists.¹³



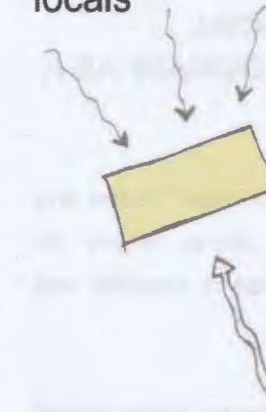
front elevation mvezo



back elevation mvezo

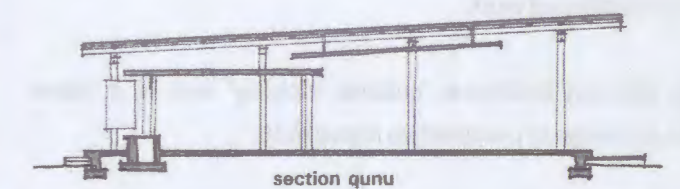
13. Low, Iain. 2004. Space and Transformation: 10 Years | 10 Buildings. Digest of South African Architecture, 2004/2005, pp133-153

locals



tourists

ABOVE: Memorialisation and service provision have imaginatively been combined in order to attract people from different backgrounds, locals and tourists, to the pavilions.



section qunu



ARCHITECTURE TOWARDS SOCIAL EQUALITY THROUGH 'PUBLIC DOMAIN' AS A SOCIAL CONDENSER

In their book 'In Search of New Public Domain'¹⁴ Hajer and Reijndorp define 'public domain' as places where an exchange between different social groups is possible and also actually occurs.

They argue that there is a distinction between 'public space' and 'public domain'. Public domain comprises of spaces of shared experience by people from different backgrounds or with dissimilar interests. Public Domain is not necessarily 'formal' public spaces such as squares.

Hajer and Reijndorp discuss Arendt and Habermas' philosophy behind the concept of 'public domain', or as often referred to as 'sphere' or 'realm'. They say that it is within this sphere where society is formed. It is within the public domain where we encounter the 'other'. It is a domain of surprise and reflection where people form social relations beyond circle of friends, family and work.

Public domain facilitates 'cultural mobility' and is a place where a change of perspective is possible.

Architectural principles that encourage social condensation through public domain include:

- an in-between character, neither of formal public space nor of private space
- located in a vibrant urban setting accommodating people from different class, racial, socioeconomic and cultural backgrounds
- located in a space that is not associated with a single group of people from a certain background
- located in an in-between space bounded by architecture that accommodates various urban functions
- bound by dense architecture, characteristic of its urban environment, resulting in narrow, in-between 'public domain' spaces

St George's Mall is an example of such public domain and is discussed next.

St George's Mall

St George's Mall is an example of public domain which comprises of spaces of shared experience by people from different backgrounds or with dissimilar interests. This space is used by different people from many different backgrounds for different reasons. For a homeless person, for example, St George's Mall may be his place of refuge where he finds food and shelter. For the business man, it may be an inconvenient pedestrianised route he has to march down to his office.

Although public domain is, therefore, used very differently by different people from different walks of life, what is of significance is that the space 'belongs' to both the homeless man and the business man, where they both encounter contrasting 'others'.

Spatially, St George's Mall comprises of a slither of public domain wedged in between tall buildings set in a dense urban environment. This leads to social functions spilling out onto the public domain. St George's Mall offers pedestrians contrasting spatial experiences of, firstly, a dense urban environment due to the narrow width of the space, and, on the other hand, a vertically spatial public domain due to the height of its encompassing buildings.

BELOW:

An elevation of, and section through, St George's Mall



St George's Mall



RIGHT:

The location of St George's Mall in Cape Town's central business district

BELOW:

Photographs of St George's Mall



St George's Mall

14. Hajer and Reijndorp: In Search of New Public Domain

ARCHITECTURE TOWARDS SOCIAL EQUALITY THROUGH 'MONO-CULTURAL ENCLAVES' AS PUBLIC DOMAIN

This section investigates architectural projects that attract people to certain areas they would usually not visit.

Hajer and Reijndorp¹⁴ write about the 'new cultural geography' prevalent in cities today. They argue that the urban field is an archipelago of enclaves where individuals construct their own cities according to their preferences. These mono-cultural enclaves include gated communities, office parks, shopping malls, and other (non)places that are important for the individual, and are accessed in the comfort of a private car.

The challenge in an architectural project seeking to establish public domain as a social condenser used by people from different backgrounds is how to use and exploit this theory of an archipelago of enclaves. People may be attracted to an area that is not normally part of their own constructed cities, by the establishment of a cultural enclave. The cultural enclave then has the potential to become public domain that performs as a social condenser, attracting both locals and people from other parts of the city.

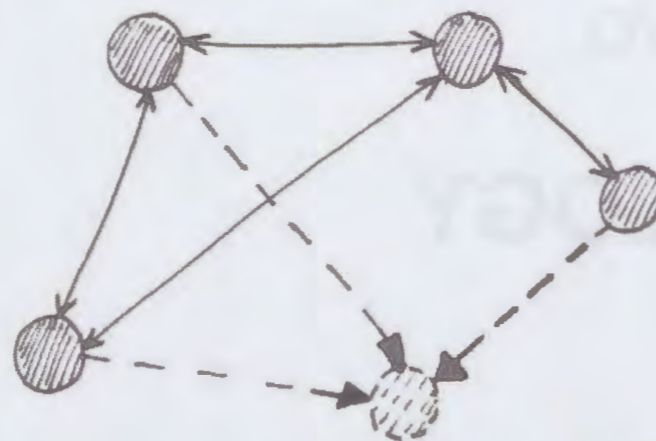
A mono-cultural enclave established in a deprived area has the potential to cause a ripple effect in terms of development in the area.

Architectural principles that encourage projects to perform as a social condenser as public domain through a mono-cultural enclave include:

- the location of the project in a formerly derelict area in need of upliftment
- the former character of the area maintained through architectural expression, creating a 'cultural identity' for the enclave, attracting people exploring cultural identities
- programmed so as to perform as a cultural attraction, so as not only to sell products, but also a 'lifestyle'
- architecturally articulated in correlation to the cultural attraction

Although the Old Biscuit Mill encourages gentrification, it performs as public domain through a mono-cultural enclave and attracts people to a formerly deprived area they would usually not visit. Suggestions put forth to combat the phenomenon of gentrification include programming to attract the local community; architectural expression familiar to locals; community involvement during the planning, design, and construction processes; and community ownership.

BELOW: A diagrammatic representation of cities people construct themselves consisting of mono-cultural enclaves to their preference.



The Old Biscuit Mill

Salt River, Cape Town

The Old Biscuit Mill is located in Salt River, an area seldom visited by the affluent. The Old Biscuit Mill, however, has developed to become a cultural enclave selling not only organic produce and fashionable clothing and home products, but also a 'lifestyle'. This gated development has become an enclave in many people's self-constructed mobile cities.

Although the Old Biscuit Mill encourages gentrification, the principle of the development causing a ripple effect of an increase in development in the area is of significance.

1.5. CONCLUSION

After exploring architectural projects that perform in accordance with aspirations of the top-down approach of spatial equalisation and the bottom-up approach of social condensation, it is concluded that architecture is able to aid as a catalyst in the creation of a platform upon which a paradigm shift from inequality and segregation towards socioeconomic and spatial transformation in post-apartheid South Africa can be initiated.

The exploration of these projects provide siting and programming prerequisites for the M Arch (Professional) Architectural Project. These are discussed in the Siting and Programming chapters respectively.

The applicable architectural principles that encourage architectural projects to function in accordance with the aspirations of both the top-down approach and the bottom-up approach are extracted from the precedent studies, and adapted for the Architectural Project, and are discussed in the sub-chapter Design: Theory.



As a cultural attraction, the Old Biscuit Mill development has become an enclave in many people's self-constructed mobile cities. This has caused a ripple effect of spin-offs, increasing development in the formerly deprived area.

14. Hajer and Reijndorp: In Search of New Public Domain

2.1. SUSTAINABILITY

WHAT IS SUSTAINABILITY?

Sustainability has recently become a much debated about topic with the emerging evidence of climate change. Despite of the term 'sustainability' eluding definition, there is a common understanding dependent upon intuition rather than definition.¹ The term is, mistakably, predominantly understood in environmental terms. 'Sustainability', however, goes far beyond merely environmental protection and includes social and economic development.

The term 'sustainability' came into use with the emergence of the term 'sustainable development' in 1987 when the World Commission on Environment and Development published their report, "Our Common Future". The commission's definition of sustainability is:

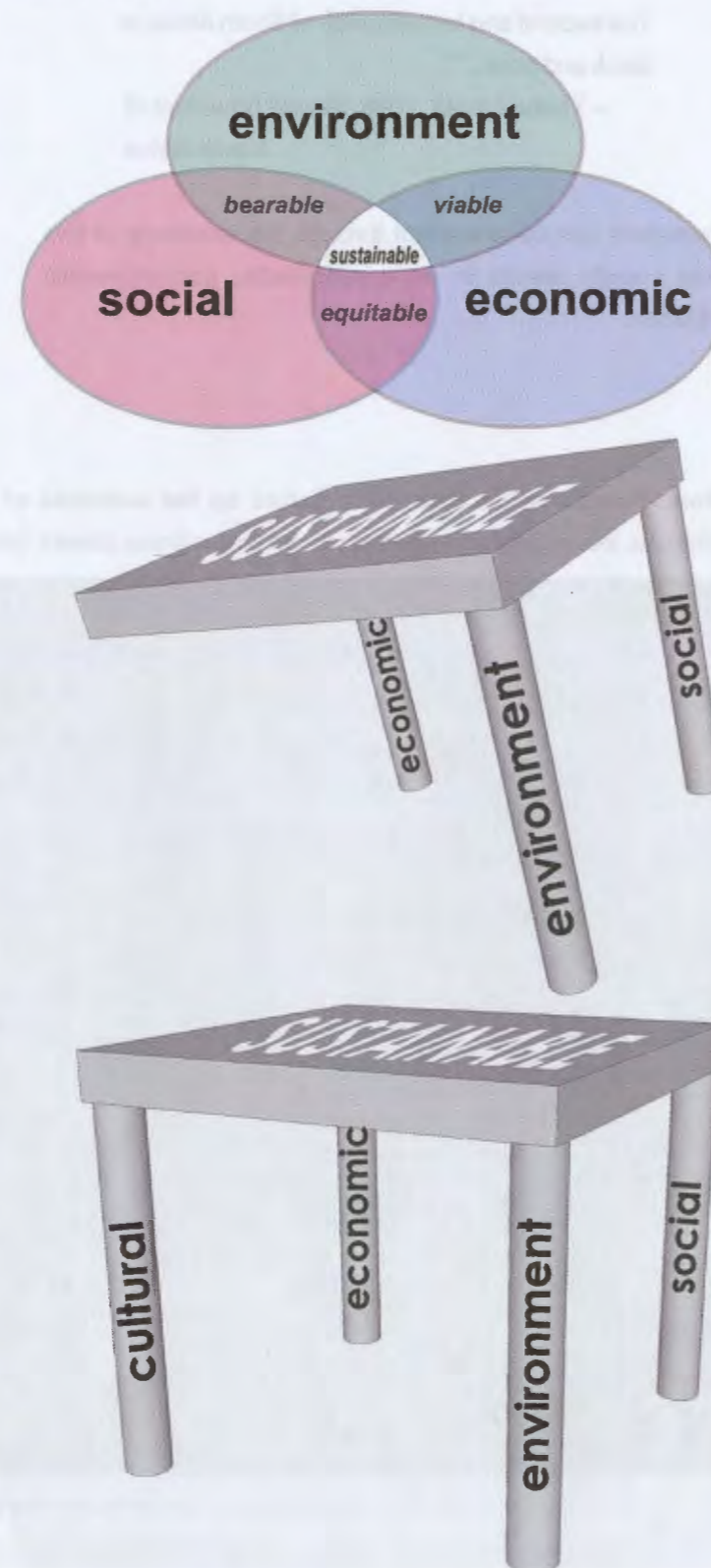
"Sustainability is a concept which deals with mankind's impact, through development, on the environment. Sustainable Development is development which meets the needs of the present without compromising the ability of future generations to meet their own needs. Today's environmental problems, like air pollution, are largely a consequence of the unsustainable consumption of natural resources and the mismanagement of waste products. Sustainability is about environmental protection, sustained economic growth and social equity."²

– Bruntlant, 1987

The United Nations 2005 World Summit Outcome Document refers to the "interdependent and mutually reinforcing pillars" of sustainable development as economic development, social development, and environmental protection.

The built environment, from an urban scale to the scale of a building, has a major impact on sustainability – socially, economically and environmentally. Socially, architecture and urban design has the ability to segregate or integrate communities. During the apartheid era in South Africa, modernist principles of segregation of functions were adopted and altered to reinforce apartheid ideologies of racial

segregation. Economically, architecture is able to ensure the segregation of population groups according to their economic statuses. Environmentally, the built environment is a major pollutant and source of energy consumption globally. The way in which buildings are constructed, heated, cooled, ventilated, lit, maintained and adapted over time directly influence the volume of fossil fuels consumed and the amount of harmful gasses emitted into the atmosphere causing incomprehensible ecological damage. At an urban scale, urban sprawl is threatening valuable natural resources at an intense rate.



PLUS CULTURAL SUSTAINABILITY

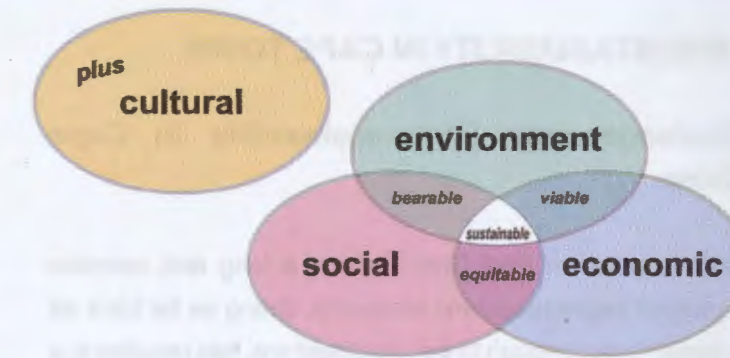
In the M Arch (Prof) Architectural Project, cultural sustainability is the fourth component explored, in addition to the three pillars of sustainable development – social, economic and environmental. The globalisation of architectural styles, building technologies and urban space is significantly influencing city design in the developing world. Firstly, globalisation is resulting in the destruction of the patrimony of indigenously designed urban spaces. Locally produced architecture that is culturally rooted and adapted in time and space is being destroyed, and replaced by global forms that have not been adapted for local needs. Secondly, globalisation has led to the commodification of 'authentic' indigenous architecture for global cultural consumption. This architecture is detached from locality, space and time.³

In addition to creating socially, economically and environmentally sustainable urban environments, a fundamental role of contemporary South African architecture is to create authentic culturally sustainable urban environments containing architecture that is culturally rooted, locally produced and technologically adapted in time and space.

BELOW: A car showroom perched on a hill alongside a busy route through the Winelands sells not only expensive luxury cars, but also, through its international glass and steel 'car showroom' architecture, a designer lifestyle dominated by material wealth. Located at the connecting point of three contrasting segregated suburbs on Stellenbosch's outskirts, the construction of this building encourages urban sprawl. From an urban scale to the scale of the building, this architecture, thus, questions the cultural identity and sustainability of Stellenbosch as a historical Winelands town.



3. Zetter and Watson: Designing Sustainable Cities



BELOW: Sun City is a commodification of 'authentic' indigenous architecture designed for global cultural consumption. This architecture is detached from locality, space and time.



1. Phillips: Sustainable Place

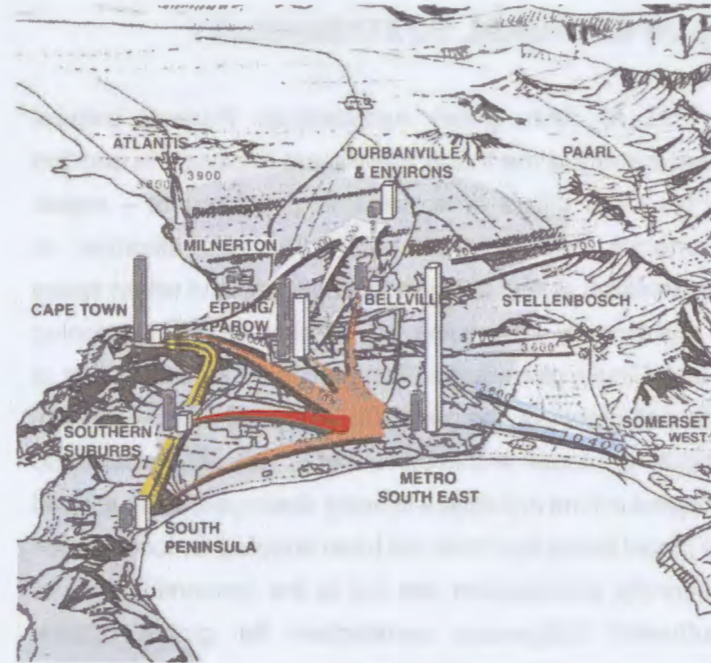
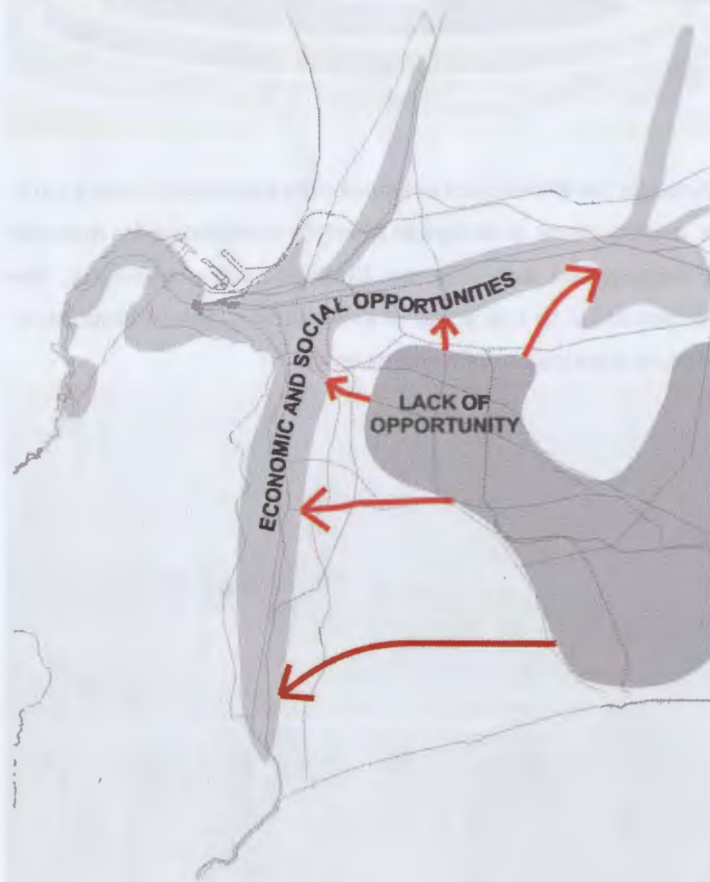
2. Davids: Sustainability. <http://www.khanya.co.za/projectinfo/docs/sustainability.pdf>

UNSUSTAINABILITY IN CAPE TOWN

Socioeconomic [Un]sustainability in Cape Town

As discussed in Part One: Theory, a long and complex history of segregation and inequality, dating as far back as colonial times through to the apartheid era, has resulted in a socially, economically and spatially unsustainable post-colonial and post-apartheid South Africa. Cities, looking at Cape Town in particular, have developed to become polarised and fragmented. The urban form and structure of Cape Town today displays socioeconomic and spatial inequality.

BELOW: The location of economic and social opportunities in contradiction to areas that lack opportunity



ABOVE: The unsustainable polarisation of areas of opportunity results in an urban structure that does not function to benefit the population as a whole. The extensive distance that a large majority of the population is required to travel to areas of economic opportunity is socially, economically and environmentally unsustainable.

Due to the great inertia of the apartheid paradigm, the built environment continues to encourage persistent spatial and socio-economic segregation. To a great extent, contemporary architecture continues to ensure the manifestation of apartheid ideologies of socio-economic segregation through developer-driven architecture that privatises, and thus controls, public realm and through socio-economically segregated and secure mono-cultural developments. Privatisation of the public realm, reinforcing historical socio-economic and coinciding racial segregation, allows for public space to be controlled and denies access to people from certain backgrounds and of certain socio-economic status. This increasingly encourages divisions between citizens who participate in the 'narrative of global corporate culture' and the rest of the population who continue to suffer the legacies of apartheid and poverty.⁴

Sixteen years after its abolition, the effects of apartheid are also deeply entrenched in the South African economy.

When the National Party (NP) agreed to a free and fair election, they ensured that the African National Congress

(ANC) maintain the Western Capitalist order, which meant that economically, not much was going to change, especially not the ownership and access to capital and other resources.

"...South Africa is a country of two nations. One of these nations is white, relatively prosperous, regardless of gender or geographic dispersal. It has ready access to a developed economic, physical, educational, communication and other infrastructure (...) The second and larger nation of South Africa is black and poor..."⁵

– Thabo Mbeki, 1998, former president of South Africa

Persistent inequality evident through the existence of this dual society results in an unsustainable socioeconomic situation.

Mono-functional De Zalze Golf Estate on the outskirts of Stellenbosch, housing predominantly white upper-class citizens, is socially and spatially segregated from James Town, a formerly 'Coloured' area, located across the road.



4. Marks, 2001. From Densification to Disneyfication – Architecture and urbanism in the post-apartheid city. Digest of South African Architecture, 2001, pp21-25

5. Cling: From isolation to integration: the post-apartheid South African economy



A shopping mall, a segregated privatisation of public space, offers consumers a clean, safe and 'architecturally stylistic' public space.

Environmental [Un]sustainability in Cape Town

From an urban scale to the scale of a building, the built environment has a significant influence on environmental sustainability.

"In the UK, and also the world at large, half of all energy used is in relation to building heating, lighting, cooling and the ventilation of buildings. The structures architects and engineers design, the way buildings are services, and how they are adapted over time, all directly influence the volume of fossil fuels consumed and lead directly to the tonnes of CO2 released into the atmosphere, raising planetary temperatures."⁶

The Cape Town area boasts world renowned natural heritage, including the Cape Floral Kingdom and magnificent mountains and coastlines. The area also provides valuable natural resources that allow agriculture and fishing to form a significant part of the economy. Cape Town's natural

resources are fundamental in sustaining the city and it is thus essential to, in return, sustain the natural environment.

At an urban scale, the form and structure of Cape Town has major environmental implications. In 1904, the gross density of Cape Town was 115 persons per hectare. At that time, the economy predominantly comprised of the fishing, agriculture and clothing industries. In 2000, Cape Town's gross density has dramatically dropped to 39 persons per hectare, with an exponential population growth. The fishing industry is dangerously threatened by over fishing, the clothing industry has been dealt a blow by low-priced Chinese imports, and the agricultural sector is threatened by the loss of valuable land to urban sprawl at the rate of four hectares per day.⁷

Urban sprawl is dangerously consuming valuable agricultural land at an intense daily rate



6. Edwards: Sustainable Architecture, European Directives and Building Design. P.xliii
7. Fabio Todeshini, AUC Course, 28 April 2010

Cultural Un]sustainability in Cape Town

Globalisation is significantly influencing urban and natural landscapes in South Africa today. As discussed under the subheading 'what is sustainability?', globalisation is ensuring the demise of locally produced architecture, culturally rooted and adapted in time and space, that is being replaced by global forms that have not been adapted for local needs. Globalisation has also led to the commodification of 'authentic' indigenous architecture for global cultural consumption.⁸ This threatens culturally rooted architecture and the identity of cultural landscapes.



The stylistic architecture of this castle creates a 'cultural' attraction employed to sell the farm's wine. Fortunately, the disrespect for the Stellenbosch's cultural landscape has subsequently been amended by VKdB Architects, by renovating the building to sit harmoniously in the Winelands.



8. Zetter and Watson: Designing Sustainable Cities

THE ROLE OF ARCHITECTS

A shift towards social, economic, environmental and cultural sustainability has become a necessity due to unsustainable persistent socio-economic segregation in post-apartheid South Africa, climate change, and a demise in culturally rooted design.

Despite the urgent need for establishing sustainable architecture in post-apartheid South Africa, architects endlessly find themselves caught up in the material wealth the profession has to offer, juggling briefs from clients demanding architectural manifestations of designer lifestyles through either Eurocentric exhibition homes or commercial projects, or pseudo-African chic, or Tuscan villas in mono-functional secure segregated 'communities'. A great amount of emerging architecture in South Africa today is the product of architectural firms, driven by material wealth and seeking 'celebrity' status, producing standardised designer lifestyle architecture as a mass-produced commodity. The resultant forms, spaces and materiality are often stark, impersonal and a-contextual, socially and culturally.

In her article 'Architecture for Sustainability'⁹, Hilary Jacobs says that "in this worldview, the primary goal is the survival of the fittest individual, and status is determined by material success." This attitude is unsustainable. Jacobs, rather, argues for a systemic worldview, where humans live in harmony with nature, and where the common good is paramount.

"No problem can be solved from the same consciousness that created it. We have to learn to see the world anew."

— Albert Einstein

Because contemporary architectural practice is largely unsustainable, having detrimental effects on the South African's socioeconomic, environmental and cultural landscape, a paradigm shift, towards holistic sustainability, in the thinking of design professionals is fundamental.

ONE-LEGGED SUSTAINABILITY IN CAPE TOWN

Sustainable contemporary architectural projects in South Africa largely exhibit one 'pillar' of sustainability, that of either social, economic, environmental, or cultural. Examples of these are illustrated below.

- **Economic** (right)

A glazed architecturally a-contextual commercial building in Stellenbosch, disregarding Dorpstraat's historical streetscape, is as much of a commodity of material wealth as the diamonds it sells. Although the architectural project is socially exclusive, environmentally inefficient, and culturally removed, the architecture ensures for the economic sustainability of the project.

- **Environmental** (top far right)

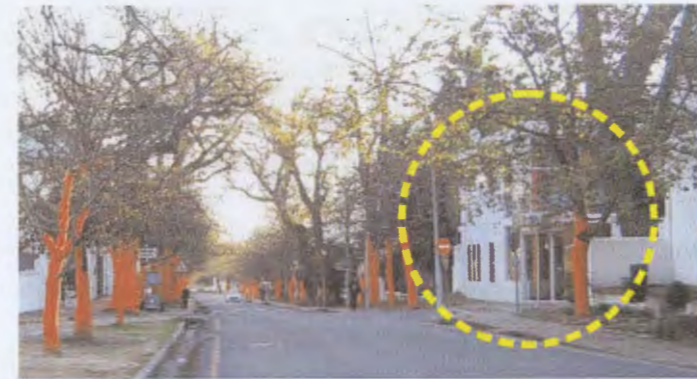
A suburban house employs international 'green' technologies and is environmentally sustainable. The architectural project is, on the other hand, socioeconomically exclusive and secluded, high cost, and culturally removed.

- **Social** (middle)

Some churches may aspire towards social integration and the wellbeing of societies, while the buildings they inhabit may be environmentally unsustainable, economically unfeasible, and removed from its context architecturally.

- **Cultural** (bottom right)

A Cape Dutch manor house on a historical wine farm is a manifestation of political history, exhibiting a cultural identity formed during the colonial period. While this architectural project may be a culturally rooted protected national monument, it ensures socioeconomic exclusion.



Sustainability is a broad concept and, as illustrated above, ranges from primarily social sustainability, to economic, environmental and cultural. The challenge of this project is to investigate sustainability that incorporates all of the above mentioned single 'branches' of sustainability, establishing a middle ground.

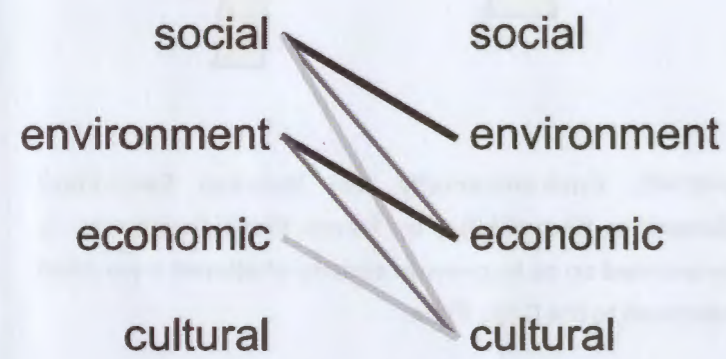
Because of the importance of culturally and contextually rooted design to the M Arch (Prof) Architectural Project, a sustainability that is specific to the site context of Philippi is fundamental. The context, and current sustainability, of Philippi is discussed in Part Three: Siting.

9. Jacobs, Hilary: Architecture for Sustainability. Digest of South African Architecture, 2001, pp139-141,

2.2. SUSTAINABLE TECHNOLOGY

THE SUSTAINABLE HELIX

The 'sustainable helix', attached at the end of this paper, is an abstract representation of sustainability principles, forming a general framework for an aspiring sustainable architectural project. The blue parabolas represent economic sustainability; the magenta parabolas represent social sustainability; the green, environmental; and the orange cultural. The parabolas are drawn in a way so as to provide space in between each other which represent states between two branches of sustainability. There are four branches of sustainability represented in this helix, and thus six relationships.



When both social and economic sustainability are met, the state is defined as *equitable*; when both economic and environmental sustainability are met, the state is defined as *viable*; and when both environmental and social sustainability are met, the state is defined as *bearable*. *Bearable* is replaced by *pleasant* for the purpose of this document. When all three – social, economic and environmental – branches of sustainability are met, sustainability is achieved. This paper includes the addition of cultural sustainability. As illustrated in the matrix, when both social and cultural sustainability are met, the state is *integrated*; when both environmental and cultural sustainability are met, the state is *dependant*, as cultural sustainability is dependant on the natural environment; and when both economic and cultural sustainability are met, the state is *just*, as cultures should be economically treated as equal. When all four – social, economic, environmental, and cultural – branches of sustainability are met, holistic sustainability is achieved.

In the helix graphic, holistic sustainability is achieved where all four branches unite, illustrated by a white circle. Architectural principles illustrated at this location exhibit at least three of the four branches of sustainability. Architectural principles that exhibit one or two branches are located in the corresponding shaded areas. The arrangement of architectural principles is not in any specific order in this abstract representation.

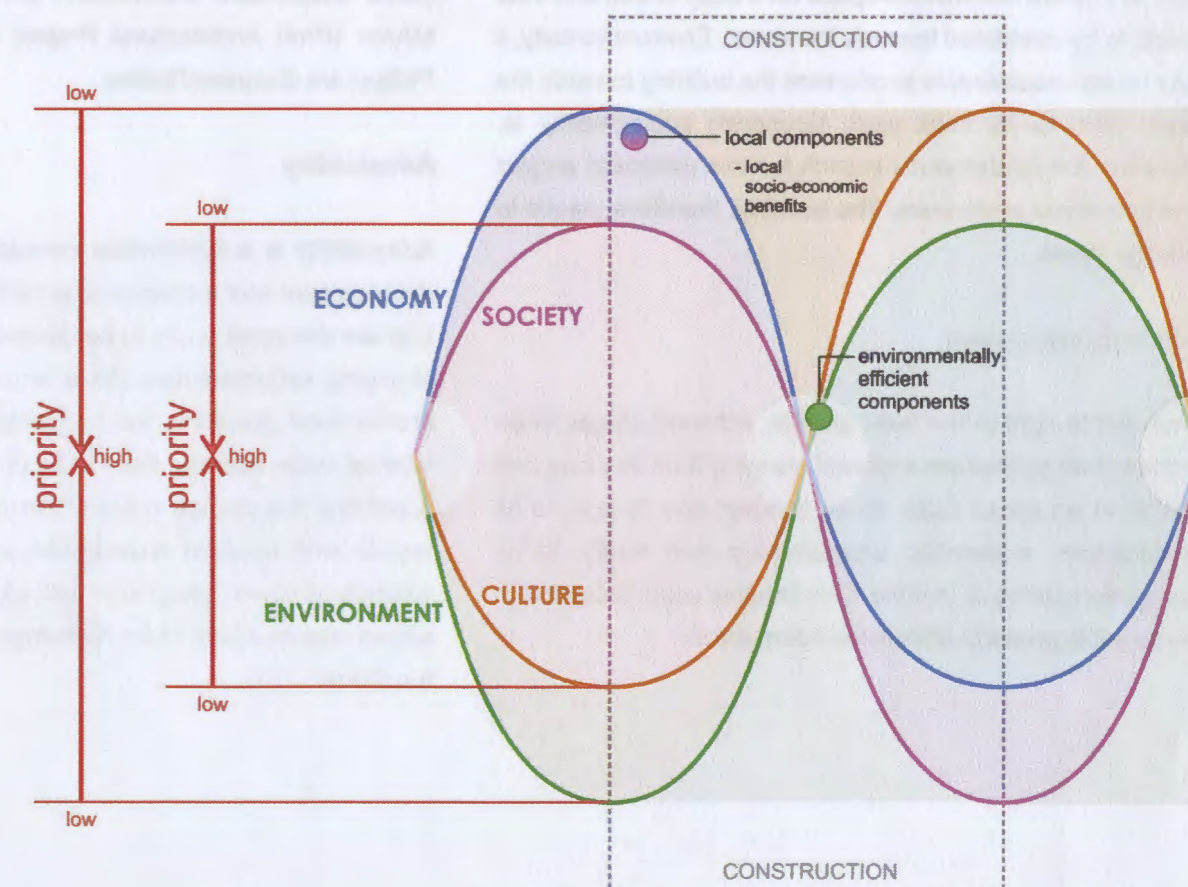
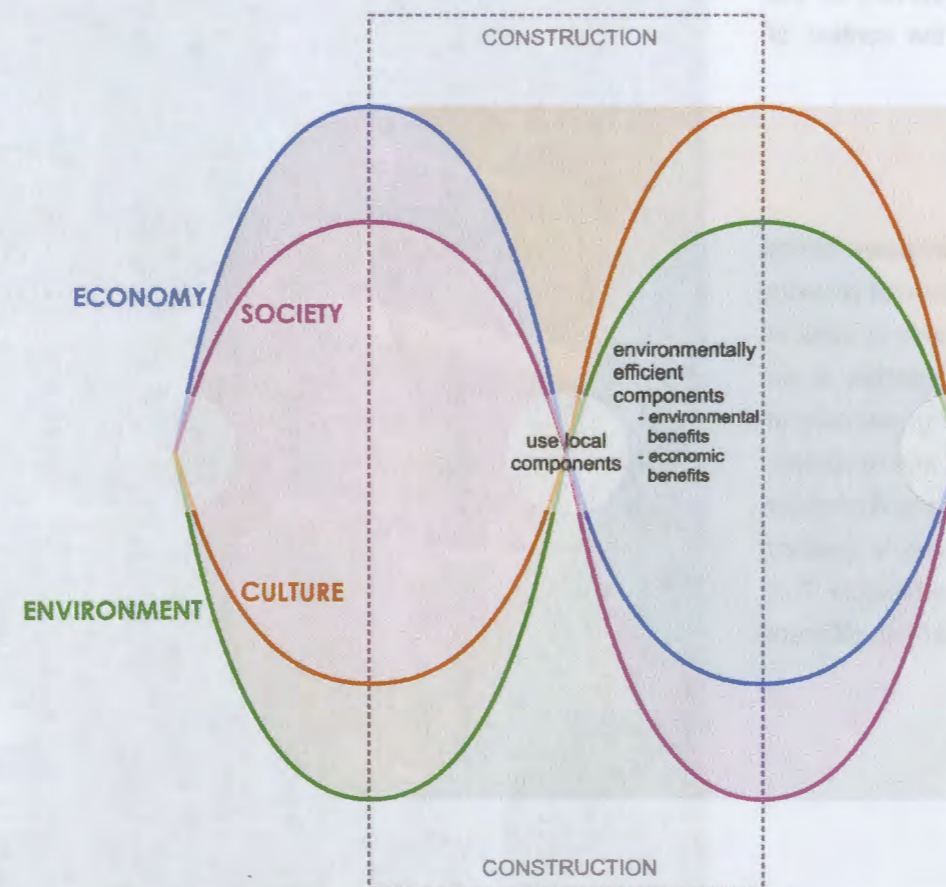
The helix is, however, adaptable to a specific project, in which the location of architectural principles will be in order of importance. A certain project may, for example, be primarily focussed on environmental sustainability in terms of passive energy strategies. Hypothetically, local components available may provide this project with less and

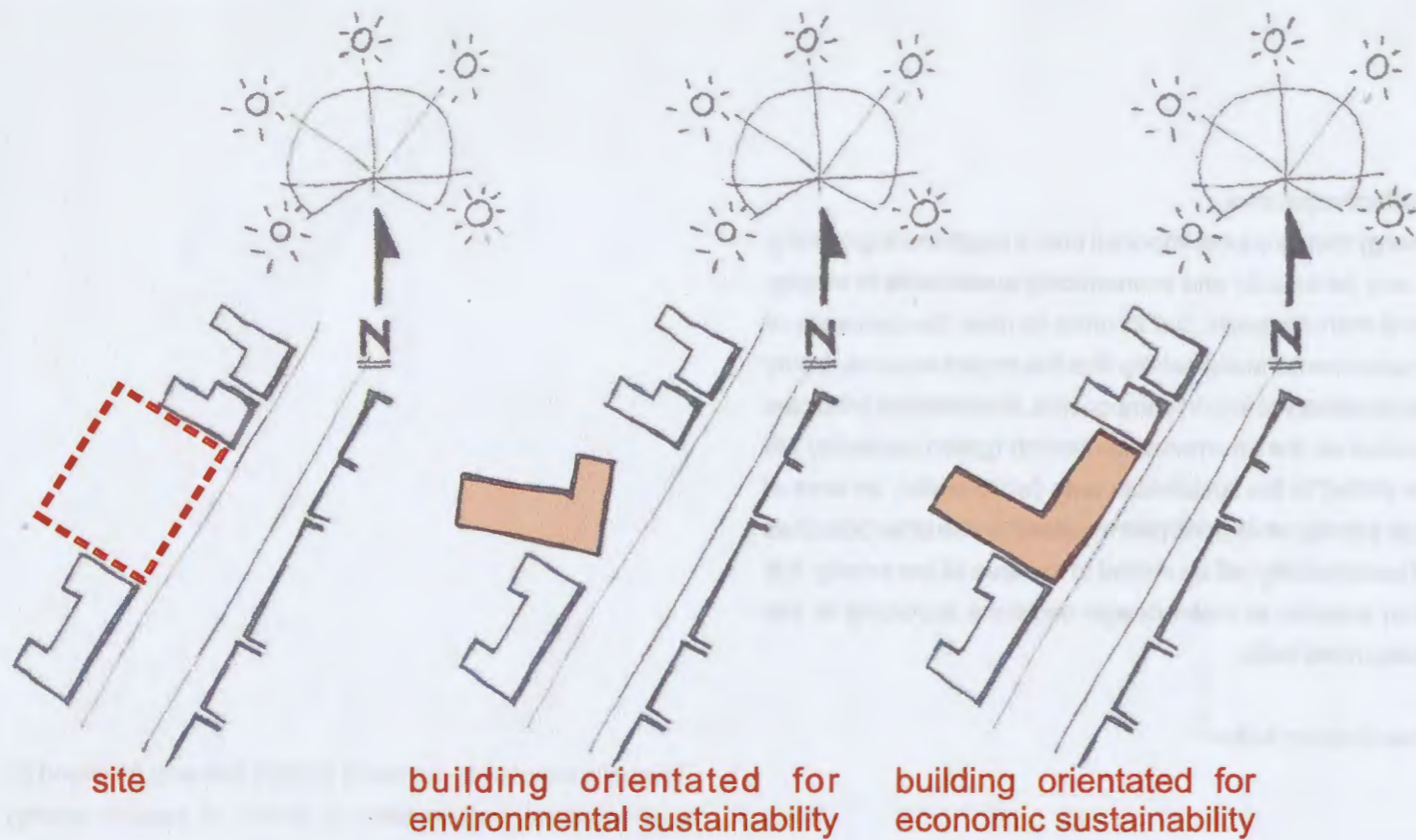
ineffective passive energy than products imported from a neighbouring country. It may be socially and economically sustainable to employ local manufacturers, but in order to meet the demands of environmental sustainability that the project requires, it may be necessary to import components. Architectural principles located on the environmental branch (green parabola) will be shifted to the sustainable area (white circle), an area of high priority, while principles focussed on the other branches of sustainability will be shifted to the area of low priority. It is then possible to make design decisions according to this customised helix.

See diagram below

An abstract representation of sustainability principles, forming a general framework for an aspiring sustainable architectural project

The helix adapted to a specific project primarily focussed on environmental sustainability in terms of passive energy strategies. Architectural principles located on the environmental branch (green parabola) will be shifted to the sustainable area (white circle), an area of high priority, while principles focussed on the other branches of sustainability will be shifted to the area of low priority.





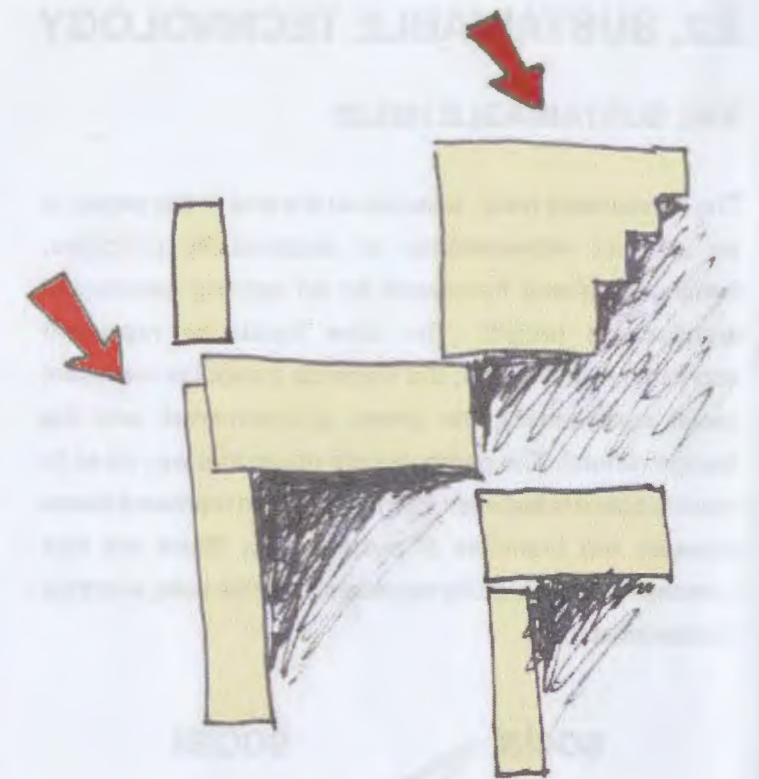
Building Orientation

The orientation of a building has social, economic, environmental and cultural benefits. As illustrated in the diagrams above, it is necessary to establish which branch of sustainability is the most important for a specific project.



ABOVE: The orientation of buildings around Siena's Piazza del Campo provide a sociable public space.

BELOW: The orientation of shop fronts along Main Road aid in their economic sustainability.



ABOVE: Environmentally, the Usasazo Secondary School in Khayelitsha, by Noero Wolff Architects, is orientated so as to provide spaces sheltered from wind common to the Cape Flats.



ABOVE: Culturally, Mosques are orientated to face towards Mecca.

An architectural principle that is holistically sustainable in the general framework helix may lean towards a single branch according to the type of project. Investigating building orientation, for example, a proposed architectural project may seek to provide commercial space on a busy street, and thus needs to be orientated towards the street. Environmentally, it may be less sustainable to orientate the building towards the street than to its back yard. Economic sustainability is, however, the fundamental branch for this particular project and thus takes preference. The building, therefore, needs to face the street.

See diagrams above

From left to right of the helix graphic, different stages of an architectural project are explored, ranging from its siting and design at an urban scale, to its concept and design, to its construction, materiality, programming and finally to its occupation during its lifetime. This timeline could be extended to the possible phase of alteration or demolition.

SUSTAINABLE ARCHITECTURAL PRINCIPLES: DESIGN CONCEPTS

Some sustainable architectural principles relevant to the MArch (Prof) Architectural Project and to the context of Philippi are discussed below.

Adaptability

Adaptability is a sustainable concept that considers future development and incremental growth. Architectural projects that are designed so as to be adaptable are able to react to changing circumstances. An example of adaptability in an architectural project is the non-weight bearing structure of internal walls, allowing them to be uninstalled and relocated, according to a change in use of the interior space. A modular façade with modular fenestration and services is another example of how to design a project so as to be adaptable. This allows interior space to be rearranged according to different functions.

Maximisation of Space

Decreasing the amount of floor area of a building, while maximising its use, has both environmental and economic benefits. The smaller a space is, the less energy is required to heat or cool it and the less it costs to build. The concept of small spaces is also culturally applicable to the context of Philippi, where dwellings and social spaces are small, but usage is maximised.

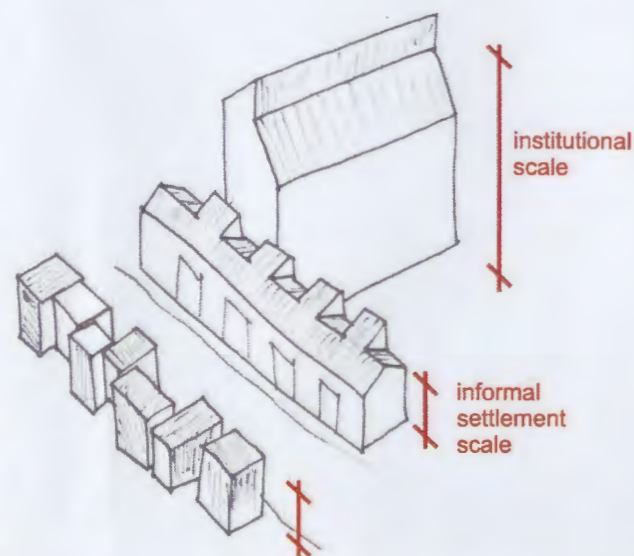


ABOVE: The Weaver's Nest, by Sonja Petrus Spamer Architects, comprises of a series of pavilions minimal in space, but designed so as to provide a spacious feel.

Scale and Articulation of the Building

The scale of a building has social, economic, environmental, and cultural implications.

Culturally, the Usasazo Secondary School in Khayelitsha, by Noero Wolff Architects, responds to its context through scale and articulation.



Design for Future Growth and Development

Projects such as Elemental's Housing in Chile are designed so as to allow for incremental growth by residents themselves. This involves the community and thus installs a sense of ownership. A project like this also has economic benefits, by offsetting initial costs.

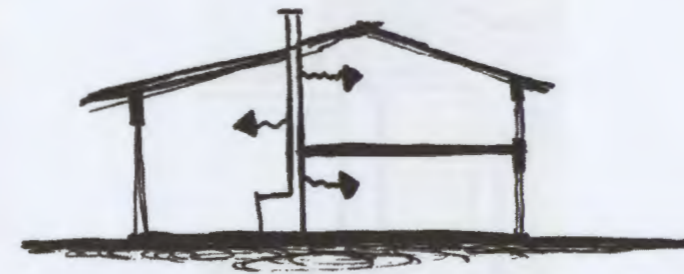


Passive Design Strategies

Passive design strategies that have environmental and economic benefits include insulation, materials with high thermal mass, natural ventilation, natural heating and cooling, and natural lighting.

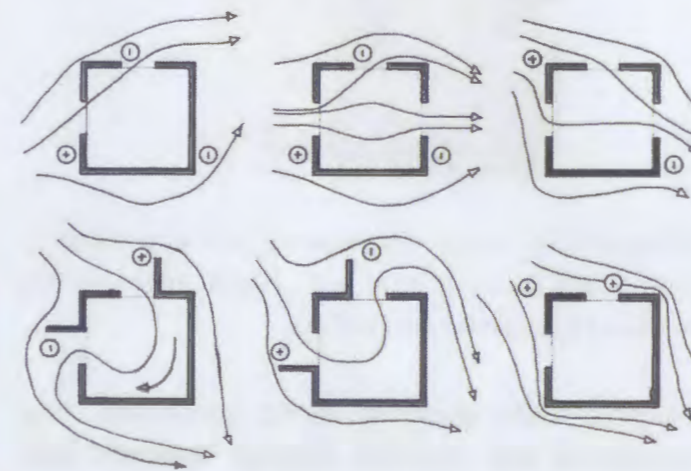
The performance of the thermal mass of a building is dependent on many different factors, including its location in relation to other elements of the building, and its ventilation.

Due to scarce fuel resources, the kitchen stove is used for cooking and the flue is funneled next to the winter living room to provide warmth.



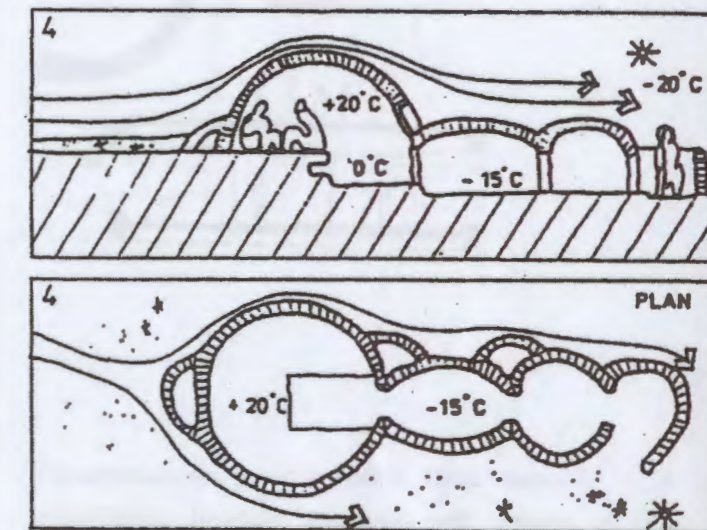
By simply locating openings strategically in a building, its occupants can be adequately warmed or cooled by natural cross-ventilation.

Positive and negative wind pressures around different building configurations



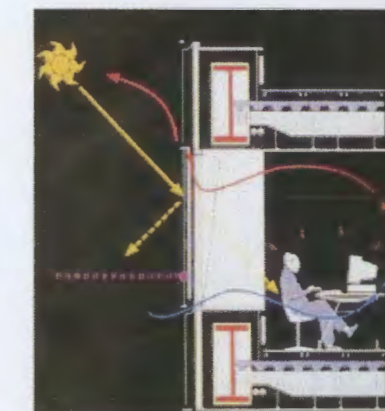
Using air stratification as a natural heating strategy, in the design of igloos, for example, the rising of hot air and the sinking of cold air is taken advantage of. Occupants live on a high level where it is warmer. Conversely, in warm climates ceilings are designed to be higher with openings near the top of the room to expel hot air. This is known as the stack effect, powered by the buoyancy of air. The greater the temperature differences between hot and cold air, the greater the buoyancy effect. In cool climates, hot air can be channelled to specific areas using the buoyancy effect.

The rising of hot air and the sinking of cold air is taken advantage of in the design of igloos. Occupants live on a high level where it is warmer.



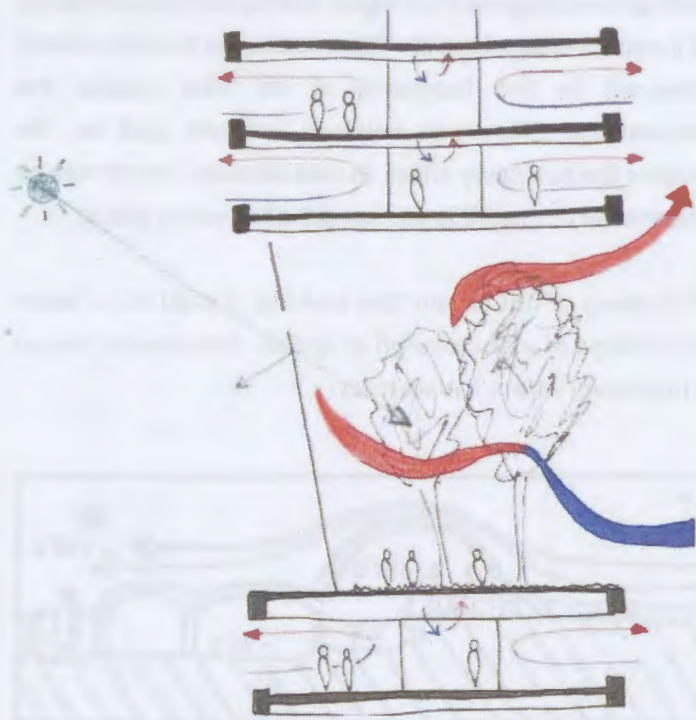
Comfortable Indoor Environment

A socially sustainable comfortable indoor environment should have sufficient natural day lighting, natural ventilation, exclude disruptive noise, and should have views.

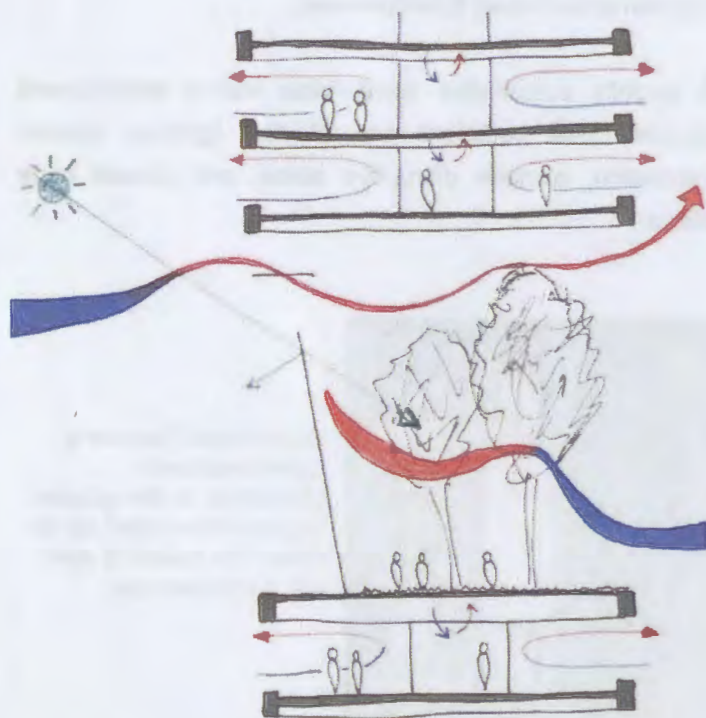


Foster and Partner's Commerzbank: Openings in the glazed façade allow cool air to enter the building and hot air to escape.

BELOW: Foster and Partner's Commerzbank: Ventilation during the winter. The façade is closed off and outside air does not enter through the sky gardens

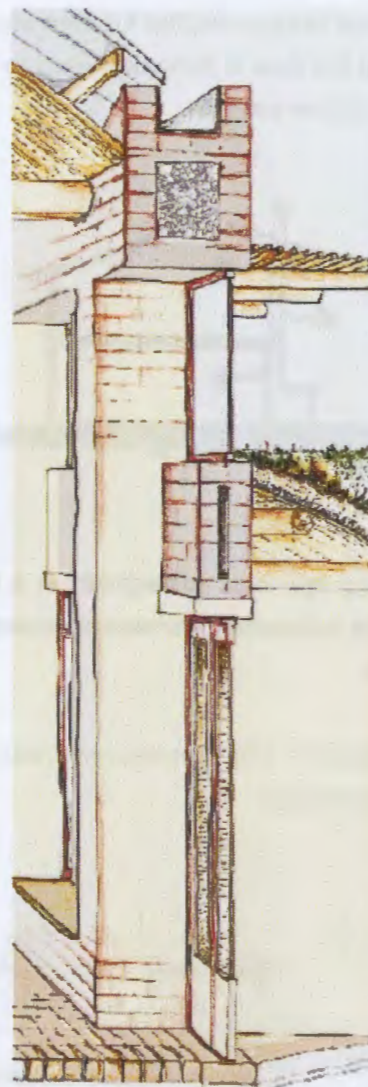


BELOW: Foster and Partner's Commerzbank: Ventilation during the summer. Natural ventilation occurs.



SUSTAINABLE ARCHITECTURAL PRINCIPLES: CONSTRUCTION AND MATERIALITY

Local construction methods have social, economic, environmental and cultural benefits. By using local construction methods that are labour intensive, local jobs are created. This may require skill development. Local construction methods also ensure that the architecture is culturally rooted. Construction methods found in Philippi are discussed in the chapter 'The Context of Philippi'.



ABOVE: ARG's Tsoaga Environmental Centre employs construction methods that are people intensive and therefore a catalyst for job creation.

Minimising waste generated during construction has environmental and economic benefits. Recycling also generates local jobs. The concept of minimising waste and the reuse of materials is intrinsic to the cultures of Philippi. Building rubble makes up 15% of waste disposal in Cape Town.

Local materials have less embodied energy, and are thus environmentally more sustainable than imported materials. Materials that are locally sourced means that local jobs were generated, boosting the local economy. Local materials are generally also culturally rooted.

The reuse of materials is applicable to the MArch (Prof) Architectural project due to the reuse of materials in the townships neighbouring the site. The site also provides abundant opportunities for reusing existing structures.

BELOW: The reuse of materials in Philippi

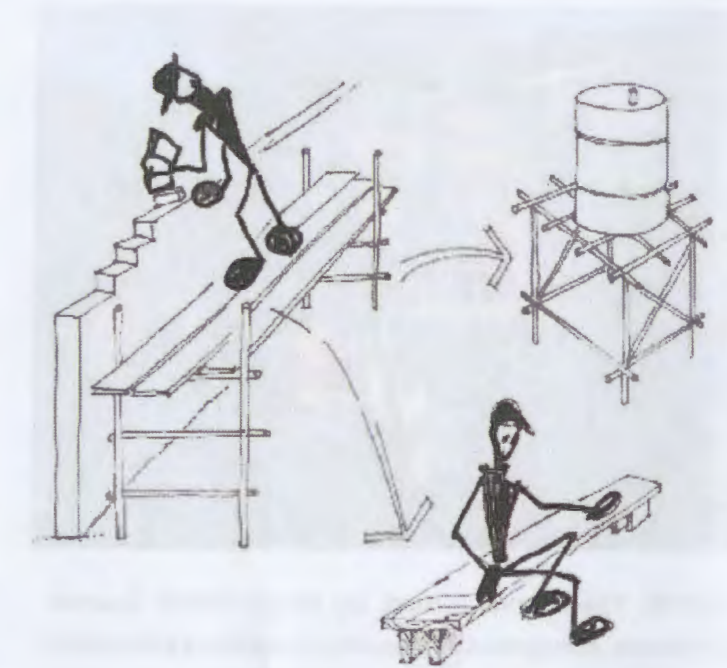


BELOW: Existing structures on Philippi's old cement factory



Using materials to their maximum potential has environmental and economic benefits.

BELOW: Scaffolding used during the construction of ARG's Tsoaga Environmental Centre, was later used for seating. The use of structural columns is maximised to also function as service ducts.



REUSE AND THE ART OF CONSTRUCTION

“**tectonic** /t_k't_nlk/ _adj. 2 relating to building or construction.

– ORIGIN C17: via late L. from Gk *tektonikos*, from *tektōn* 'carpenter, builder'.”

– Oxford English Dictionary

As stipulated by the Oxford English Dictionary, the word 'tectonic' is derived from the Greek word for carpenter or builder. In his text, 'Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture', Kenneth Frampton says that “...the carpenter assumes the role of the poet.” Tectonics is the fusion of *art* with *the making* and it is the constructing of buildings in a poetic manner. According to Annette LeCuyer ('Radical Tectonics'), “...the art of construction...” is a “richly expressive language...”

Frampton says that 'tectonic' does not favour a style, but, according to LeCuyer, it is a resistance movement. Architects concerned with the tectonic, challenge commodification and standardisation of building production. Alvar Aalto, who humanized modernism, is an example of one of these architects. He places “...emphasis upon the expressive potential of material and its transformation of constructional necessity into poetry...”

Structures in townships such as Philippi are, to a large extent, tectonically expressive and poetically constructed. Due to their limited budget, residents predominantly salvage used materials, or purchase affordable ones new or second-hand, and use their intuition and creativity to make the most of their materials and construction methods at hand. Due to limited resources, materiality and structure does not receive a concealing façade, and is thus expressed. Material and structural expression has developed to become an identity associated with township architecture.

Poetry exists abundantly in the structures in townships. Contrasting textures, vibrant colours and expressive tectonics are constructed imaginatively to

make the most of limited materials and construction methods.

The challenge for the MArch (Prof) Architectural Project is to manifest the poetry found within townships in the design of a structure on the site of Philippi's old cement factory.

J. Frampton, Kenneth: *The Poetics of Construction in Nineteenth and Twentieth Century Architecture*. Edited by John Cava, 1905.



Tectonic expression of Rural Studio's Mason's Bend



As discussed further in Part Three: Siting, the existing structures of the old cement factory express structural poetry themselves. The contradiction between the heavy, permanent, compressive concrete walls and the lightweight, tensile steel structure, as well as the reuse of the existing cement factory structure, provide an expressive architectural language.

This is in correspondence with the German language's differentiation between two classes of wall, namely *die Wand*, a tensile screenlike structure, and *die Mauer*, signifying a massive fortification.¹

The existing structures on the site of the old cement factory provide interesting design and technology potentials. The sustainable approach is to use as much of the existing structures as possible. The reuse of structures is a much debated about topic. Architects often adopt 'authenticity' as a design strategy when confronted with existing structures, either by restoring the building back to a specific style, to a certain historical moment, or by keeping the layers that tell a story about the structure. The last option of narrating the history of the site through the restoration of the structure, in a manner less formal than a museum, is suitable to the Architectural Project, due to the interesting layered history of the site.

1. Frampton, Kenneth: *The Poetics of Construction in Nineteenth and Twentieth Century Architecture*. Edited by John Cava, 1995



Die Mauer




Die Wand

The site for the M Arch (Prof) Architectural Project, Philippi's old cement factory, contains layers of contrasting history, discussed in Part Three: Siting.

The Architectural Project seeks to maintain and express the contradiction between the existing *die Wand* and *die Mauer*. In terms of materiality, the existing concrete and steel are worn, expressive of the factory's history. This expressive potential of material should be maintained.





PART THREE

SITING

The site for the [illegible] Project
[illegible] old central factory contains [illegible]
[illegible] history, located in [illegible]

The Architecture Project aims to maintain and [illegible]
the connection between the existing [illegible] and the
[illegible] in terms of materials, the existing [illegible] and
[illegible] and the [illegible] of the [illegible]. The
[illegible] of [illegible] should be [illegible].



3.1. THEORETICAL SITING REQUIREMENTS

The fundamental aim of the Architectural Project is to produce architecture that performs as a catalyst in the creation of a platform upon which a paradigm shift from inequality and segregation towards socioeconomic and spatial transformation in post-apartheid South Africa can be initiated.

In order for this to occur, the project should be designed so as to sustainably achieve the aspirations of both the top-down approach of spatial equalisation and the bottom-up approach of social condensation, discussed in Part One: Theory.

Theory of both the top-down and bottom-up approaches, and the exploration of sustainability, led to theoretical siting conditions.

These include:

- the site being located in a formerly marginalised area, lacking socioeconomic opportunities and in need of facilities;
- in an incipient corridor or node, to link to existing corridors;
- at a significant intersection or on a major transport route, vehicular and pedestrian, or public transport interchanges or stations;
- in a vibrant urban landscape, allowing for a space that will be used more intensely and also hosting a greater mix of people;
- in an incipient economic and social hub, to support economic and social programmes;
- opportunities available for future development and densification at an urban scale;
- and a site that could accommodate a building that acts as a significance land mark.

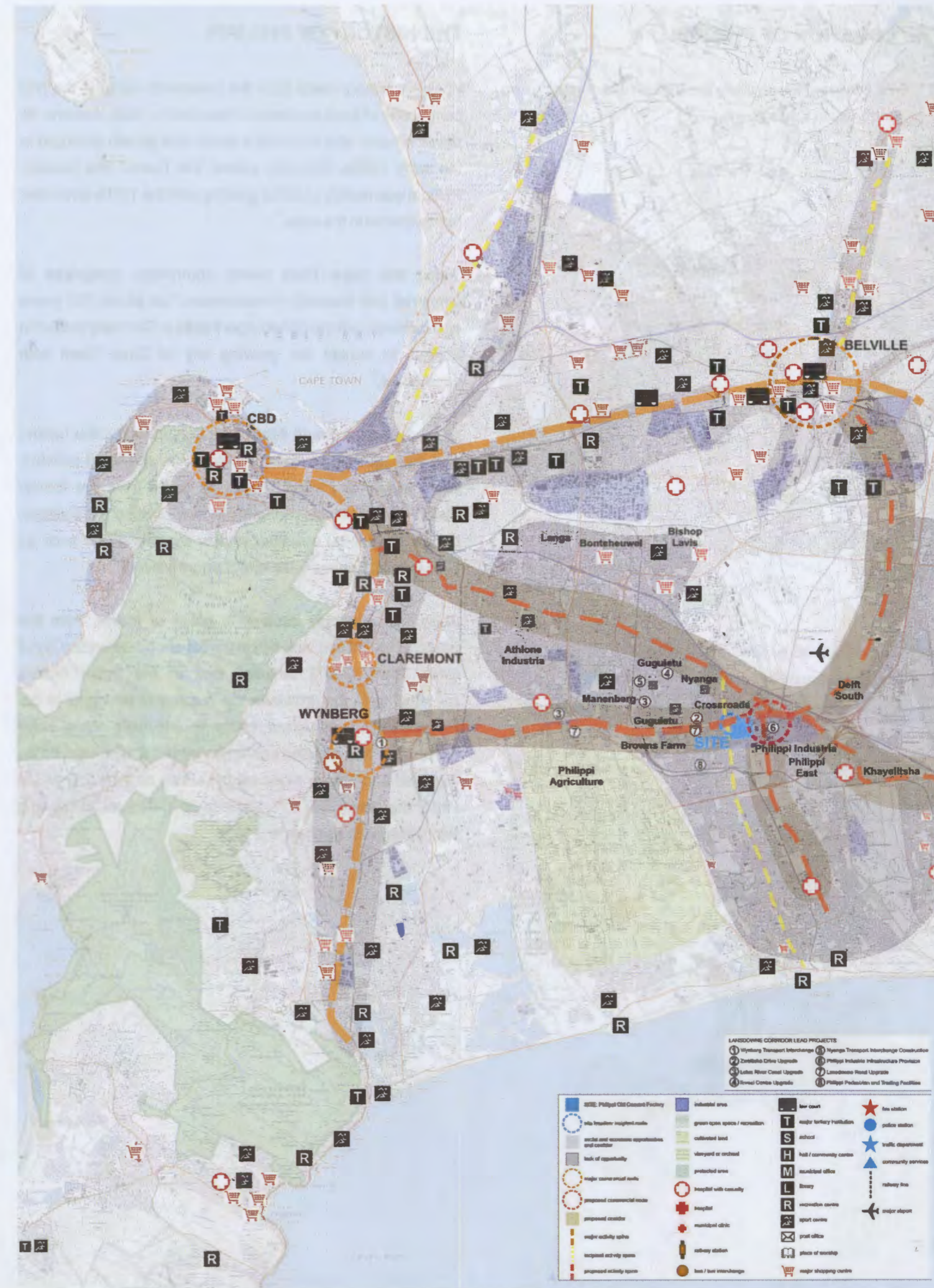
The township of Philippi and the site of the Old Cement Factory meets the above mentioned requirements.

3.2. PHILIPPI

THE LOCATION OF PHILIPPI

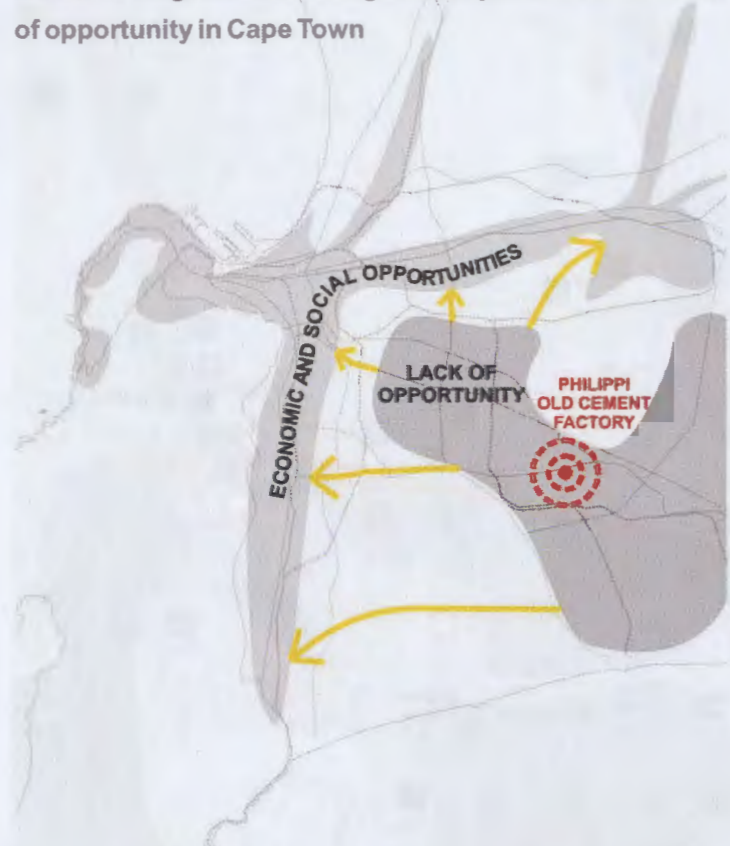
Philippi today is one of Cape Town's largest townships. Located on the Cape Flats, Philippi is bounded by Lansdowne Road, Duinefontein Road, Vanguard Drive and the R300 to the south.

RIGHT: Diagram illustrating the inequitable distribution of facilities; existing and proposed nodes and corridors



THE LOCATION OF PHILIPPI

BELOW: Diagram illustrating the inequitable distribution of opportunity in Cape Town



BELOW: The location of Philippi on the Draft Metropolitan Spatial Development Framework



THE HISTORY OF PHILIPPI

Philippi's history starts from the nineteenth century; the first community of local residents is recorded in 1833, however its developments and substantial residential growth emerged in the early 1980s. Originally called "Die Duine" (the Dunes), Philippi was mainly used for grazing until the 1970s and a few farms existed in the area.¹

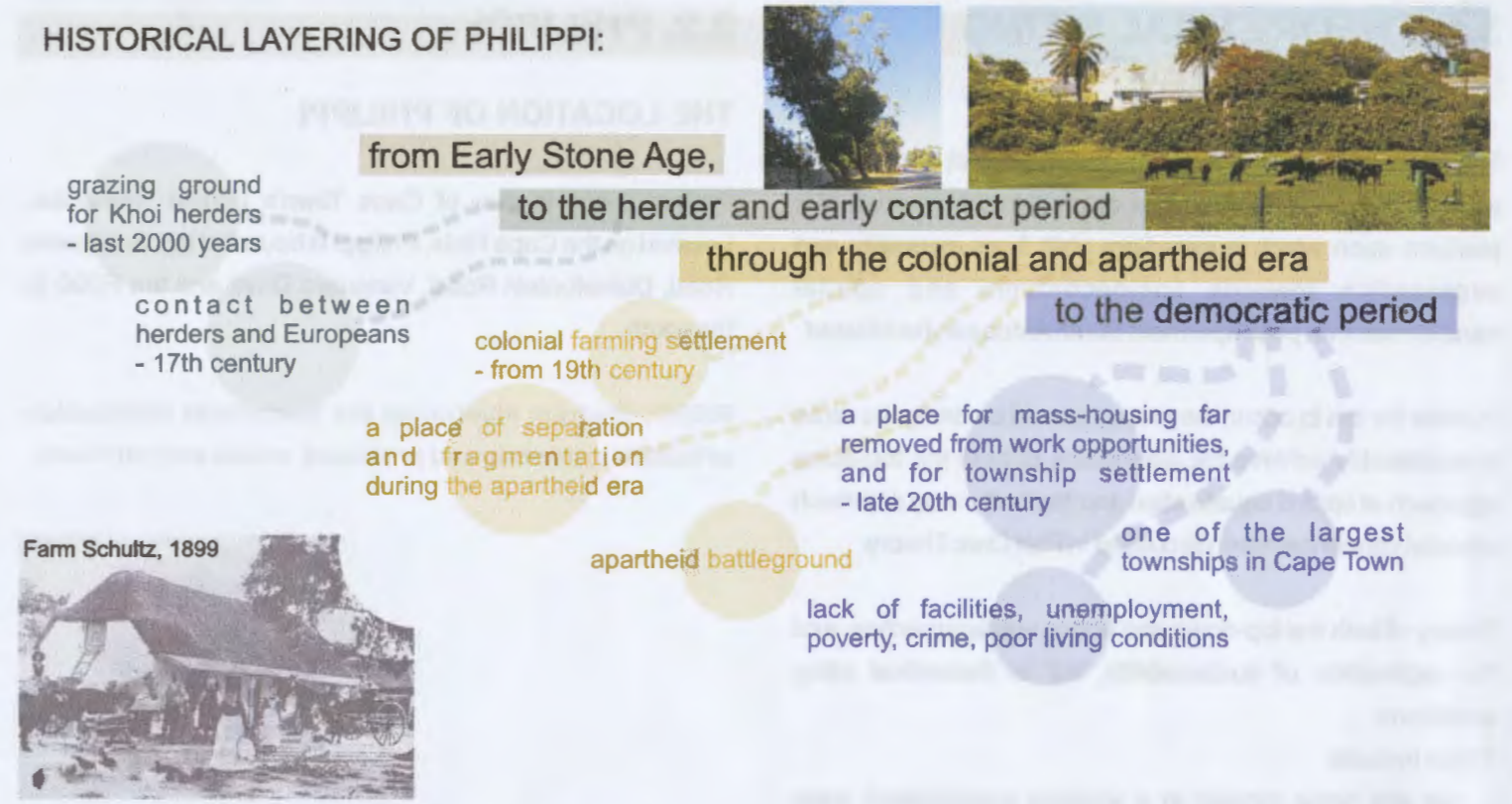
Today the Cape Flats nearly completely comprises of industrial and township development, but about 120 years ago farmers from the Lüneburger Heide in Germany settled in Philippi to supply the growing city of Cape Town with vegetables.²

Like most black South African townships today, the history and development of Philippi is linked to apartheid policies. Most people in Philippi townships came from the former Ciskei and Transkei homelands and settled in Nyanga, Langa, Gugulethu and later in new squatter areas such as Crossroads, Browns Farm and Samora Machel.¹

Philippi increasingly became a place of refuge from the political conflict and violence in the former homelands (City of Cape Town, 2007). Another one of the major factors contributing to the growth in the number of residents in the Philippi area was when farms in Mitchells Plein were eliminated. This resulted in a large number of labourers being deposed and having to move elsewhere as they did not fall under the categories of the apartheid state's racial housing relocation process (Adlard, 2009).¹

1. SAEP: Philippi Community Profile
2. Rabe: Die Groente Boere van Philippi

HISTORICAL LAYERING OF PHILIPPI:



HISTORICAL TRACES ON THE LANDSCAPE:



THE DEMOGRAPHICS OF PHILIPPI

Philippi has gone through several periods of rapid expansion, with people from the rest of South Africa and surrounding townships moving into the area in large numbers. The total population of Philippi today is approximately 250 000. Philippi's population grew rapidly between 1996 and 2001, by 48,6%.¹ Rapid expansion places extensive strain on already stretched public resources, services, and infrastructure.³

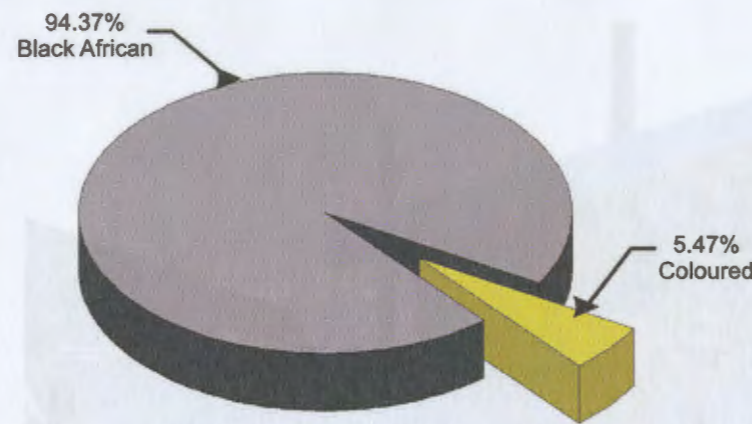
Philippi, like many townships in Cape Town, faces many social problems, including lack of education, violent crimes, substance abuse, environmental degradation and a rise in the number of residents with HIV/AIDS⁴. These abject social conditions are arguably rooted in the structural violence - violation of human rights through governmental structures - that the apartheid system created in many townships throughout the Western Cape (Ibid.)¹.

The unemployment rate in Philippi in 1996 was 15,1% and 2001 saw this figure changing to 43,1%. The current unemployment rate in Philippi is 58,59%. In 1996, the income average of Philippi residents was R18,922 and in 2001 this figure has dropped to R16,718 (2005:9), which is significantly lower than the provincial average income of R76,000 a year (2005:9)¹.

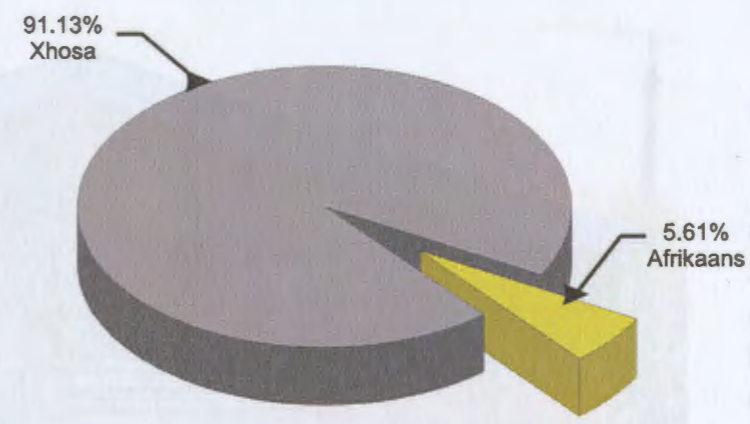
8,61% of Philippi's adults have no schooling, 43,34% have attended school up to between grades 8 and 11, 17,27% have no Matric.

In terms of service delivery, 8,5% of people have water in their dwellings, 53,2% have access to piped water on site and 32,7% access water from public taps (2005:9)¹.

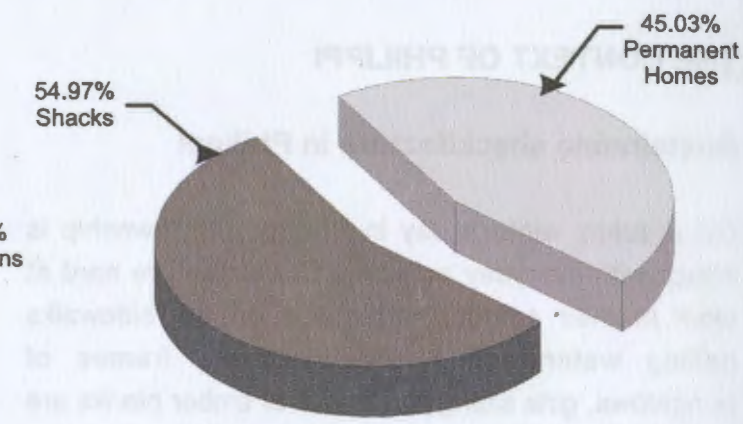
54,97% of dwellings in Philippi are shacks and 45,03% are built homes.



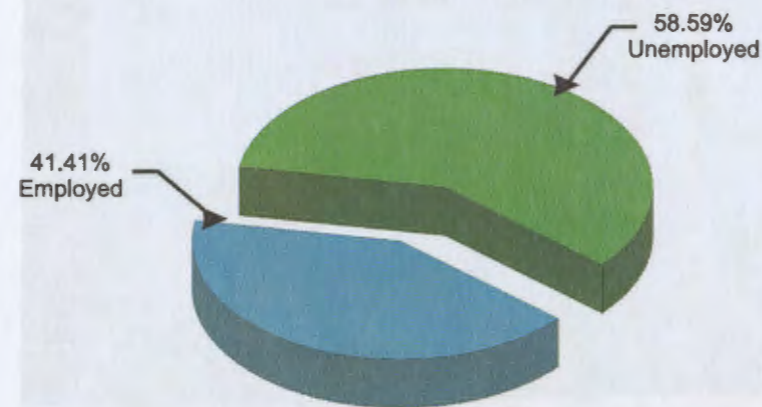
PHILIPPI POPULATION
Total Population: 250 000



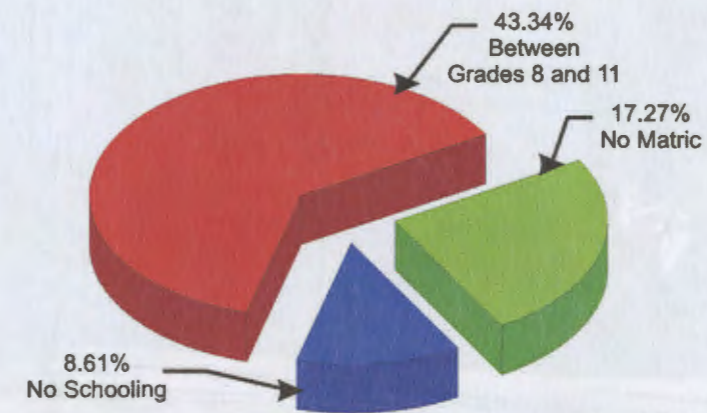
PHILIPPI LANGUAGES



PHILIPPI HOUSING



PHILIPPI EMPLOYMENT RATE



PHILIPPI ADULT EDUCATION

CONCLUSIONS:

- poor suburb
- unemployment
- previously disadvantaged
- inadequate housing
- lack of education
- lack of opportunities

INCREASE:

- education opportunities
- economic opportunities

↓
increased wealth,
better living conditions

3. City of Cape Town: Socioeconomic Characteristics: Philippi.

4. www.urbanmatters.com

THE CONTEXT OF PHILIPPI

Sustainable shackitecture in Philippi

On a sunny winter's day in Philippi, the township is abuzz with everyday activities. Craftsmen are hard at work in their outdoor workshops on the sidewalks nailing waterproofing sheets to the frames of bungalows, girls sitting on his pile of timber planks are braiding each other's hair in the warm sunshine, a mother hanging up her laundry shares a joke with a friend passing by, and young men are taking time out on new benches in a park that Lungile says have been established for the World Cup. Blue skies and a pale Table Mountain silhouette in the distance form the backdrop to this dense and vibrant urban milieu.

A colourful and animated appearance born out of innovation, creativity and resourcefulness, in response to the lack of structural formality and a prosperous economy, is draped over the differentially articulated streetscape of Philippi. Metal sheets from industrial refrigerators, signboards, plastic, cardboard, corrugated iron – rusted, painted, new – constructed using low-tech methods, form the façades of predominantly single storey dwellings. Salvaged, and often beautiful, window and door fittings are innovatively inserted into this textured edge.

Problems common to informal settlements, such as minimal thermal insulation, leaking roofs, scarce running water, sanitation problems, limited service delivery and lack of infrastructure, seem to be masked by friendly smiles revealing the content living environment of Philippi.

Compared to low density residential suburbs consisting of large, energy-consuming, private houses turning their backs on the street, townships are to a great extent sustainable – socially, economically, environmentally and culturally. Apart from the given problems that plague an informal settlement, examples of social, economic, environmental and cultural sustainability are abundant in this landscape comprising of an architecture born out of desperation, from an urban scale to the scale of a single shack.



A craftsman hard at work in his outdoor workshops on the sidewalks nailing waterproofing sheets to the frames of bungalows



Metal sheets from industrial fridges are used as cladding

A high density of small spaces located in close proximity to each other, as well as intuitive subliminal cross-programming, supports a great variety of sociable spaces. Taverns are located amongst homes; workshops where bungalow components are manufactured by hand are established on sidewalks, street-facing rooms of homes are converted into cash stores, shacks on street corners are cross-programmed to function as car repair workshops; and mothers run crèches from their homes. An absence of formal public spaces leads to the use of between spaces, such as streets and sidewalks, as public domain, resulting in a well utilised urban fabric.

Townships display economic sustainability with the low cost of dwellings, the maximisation of space and materials, minimal running costs, and minimising output waste. Small internal spaces accommodate a variety of functions, such as cooking, sleeping and living, and outdoor space is also utilised for everyday activities.

Environmental benefits of townships include a high density with cross-programming which allows for less mobility needs, the maximisation of space, the innovative reuse and recycling of materials, low-energy construction methods, and low-energy demands during a dwelling's lifetime.

In general, the architecture of townships expresses the cultural identity of people who live there. Cultural practice occurs in public domain of in between sociable spaces. Local building technologies and materials are used to construct formal structures, such as churches.





ABOVE: A small kitchen space is cross-programmed to function as a dining room and living space as well.
 BELOW: Local building technologies and materials are used to construct formal structures, such as churches,



ABOVE: A tavern located amongst homes within a dense urban fabric

RIGHT:
 Street-facing bungalows are converted into cash stores



BELOW: A tavern (pink building) located amongst homes within a dense urban fabric



ABOVE: The forms of churches are different to residential or commercial bungalows

3.3. THE SITE: PHILIPPI OLD CEMENT FACTORY

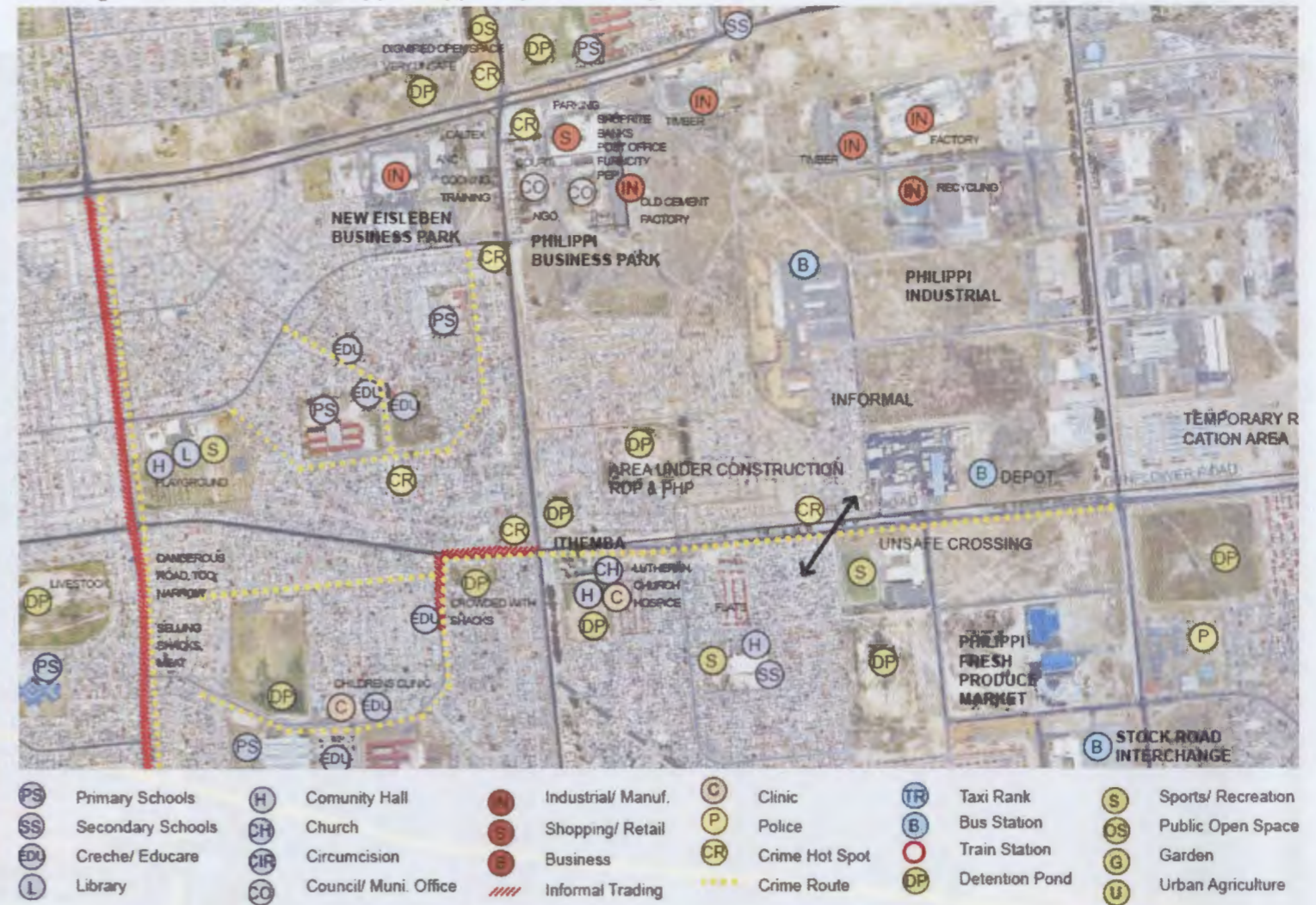
LOCATION OF THE SITE AND SURROUNDING URBAN FACILITIES



Philippi Photographs



Existing urban facilities in Philippi, mapped by ARG Design



THE SITE OF THE OLD CEMENT FACTORY

Beyond the vibrancy of the bustling township stands a large, empty shed and silos with a dominating presence over the flat urban landscape.

This old cement factory has been selected as the site for the Architectural Project, due to its location on a significant route and intersection, its potential to become a socioeconomic hub, due to the role the existing structures play as a landmark, and the opportunities the site provides for sustainable development.

Many contradictions are found between this site, the old cement factory, and its neighbouring townships. Spatially, the dense urban fabric of the township comprises of small spaces, while, conversely, the cement factory offers huge sparse volumes. In terms of use, township spaces are used to their optimum, while the cement factory stands abandoned.

The temporary, lightweight, reused, colourful, small scale materiality of the townships is in direct contrast to the permanent, heavy, grey in colour, large scale materiality of the cement factory. Construction methods within the township also contrast drastically to the construction methods used to build the cement factory. Structures in the township are assembled by hand without the use of heavy or high-tech machinery, whereas the cement factory was constructed with new materials and by using high-tech construction methods.

The site of the old cement factory in itself offers contradictions. The contradiction between the heavy, permanent, compressive concrete walls and the lightweight, tensile steel structure, as well as the reuse of the existing cement factory structure, is discussed in Part Two: Technology.



ABOVE: Beyond the vibrancy of the bustling township stands a large, empty shed and silos with a dominating presence over the flat urban landscape.

BELOW: Dense vs sparse urban fabrics.

The old cement factory seems to provide a pause in a dense and busy surrounding urban environment.



EXISTING STRUCTURES ON THE SITE

The site of the old cement factory in Philippi houses a 200 metre long, 10 metre high steel framed structure, an icon of early industrial history of Cape Town. Large silos that dominate the Cape Flats landscape are also located on the site.





EXISTING FACILITIES ON THE SITE



- | | |
|---|--|
| 5800m² ■ Derelict Buildings | 6090m² □ Philippi Shopping Centre |
| Informal Trading | 650m² ■ Nedbank |
| 1100m² ■ Philippi Magistrate's Court and Municipal Office | 250m² ■ Standard Bank |
| 16300 ■ Sports Fields / Detention Pond | 250m² ■ Capitec Bank |
| ■ Primary School | 250m² ■ ABSA Bank |
| ■ Secondary School | 250m² ■ Post Office |
| ■ Public Hall | 2400m² ■ Shoprite |
| 4660m² ■ Industry | 740m² ■ Ellerines |
| ■ Caltex | 500m² ■ PEP |
| 1200m² ■ ANC | 300m² ■ KFC |
| 240m² ■ Cooking Training | 500m² ■ Sisulo Computer Training and Internet Café |
| 5000m² ■ Industry: Timber | 2300m² □ NGOs |
| 6800m² □ Driving School | 800m² ■ The Business Place Information Centre |
| | ■ Arts and Culture Empowering Centre |
| | ■ AST Gardening Services |
| | ■ Edunova |
| | ■ Great Financial Services |
| | 1000m² ■ Abalimi Bezakhaya |
| | ■ Ikhaya Lami |
| | ■ Community Connections |
| | ■ NTN Accounting Services |
| | ■ Sizisa Ukhanyo Training Academy |
| | 270m² ■ Megabro Computer Training |
| | 230m² ■ Ikhaya Lami |

EXISTING PEDESTRIAN AND VEHICULAR MOVEMENT PATTERNS



The background of the page is a detailed architectural site plan. It features a complex network of roads and paths, some highlighted in red and others in blue. Various building footprints are scattered across the site, some with internal room divisions. A large circular feature, possibly a pond or a large open area, is visible in the upper right quadrant. The overall layout suggests a planned urban or institutional site.

PART FOUR

PROGRAMMING

4.1. THEORETICAL PROGRAMMATIC REQUIREMENTS

As stated in Part Three: Siting, the fundamental aim of the Architectural Project is to create architecture that performs as a catalyst in the creation of a platform upon which a paradigm shift from inequality and segregation towards socioeconomic and spatial transformation in post-apartheid South Africa can be initiated.

In order for this to occur, the project should be designed so as to sustainably achieve the aspirations of both the top-down approach of spatial equalisation and the bottom-up approach of social condensation, discussed in Part One: Theory.

The programmatic objectives of the Architectural Project is to aid spatial equalisation through the increase of opportunities and facilities and to perform as a social condenser by attracting people from different backgrounds.

Theory of both the top-down and bottom-up approaches, and the exploration of sustainability, led to broad theoretical programming concepts:

Economic opportunity:

In contradiction to the colonial and apartheid paradigm, the programme should seek to increase economic opportunities in a formerly marginalised area and to confront the issue of South Africa's persistent dual society.

Social opportunity:

In order to succeed in creating integrated, equitable urban fabric, spatially and socially, a paradigm shift in the thinking of the South African public is necessary. In order for this paradigm shift to successfully be initiated, the role of architecture in relation to the bottom-up approach should be to encourage people from different backgrounds to use the same space, socially.

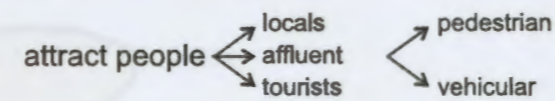
Education opportunity:

Programmes, such as education and economic opportunities, should allow for the development of the local community, in contradiction to the colonial and apartheid paradigms of excluding certain racial groups from economic activity and denying them education.

Cultural enclave:

The Architectural Project should be programmed to function as a cultural enclave. The objective of this is for the site to become a cultural enclave in 'affluent' citizens' self-constructed cities, accessed in the comfort of a car. This will form part of the initiation of a paradigm shift towards an equitably spatial urban environment, by increasing the economic market for local business and increasing facilities for locals in a marginalised area.

social condensation | spatial equalisation

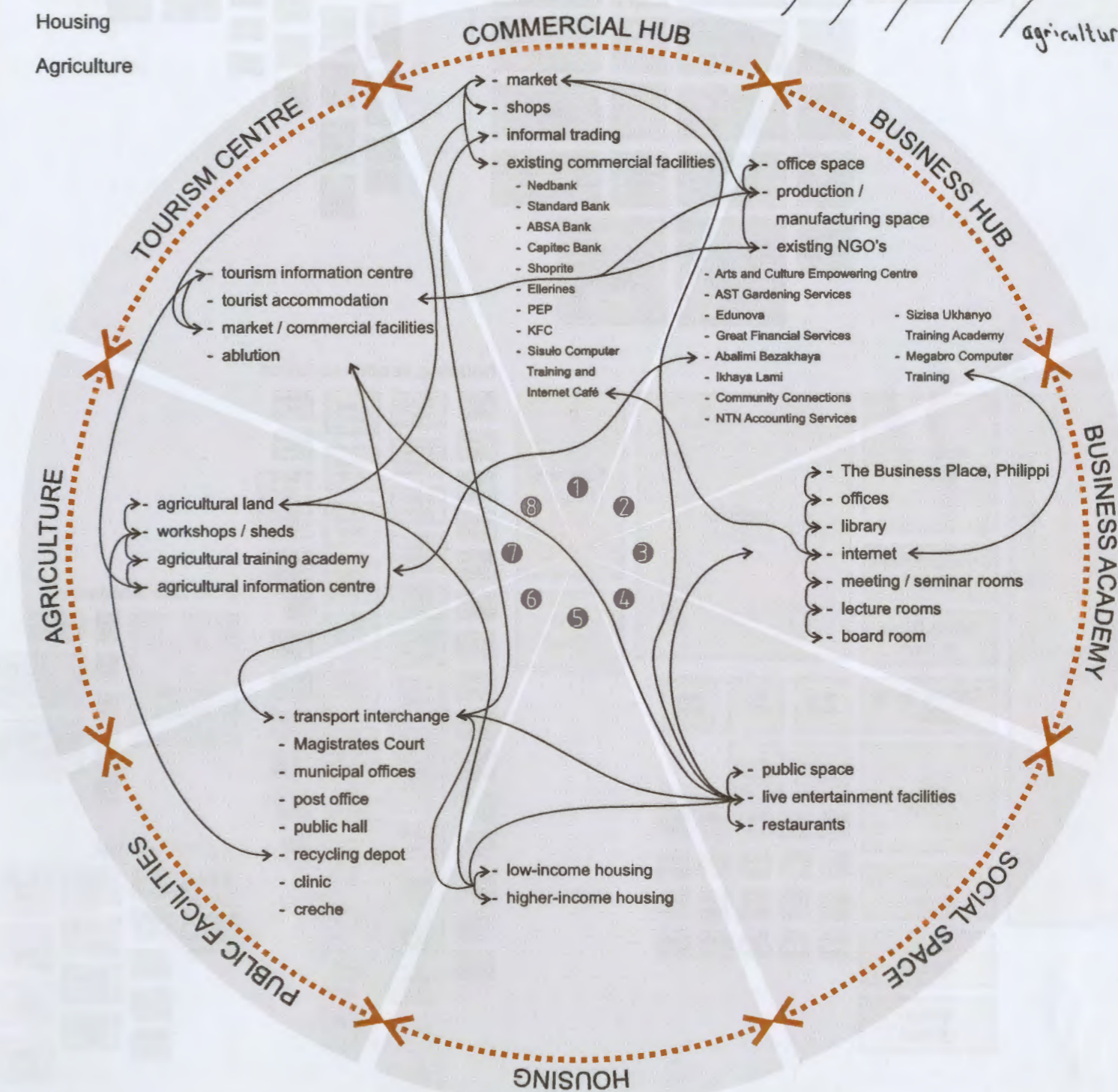
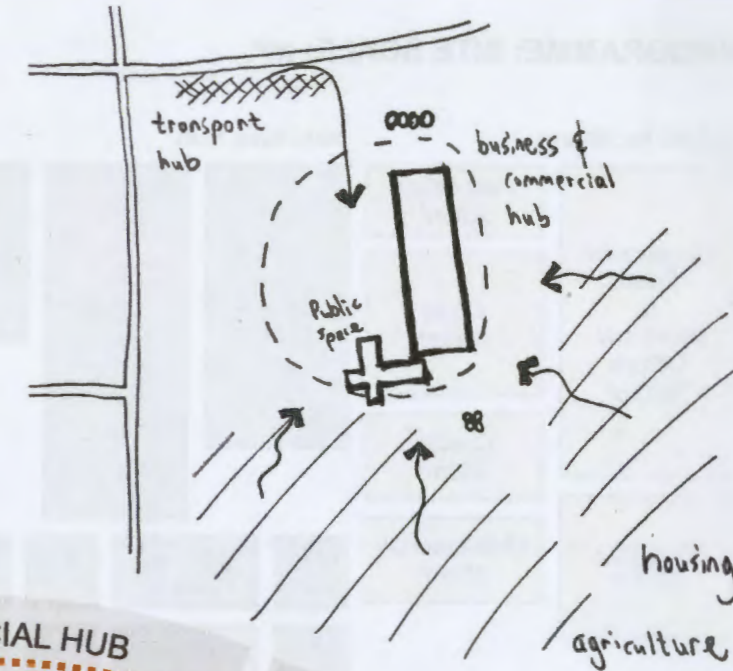


- SOCIAL: create vibrant public space
- ECONOMIC: increase market and facilities
- SPATIAL: increase opportunities

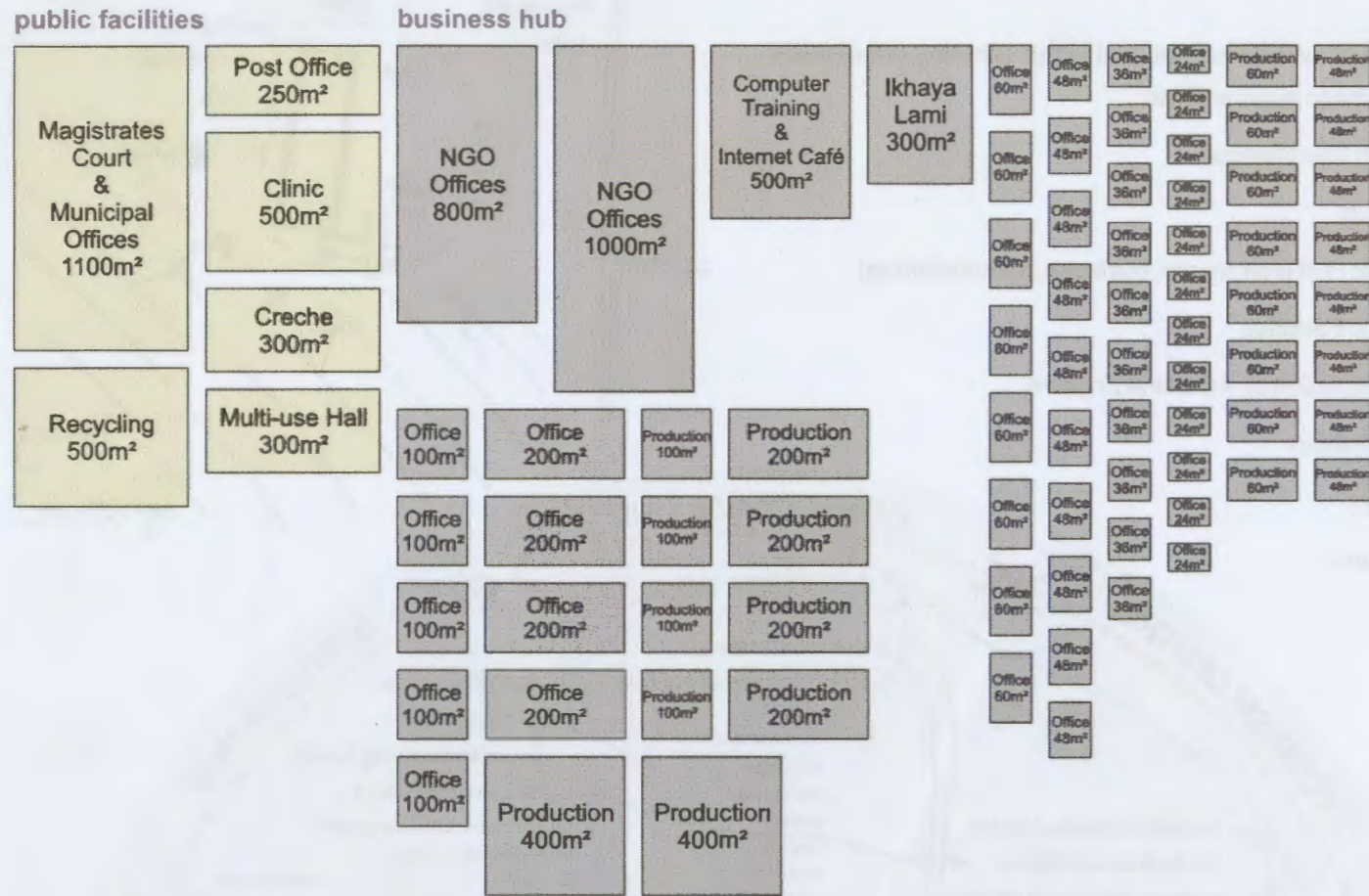
4.2. PROGRAMME: SITE SCALE

Theoretical exploration resulted in the following urban scale programmatic requirements:

- Transport Interchange
- Social Hub
- Economic Hub (commerce, business, manufacturing)
- Education Facilities
- Tourist Attraction as a Cultural Enclave
- Public Facilities
- Housing
- Agriculture

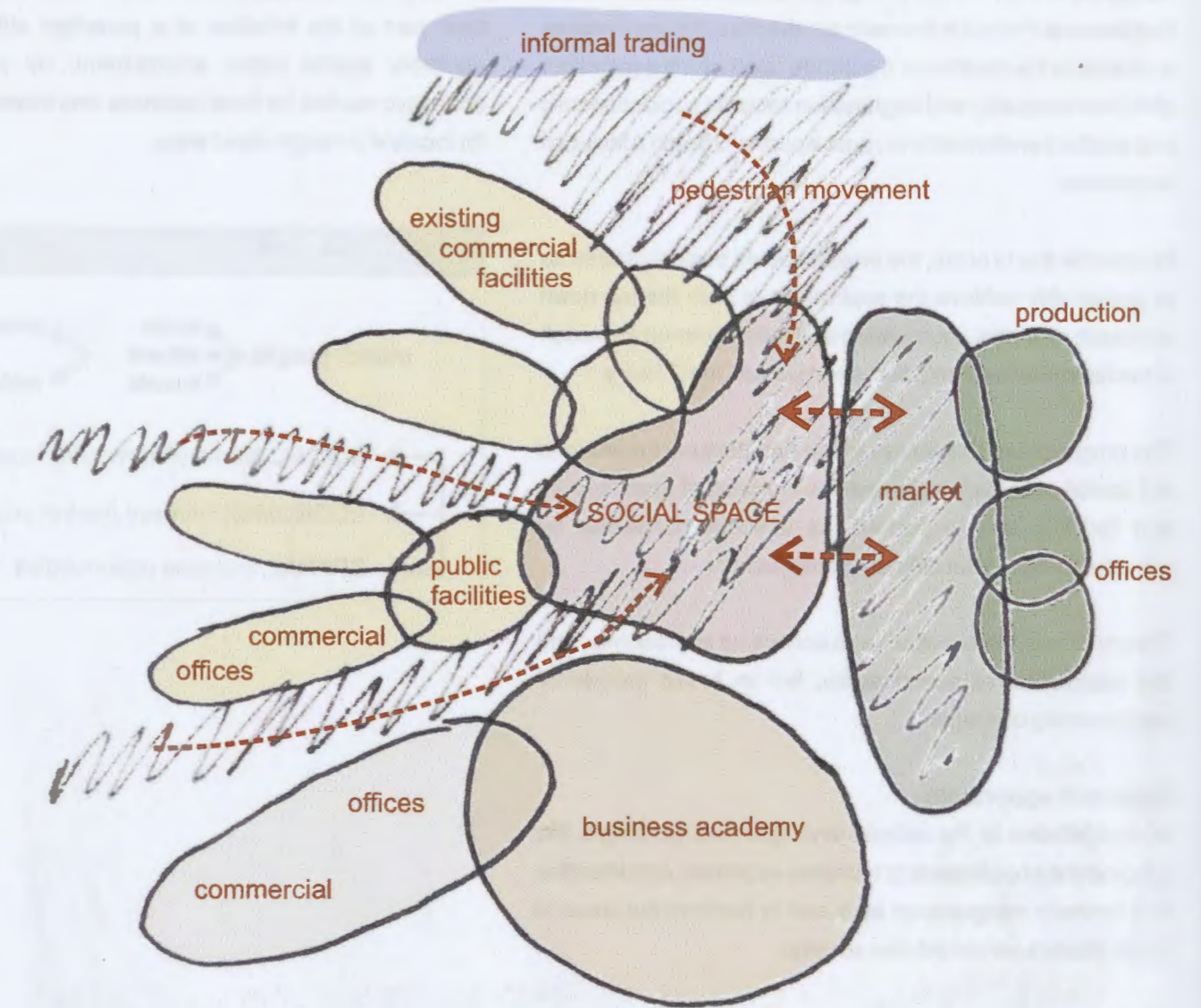


PROGRAMME: SITE SCALE: m²



PROGRAMME: SITE SCALE: layout design

Diagrammatic representation of the design of the programmatic layout. This is further illustrated in subchapter 5.3. Site Layout.



4.3. PROGRAMME: BUILDING SCALE

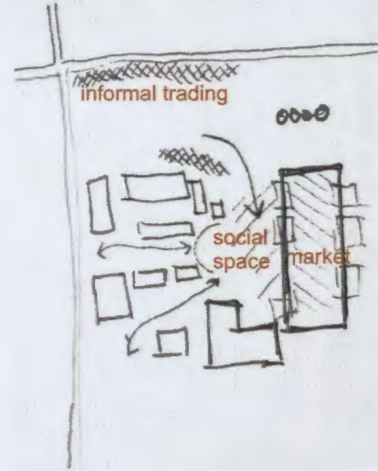
The focus area for the MArch (Prof) Architectural Project is illustrated in subchapter 5.1. Design Intentions.

The programmes that will be focused on include:

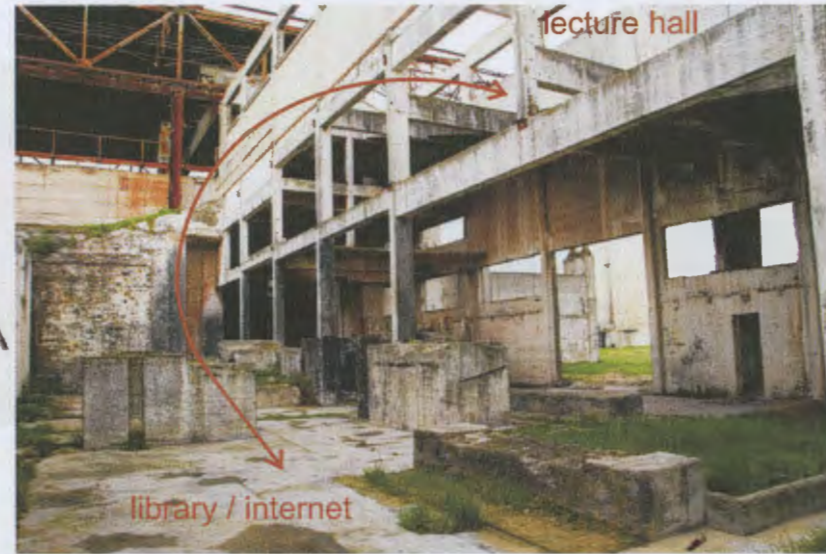
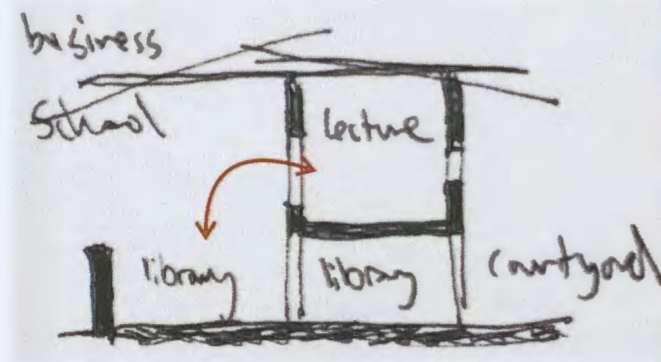
- The commercial hub's market and informal trading facilities
- Office space in the business hub
- Social space
- Tourism centre

4.4. PROGRAMMATIC SPATIAL EXPLORATION

1. commercial hub



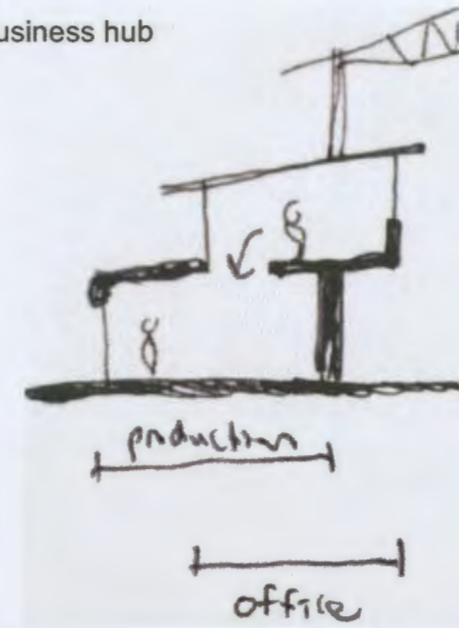
3. business school



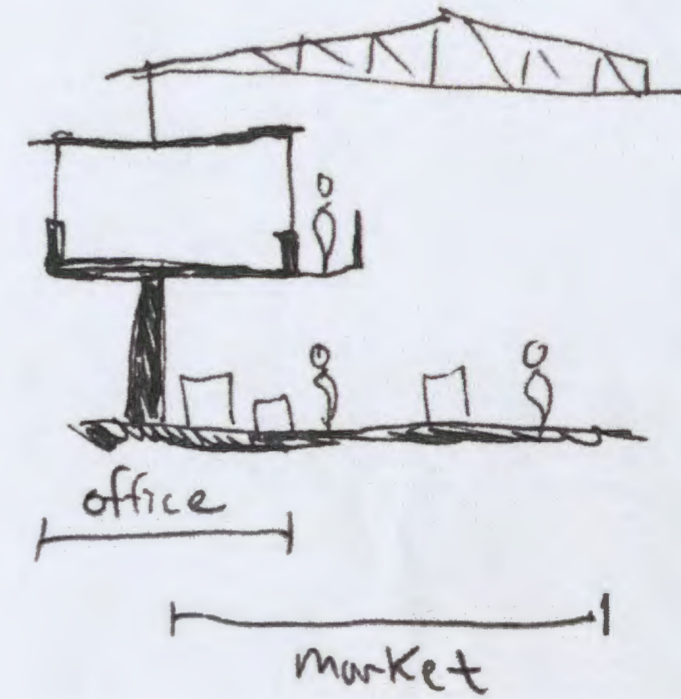
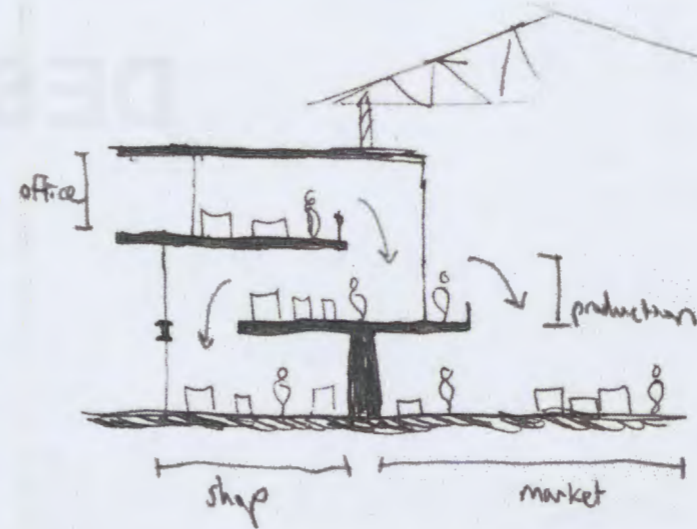
lecture hall:



2. business hub

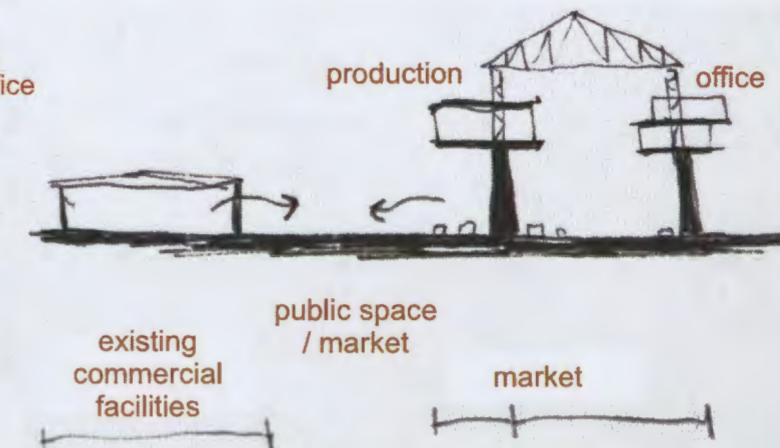
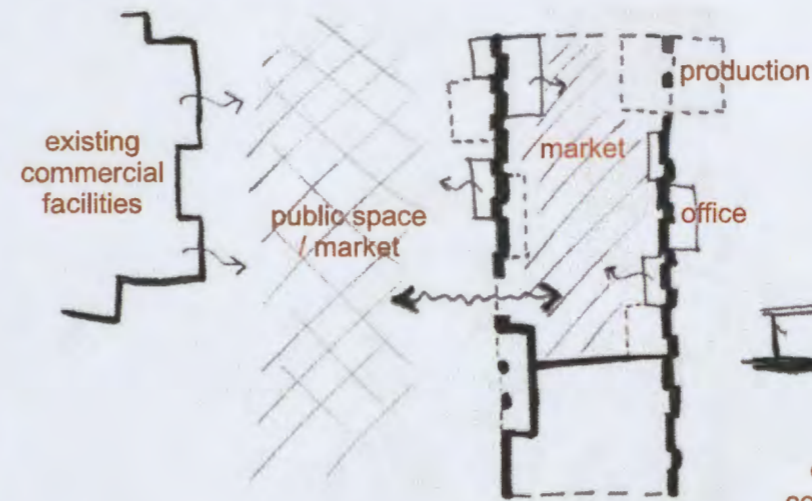


1. commercial hub <-----> 2. business hub



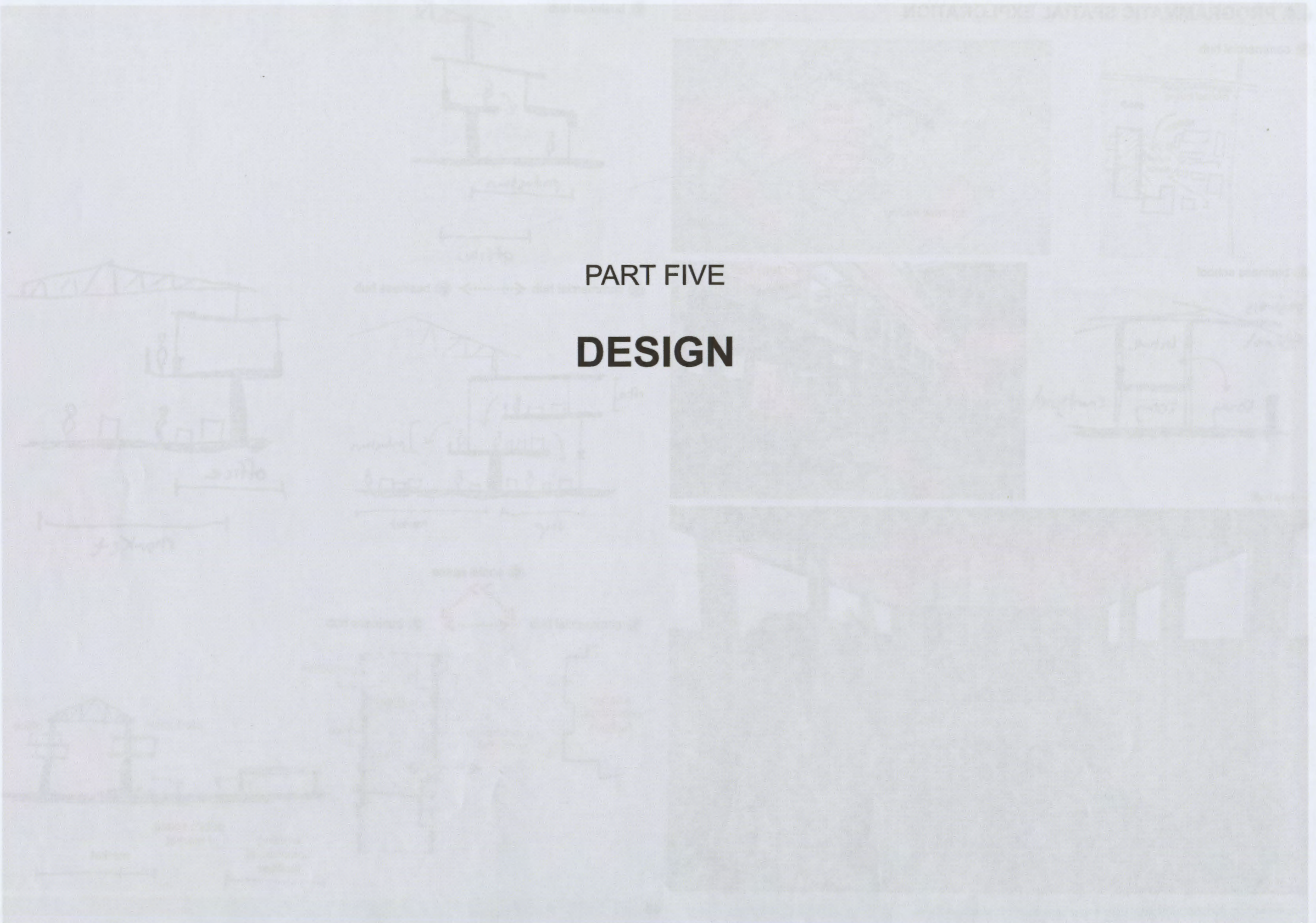
4. social space

1. commercial hub <-----> 2. business hub



PART FIVE

DESIGN



5.1. DESIGN INTENTIONS

The fundamental aim of the design of the Architectural Project is to produce architecture that performs as a catalyst in the creation of a platform upon which a paradigm shift from inequality and segregation towards socioeconomic and spatial transformation in post-apartheid South Africa can be initiated.

In order to achieve this, the project should be designed so as to *sustainably* achieve the aspirations of both the top-down approach of spatial equalisation and the bottom-up approach of social condensation, discussed in the chapter 'Theory'.

The aspiration of the project is to design architecture that attracts people from different socioeconomic, class, cultural and racial backgrounds, for social and economic reasons. Socially, the design seeks to provide vibrant public spaces appealing to people from a range of different backgrounds. Economically, the design aims to increase market potential and economic facilities, creating a commercial hub in Philippi. Spatially, the design aspires towards an increase in urban density, an improvement in infrastructure and an increase in and improvement of facilities in the marginalised Philippi area.

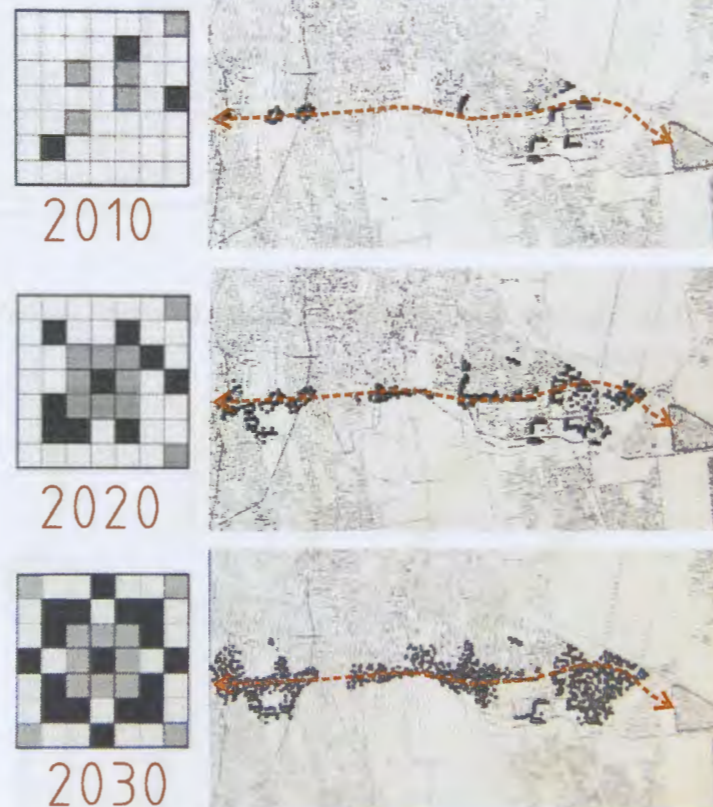
From an urban scale to the scale of the building, the Architectural Project aspires towards sustainable design - socially, economically, environmentally and culturally - rooted in its context in Philippi.

social condensation | spatial equalisation



- SOCIAL: create vibrant public space
- ECONOMIC: increase market and facilities
- SPATIAL: increase opportunities

INCREMENTAL GROWTH



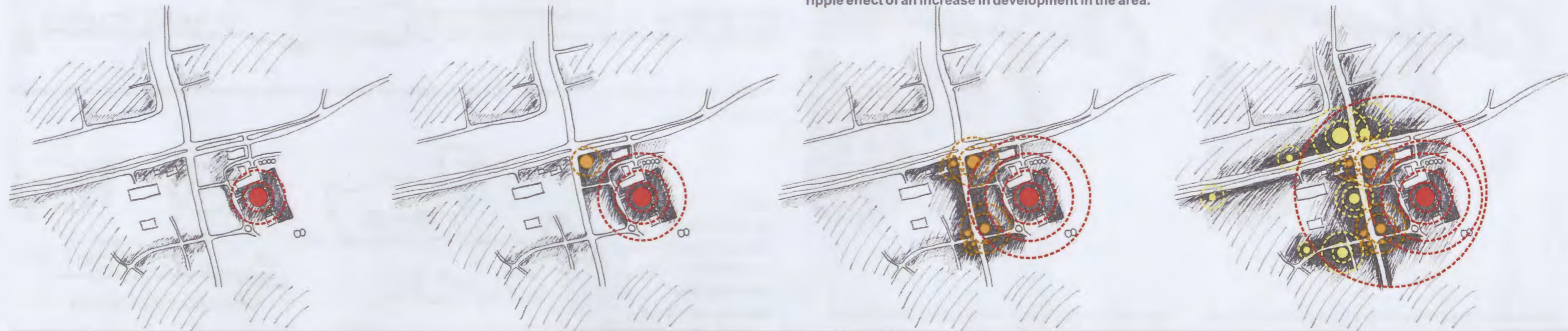
ABOVE: The project is designed so as to encourage long term incremental growth in the area.

BELOW: ARCHITECTURAL PROJECT FOCUS AREA

The project includes a site development plan covering the area indicated in the yellow lines, but the focus area for the project is the existing shed and its surrounding public space, as indicated by the red lines.



BELOW: Spatially, the design aspires towards an increase in urban density, an improvement in infrastructure and an increase in and improvement of facilities in the marginalised Philippi area. The project is designed so as to encourage a ripple effect of an increase in development in the area.



5.2. ARCHITECTURAL PRINCIPLES FROM THEORY RESEARCH

After exploring architectural projects that perform in accordance with aspirations of the top-down approach of spatial equalisation and the bottom-up approach of social condensation in Part One: Theory, it is concluded that architecture is able to aid as a catalyst in the creation of a platform upon which a paradigm shift from inequality and segregation towards socioeconomic and spatial transformation in post-apartheid South Africa can be initiated.

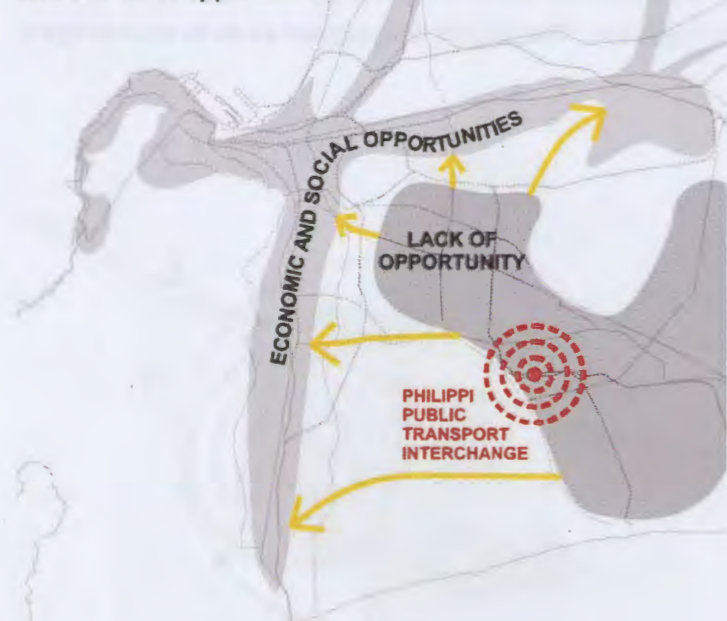
The applicable architectural principles that encourage architectural projects to sustainably function in accordance with the aspirations of both the top-down approach and the bottom-up approach are extracted from the precedent studies, and adapted for the Architectural Project, and are discussed in this sub-chapter.

PHILIPPI PUBLIC TRANSPORT INTERCHANGE

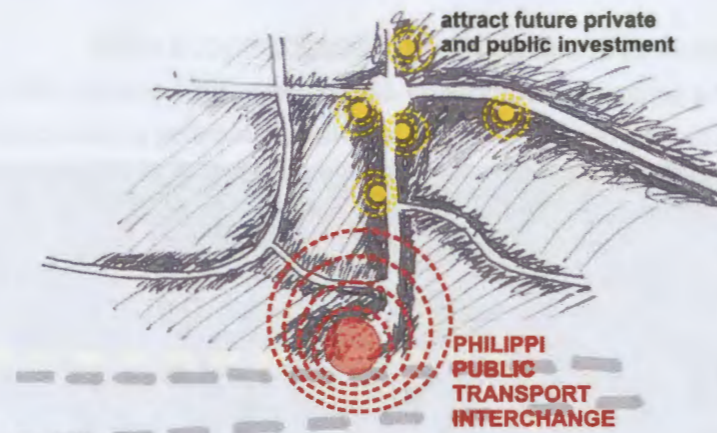
Philippi, Cape Town

Du Toit and Perrin, Architects in Association, 1999-2000

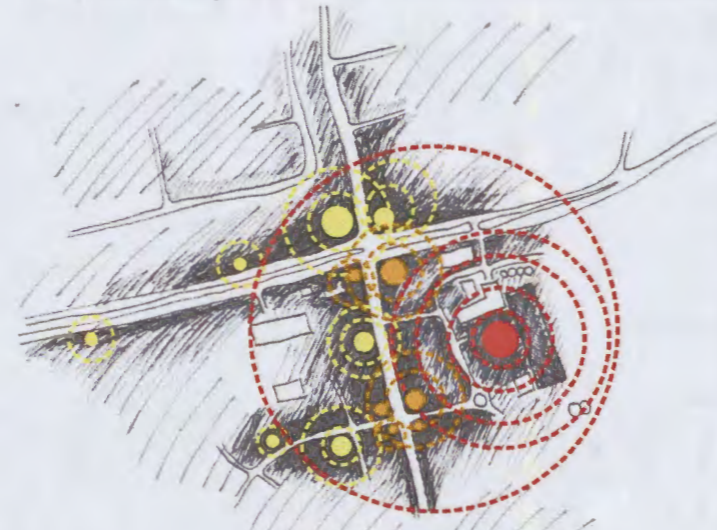
The Philippi Public Transport Interchange is located in a formerly marginalised area that lacks social and economic opportunities and the M Arch (Prof) Architectural Project is located on the site of the old cement factory in Philippi, a formerly marginalised area that also lacks social and economic opportunities.



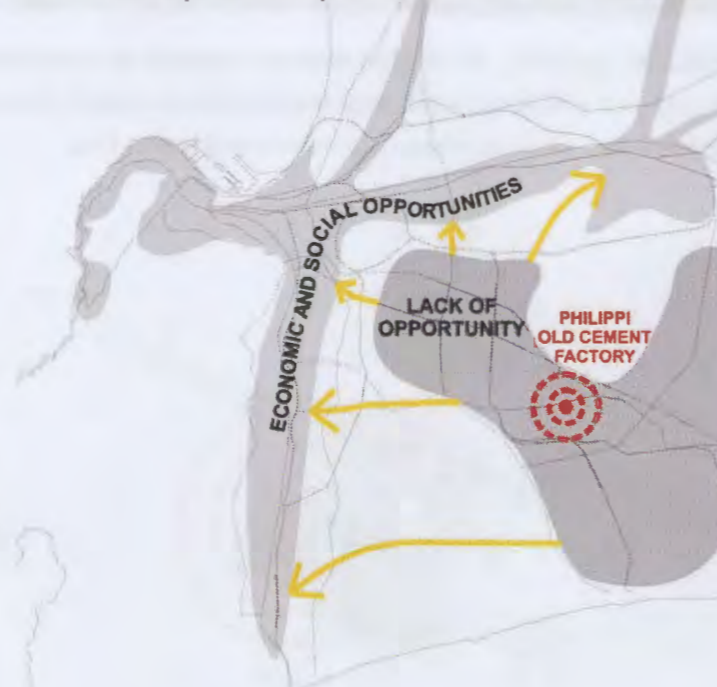
The location of the Philippi Public Transport Interchange



ABOVE: The Philippi Public Transport Interchange aims to attract future public and private investment to the area



ABOVE: As the Philippi Public Transport Interchange aims to attract future public and private investment in its area, the M Arch (Prof) Architectural Project located on the site of the old cement factory in Philippi aims to attract future public and private investment to this area.

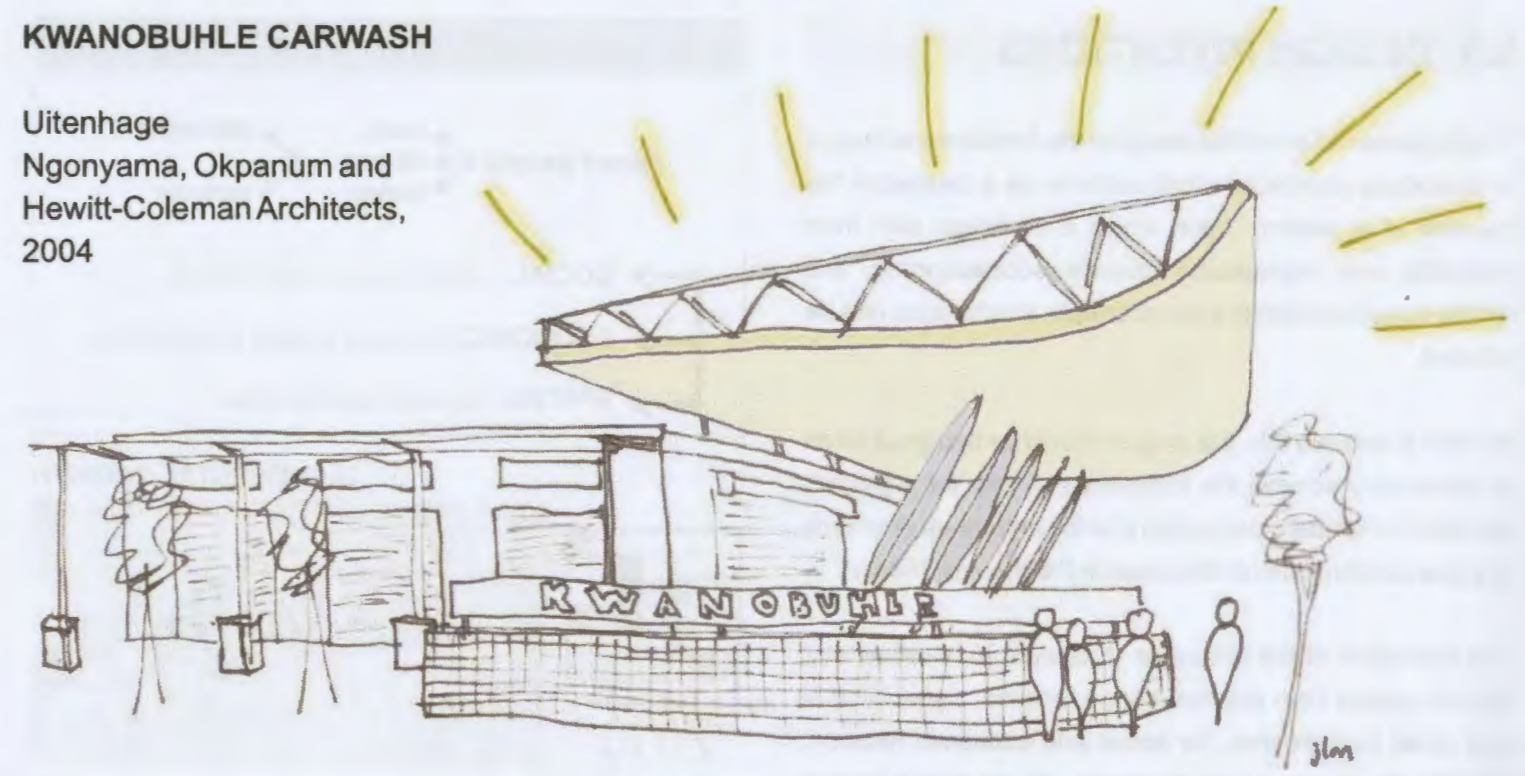


The location of the M Arch (Prof) Architectural Project

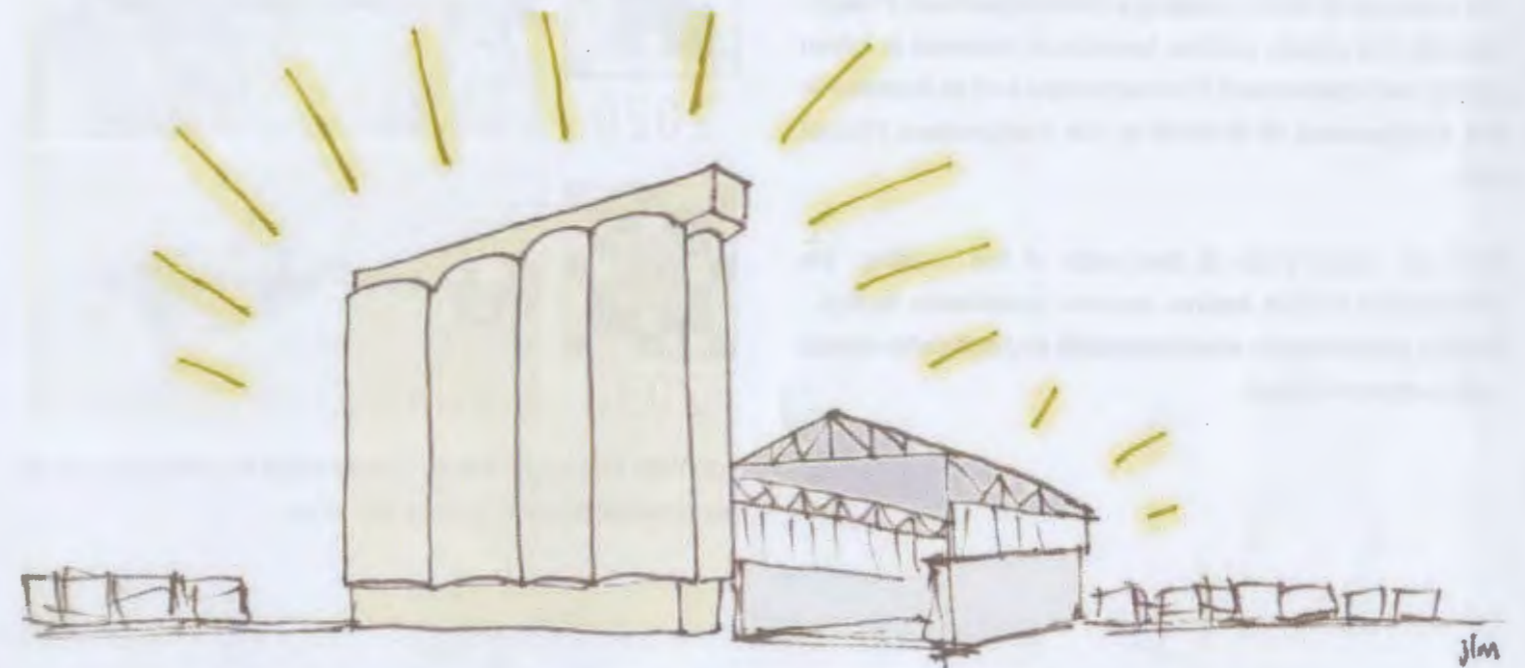
KWANOBUHLE CARWASH

Uitenhage

Ngonyama, Okpanum and Hewitt-Coleman Architects, 2004



ABOVE: The structure of the Kwanobuhle Carwash is designed to be a symbolic gesture to encourage small business in its deprived location.



ABOVE: The M Arch (Prof) Architectural Project is designed to be a symbolic gesture to encourage socioeconomic activity in Philippi.

RIGHT:

The Kwanobuhle Carwash is an unusual example of Venturi's 'decorated shed' operating as a 'duck'.

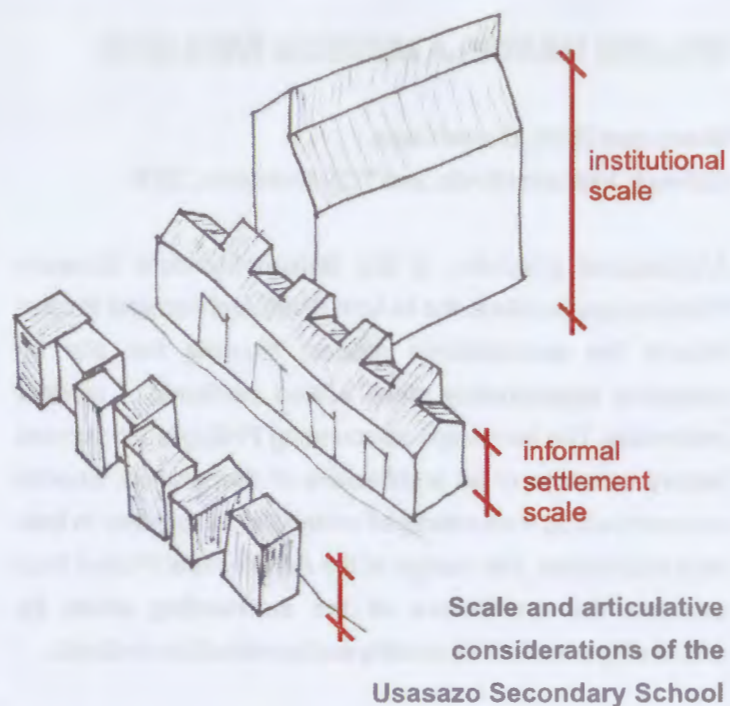


USUSAZO SECONDARY SCHOOL

Khayelitsha, Cape Town
Noero Wolff Architects, 2004

Usasazo Secondary School boasts innovative cross-programming of education, trading, and public facilities. This concept can be applied to the March (Prof) Architectural Project in order to maximise investment.

The use of scale to simultaneously respect the small scale of its surrounding structures and to install an institutional presence of the school through the larger section of the building is of significance to the site of the M Arch (Prof) Architectural Project sited in Philippi.



BELOW: Section through Usasazo Secondary School and the informal settlement across the road



BELOW: Section through the old cement factory building and the informal settlement next to it



RED LOCATION MUSEUM OF STRUGGLE

Port Elizabeth
Noero Wolff Architects and John Blair Architects, 2006



Section through memory boxes

As discussed in Part Three: Siting, the site for the M Arch (Prof) Architectural Project, the old cement factory in Philippi, contains layers of interesting contrasting history.

In addition to social contradictions in the layers of history of the site, spatial and material contradictions also exist. Spatially and in terms of materiality, the huge, solid and permanent form of the old cement factory building is in direct contradiction to the small scaled, light weight, temporary structures of the informal settlement next door.

The design challenge of the Architectural Project is to respect and extract the positive social attributes of a dense township environment to include them into the project, simultaneously maintaining the majestic open space within the existing old cement factory building. This is discussed further in the Mzoli's Place precedent study.

The old cement factory's layered history and social and material contradictions provide a rich context which holds the potential to be poetically narrated through an architectural manifestation.

The design of the Architectural Project maintains the existing structures of the old cement factory and includes new infill structures. This is discussed further in subchapter 5.4 Design Concepts.

The social history of the site, as a space in which anti-apartheid activists were tortured, will not be depicted in a manner as formal as a museum, but by maintaining and accentuating the old, worn structures it is suggested that the cement factory does have a significant history. By adding new structures to the existing, it is suggested that the old cement factory has the potential of a significant future.

BELOW: In the past, the old cement factory played an intrinsic role in the physical development of Cape Town. It was then used as a space where anti-apartheid activists were tortured and thus played a role in the regression of South African Society. The design of the Architectural Project proposes to use parts of the old cement factory as a business school, once again contributing to the development of Cape Town.



MZOLI'S PLACE

Gugulethu, Cape Town

Architectural principles of Mzoli's Place applicable to the M Arch (Prof) Architectural Project include its location in an urban setting in a township, the programming of a social function that attracts many people from different backgrounds, and small scaled intimate spaces.

The nature of the urban environment within which Mzoli's Place is located is comparable in scale and density to the areas surrounding the old cement factory site in Philippi. Township urban environments, due to their high densities, accommodate many sociable spaces.

The design challenge of the Architectural Project is to respect and extract the positive social attributes of a dense township environment to include them into the project, simultaneously maintaining the majestic open space within the existing old cement factory building.

BELOW: The townships of Philippi comprise of a horizontal plane of dense urban fabric. For the design of the Architectural Project, this concept is translated to vertical density, and allows for incremental growth. This is discussed further in subchapter 5.4. Design Concepts.



NELSON MANDELA MUSEUM PAVILIONS

Mvezo and Qunu, Easter Cape

Cohen & Judin Architects, and TCN Architects, 2000

Architectural principles of the Nelson Mandela Museum Pavilions applicable to the M Arch (Prof) Architectural Project include the architecture's respect towards the site by designing appropriately small scaled pavilions of modest materiality. The townships surrounding Philippi's old cement factory comprise of an architecture of desperation. Shacks are constructed from salvaged materials put together in low-tech techniques. The design of the Architectural Project thus respects the architecture of the surrounding areas by articulating a modest materiality and construction methods.

The programming of the Nelson Mandela Museum Pavilions which attracts different people through a cross-programmed premise is also applicable to the Architectural Project. Locals are attracted to the pavilions because of the facilities they house, and tourists are attracted by the memorialisation element, expressing significant history of the area.



ABOVE: Nelson Mandela Museum Pavilions

Because Mvezo and Qunu are situated in an underdeveloped part of the country, it would have been inappropriate to construct large scale dominating structures in this landscape. The designs of the pavilion are thus respectful to its context through being small in scale and consisting of modest materials and structures.



ABOVE, BELOW, RIGHT:

An architecture, born out of desperation, common to Philippi



ST GEORGE'S MALL

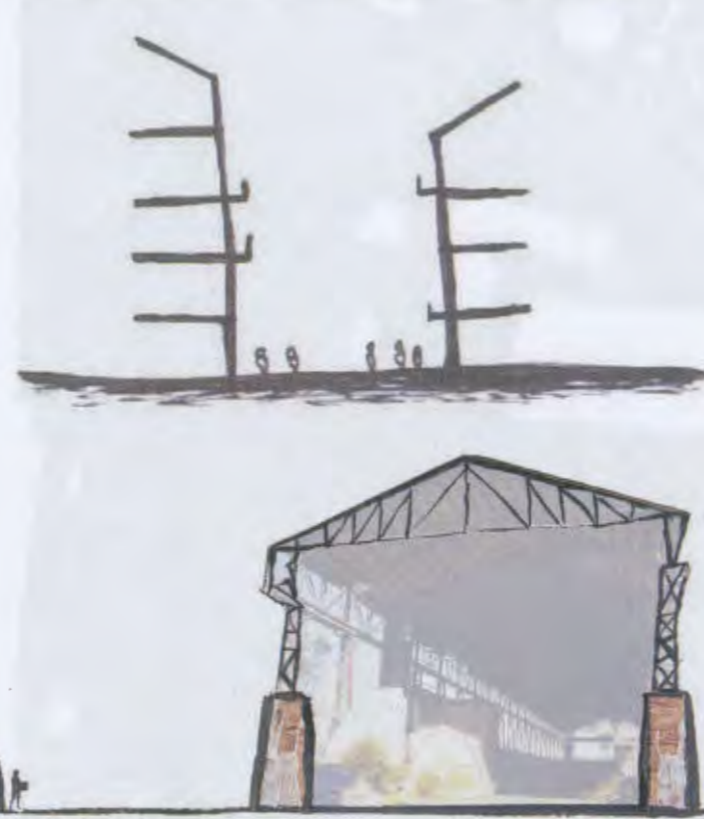
The site of the M Arch (Prof) Architectural Project, the site of the old cement factory in Philippi, contains a tall and long building, comparable to the height of the buildings along St George's Mall. The areas surrounding the site are dense, but small in scale. Spatial features of St George's Mall are thus applicable to the Architectural Project. The Architectural Project aims to offer visitors contrasting spatial experiences of, firstly, a dense urban environment as in the areas surrounding the site, and, on the other hand, a vertically spatial public domain due to the height of the old cement factory building. The challenge of how to respect and extract the positive social attributes of a dense township environment to include them into the design, and simultaneously maintaining the majestic open space within the existing old cement factory building is discussed in the Mzoli's Place precedent study.

The old cement factory seems to provide a pause in a dense and busy surrounding urban environment. This could provide

the opportunity for the site to become an in-between space that, through the spatial contradictions it could offer, attracts people from different backgrounds, and functions as public domain.

The existing silos and large shed structures on the site are significant landmarks on the Cape Flats urban environment, as discussed in the Kwanobuhle Carwash precedent study.

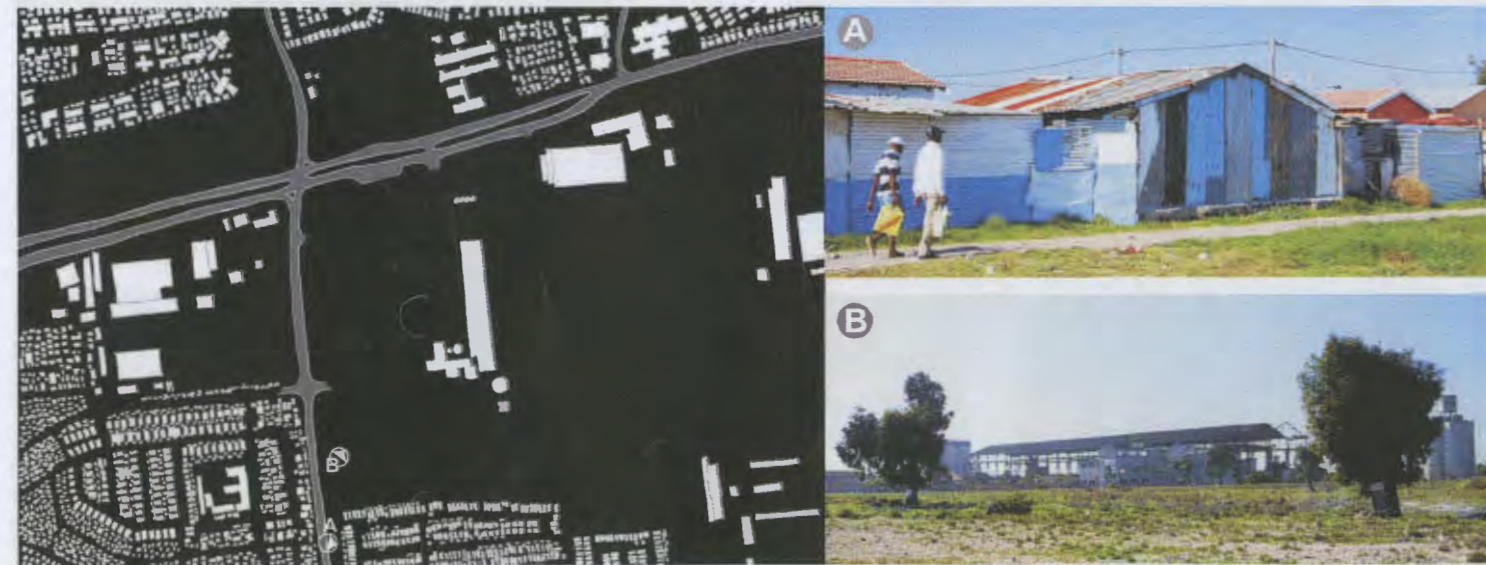
BELOW:
A diagrammatic section through St George's Mall



ABOVE: A diagrammatic section through the old cement factory structure illustrating its scale in comparison to that of the surrounding urban fabric.

BELOW: Dense vs sparse urban fabrics.

The old cement factory seems to provide a pause in a dense and busy surrounding urban environment.



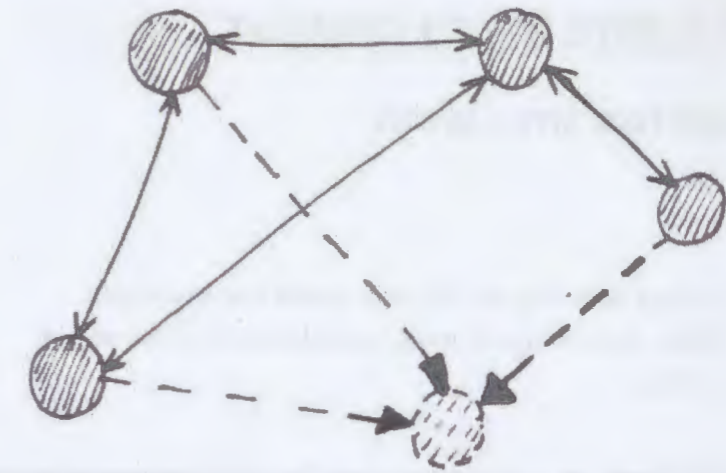
THE OLD BISCUIT MILL

Salt River, Cape Town

The M Arch (Prof) Architectural Project seeks to attract people from the affluent areas of Cape Town to a formerly marginalised area in order to initiate a shift towards spatial equalisation. The concept of creating a mono-cultural attraction that could become part of an individual's constructed city is adopted in order to achieve this.

BELOW: A diagram suggesting how the M Arch (Prof) Architectural Project could perform as a cultural enclave in a person's self-constructed city.

By the project being a cultural attraction, people from affluent areas may be more inclined to visit this area that would not usually form part of their self-constructed cities, accessed in the comfort of a car.



ABOVE: A diagrammatic representation of cities people construct themselves consisting of mono-cultural enclaves to their preference.



5.3. SITE DEVELOPMENT

EXISTING SITE LAYOUT

Existing buildings on the site, shops and municipal offices, form a visual and physical barrier to the rest of the site.



ABOVE AND BELOW: View from Lansdowne Road



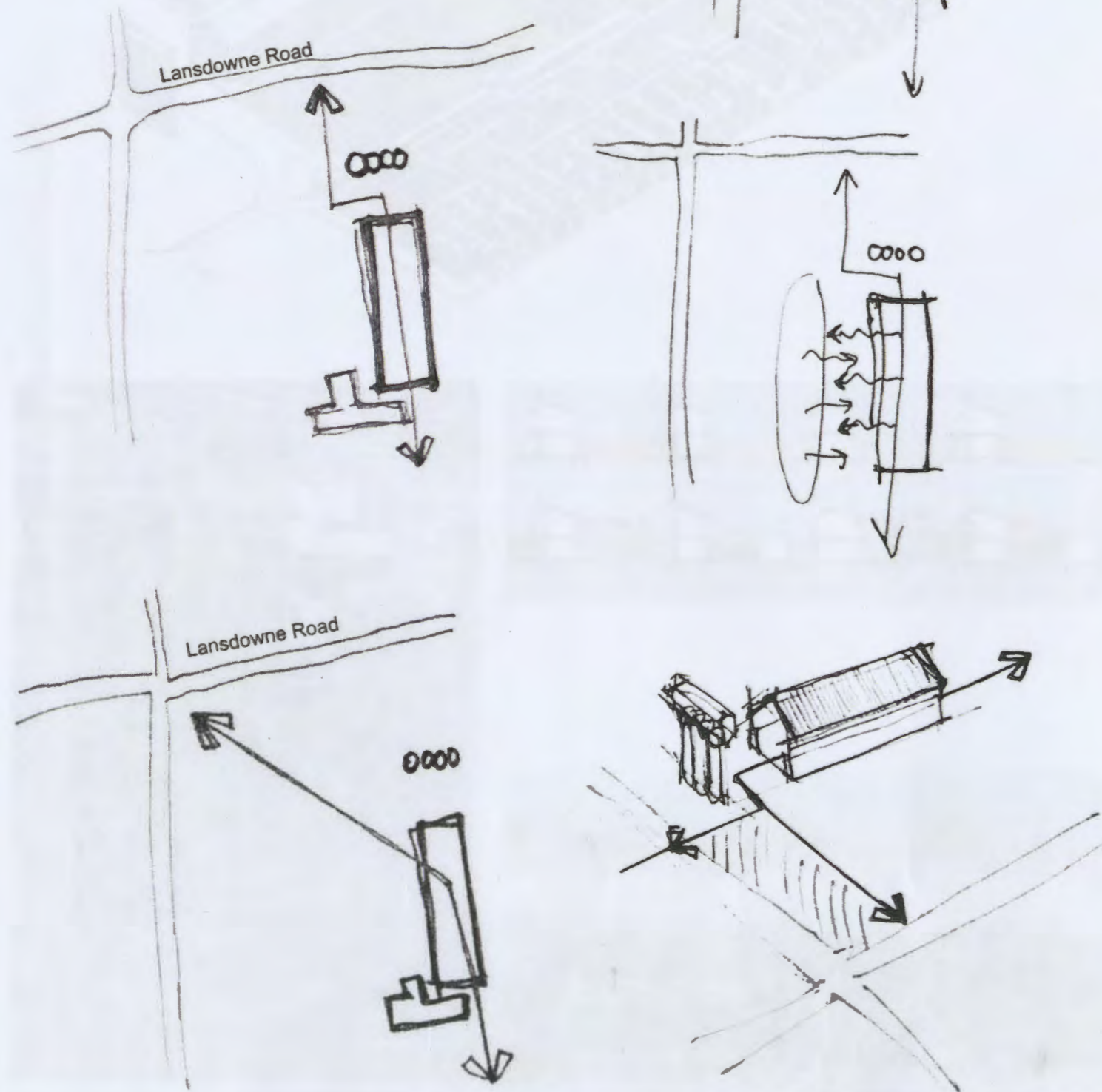
ABOVE AND BELOW: View from New Eisleben Road



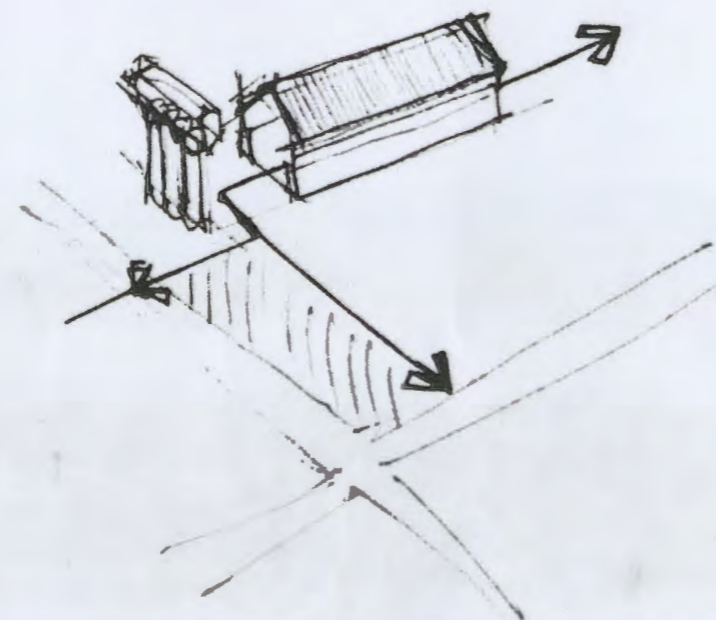
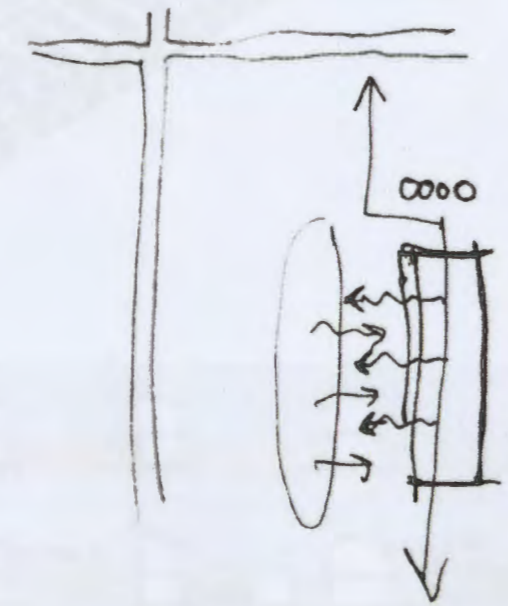
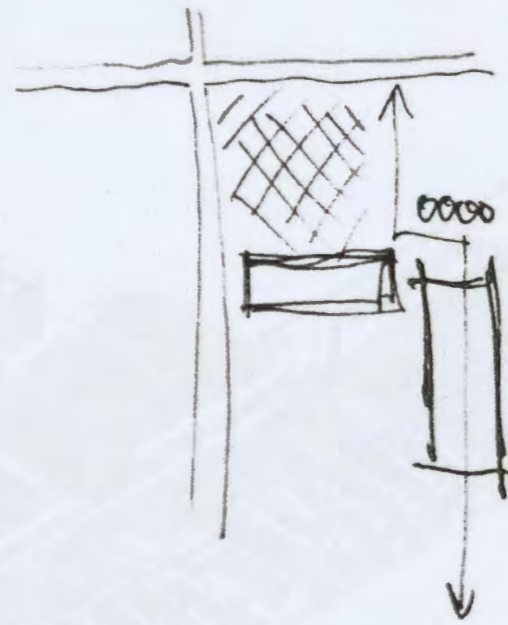
SITE CONCEPTS

In response to the aim of the Architectural Project at an urban scale of attracting people to the site, the project is designed to be directly linked to Lansdowne Road, physically and visually; the site is opened up to Lansdowne Road; the design channels pedestrian movement through the site; due to the success of the existing shed as a landmark in its flat urban context, the shed is used as an anchor to the design.

Link to Lansdowne Road



Site opened up to Lansdowne Road

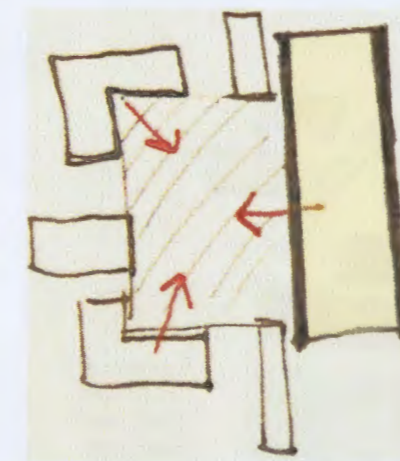


Proposed pedestrian movement - channeled through the site

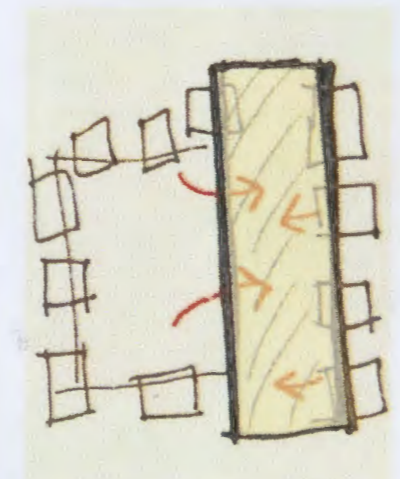


Shed as anchor

Public space as anchor to surrounding facilities



Shed as anchor to surrounding facilities and public space



EXISTING SITE PROPOSALS

Philippi Worx

Philippi Worx is a proposed development for the 12 hectare site of the old cement factory in Philippi, owned by The Business Place.

The key aspirations of the development include social benefits; performing as an economic dynamo on the Cape Flats; the use of renewable energy resources and recycling; encouraging public transport; and being a tourism hub with market and arts and crafts village

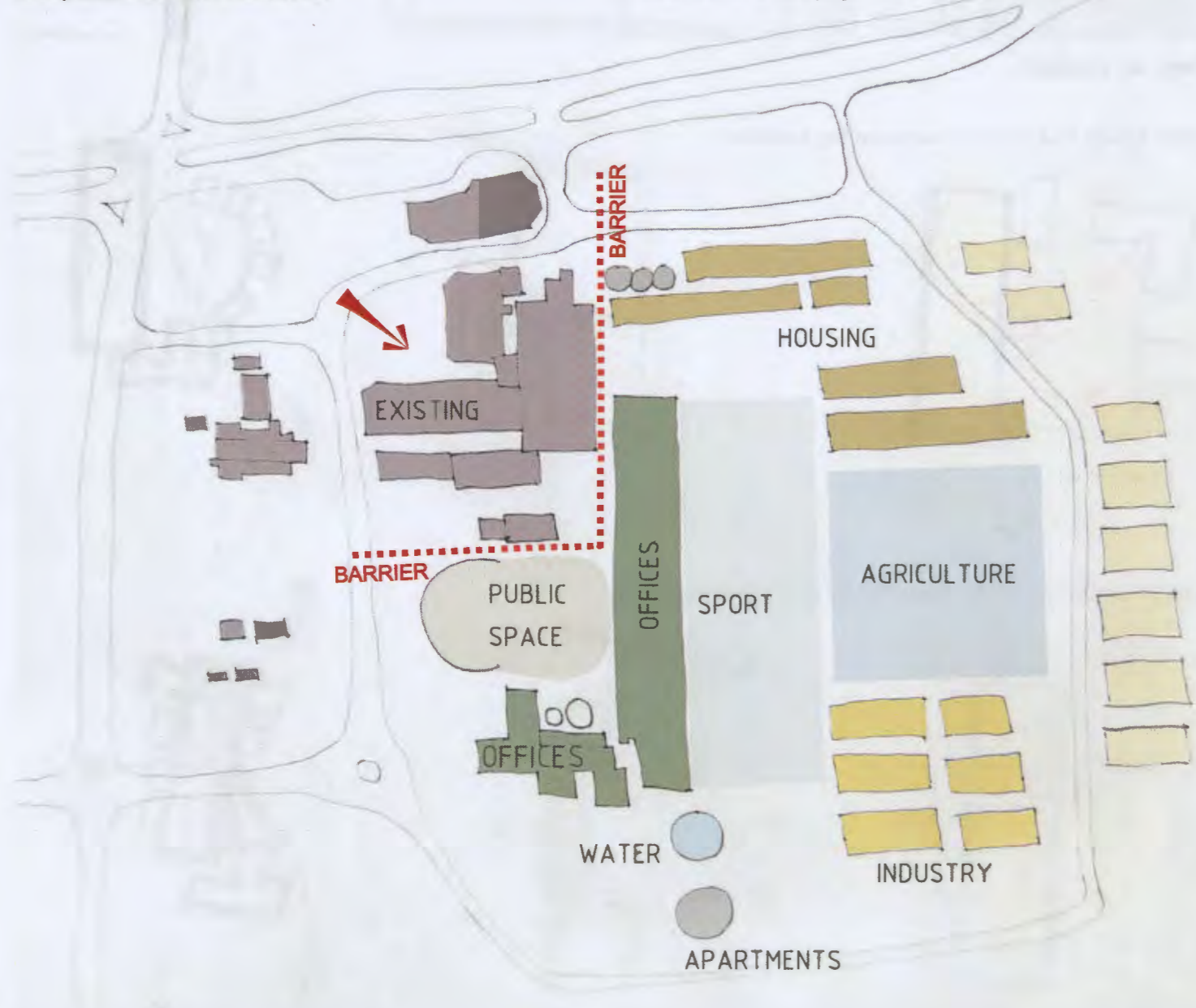
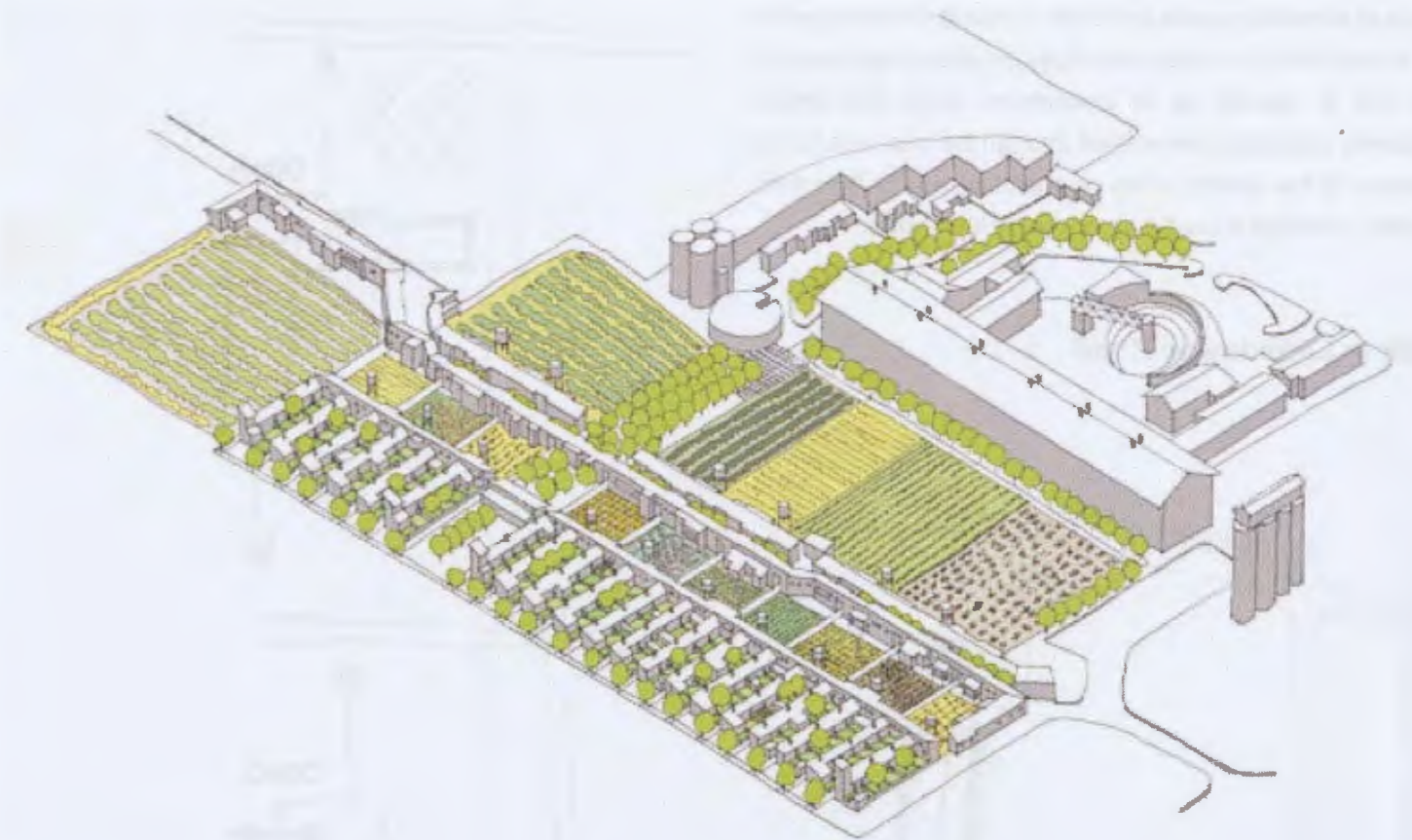
The key spatial nodes of the development include a business zone, sports zone, an early childhood development centre, a wellness clinic, community civic life space, mixed income housing zones, organic agriculture zone, and an entrepreneur advancement zone.



ABOVE: 3D image of the proposed Philippi Worx development

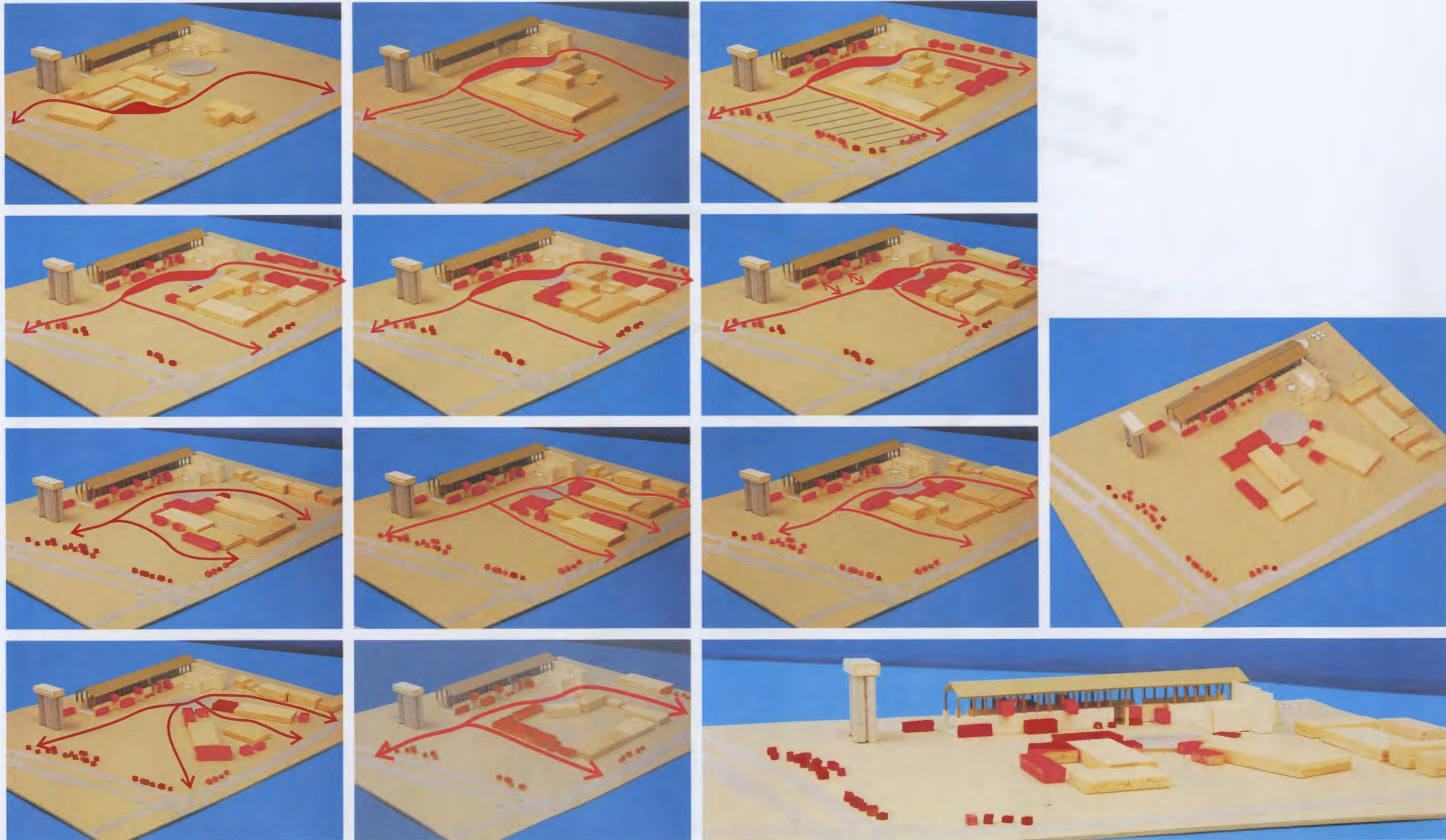
BELOW: The diagrammatic plan of the proposed Philippi Worx development illustrates that the existing buildings on the site form a physical and visual barrier.

Noero Wolff Architects' proposal for the old cement factory site in Philippi



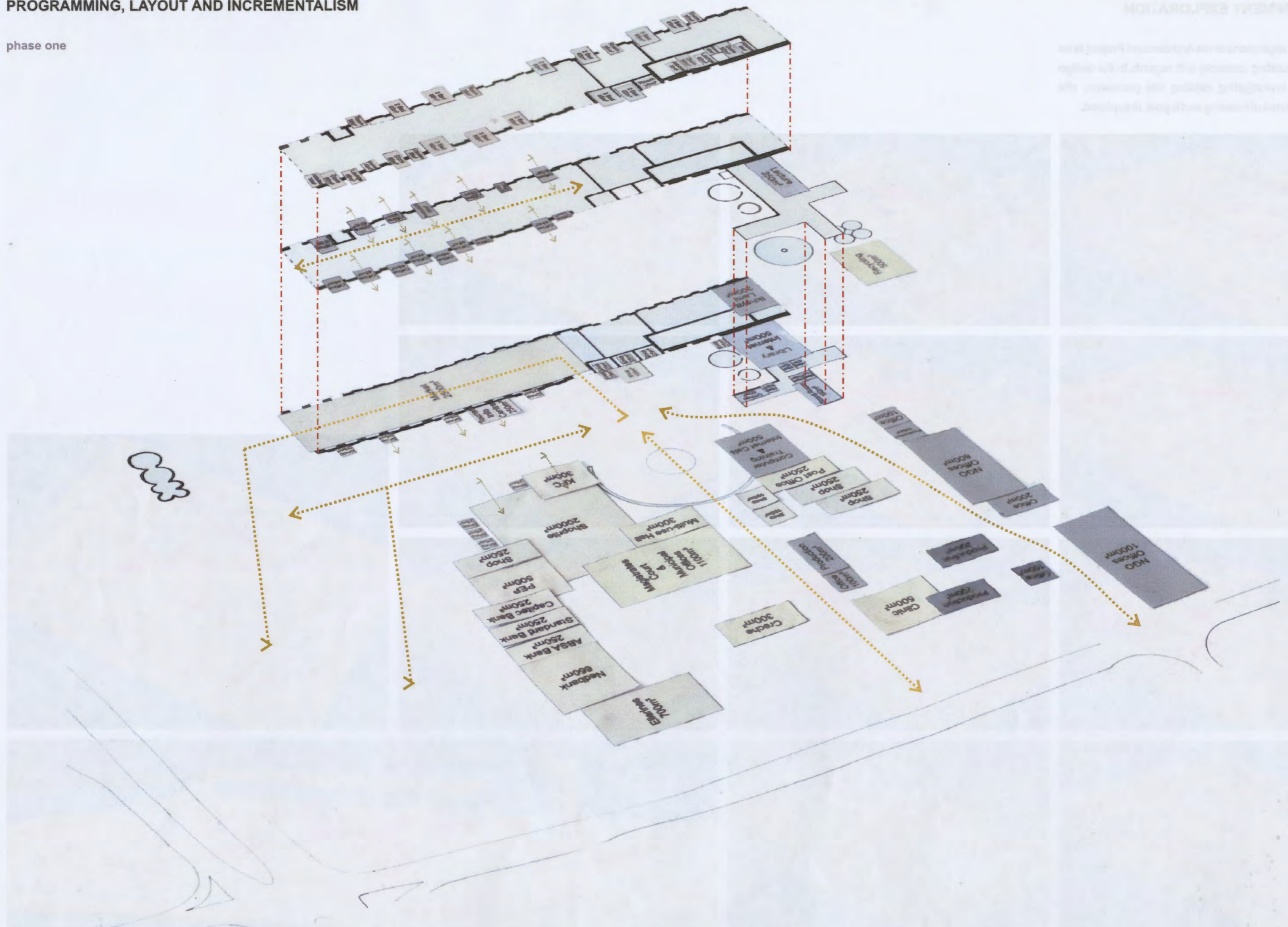
SITE DEVELOPMENT EXPLORATION

After establishing aspirations of the Architectural Project at an urban scale, formulating concepts with regards to the design of the site, and investigating existing site proposals, site development, in terms of massing and layout, is explored.



phase one

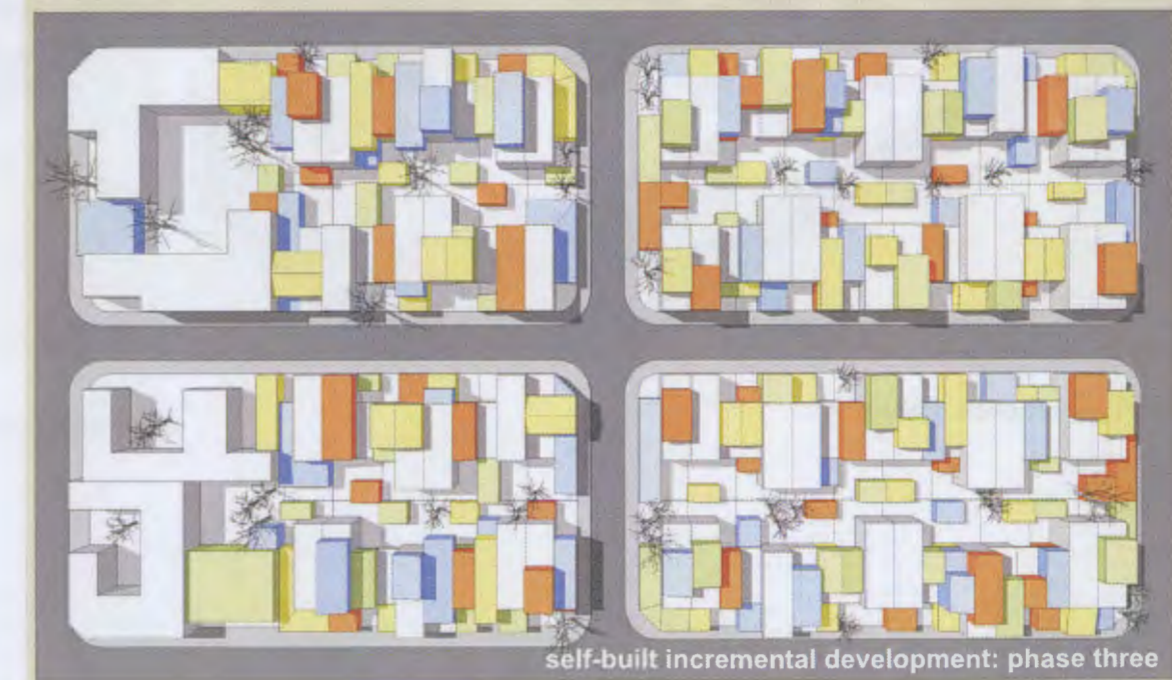
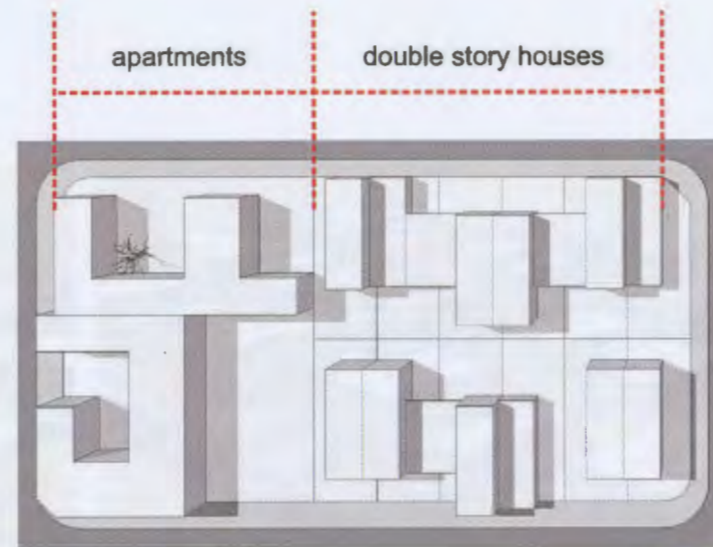
The site development explanation provides a detailed overview of the site's layout and programming. It details the various zones and their functions, including residential, commercial, and public spaces. The explanation also discusses the incremental development process, highlighting how the site is designed to be built in stages, allowing for flexibility and adaptation to changing needs over time.



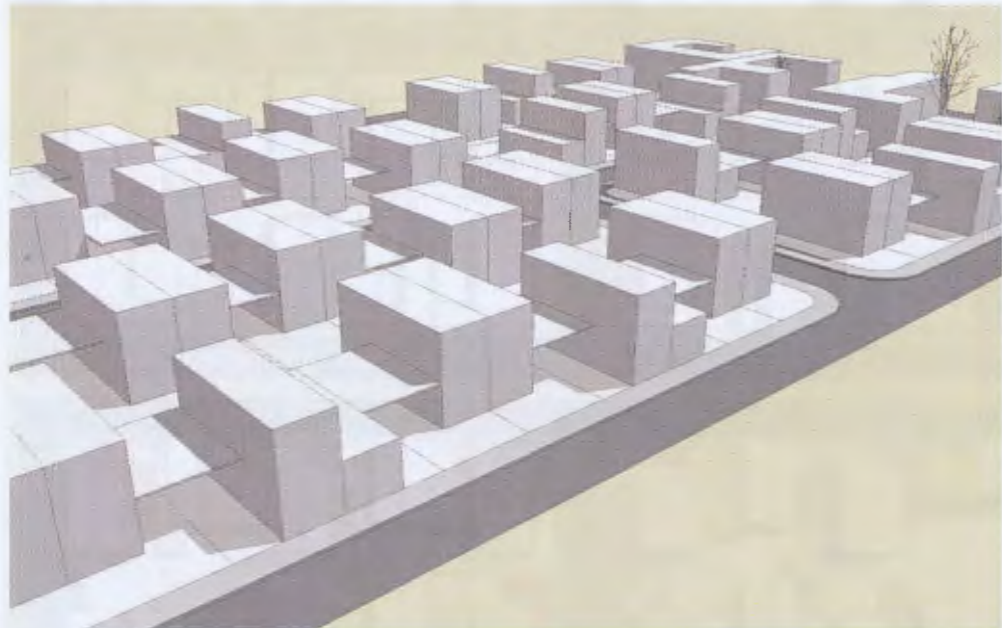


HOUSING DEVELOPMENT AND SELF-BUILT INCREMENTALISM

Core houses and small-scale apartment blocks are built during phase one. The houses are designed so as to allow for sustainable self-built incremental growth. By allowing the urban fabric to develop naturally, architecture that is contextually rooted and adapted in time and place is produced. Self-built infill structures ensure for rich streetscapes and provides a sense of identity and ownership to dwellings. The cultural landscape of the context is thus maintained. Designing for the opportunity of self-built incrementalism has many sustainable benefits, for example, through the reuse of materials which has economic and environmental benefits. Self-built incrementalism allows for the production of well utilised sociable spaces.



HOUSING DEVELOPMENT AND SELF-BUILT INCREMENTALISM



housing supplied: phase one



self-built incremental development: phase two



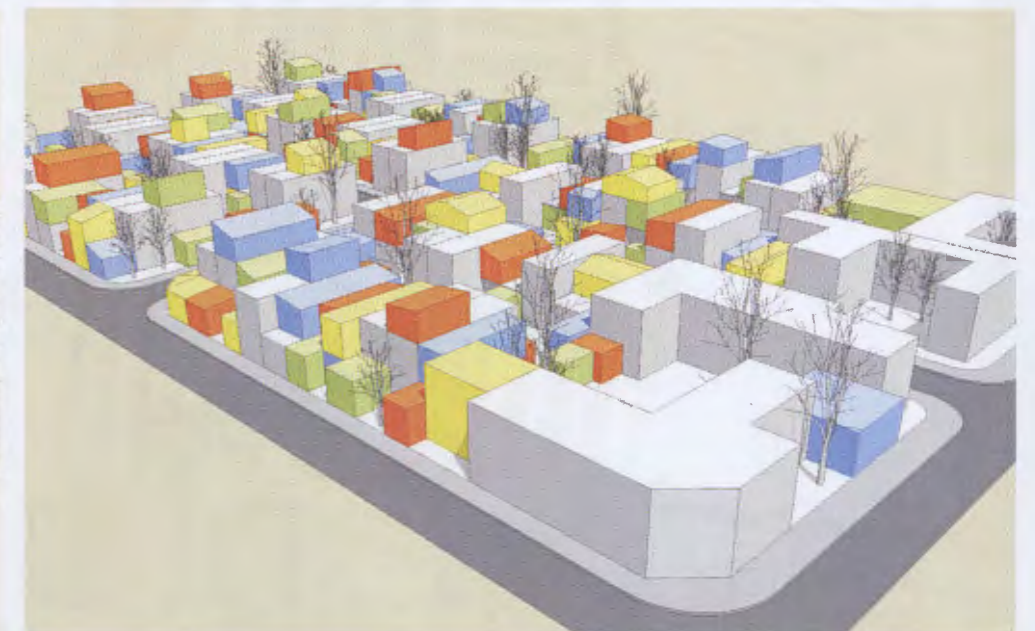
self-built incremental development: phase three



housing supplied: phase one



self-built incremental development: phase two



self-built incremental development: phase three

HOUSING DEVELOPMENT AND SELF-BUILT INCREMENTALISM



housing supplied: phase one



self-built incremental development: phase two



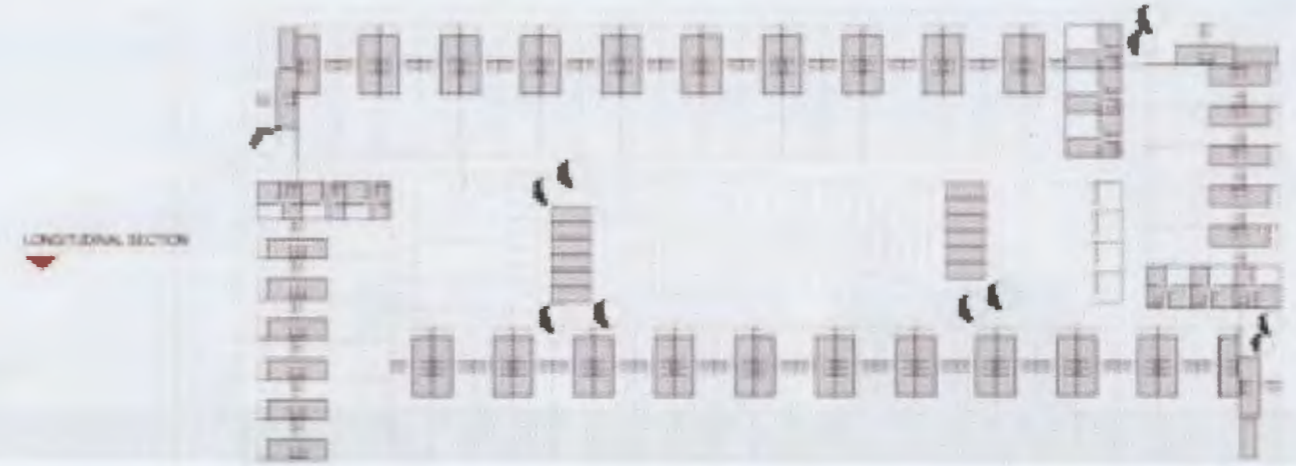
self-built incremental development: phase three

**HOUSING DEVELOPMENT
AND SELF-BUILT INCREMENTALISM**

Precedent studies: Elemental, Chile



Precedent study: Motherwell, Noero Wolff Architects



PLAN AT COMPLETION



PLAN OVER TIME



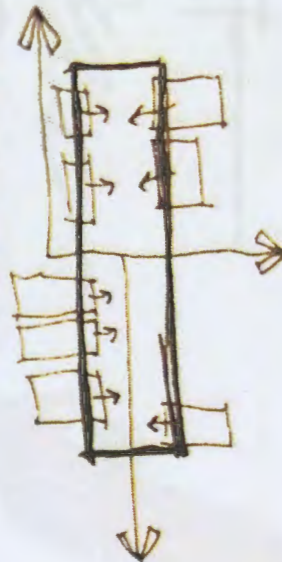
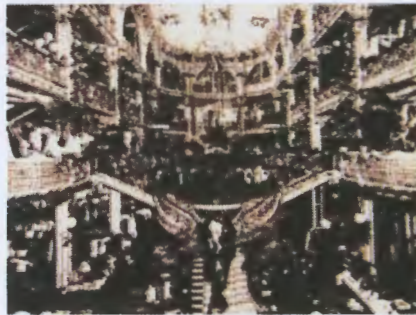
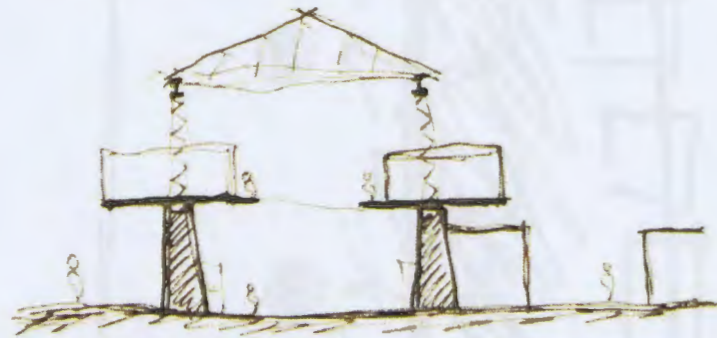
5.4. DESIGN CONCEPTS

CIRCULATION AND RAMP CONCEPT

raised street and ramp as circulation spine

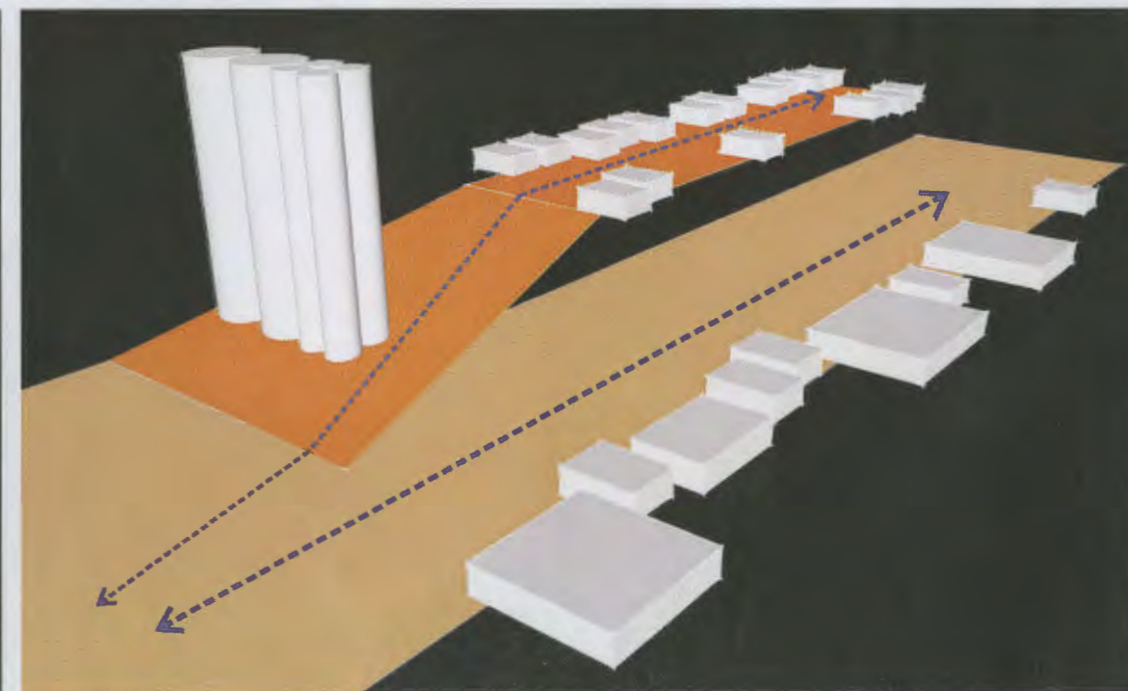
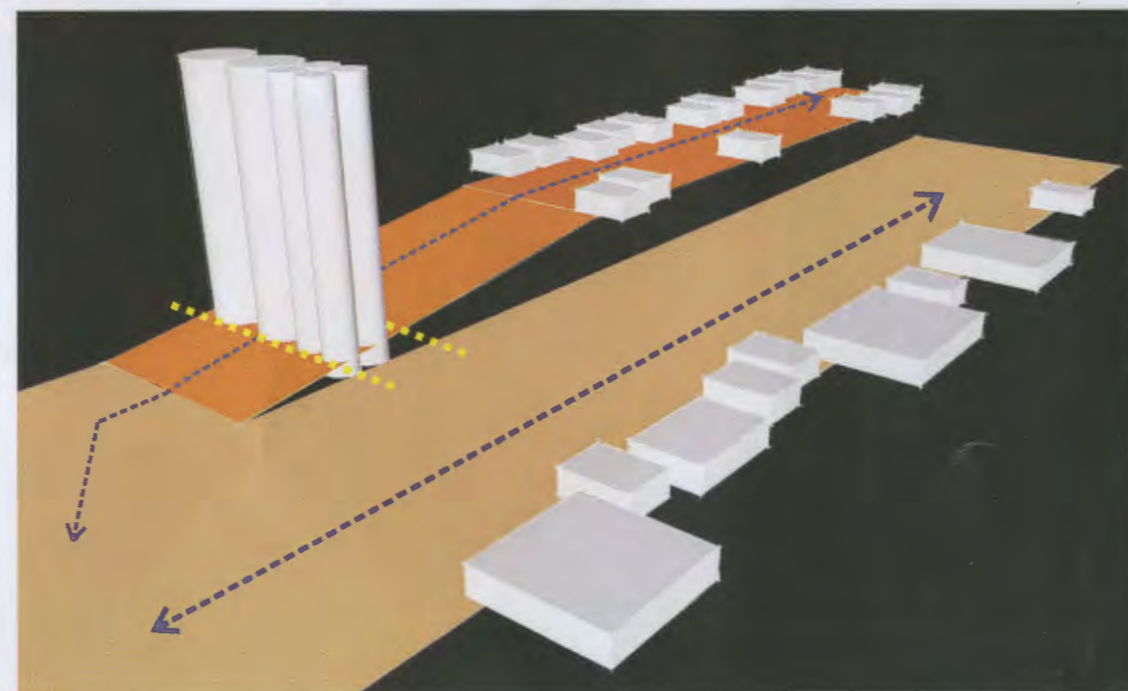
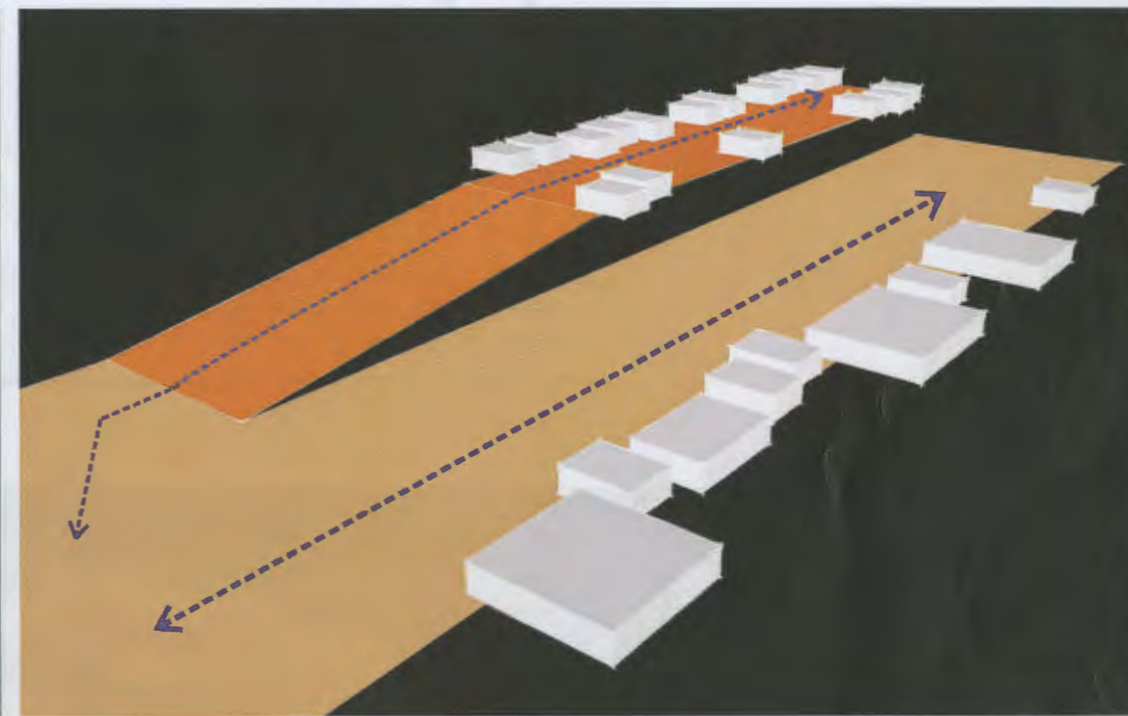
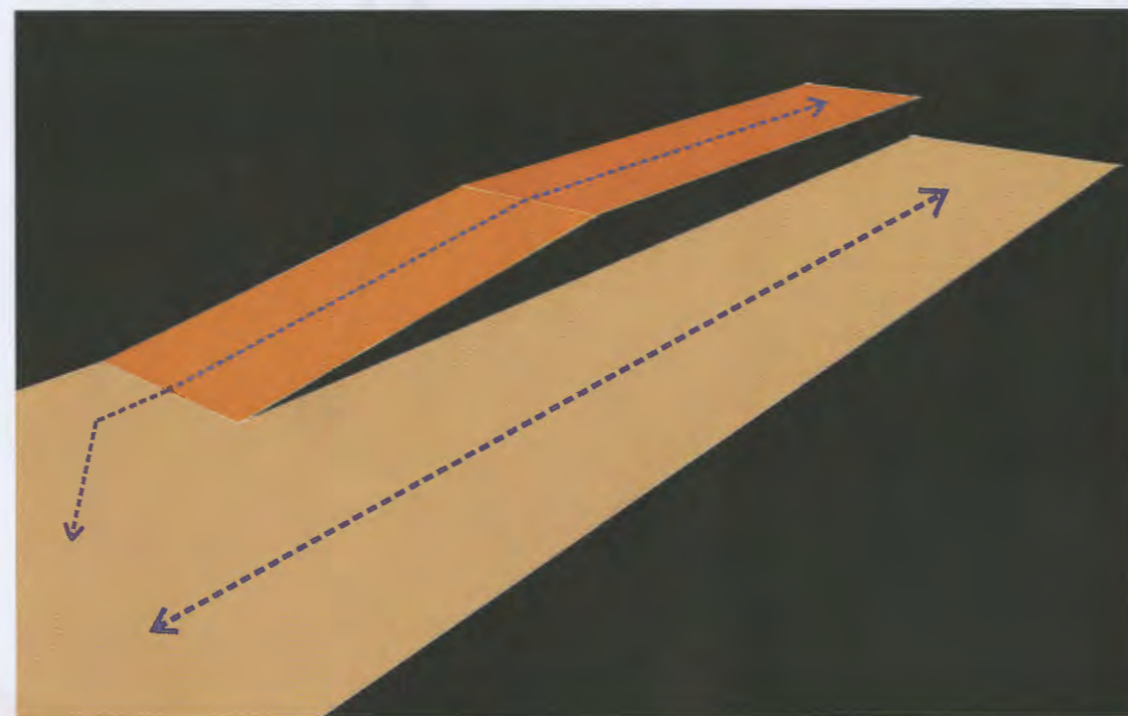
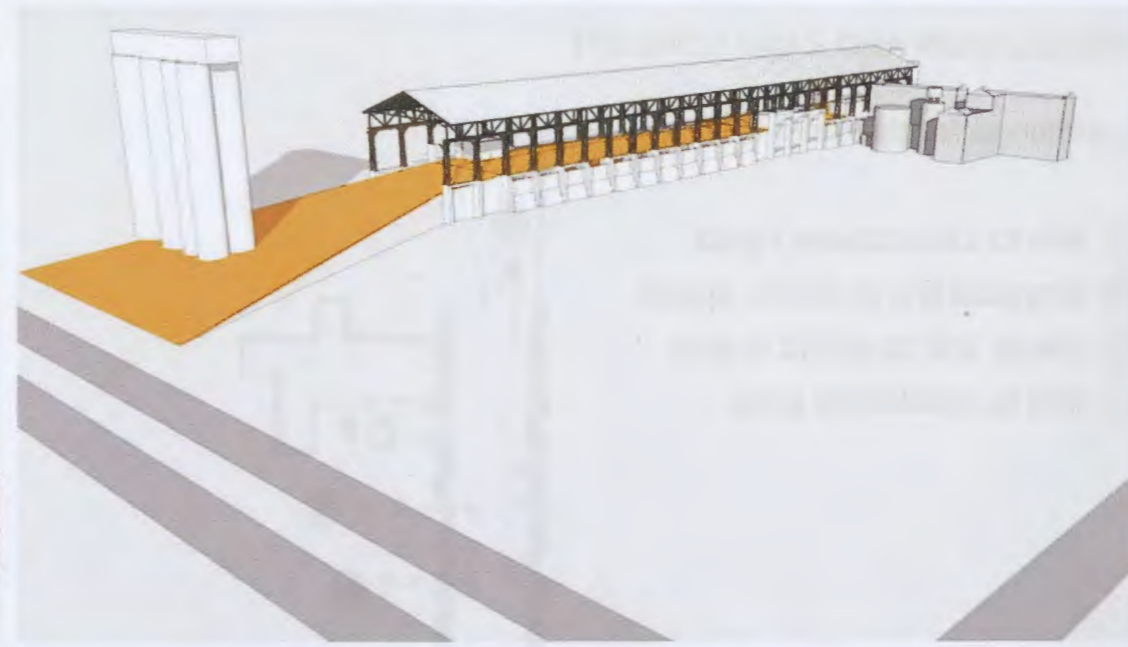
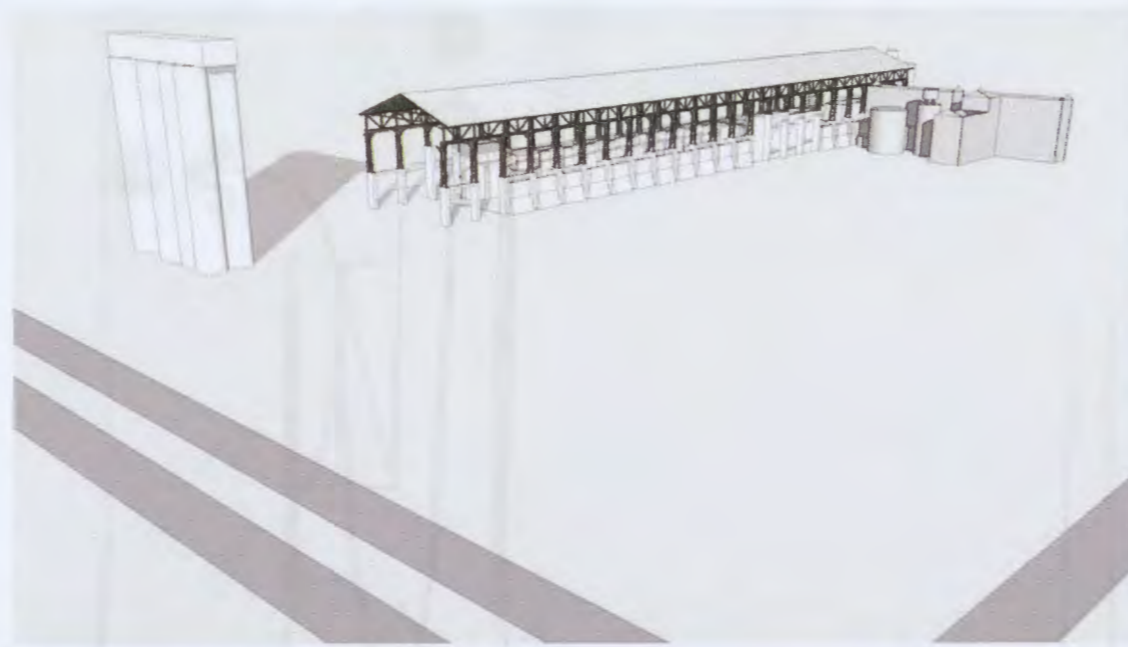
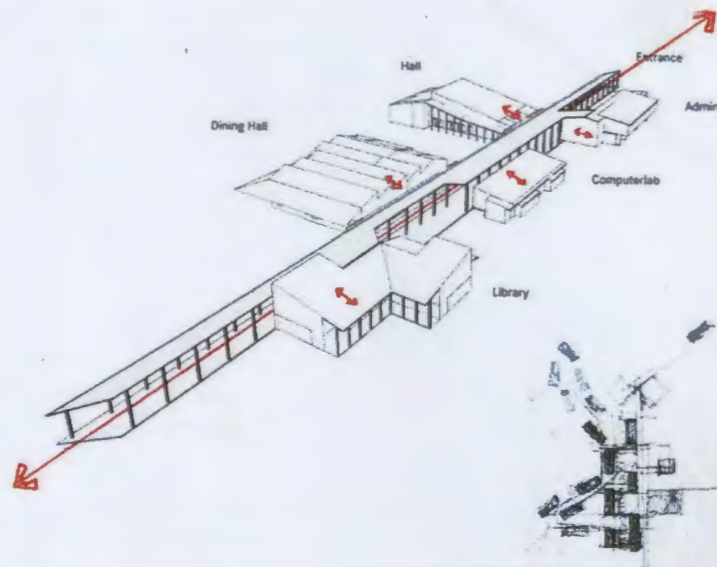
Shed as raised internal street:

- maintain vast, open spacial feel
- incorporate density of surrounding areas



'Street' as circulation spine

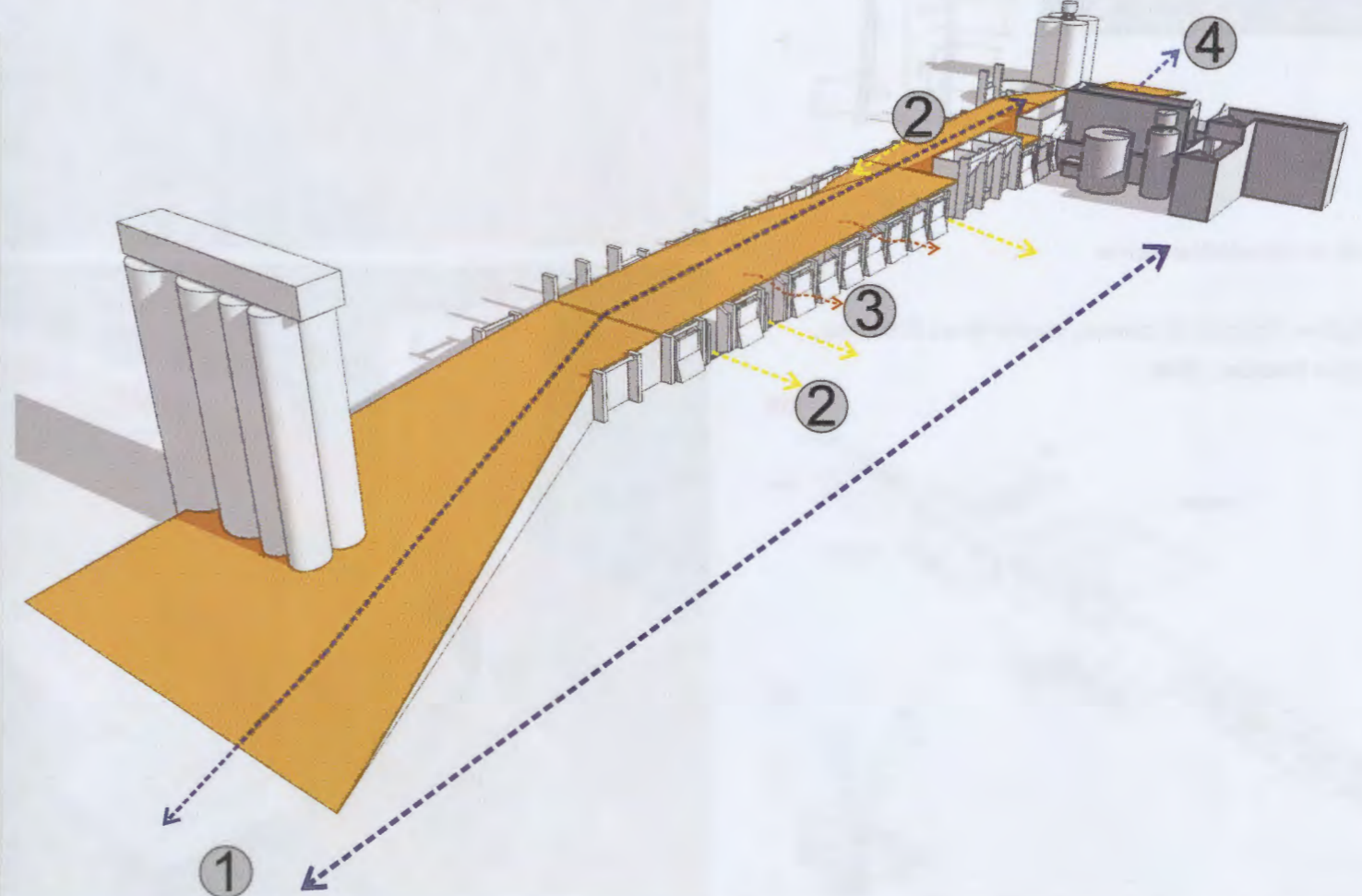
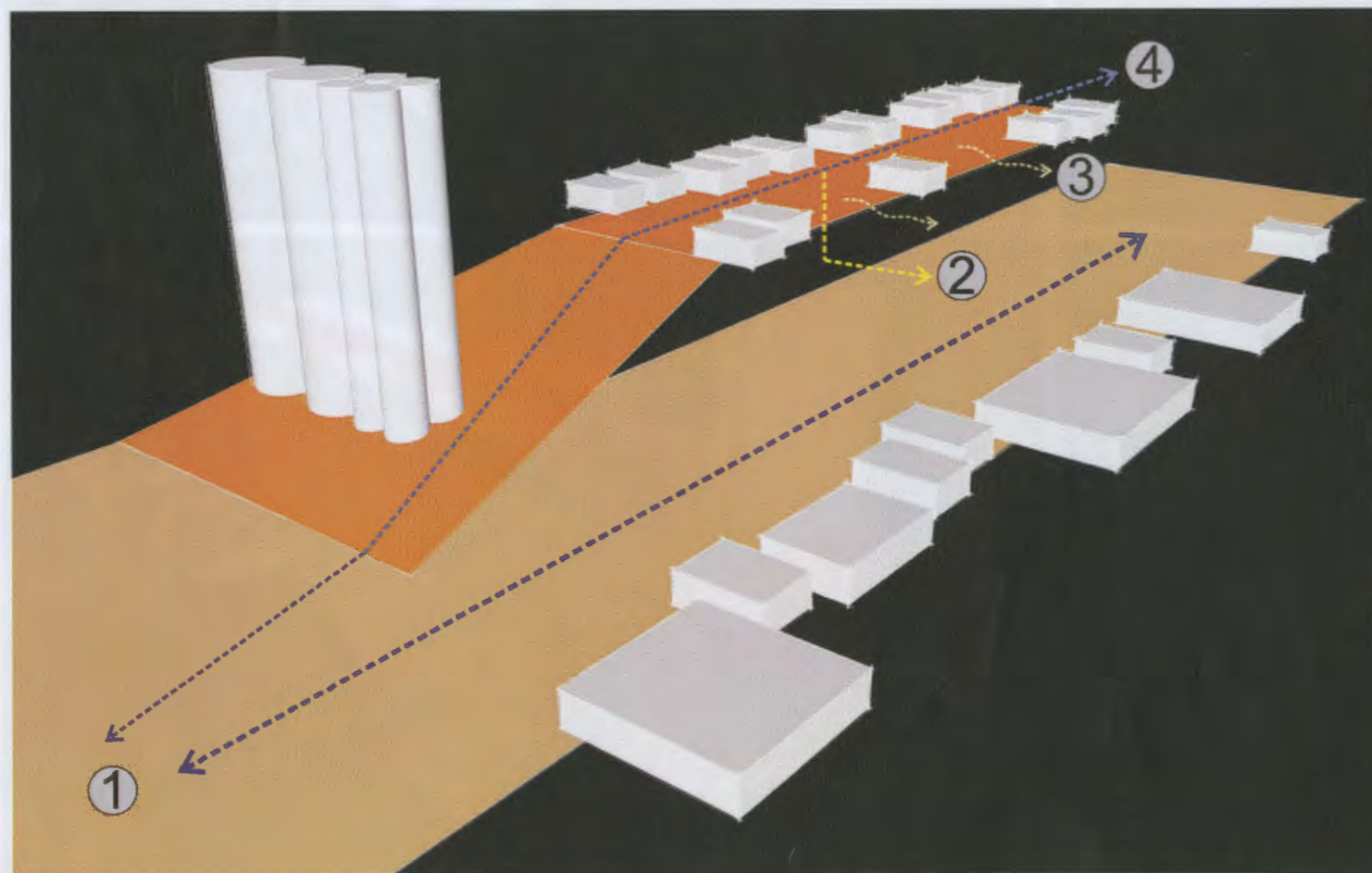
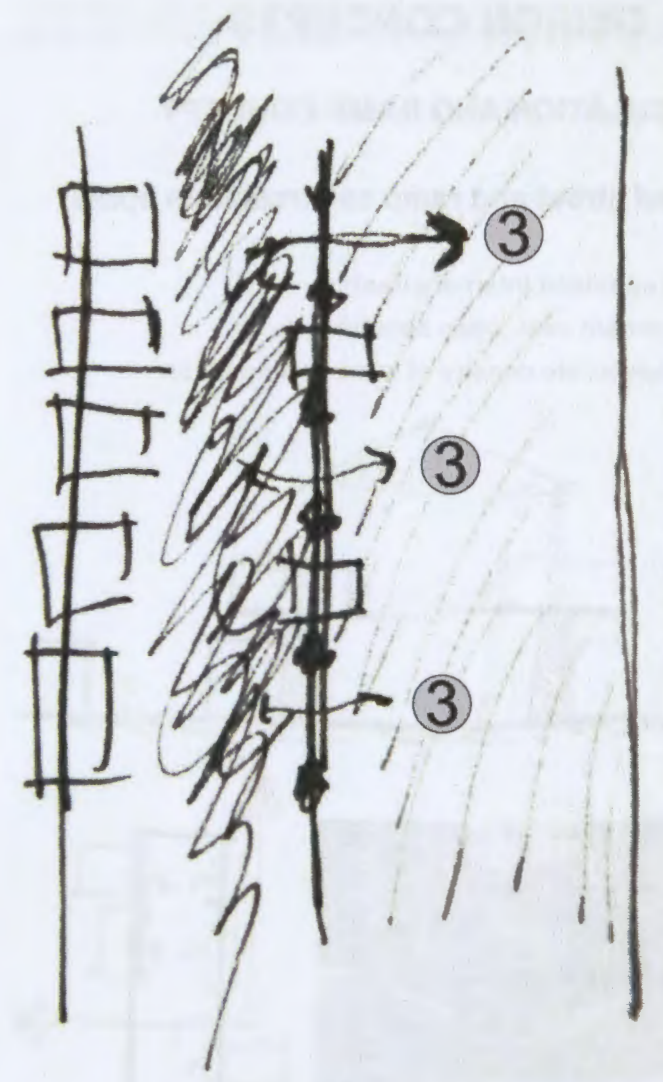
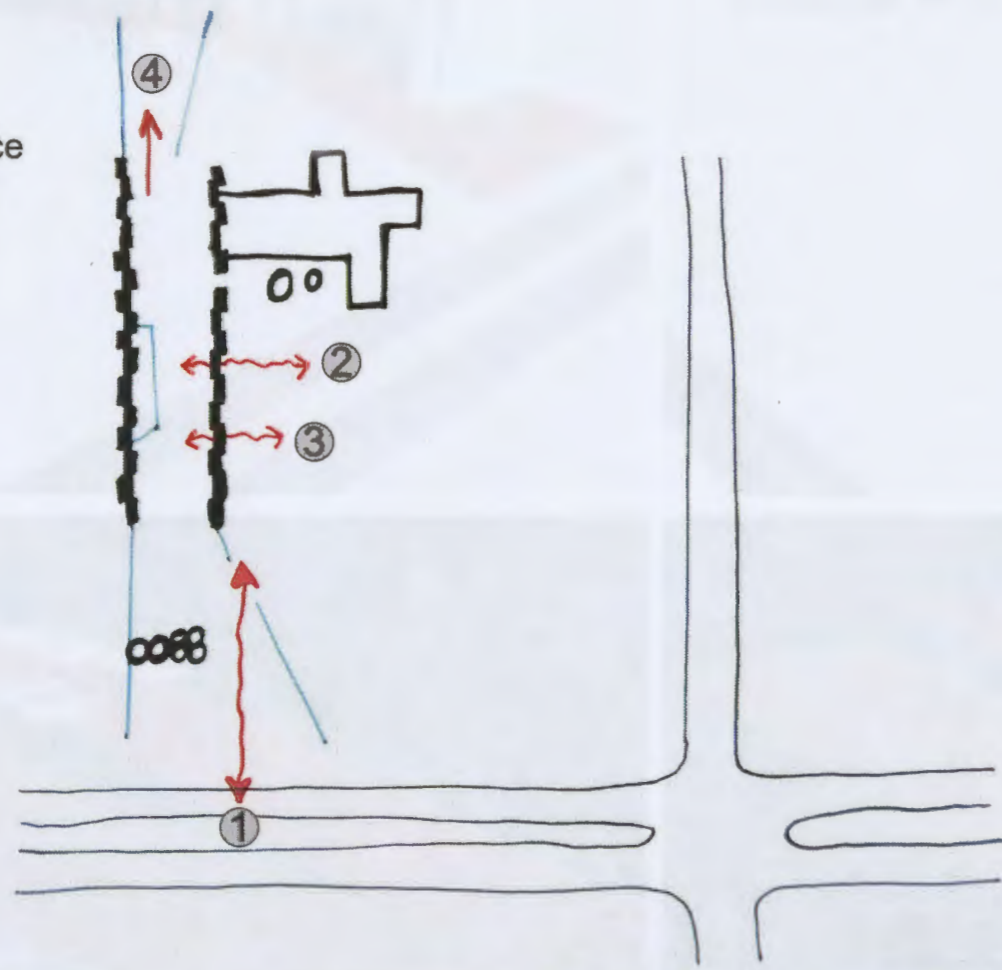
Eco-Active School, Moinooi, North West Province,
Thorsten Deckler, 2006



CIRCULATION AND RAMP CONCEPT

conditions for the ramp

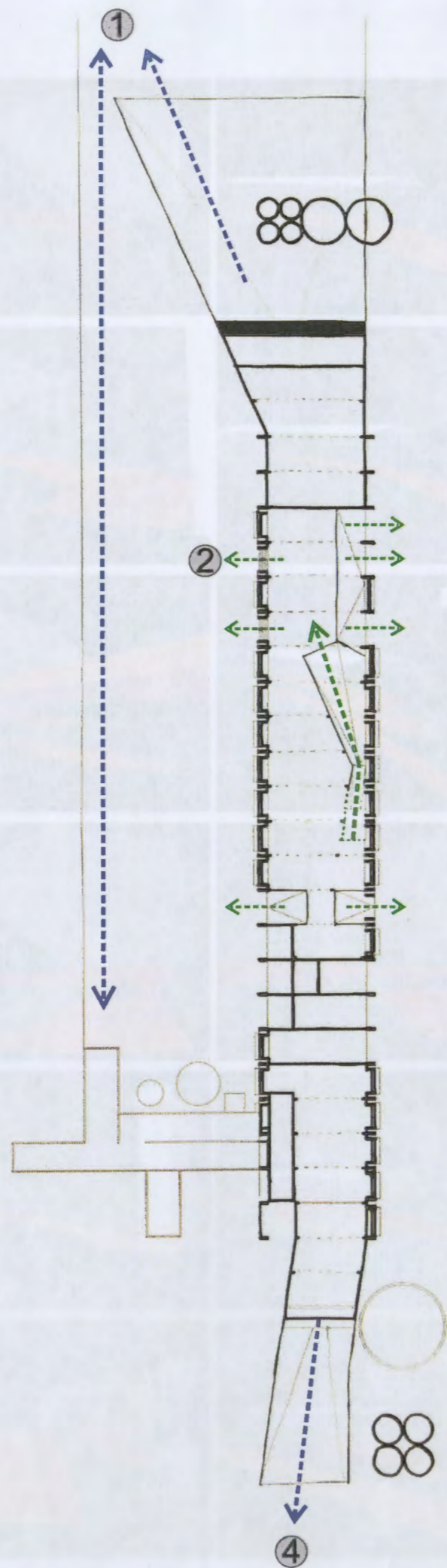
- ① link to Lansdowne Road
- ② physical link to public space
- ③ visual link to public space
- ④ link to residential area



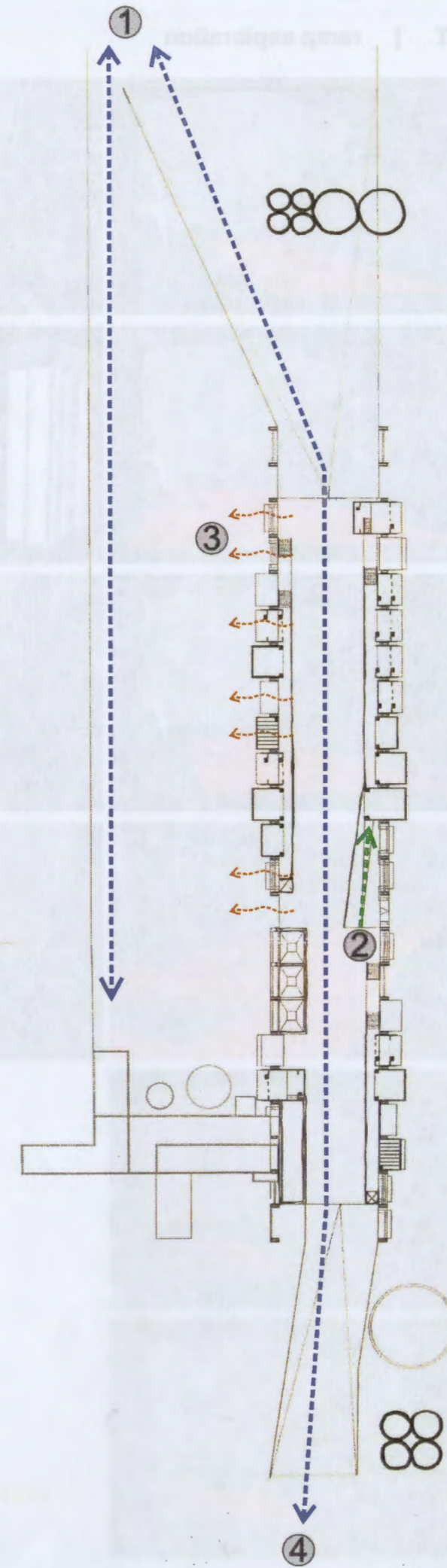
CIRCULATION AND RAMP CONCEPT

conditions for the ramp

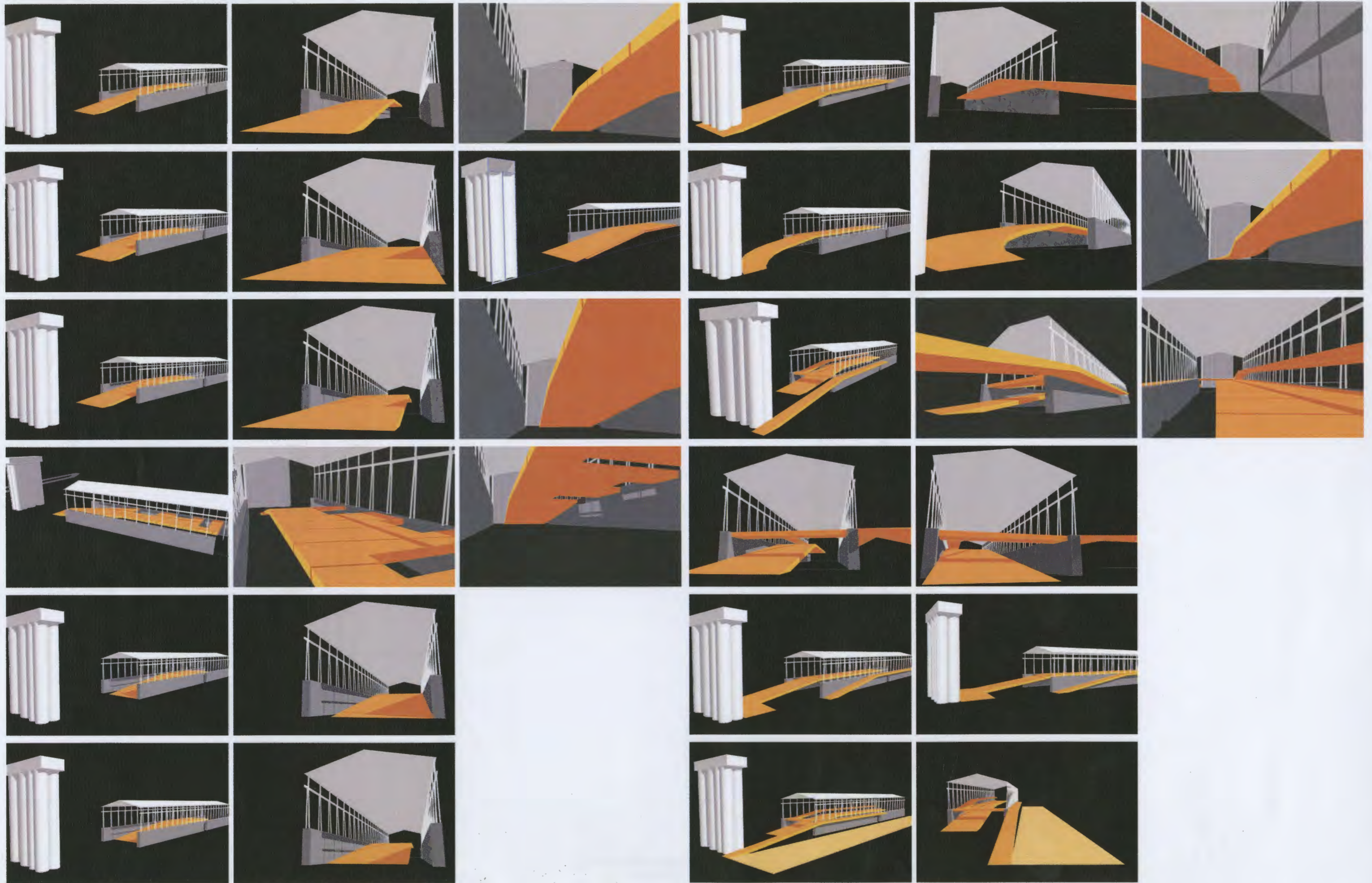
- ① link to Lansdowne Road
- ② physical link to public space
- ③ visual link to public space
- ④ link to residential area

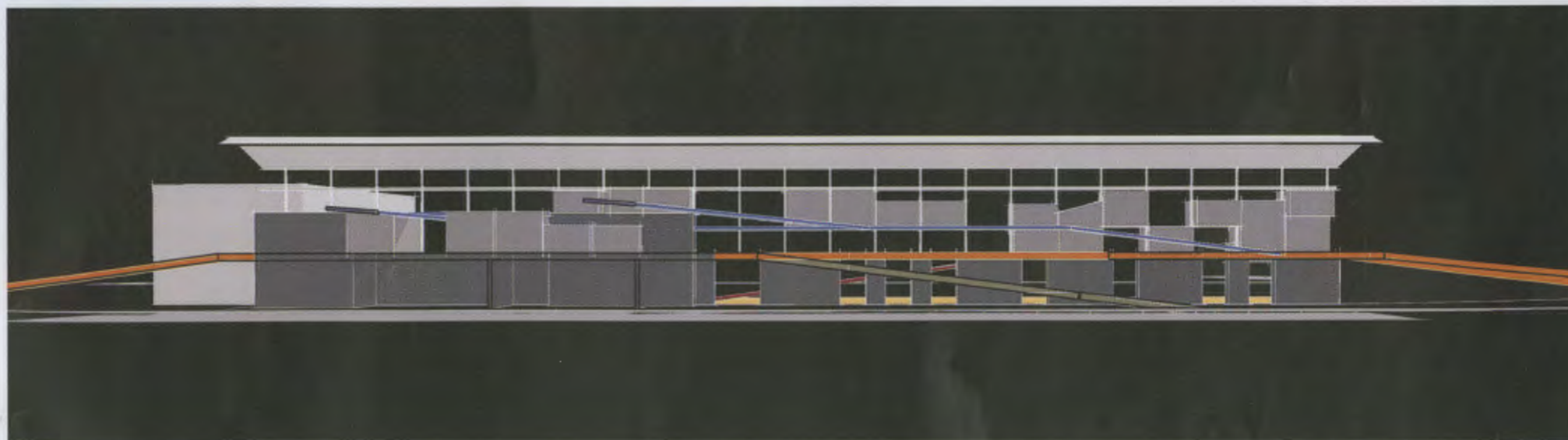
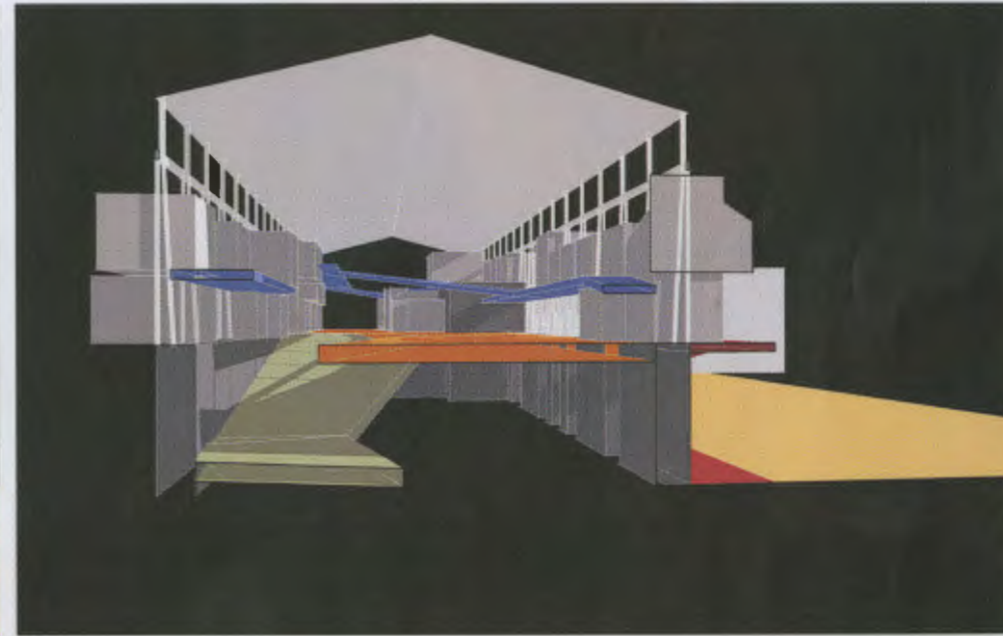


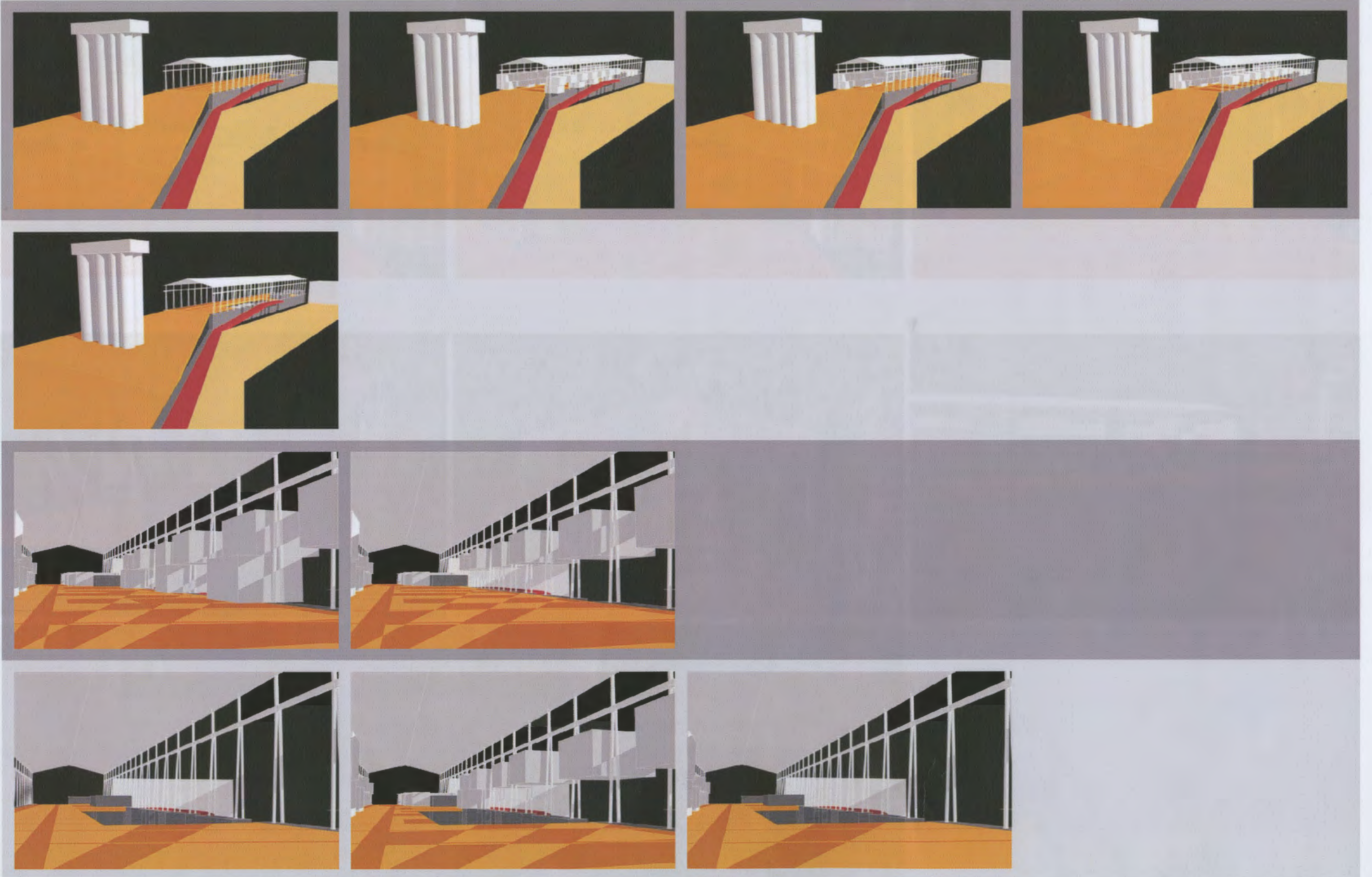
ground floor diagram illustrating conditions for the ramp

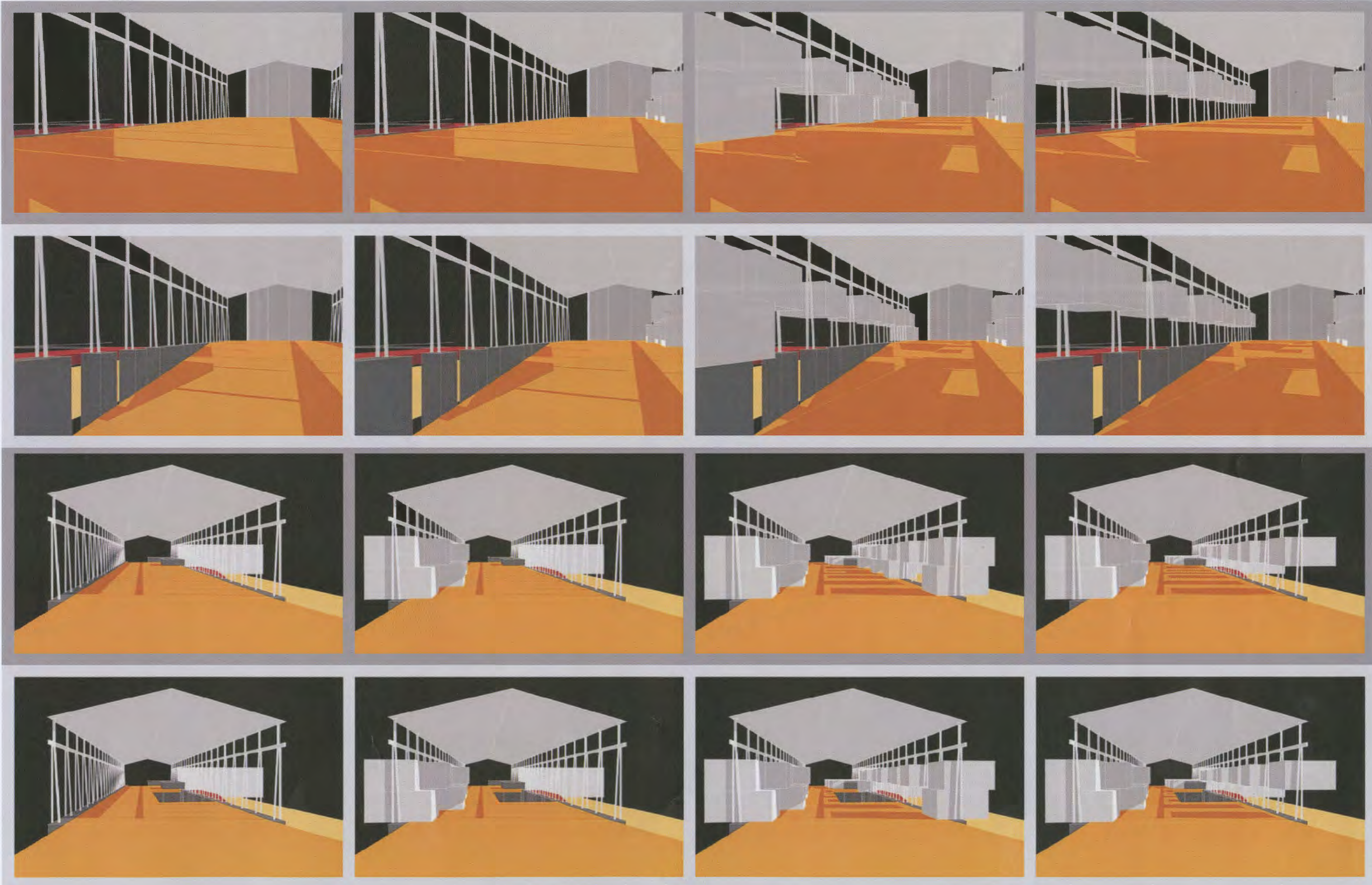


first floor diagram illustrating conditions for the ramp

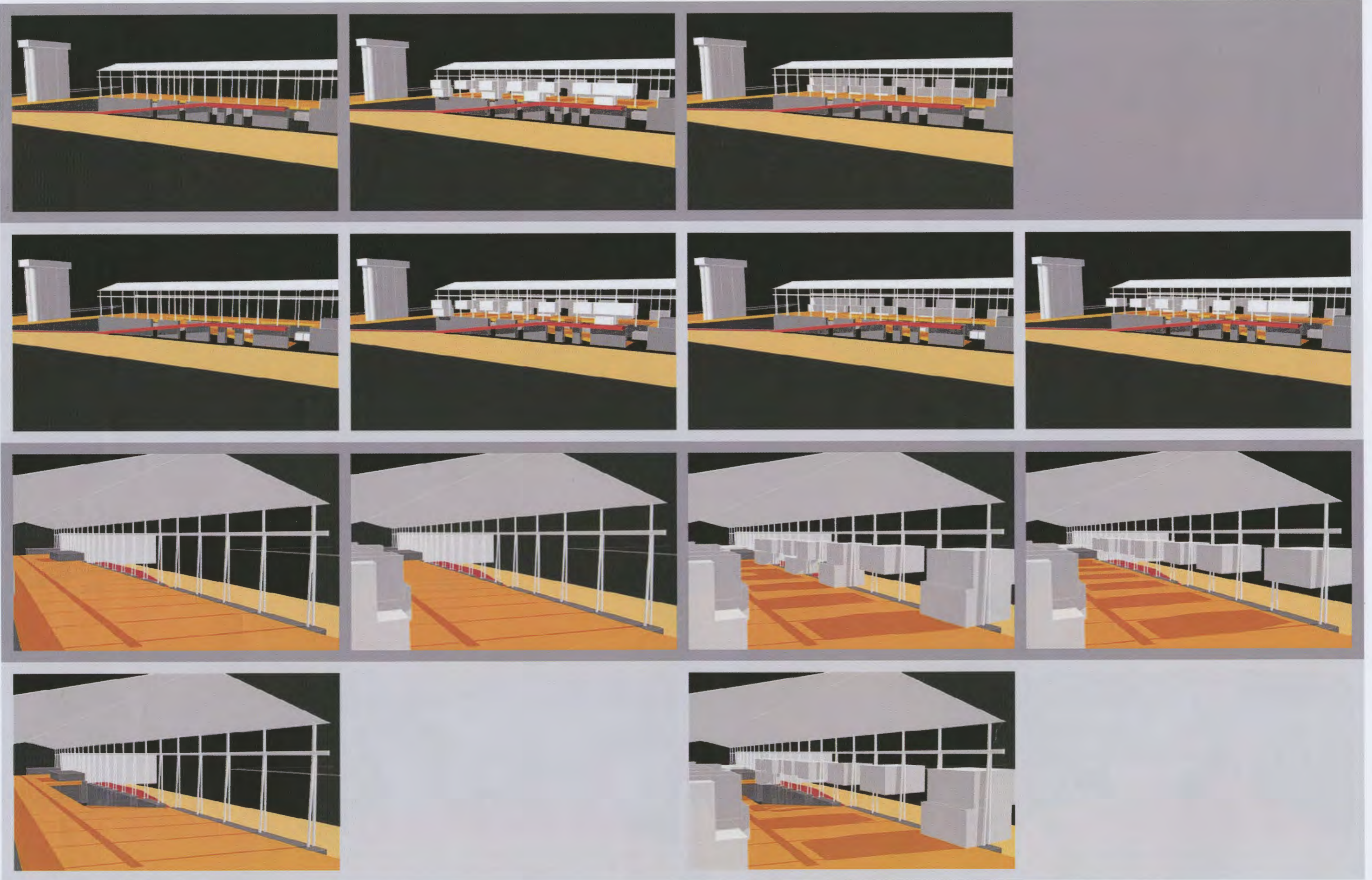


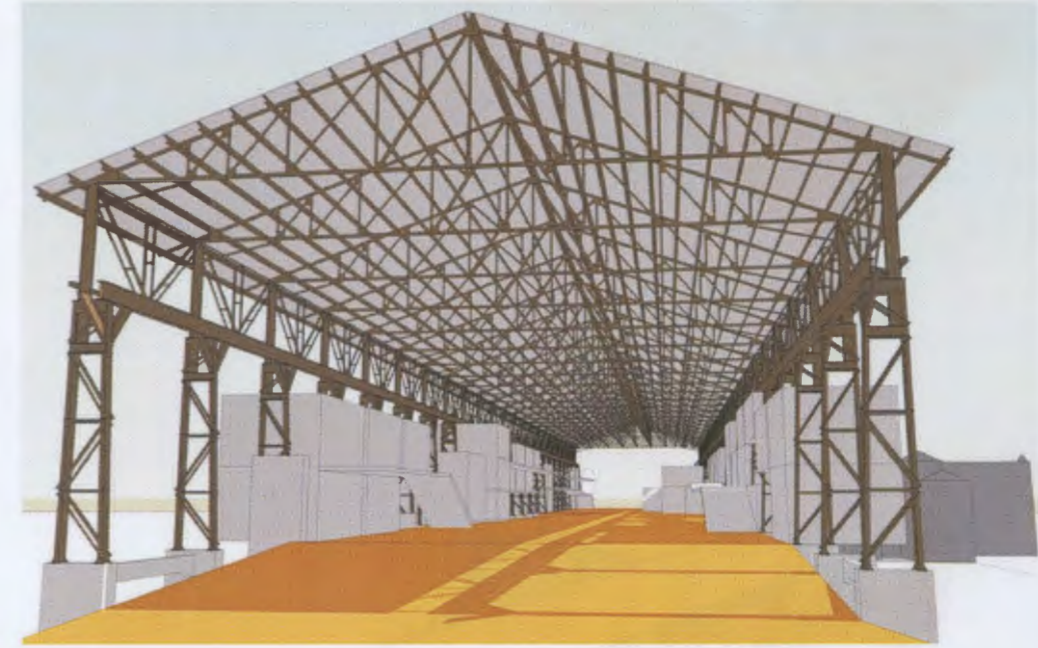
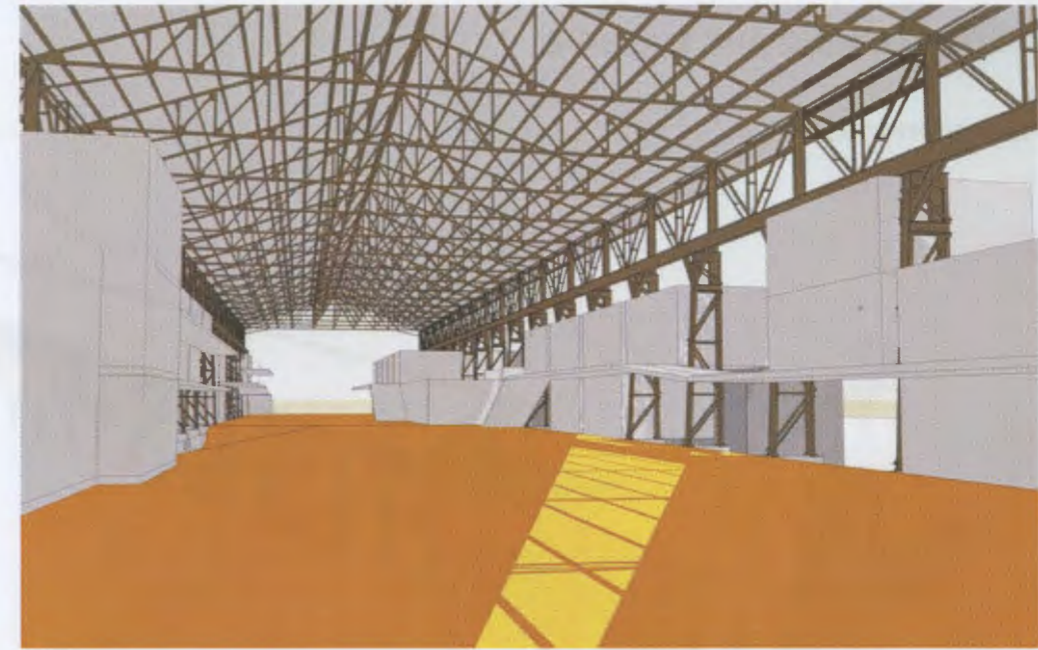
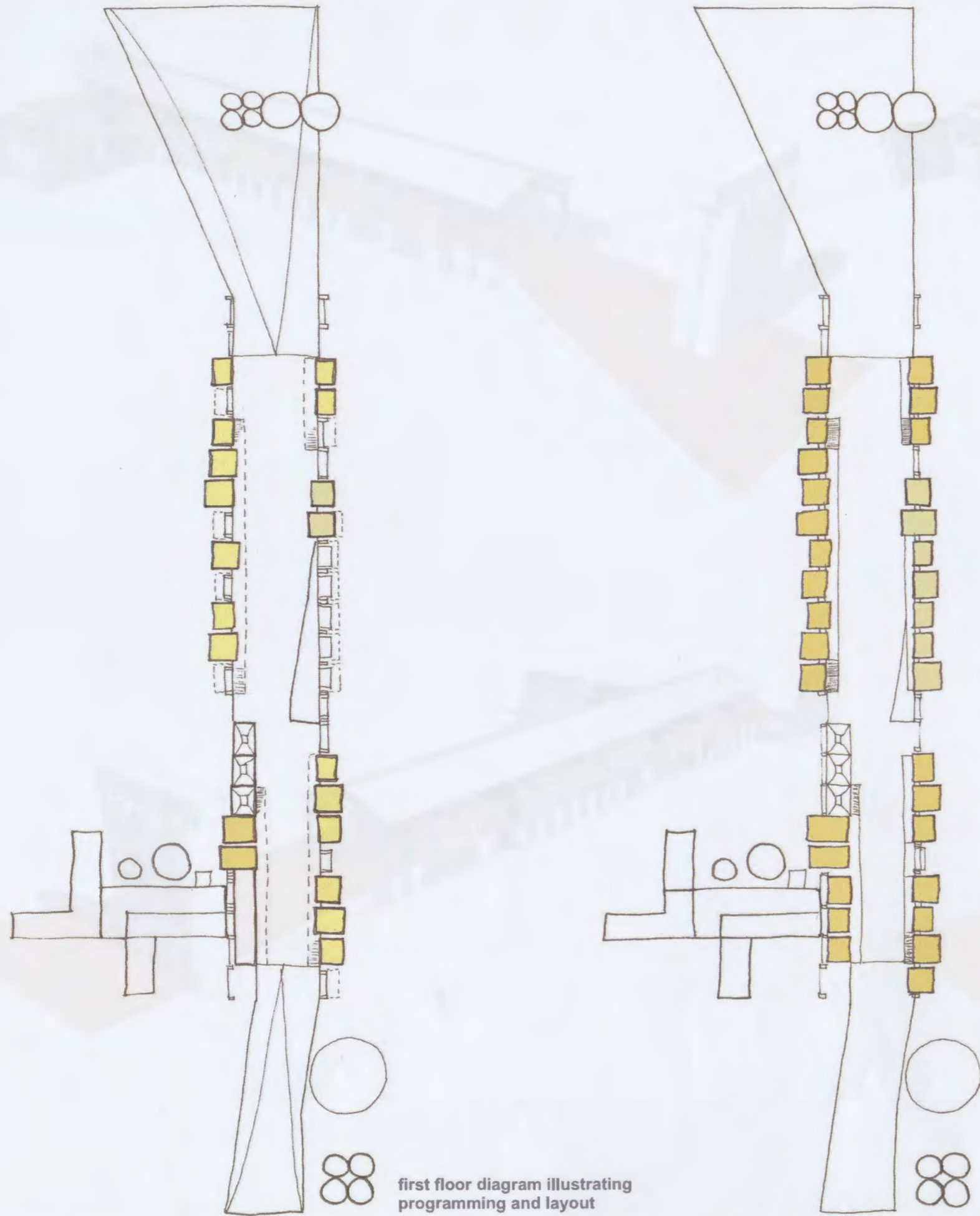






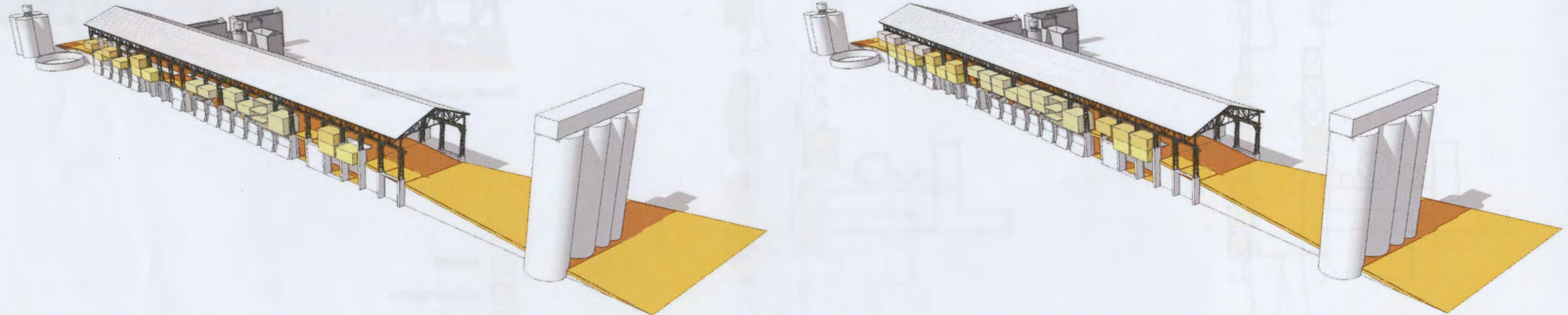
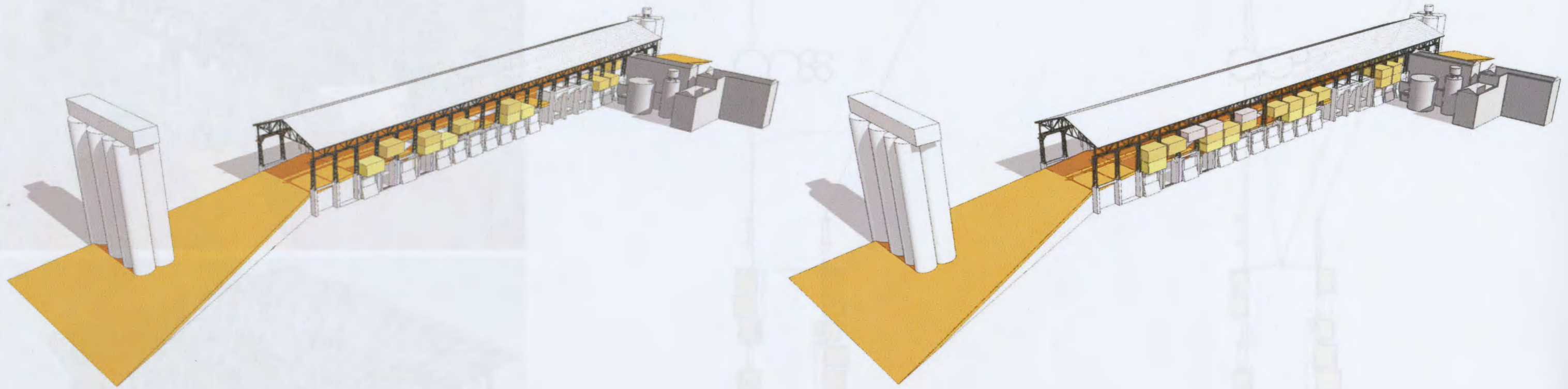
MASSING EXPLORATION





interior massing views

incrementalism

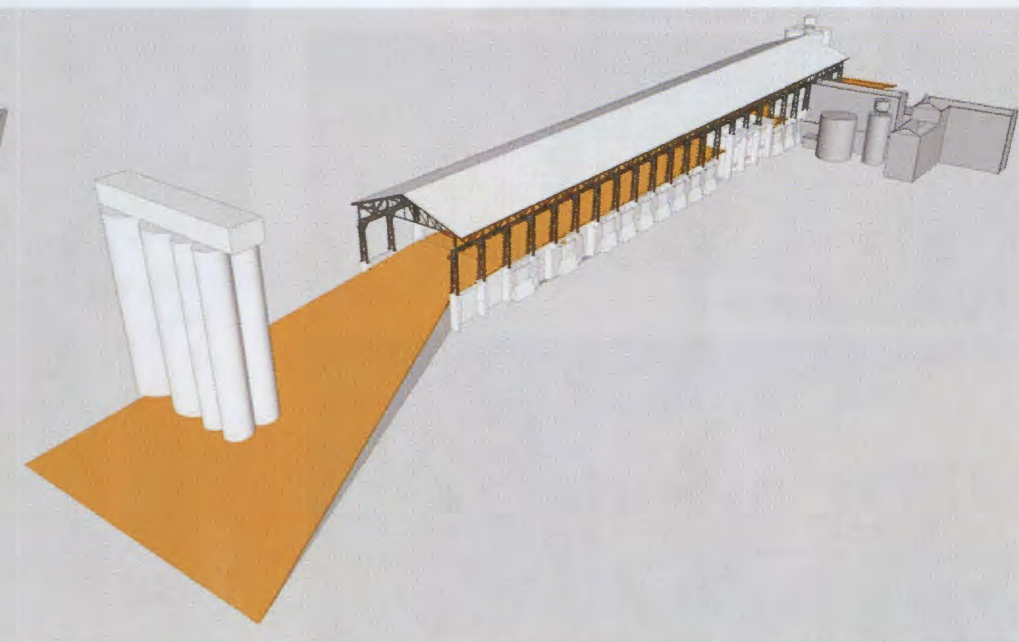
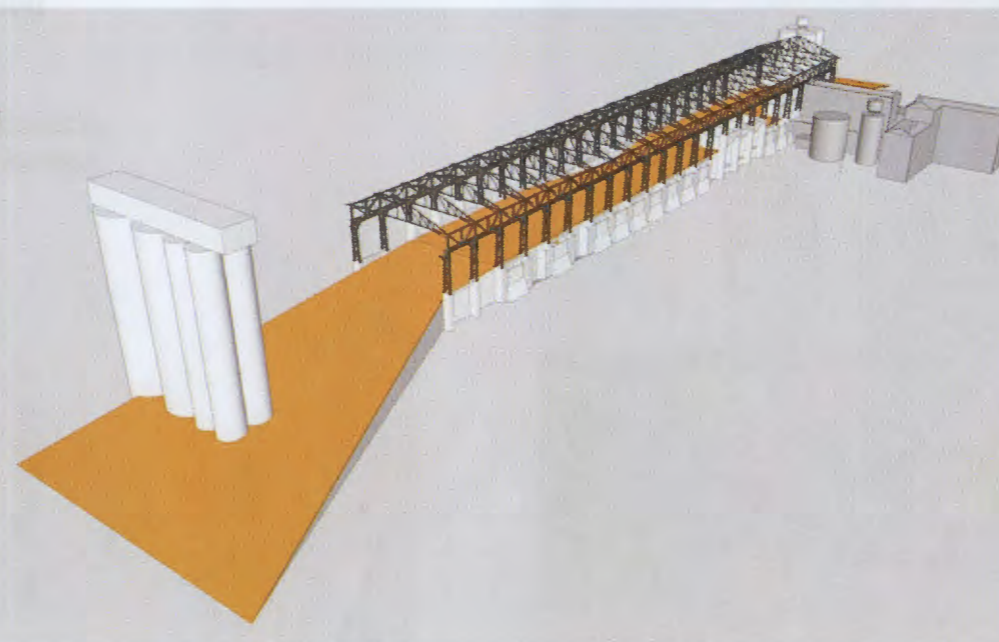
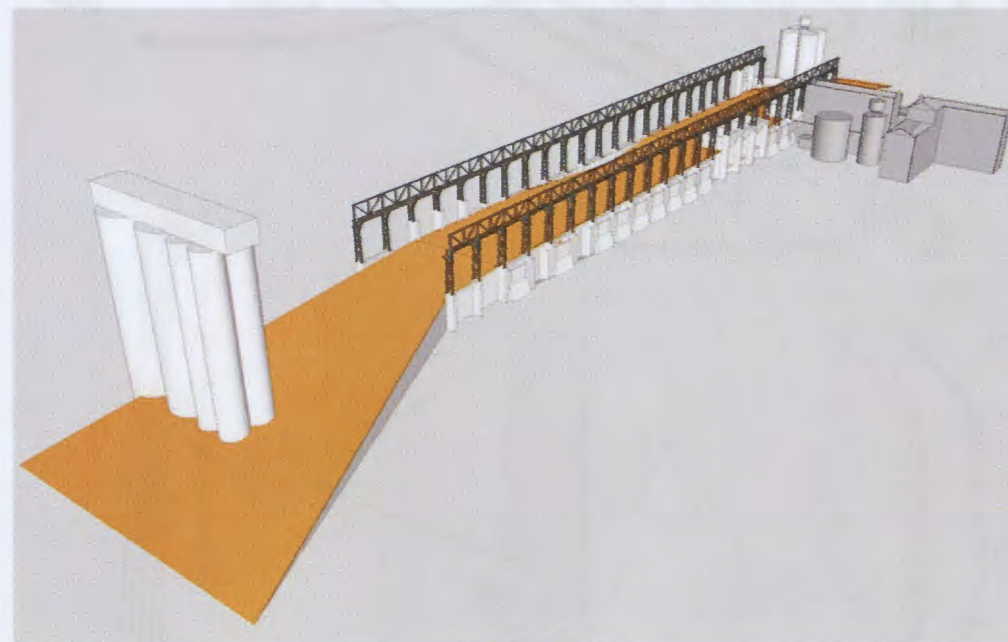
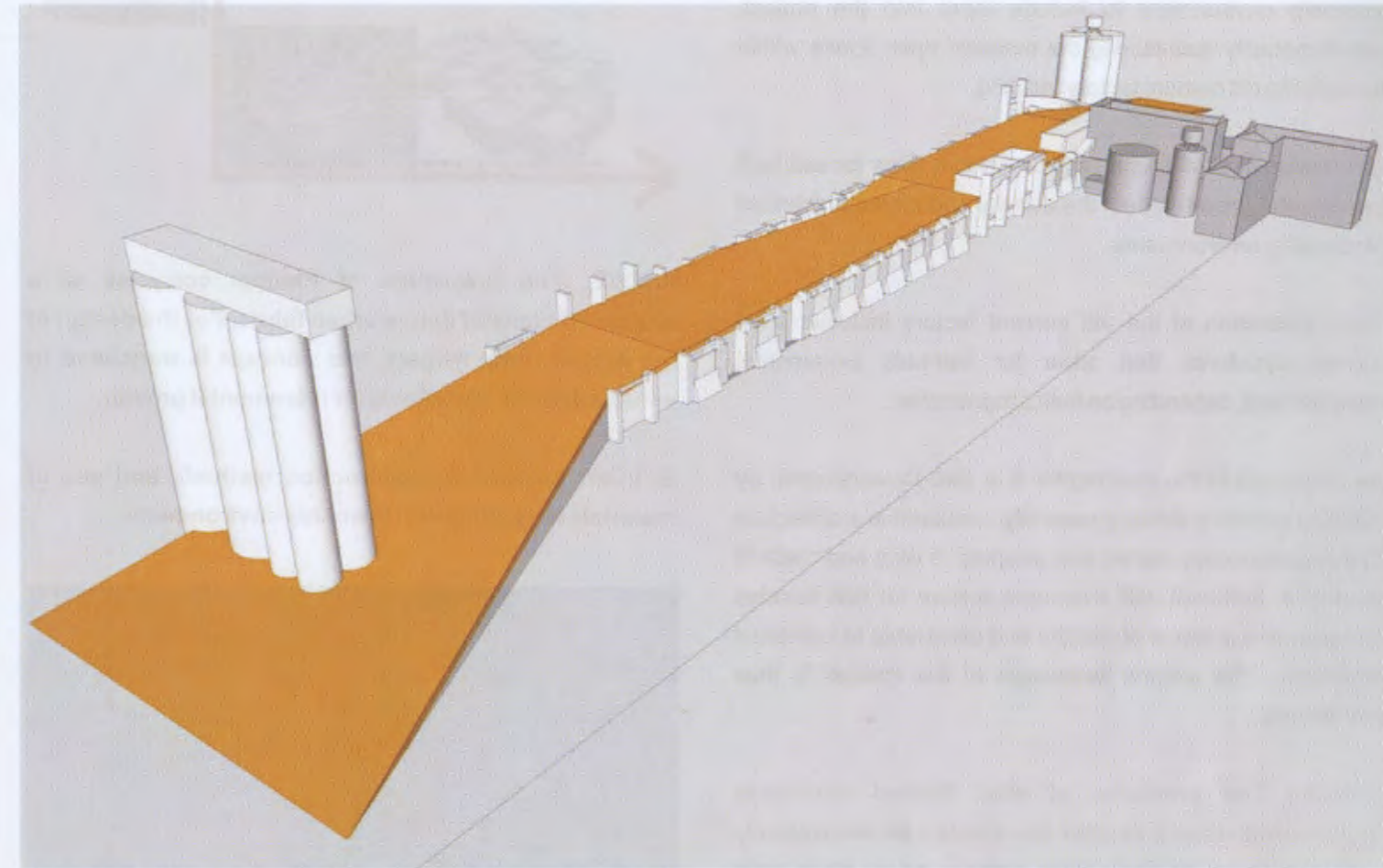
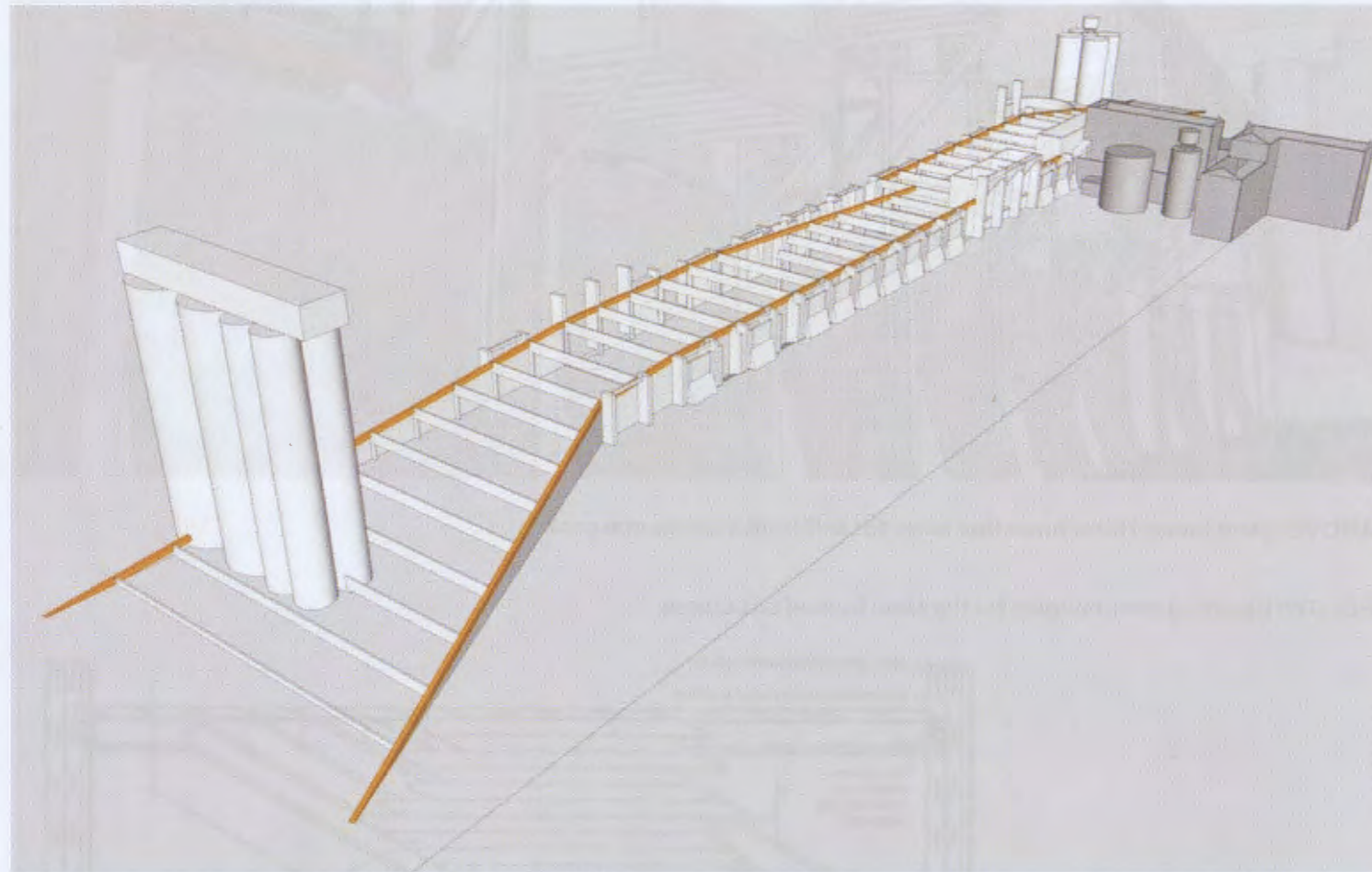


-  shops
-  office space
-  tourism facilities
-  accommodation

TECHNOLOGY

ramp structure

The inhabitation of the old cement factory shed comprises of a concrete ramp, as illustrated below, and steel framed structures that allow for self-built incremental development, depending on their programmes.



TECHNOLOGY

steel framed structures

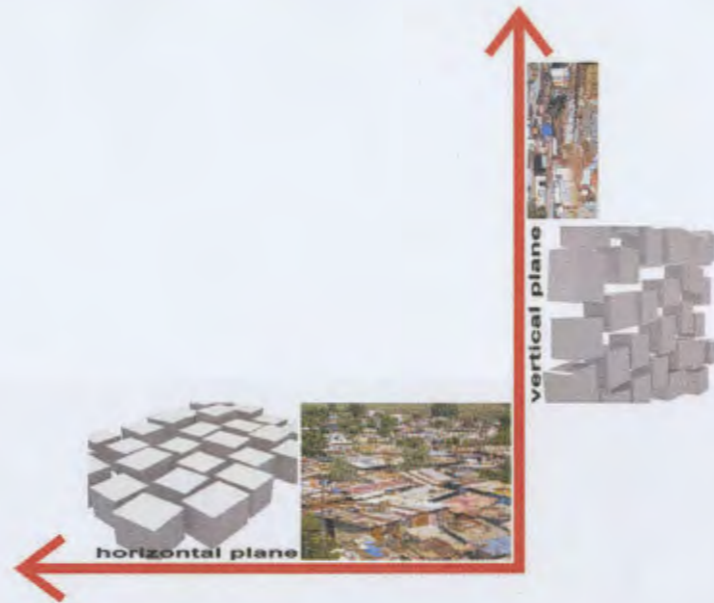
As discussed in the Mzoli's Place precedent study in subchapter 5.2. Architectural Principles from Theory Research, the design challenge of the Architectural Project is to respect and extract the positive social attributes of a dense township environment to include them into the project, simultaneously maintaining the majestic open space within the existing old cement factory building.

The design of steel framed structures that allow for self-built incremental growth reflect the density and material richness of township environments.

The inhabitation of the old cement factory includes steel framed structures that allow for self-built incremental development, depending on their programmes.

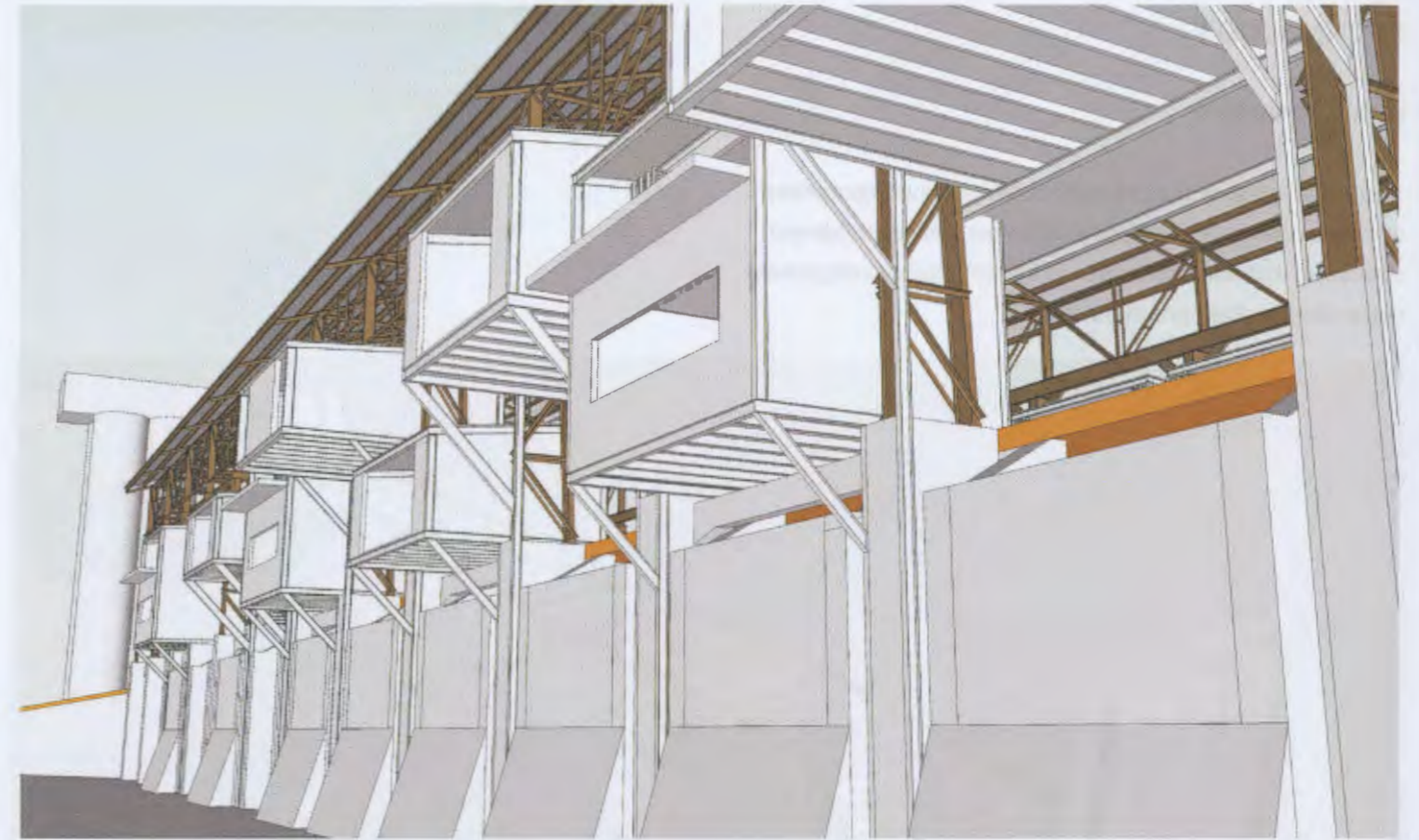
As discussed in the subchapter 5.3. Site Development, by allowing growth to develop naturally, sustainable architecture that is contextually rooted and adapted in time and place is produced. Self-built infill structures ensure for rich facades and provides a sense of identity and ownership to individual structures. The cultural landscape of the context is thus maintained.

BELOW: The provision of steel framed structures enables individuals to clad the structures innovatively and according to their own means, as is done with Elemental's housing developments in Chile.



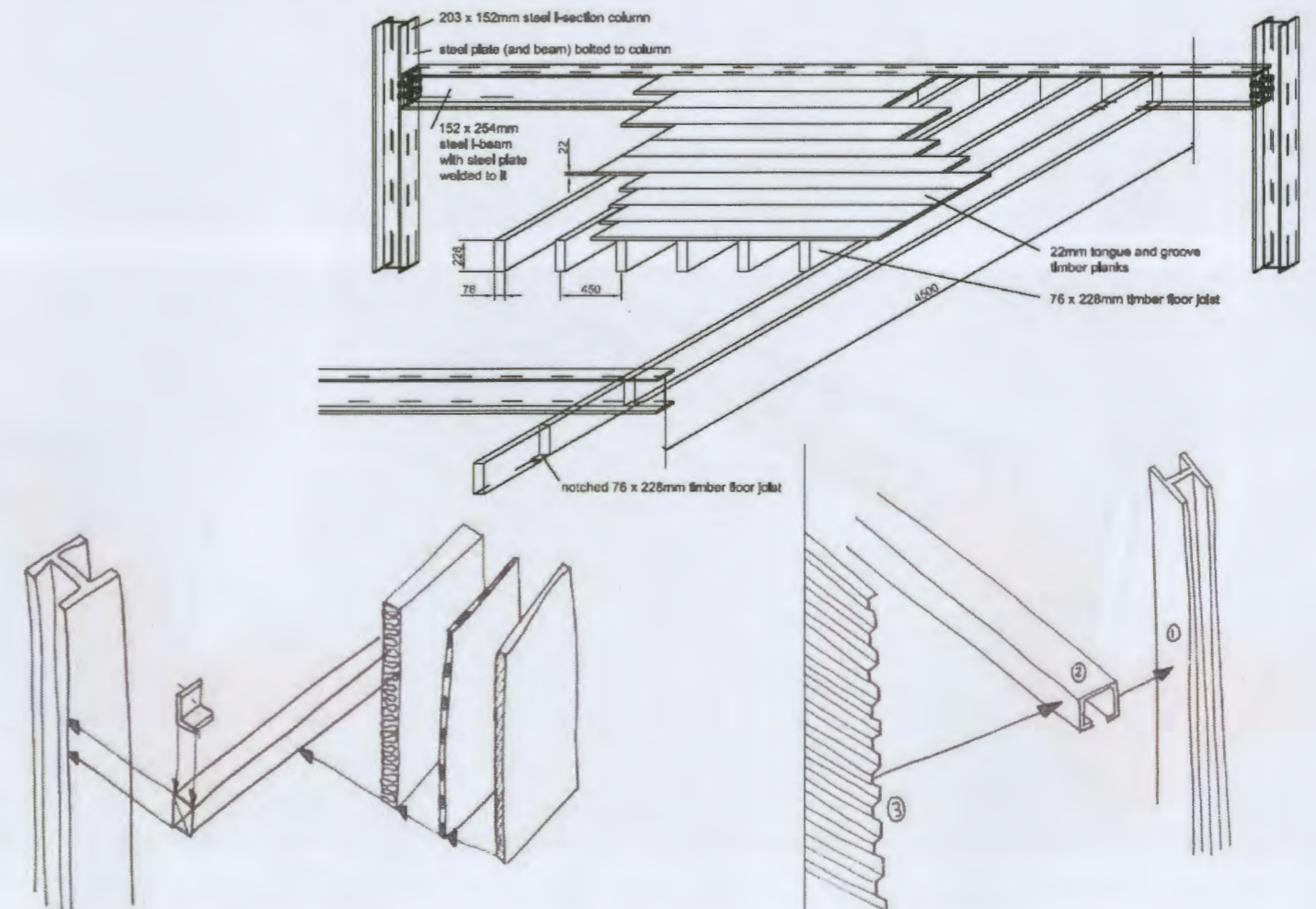
ABOVE: The townships of Philippi comprise of a horizontal plane of dense urban fabric. For the design of the Architectural Project, this concept is translated to vertical density, and allows for incremental growth.

BELOW: Innovative construction methods and use of materials are common in township environments.



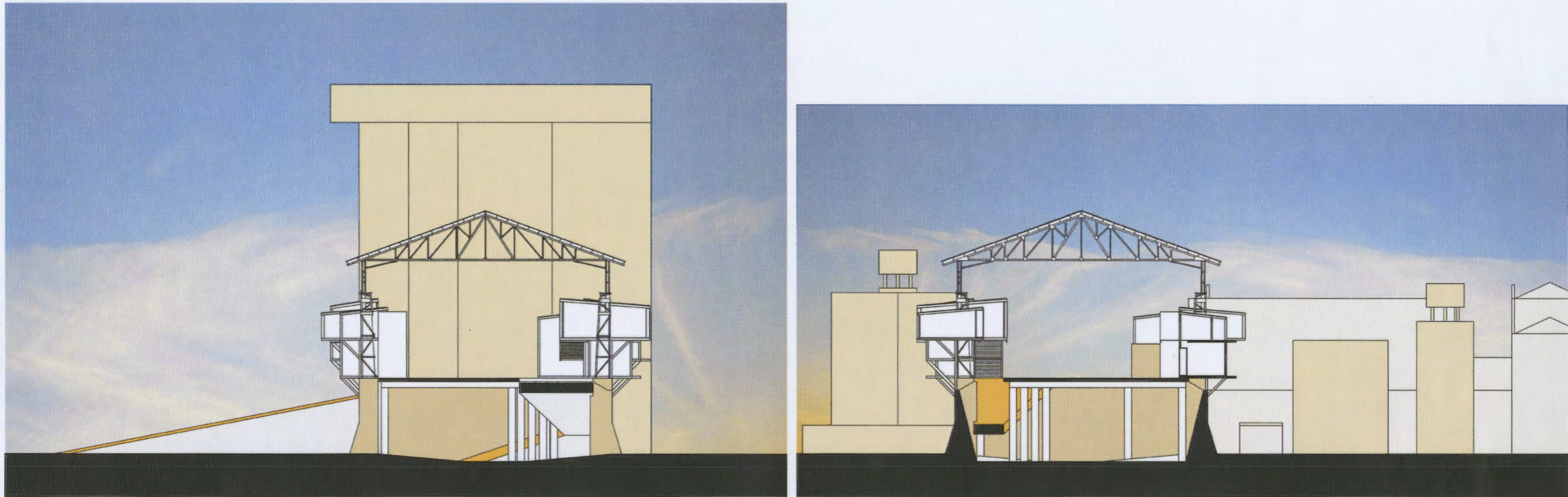
ABOVE: Steel framed structures that allow for self-built incremental growth

BELOW: Cladding technologies for the steel framed structures



TECHNOLOGY

ramp structure and steel framed structures



sections through the old cement factory shed, illustrating the concrete ramp structure and the steel framed structures

LIST OF FIGURES

EQUITY? The location of economic and social opportunities in contradiction to areas that lack opportunity Does This City Work For You? Century City compared to Cape Town's CBD A socio-economically segregated and secure mono-cultural housing development	Various; Compiled by Malan, J, 2010 Malan, J, 2010 The City of Cape Town; Modified by Malan, J, 2010 Google Earth; Malan, J, 2010 www.panoramio.com
A project designed to encourage a ripple effect of an increase in development in the area due to the initial project	Malan, J, 2010
Draft Metropolitan Spatial Development Framework Plan	<u>Metropolitan Spatial Development Framework: Statutory MSDF</u> . Cape Metropolitan Council, 1999
The site for the MArch (Prof) Architectural Project is at the old cement factory in Philippi	<u>Metropolitan Spatial Development Framework: Statutory MSDF</u> . Cape Metropolitan Council, 1999
The location of the site for the MArch (Prof) Architectural Project in relation to an urban scaled concept promoting equality An aerial photograph and map of the site The old cement factory building in Philippi is a landmark in the Cape Flats urban environment	Malan, J, 2010 Google Earth; Malan, J, 2010 Malan, J, 2010
The Philippi Public Transport Interchange is located in a formerly marginalised area that lacks social and economic opportunities	Malan, J, 2010
The March (Prof) Architectural Project is located on the site of the old cement factory in Philippi, a formerly marginalised area that lacks social and economic opportunities	Malan, J, 2010
The Philippi Public Transport Interchange aims to attract future public and private investment in the area	Malan, J, 2010
The MArch (Prof) Architectural Project located on the site of the old cement factory in Philippi could aim to attract future public and private investment in this area	Malan, J, 2010
The Philippi Public Transport Interchange is cross-programmed to accommodate commercial activity, and is designed to do so at the scale that it currently takes place at in the townships. Photographs of the Philippi Public Transport Interchange	Malan, J, 2010 Low, Iain. 2004. <u>Space and Transformation: 10 Years 10 Buildings</u> . <i>Digest of South African Architecture</i> , 2004/2005, pp133-153, Picasso Headline (Pty) Ltd, Cape Town Malan, J, 2010
The structure of the Kwanobuhle Carwash is designed to be a symbolic gesture to encourage small business	
The Kwanobuhle Carwash is an unusual example of Venturi's 'decorated shed' operating as a 'duck'.	Venturi, Robert; Scott Brown, Denise; Izenour, Steven. <u>Learning from Las Vegas</u> . MIT Press, 1977 Malan, J, 2010
The MArch (Prof) Architectural Project can also be designed to be a symbolic gesture to encourage small business in Philippi Photographs of Kwanobuhle Carwash	Joubert, 'Ora: 10+ Years 100+ Buildings'. Bell-Roberts Publishing, Cape Town, 2009 Joubert, 'Ora: 10+ Years 100+ Buildings'. Bell-Roberts Publishing, Cape Town, 2009 Malan, J, 2010
Plan of the Kwanobuhle Carwash	
The Usasazo Secondary School boasts innovative cross-programming of education, trading, and public facilities. Scale and articulative considerations of the Usasazo Secondary School Section through Usasazo Secondary School and the informal settlement across the road Section through the old cement factory building and the informal settlement next to it The architecture of Usasazo Secondary School also responds to its climatic context. L-shaped buildings protect courtyards from prevailing winds and sand common to the Cape Flats. Aerial photograph of Usasazo Secondary School Street view photograph of Usasazo Secondary School Sections through and elevations of Red Location Museum of Struggle	Malan, J, 2010 Malan, J, 2010 Malan, J, 2010 Malan, J, 2010 Baan, Iwan Wolff, Heinrich; Noero Wolff Architects Noero Wolff Architects
Photographs of the Red Location Museum of Struggle History of the site of the Philippi old cement factory Varsity Paper: "Student body embarks on racial integration project", 8 - 28 March 2010, Volume 29#03 Mono-functional De Zalze Golf Estate on the outskirts of Stellenbosch, housing predominantly white upper-class citizens. Is socially and spatially segregated from James Town, a formerly 'Coloured' area, located across the road.	Baan, Iwan Malan, J, 2010 Varsity Paper, 8 - 28 March 2010, Volume 29#03 Google Earth; Malan, J, 2010
A shopping mall, a segregated privatisation of public space, offers consumers a clean, safe and 'architecturally stylistic' public space.	www.wikimedia.org
Architectural forms, articulation, edges, and spatial arrangement has the potential to provide a safe environment.	Malan, J, 2007
Sea Point swimming pools The Sea Point promenade and swimming pools attract a variety of people from different class, racial, socio-economic and cultural backgrounds The picturesque Sea Point promenade and pools by night Spatially, forms on the sea front reduce in scale towards the sea Photographs of Mzoli's Place The location of Mzoli's Place in a dense urban environment of the township Gugulethu	www.panoramio.com Screen capture: Sea Point Days, a film by Francois Verster, Cape Town, 2009 Malan, J, 2009 Malan, J, 2010 various Google Earth; Malan, J, 2010 Malan, J, 2010
An abstract illustration of the challenge of how to respect and extract the positive attributes of a dense township environment to include them into the design, and simultaneously maintaining the majestic and bare space of the existing old cement factory building Memorialisation and service provision have imaginatively been combined in order to attract people from different backgrounds, locals and tourists, to the pavilions. Photographs of the Nelson Mandela Museum Pavilions	Malan, J, 2010 Joubert, 'Ora: 10+ Years 100+ Buildings'. Bell-Roberts Publishing, Cape Town, 2009
An architecture, born out of desperation, common to Philippi Drawings of the Nelson Mandela Museum Pavilions - Mvezo	Malan, J, 2010 Joubert, 'Ora: 10+ Years 100+ Buildings'. Bell-Roberts Publishing, Cape Town, 2009
Drawings of the Nelson Mandela Museum Pavilions - Qunu	Joubert, 'Ora: 10+ Years 100+ Buildings'. Bell-Roberts Publishing, Cape Town, 2009
An elevation of, and section through, St George's Mall A diagrammatic section through St George's Mall Photographs of St George's Mall As a cultural attraction, the Old Biscuit Mill development has become an enclave in many people's self-constructed mobile cities. This has caused a ripple effect of spin-offs increasing development in the formerly deprived area. A diagrammatic representation of cities people construct themselves consisting of mono-cultural enclaves to their preference. A diagram suggesting how the MArch (Prof) Architectural Project could perform as a cultural enclave in a person's self-constructed city.	dhk Architects, edited by Malan, J, 2010 Malan, J, 2010 Various Various, compiled by Malan, J, 2010 Malan, J, 2010 Google Earth; Malan, J, 2010

Sun City	www.notesfromthecape.com
Polarisation of areas of opportunity	Dewar, David and Todeschini, Fabio: <u>Rethinking Urban Transport after Modernism - Lessons from South Africa</u> . Ashgate Publishing Limited, England, 2004
Canal Walk Shopping Mall	www.wikimedia.org
Urban Sprawl	Google Earth
Stylistic architecture of this castle	VKdB Architects
A glazed architecturally a-contextual commercial building	www.flickr.com
A suburban house employs international 'green' technologies	www.eveningnews.co.za
church	Google Earth
A Cape Dutch manor house	www.winedeskwaterfront.co.za
Siena's Piazza del Campo	www.euratlas.com
Putrajaya Mosque, Kuala Lumpur	www.asianpictures.org
Weaver's Nest	Joubert, 'Ora: 10+ Years 100+ Buildings'. Bell-Roberts Publishing, Cape Town, 2009
Elemental Housing	Elemental, Chile
Positive and negative wind pressures around different building configurations	Roaf, sue; Fuentes, Manuel; Thomas, StephanieL Ecohouse - A Design Guide.
Igloo	Edwards, Brian: Sustainable Architecture, European Directives and Building Design. Second Edition. Architectural Press, Oxford,

		1999
Openings in the glazed façade allow cool air to enter the building and hot air to escape		Laikos Ben and Ariston McKay
Tsoga Environmental Centre construction methods	Rendall, Alistair; Cowen, Anna; Goven, Gita; Collis, Vernon: <u>Tsoga Environmental Centre: Local Sustainability Catalyst Booklet</u> . December 2005	
Tsoga Environmental Centre use of materials	Rendall, Alistair; Cowen, Anna; Goven, Gita; Collis, Vernon: <u>Tsoga Environmental Centre: Local Sustainability Catalyst Booklet</u> . December 2005	
Due to scarce fuel resources, the kitchen stove is used for cooking and the flue is funnelled under the winter living room to provide warmth.		Malan, J: inspired by: Roaf, sue; Fuentes, Manuel; Thomas, StephanieL Ecohouse Design Guide.

All images, unless referenced otherwise, are by the author.

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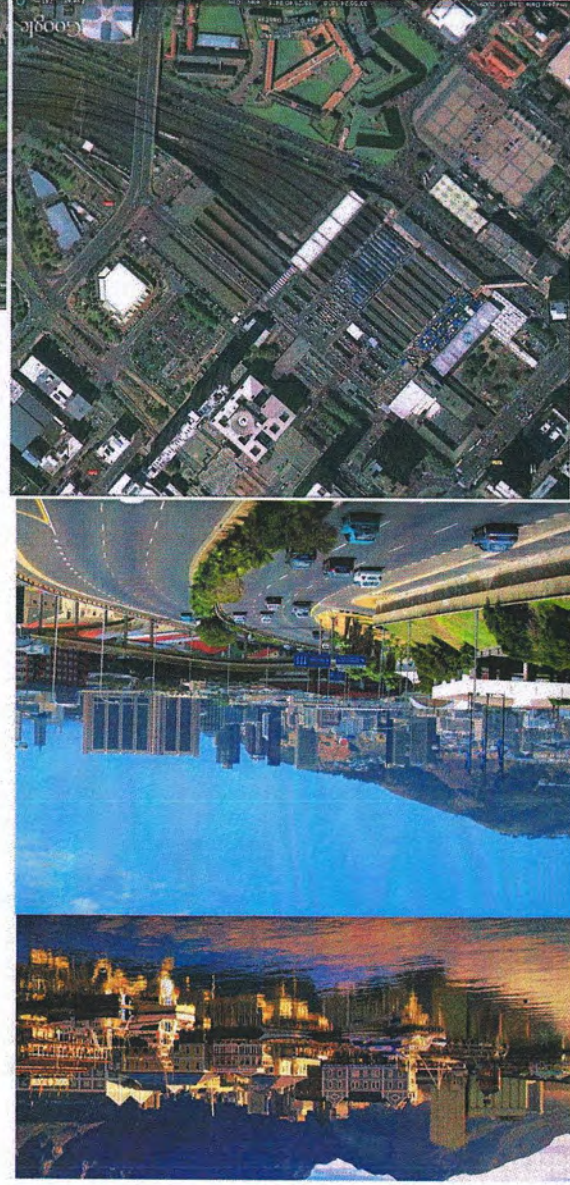
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Mafilika, Lungile: Walk around Philippi, 21 May 2010



Cape Town Station:

Recent upgrading of Cape Town Central Station has re-integrated the station as an important component of the city. The station houses all many facilities as well as providing a generous urban square that can host public gatherings as well as public art performances.



Woodstock Station:

Woodstock station is sandwiched in an old industrial site and is the target for a gentrification move that is part of the broader Woodstock Framework. This station will become a vital artillery from the Cape Town Station as an alternative gateway to Woodstock and the future redevelopment of Culemborg Area.



Salt River Station:

The first point at which the railway line converges, this station is one of the largest non-occupied stations on the line. The station accommodates tens of thousands of commuter changing from the Northern and Central line to the Southern Line and vice versa.



Koeberg Road Station:

A small station situated close to Liesbeeck River. It mainly serves as a connection point for people that work in the area. The residential component in the area is situated far from the station and is barricaded by barb wire fences.



Maitland Station:

Maitland Station is a small but very active station. The station provides an edge from which vendors and other informal markets sell goods to passing commuters. Maitland is a well-functioning area but needs more attention in terms of maintenance and crime control. The station here has a high potential to activate urban regeneration.



Mutual Station:

Mutual Station is so-called after Old Mutual. The station is co-owned by the company and holds its secondary quarters for their offices. This station is also a turning point on the line and has the most building development footprint.



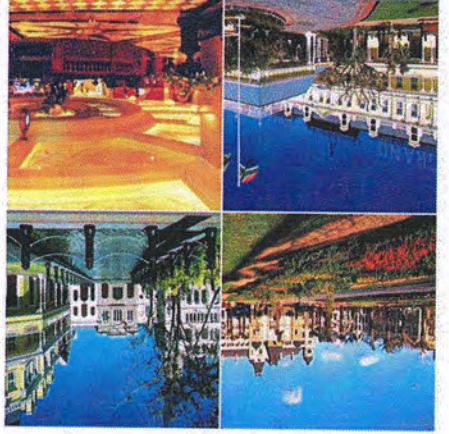
Thornton Station:

Thornton is surrounded by old and new grave sites. There is potential here to upgrade the station as a spiritual site or urban park.



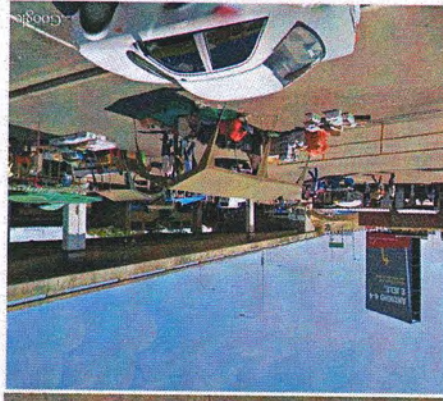
Goodwood Station:

Goodwood Station is also a station that is co-owned by a private developer. This station was revamped and integrated with the grand plan of the Grandwest Casino Company. The motif of the station matches with the look of the casino and has a direct route from the station to the back entrance of the development.



Tygerberg Station:

Tygerberg Station is an important link to Bellville and Durbanville urban centres. Named after Tygerberg Hospital, the station is conveniently attached to Tygerberg mall and therefore serves as a destination point for grocery shopping.



Bellville Station:

A major central point the Northern Line, this station interchange accommodates a large number of people and is attached to a shopping centre accessible from the station and the adjoining street. Close to the station is a large taxi interchange as well as a large bus terminus. The area is home to many African foreigners who take advantage of the large numbers of people that pass through the area. There are a series of open-air spaces for stalls and performances, as well as more formalised small shops. This station is for many people a destination for shopping and is busy 24 hours.



generally well-functioning and self-generating economic centre. Better integration of the various programmes could be implemented, but the area is a generally well-functioning and self-generating economic centre.