

feast the city

a food market, the connection between rural and urban

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abstract

The daily routine of every human is structured by the belly. Not only is food important for survival but also initiates the most fundamental ritual everyday, eating. It forms a catalyst for socialising on the essential to the festive level. Architecture of the everyday should be able to accommodate these rituals. By using food and the ritual around the table as analogy, an architecture that is viable everyday can be studied.

This dissertation further stresses the importance of the architect as anthropologist, where the designer should be preoccupied with the study of ritual and meaning in a cultural context and so translate it to the built environment.

A food market is proposed in the Pretoria Central Business District (CBD). In the contemporary city, the supermarkets have dominated the urban fabric. As it is the place where one buys one food, the supermarket becomes the anchor point in the city landscape. With the current global climate crisis, the way people live is questioned even the manner one goes about to buy food. Supermarkets have dominated the market and let the consumer be isolated from the producer and the rural landscape. Not only has the supermarket cover the interdependency of the urban and the rural but also eliminated the social aspect that surrounds the procurement of food. The opportunity of a vibrant public area is replaced by a place of efficiency.

The proposed market should be a means to reinstate the relationship between the urban society and the rural landscape. The opportunity what food creates for social engagement should be activated in this public space.

This new market is sited west of Church Square, near the Steenhovenspruit. This area is in a state of despair, with vacant buildings and abandoned land. The only buildings in close proximity are high rise residential buildings; the Kruger Park Complex that is currently vacant and; Schubart Park Complex that is in need of urgent maintenance.

A new framework proposes densification of the area to create a new community in the city. This vacant land can be regenerated by initiating a new concept for a food market in the city.



project summary

PROGRAM

Food market, the connection between the rural and the urban.

SITE

On the southern corner of Vermeulen Street and Potgieter Street, Pretoria, South Africa. Total Site Area: 7724m²

CLIENT

City of Tshwane in partnership with Agri-SA

USERS

Residents and commuters within a 10 min (450m) walk radius as well as urbanites and visitors to Pretoria

THEORETICAL PREMISES

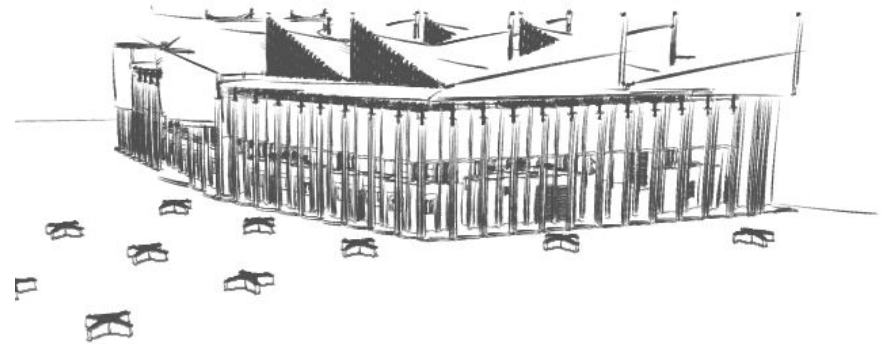
Anthropology and everyday architecture

MAIN RESEARCH QUESTION

How will the everyday food market be articulated in the 21st century urban environment?

AREA OF PROJECT

Basement: 4764 m² Market Floor 6494 m² First Floor 1586 m² Total Area 12 844 m²





01. introduction

This dissertation explores architecture by forming an analogy with food. Food guides the ritual in the same way a built structure guides the consecutive patterns of life. Food forges relational bonds with the environment and our place in society. Architecture fulfill the same role.

The program will aim to create a food market; this civic space in Pretoria Central should be more than a food market, it must be a blueprint for social engagement. The aim is to form a common ground between the rural and the urban in an urban context: a consumer society that could be sustainable in the 21st century.



the problem is...



fig. 1.1

Today there are three main dilemmas that determine future planning, they are:

- Global Warming caused by CO² emissions
- Urbanisation (In 2008 the population that lived in urban areas has passed the 50% margin and it is expected to be 60% by 2030)
- Economic Recession caused by reckless lending on sub prime minimum.

In view of the above situations, it is clear that modern man's way of life must be reviewed. Food procurement as the basis to sustain life, can be assessed in the following criteria's:

CANNABALISM

The production of food is becoming more and more secluded from the human race. Where farming was the predominant vocation, the majority of people are now oblivious to where food comes from. The urban population has a perception that the city is separated from the natural world and that the 'environment' is some distant unspoilt land. Yet it is the environment feeds the majority of people everyday. Being detached from the natural makes one unaware of the effect the need of food costs the planet.

A few worldwide statistics:

Cities cover just 2% of the world's surfaces, but consume 75% of the world's resources. (Nakada : 2008)

Although the population increased with 70% from 1950, the calories available per capita increased

with only 17%. This means that everyone on earth could have a minimum intake of 2,720 kilocalories per day if food were distributed more equally.

Ironically there are still an approximate 798million undernourished people in developing countries as of 1999-2000. (Pfeiffer 2006:24)

As a result the human race is eating its own survival. The food industry needs to be re-examined to lighten the environmental damage that our appetite is causing the planet.

THE MIDDLE MAN

Today's food industry is exploiting the producers and consumers to profit from the necessity of food. The path of produce from farm land to the shelves is a complex and even unsettling structure;

The common practise is to acquire groceries from a supermarket chain store. These outlets buy their stock from municipal markets or directly from an agent. Retailers and mark agents determine the price they will pay the farmers. The farmer's expenses to produce the food is not considered, resulting in a producer that is unsure of a profit. The price offered may be less than the mere input cost of production. The predetermined prices give the middleman the power to manipulate the industry. This has devastating results:

According to Marion Nestle only 20% of the USA food retail price went to the producers, the other 80% is 'added value'. In other words profit, packaging and marketing. One cannot see how this adds value to the product self. (Steele 2008:p95)

The Tshwane Fresh Produce market determines their prices on basis of supply and demand. Agents take commission on; potatoes 5.5% to 5%; vegetables 9.5%-10% and on fruit more



or less 7.5%. This is over and above the 5% the municipality deducts from the price. In 2006 the market had over a R1 billion turnover for the financial year. (Tshwane:2006)

The main aim of the food industry is to make a huge short-term profit, not to save the land or to support the stewards of the land. It seems unfair that the same people that take all the risk to put food on everyone's table are the ones that get kicked in the face. The middle man walks away with the biggest piece of cake. So the industry that actually feeds us is being killed, slowly but surely.

SUB-PROBLEM: PUBLIC IS GONE

Supermarkets, the big sheds surrounded by masses of vehicle parking bays, are not compatible in urban centres, they are an urban enemy. Human scale is not a priority in supermarkets but only economic floor use and profit.

Malls are individualistic and separated. It does not prod one to be involved in community life. Malls and supermarkets do not welcome 'otherness'. The urbanite must conform to the taste of the masses. You may not raise your voice, hand out leaflets or take photographs. Where is the supposed freedom? Historical markets were the very core of brutal and chaotic city life. The anthropologist Marc Auge named supermarkets together with airports as 'non-places' that are only instrumental linkages with little authentic local identity and lack quality of living spaces. In contrast to this are traditional markets 'anthropological places', spaces that carry memories and associations. (Sievarts 2003: 71) The urbanite must adhere to these 'non-places' and this result in a community of passive stakeholders. True social interaction is lost and the individual becomes an island in a sea of depression as the urbanite does not belong and is not involved in his/her environment.

Carolyn Steele sums it up in the following: "The battle over food is not just about what we eat; it is about society itself.

Public life is the social glue of cities; public space its physical expression. Without them, urban society – civilisation itself – is fatally weakened. The role of food in forging both is immense.

Supermarkets fit in with our crazy, hectic lifestyles. But do we really want them to design where we live? In the end it comes down to whether or not you agree with Margaret Thatcher's infamous dictum that 'there is no such thing as society'. If we all wish for a comfortable suburban lifestyle, then supermarket cities – for those who can afford them – is the future. But if we believe civilisation should deliver more than that, we are going to have to fight for it." (Steele 2008:p152)



...the marketplace was the center of all that is unofficial; it enjoyed a certain extraterritoriality in a world of unofficial order and official ideology, it always remained with the people. - Mikhail Bakhtin (Beattie 2008:45)

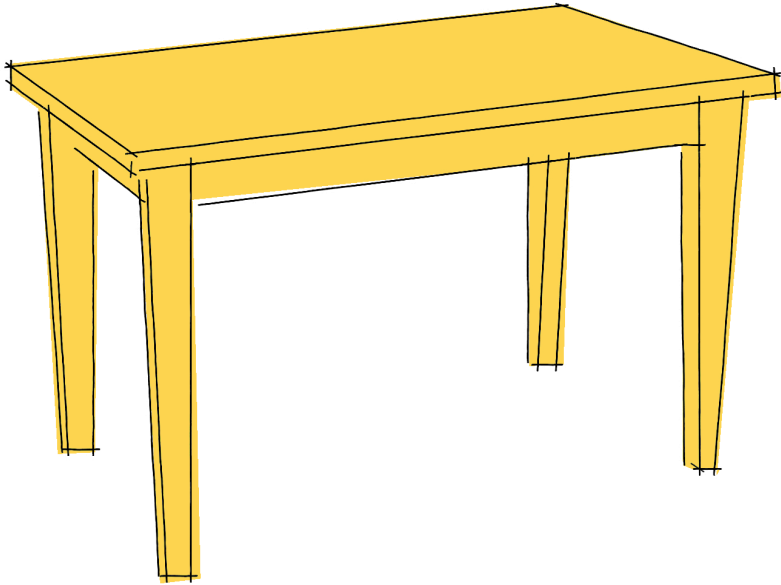


When food security is under threat due to the effects of global warming the first survival mechanism is to convert back to an elemental lifestyle. This entails to grow one's own food. This will be in the best interest to save transport, pesticides and packaging but in view of the rate of urbanisation and the concept of a compact city, urbanites will not be able to sustain themselves. This is a utopian idea that is not sustainable. Vegetables may be grown in pots but a cow and chickens may be problematic in an apartment, three storeys high!

A market place will always be viable in an urban environment, especially one of high density. For economic as well as environmental sustainability the best practice (like the traditional market) would be that more medium and small scale farmers would dominate the industry rather the larger industrial farms. It would be in the best interest of the consumers as well as the farmers if the producers could control the market and not the middle man. However, the current system is not designed for this direct relationship of producer to consumer. This is confirmed by Chris Moerdyk in an article on news24 where he accentuates the fact that supermarkets do not have the infrastructure so that farmers can deliver produce directly to the masses. (Moerdyk: 2009) In traditional market places the farmers would have sold their goods themselves but to keep an everyday market and produce enough goods for commercial viability will not be possible; the administration of such a new sufficient market complex will later be addressed in Chapter 9.

Food is the social cohesion of human life, therefore if one designs a market there must be ample opportunity for interaction. A market is inherently a place of transaction (theoretical argument) on different levels. These levels range from the transaction of the market place to that of the city, the transaction between the urban and the rural, the transaction of goods to consumers and the interaction of the social urbanites. Therefore all these different levels should be laid on the table when a market is prepared.

02. theoretical argument



engaging architecture

Architecture is a profession that should be preoccupied to transfer anthropology to the built environment. The study of humans in their environment and how they interact with another within routine and ritual is of essence to design suitable architecture. Appropriate architecture should sustain life in the present and the future. The building that is designed today is the inheritance this generation leaves to the next, architects should be the ambassadors for that future.

To separate life from architecture so that it is abstracted into contradictions, manifesto and simplifications is to dust aside the purpose of architecture; to sustain life and give shelter to people and their belongings. This is confirmed by Robert A. M. Stern: “Architects need to get out of the narrow confines of ideology and into the fresh air of the real world a great deal more than most of them do.” (Cheng 2003; 21) Architecture is primal a physical element for the habitat for humans, not a theory.

Architecture is maybe taking itself much too seriously.

INTRODUCTION

Architecture should house life in the true meaning of the word. The problem with the contemporary design of buildings is that it is preoccupied with form and program and not with the humane relationship to it. We design life out of it.

The study field of Anthropology was always perceived as the study of secluded tribes, this has changed in the 20th century when anthropologists also included other disciplines. Anthropology, according to Cris Shore is “an understanding of other cultures and value systems and how they work; critical awareness of the importance of social context in shaping thought and action...” Human’s behaviour of the everyday must be studied; these have certain systems of social movements and programmatic requirements. (Architectural Design 1996: vol66 p7)

Buildings or spaces enclose the users’ actions by establishing a stage that acts as a reminder for the repeated actions that are known as rituals. Peter Blundell Jones reasons that if one looks at art as a cultural system, the difference of a bicycle shed and that of Lincoln Cathedral that Nikolaus Pevsner asserted can’t be followed. The difference between these two examples is that they lie at opposite ends of the same scale within a cultural setting. For anthropologists the recurring human behaviour are omnipresent and will have a constant meaning, whether in a cathedral or a bicycle shed. (Architectural Design 1996: vol66 p22)

There is a real need for architecture to engage imaginatively with the patterns of life as it is lived in different situations, both the everyday and the celebratory level, the latter punctuating and giving rhythm and meaning to the former. To fully understand human life and to determine the basic anthropological paradigm of man, this dissertation will look at consumption of food as the metaphorical medium for integrating architecture and everyday life.

WHY FOOD?

“It is absurd to think of eating as a sort of fuelling-up process necessary to enable us to go off and do other quite unrelated things. There are no unrelated things. Man is man in an environment, and eating is one of the principle forms of commerce between ourselves and the world. It is also a principle factor in constituting our relations with other people. I must insist again that there is a great deal of truth in the saying that man is what he eats. He craves his surroundings into the shape with his teeth.” (Versfeld 1991:84)

Food guides our daily lives in repetitive sequences of social interaction, i.e. meals provide an order to the everyday. Although it is an omnipresent ritual that sustains human life, it is treated as a matter of fact. The same applies to buildings, it is the shell of our daily actions and yet the man on the street does not think about it every day. Spaces guide our movement and relationship to the earth in a very subtle manner. Food guides our routine and connection with the natural world. This daily sequence and perception of food may shed some light on the matter of creating architecture for the everyday and of the everyday.

THE TABLE

The table establishes the centre of community life, the site of common daily prayer... (Horwitz; Friedman: p122) Around the dining table a number of transactions take place. These transactions form a ritual and rhythm in a certain context. In view of this table and architecture one can explore the transaction in both the relationship humans have to one another and the situation which the table and architecture creates.

The relationship on different levels:

The relation with fellow beings:

The act to buy, cook and eat food is a pivoting point for social interaction. Food functions as catalyst for the social transaction between participants of a meal. Even in contemporary society the meal is still the most social event of everyday. However, the meal functions as a dual event that can be the daily routine of eating but also be the celebration of a special occasion. The scale of cultural setting already mentioned by Jones is applicable. Special meals celebrate friendship and anniversaries as the everyday meal is just a few scores down the social context. (Architectural Design 1996: vol66 p22) Regardless of the score of social context, the meal creates a structure that can accommodate chaos. This structure at the table consists of the table top and the plate where an array of different meals can be accommodated. Just like a floor and walls create a bowl/space for different functions to occur. The food that is served on the table is subject to seasonal availability and a meal must be planned accordingly. For human comfort the seasons must be taken in consideration to create spaces of comfort.



fig 2.1

The relation of the dead and the living:

When food is served at the table one can not avoid the fact that food was once alive, whether livestock or vegetation. In this transaction of the dead to the living you become aware of the importance of sacrifice and how you need it to sustain life and growth. Food and drink is internalised, consumed by the living. It seems as a brutal act of killing, but is of essence for survival. As Steele states: “The rituals of food transcend doctrine, myth or belief: they carry deeper messages, about life itself. Nothing could speak more eloquently of our basic commonality: of what it means, in the end, to be human.” (Steele2008:211) In the built environment the role of the dead and the living is reversed. The buildings are constructed of dead material, but consume its inhabitants and in that way, the building or space is maintained. Architecture needs the living otherwise it is spoilt. However, the users also consume the space. To create a place that gives enough opportunity which will enable a place to grow, not in a physical matter but in meaning and reputation. In a conclusion to a study of squatter settlements by John Turner and others they found that regardless of the

poverty of the inhabitants, the flexibility, adaptability, and self-determination of these settlements – the ability they provided for their inhabitants to express themselves in building – made them better in some ways than American standardised housing, where the high level of technological development prevented individual involvement in the creation of dwellings. (Berke1997:98) This involvement is a building consumed.

The relation to the producer/cook/creator:

This relationship is not evident or even intensely experienced by the eater. In this instance the cook is a chef in a restaurant, separated from the party at the table.

The creator of the dishes, the thought and recipe is a mystery to the users. There are a few associations between the chef and the architect. Both work is done in secret and takes intuition to complete. The different ingredients or elements have little meaning unless it is organised in the correct quantity and proportion. The planning of a dish or a space is for the enjoyment of others, the chef may use spices, heat and measuring cups while the architect uses texture, orientation and dimension. The design and cooking is a service for fellow men and that of the environment. Friedman notes: “Each test exercises the question of good form: the first test, which requires knowledge of anatomy, enables the master chef to measure technical understanding and imagination; the second, which requires knowledge of custom, enables him to evaluate ethical disposition. ...The chef needs someone who can do more than transform food from a fact into a poem. This latter test therefore demonstrates not so much artistic skill as suitability to context. He knows that however imaginative or unwieldy the ratio of carrot to festivity, culinary art always elaborates the immutable criterion, ‘fit to be eaten’.” (Horwitz; Friedman: p116) In architecture it would be ‘fit to be lived’

The relationship of the produce to consumer:

This transaction takes place before it comes to the dinner table, yet the produce was first on the market table. It is here that not only produce but also ideas, advice and camaraderie are traded. At the market one is confronted with an array of choices and to survive the shopkeeper must perform to sell his or her goods. According to Kirchenblatt-Gimblett, performance encompasses social practices – whether customs or laws, ritual or etiquette – and thus composes what Pierre Bourdieu calls the habitus of

everyday life. When rituals are displayed, when participants are invited to exercise discernment and appreciation, 'food events move towards the theatrical,' a convergence of taste as a sensory experience and taste as an aesthetic faculty. Like the table itself, food stages events, congregating and segregating people, and food becomes an architecture that inhabits the body. (Horwitz: Horwitz p11) Every person around a table has a role to play to make the meal successful. A building or space in a city whether new or old has a specific role to play in the performance of the city. If a place is so designed that the dweller buys into it and performs his/her role, the architecture of the everyday makes it a profitable space.

The relation to the immediate habitat; the situation:

The situation of chance:

Situations could be planned, or could happen by chance. The problem is however, how one goes about to design or plan situations, which must still be functional, as chance. Guy Debord "proposed concepts such as derive (literally, "drift"), a semi programmed wandering intended to bring new urban connections and insights through displacement and dislocation; psychogeography, the study of manipulation to environments to create new ambiances and new psychic possibilities; and situation, a spatial/temporal event staged to catalyse libratory transformation." (Berke1997:20)

The transaction to the cultural situation:

'A certain Cuisine is a function of the genius loci, the spirit of the place. And one who says "place" also says "season" one who says "earth" also says "heaven". I find it impossible to abstract the dish from its environment. (Horwitz; Weiss: p26) Any culture has signature dishes and customs regarding food. One could study this phenomenon by looking at the indigenous livestock and vegetables available as well as the influence of other cultures on the culinary tradition of a society through travel and trade. The exchange of the food of different cultures, whether, African, Indian or even Asian, gives the cultural make-up a diversity that add meaning to the landscape. This can form an analogy to Critical Regionalism. This dissertation will not study this in depth.

The transaction to the immediate context:

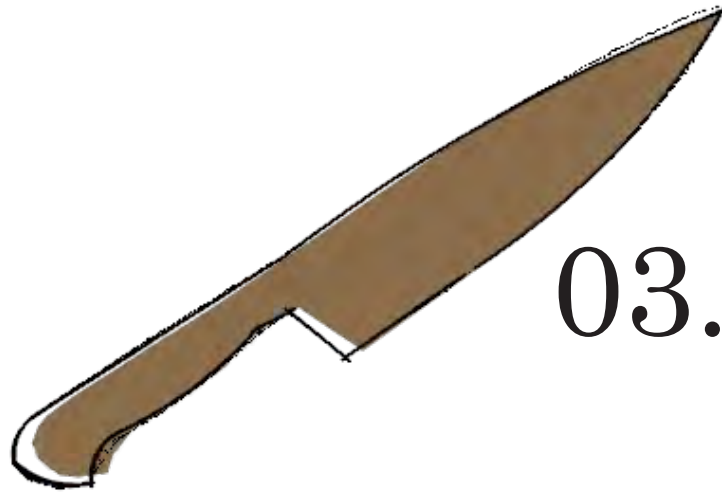
The table does not enclose space but by the presence of the table a certain program can be utilised in a space. In the same sense how a build intervention in a landscape (whether rural or urban) can give meaning and program to a place. When a building is introduced into a urban context such as this market, transaction between the market and the city is vital. The presence of the market in the space of the city provides, just as the table in a space, opportunity to enrich the urban landscape and to give new meaning and program in the city. The architecture must be executed so that the situation of that area is enhanced so that users can consume the space with delight.

The transaction to the remote landscape:

Considering food, the meal's dependence on the remote landscape is recalled by flowers at the table's centre, testifying to the interdependence of sun and soil, grasses, grain and grazing. The table – much like a building site or even a city – incorporates the farmland and field in a relationship that bear on the person having the meal. (Horwitz; Leatherbarrow: p219) The body is centred round the table but the different elements on the table makes the body relate to the natural world; the salt of the sea, steak from the land surrounded by the potatoes, carrots and apples from the earth; the tablecloth and napkin from the cotton fields, the plates and dishes that represents the earth. On the topography the elements are used for the construction of space; the steel from the furnace, the wood from the land, the dwellers from the dust. In amalgamation of the above are related and forms part of the larger landscape. To fit in, to be part of, to consume and to be consumed by the landscape.

CONCLUSION:

The table is a place of related things. Every person has a unique transaction to others and that the architecture and so also to the environment. If the table is architecture, it must be the right dimension and be placed right so that maximum enjoyment and opportunity may be created for transactions on a number of levels. This makes the table functional everyday.



03. research

Architecture is the artefacts or remnants of a society, the structure left behind where social ordering systems functioned. For the anthropologist, the exploration of inhabited places, the daily use and the way it is constructed, can provide insight to a whole culture and its ideas. No occupied space is neutral; they are “cultural constructions of one kind or the other.” (Waterson1997: xvi) Even the building of the Modern Movement represents a strict functionalism of the dictum; a machine for living. In retrospect this is more in the field of Archaeology, a subset field of Anthropology.

As architecture functions as witness to the social form, the reverse is also possible to study the cultural movements and to translate it into a built form. According to Bourdieu the arrangement of space can be seen as a book from which one learns one’s vision of the world. This world is read with the body through routine and movements so that it creates the space within which one performs life. (Waterson1997: xviii) One could say that architecture could become Archi-ology. Architecture is then a reaction to the daily ritual of the body through space. The behaviour of users of a market and the people in the city was studied to give clarity on how people consume these places:



🔪 market behaviour



fig. 3.1 Ideas



fig. 3.2 Tasting



fig. 3.3 Tasting



fig. 3.4 Conversation



fig. 3.5 Wander

People that move through the market is either in a rush and need to tick off a list, or is browsing for products and take their time to get all they need. Where there is something interesting and people gather, other people will also go to see what is going on. Other will wander absent mindedly through the aisle and not say a word. If something catches their attention they will stop and inquire. In supermarkets one can not negotiate the price but this can be done at a market. Products can be tasted and this forms a ritual in itself of exchange and negotiation. People want to sit and eat, where there is not enough space, people will even lean against a wall. Market visitors move in couples or alone.





fig. 3.7 Lunch hour

During observation of the ritual of people in the city it has been concluded that in an African city, dwellers prefer to sit at places along movement routes. From this seating one can engage with your companion or just look at the passers by. This movement creates energy that attracts more people. Spaces will be utilised in ways that may not have been intended like the informal restaurant in the middle of the entrance of Polly Arcade where plastic table and chairs are placed so that 'pap' can be served.



fig.



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fig. 3.9 Lunch our in Van der Walt street



fig. 3.10 Street Salon



fig. 3.11 Old man



fig. 3.12 Shopping

state of affairs

FOOD PRICES

In June of this year the Competition Commission of South Africa launched an investigation against the leading South African supermarket chains, Shoprite/Checkers, Pick 'n Pay, Spar and Woolworths (collectively these stores comprise more than 60% of the market turnover). This was initiated after stakeholders and the general public raised concerns of the aggressive food price hiking. (Beachhead: 2009) This underlines the importance of this dissertation and the questioning of how food markets will look in the future. The current state of the food industry in South Africa is shocking. Rapport reports on 27 September 2009 that South African households spent a total of R356.6 milliard on food in 2008, this is 22.6% of their income. When one compares it to transport of 8.3% and education 3.6% it is no wonder that an investigation was needed. This report also indicated how spending patterns differ from population groups. The black population spent a total of 61, 7% on food. This is expected as this is the predominant population but this population group of whom more than 60% earn under R50 000 per annum, spends more than half their income on basic needs such as food. (Van Rooyen: 2009)

NUTRITION

According to Dr. Peter Jacobs, the head specialist researcher at the Council for Humanistic Studies, 10 to 12 million people in South Africa has a deficiency of enough nutritious food. This lack of nutrients has far reaching consequences. According to Jacobs, sufficient nutritional food make people more productive therefore they can earn more money. The average low-income household that consists of two adults and three children can survive on a basic food basket of R1100 per month. The reality is that the bottom part of the low-income group must get by on R250 a month, R100 less than what is needed for a very basic basket to survive. (Duvenhage:2009) Food can't just be cheap but must be of both high quality and nutritional value. After interviewing a number of individuals the above mentioned statistics was confirmed. Many families survive on a 7kg bag of 'mielie meel' and a can of instant soup powder a month in Pretoria. (Visser: 2009) Although these people represents the lower LSM group (Living Standard Measurement) the percentage of the lower LSM group has reduced from 2001 to 2008 by 32%. (Stoltz:2009) Hopefully the situation will change in this part of Pretoria by gentrification.

QUESTIONNAIRE

Apart from the actual price and value of food the customs of the consumer has a significant role in the planning of a market. To study these customs a field study was conducted by means of questionnaire (see fig 3.13). The questions are so formulated to determine the different food people eat in this city. As the program is a food market, the manner in which consumer move to shops and the frequency and time of the visits, indicate the direction and change one could make to these routines. Different produce as mentioned in question 11 shows if consumers are interested in produce that will promote sustainability and ethical issues. To ask if people invite friends to their houses indicates a certain culture and shows if people use food and drink as catalyst for social interaction. Twenty of the questionnaires were filled out by people residing in the area of study, i.e. the North Western Quadrant of Pretoria. The other twenty questionnaires were completed by a middle LSM group.

CONCLUSION AFTER FIELD STUDY

There is a significant difference between the lower LSM and middle LSM group in the frequency of grocery shopping and of eating out. The different types of produce mentioned in question 11 were unknown to most of the people. This is confirmed by

the 2009 report of the Bureau of Food and Agricultural Policy (BFAP) that people in South Africa are not that conscious about organic, fair trade etc. (Stoltz:2009). Most people do shop alone for groceries but do not eat alone, and across the board, all use food and drink as a social catalyst to invite friends and families into their homes. In the book African Salad, it is stated: *"Feel at home.' We really got to think about what it meant to be at home. It came down to mom cooking your favourite meal for Sunday lunch with the family. Whoever we are in this country, food and family makes us happy. It is those moments when the family gets together and celebrates its identity, its togetherness, that give us that warm 'this is life' feeling."* (De Beer: 2005) What was learned in this study, was that one cannot take these findings and create a market place for people that only live on the bare minimum. This is not part of a culture or a ritual but the reality that people face just to survive. When one provides a market with an infrastructure that entails the farmer to deliver straight to the supermarket, the middleman is cut out of the equation. (Moerdyk: 2009) This may lower the price and be more sustainable on an environmental- as well as economic level. People may be able to afford more food and to be able to enjoy an occasional restaurant meal.

Occupation: _____ Age: _____ Suburb: _____

1. Where do you normally buy your				
Fruit/vegetables	Meat	Fish	Bread	Milk/Cheese

2. How do you get to those shops?				
Walk	Bicycle	Taxi	Bus	Own vehicle

3. Mark the words of how you feel about grocery shopping				
Exciting		Pleasure		Duty
				Social event

4. When do you buy your food?				
8h00-11h00	11h00-14h00	14h00-17h00	17h00-18h00	18h00-20h00

5. How often do you buy food?					
Once a month	Once a week	Twice a week	Three time a week	Every day	Other (please state)

6. How often do you go to a restaurant or get take away? (R= restaurant TW= take away)									
Once a month		Once a week		Twice a week		Three time a week		Other(State please)	
R	TW	R	TW	R	TW	R	TW	R	TW

7. Do you buy or make the following meals and what is the time you enjoy this meals and where?				
	Buy	Make yourself	What time of day?	Where
Breakfast				
Tea time				
Lunch				
Dinner				

8. Do you shop on your own most of the time?	yes	no
----------------------------------------------	-----	----

If no, with whom? _____

9. Do you eat alone most of the time?	yes	no
---------------------------------------	-----	----

10. For how many people do you cook/buy food for? (Yourself included)			
Only 1	2 -3 persons	3-5 persons	More than 6

11. Would you support the following types of produce?		
Organic	yes	no
Free range	yes	no
Preservative free (MSG free)	yes	no
Fair trade	yes	no
South African produce	yes	no
Community support trade	yes	no
Independent shop owner	yes	no

12. Do you invite people over to your house to enjoy food/drinks?	yes	no
If NO, where do you and your friends meet?		

13. What is your favourite dish?	
----------------------------------	--

fig. 3.13

By using this information as background and through the observation done in the city, four fictitious characters were created. Their situations are described in an event and how they react to it in the context of the city. As Bernard Tschumi states in Manhattan Transcripts: "Their (the transcripts) explicit purpose is to transcribe things normally removed from the conventional architectural representation, namely the complex relationship between space and their use... between objects and events. Their implicit purpose has to do with the twentieth-century city". In this dissertation the space and the user is applicable. The event becomes the space in which the daily rituals are conceived by the user. Tschumi further asserts that there is no coincidence between movement and space, man and object, being and meaning. This can't be the case as the architect could only manipulate movement through space but what the user makes of it is absolute chance. What the consumer makes of the space is not necessary what it was intended for. That is the implicit essence of the twentieth century market. (Tschumi 1994:2)

These fictitious characters are positioned in a real Pretoria, most specifically in the North West Quadrant of the city. This could be

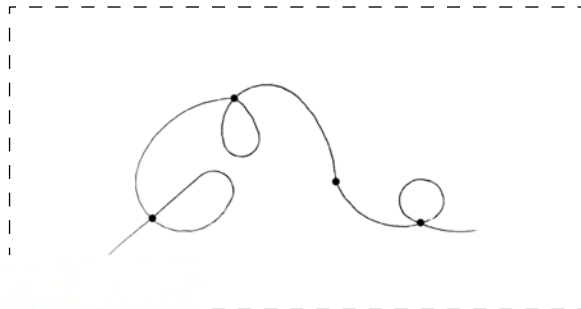
real people in actual situations. The events that they participate in everyday, both repeated and varies at the same time creates the situations they are in and the relation they have to the context. There are four main movement patterns that one needs to cater for when designing a public space. That is the direct mover, the purposeful wanderer, the wanderer and the between nodal movement. All these patterns could be applicable to one person at different times. These patterns are portrayed through the four characters. Meet the characters:



#1lucky dlamini

wanderer
loiter / school children

Lucky is 23 years old and came from Bela Bela to Tshwane to find a job after school. He is still unemployed, sometimes he wonders if he should not join a syndicate but he is religious and fears hell. He lives with a friend in an old RDP house in Soshonguve. He travels everyday with the Metro to Belle Ombre station to see if he can find odd jobs in the city. Most days he hangs around the market to see if he could help with the load and unload of produce or if the market may need to hire someone. When he does not find anything he visits his girlfriend, Beauty that works in a small hair salon in a latch on structure on Schubart Park (see framework) Beauty's mother does not like Lucky, as she feels that Beauty can do better. This means that Lucky feels uncomfortable to visit Beauty at her apartment and so they normally go to the streets. This is a headache for Lucky as he is low on cash and the restaurants are expensive so they just go and sit in the square.



#2 vanessa hotbottom

between nodes
worker/ children

Vanessa is 41 years old and works in the Post Office. She lives just west of Heroes Acres in a 3 bedroom duplex with her husband and her two girls, Amanda (17) and Shirley (13). She travels to work with the Rapid BRT to the Post Office that is situated at the taxi node. Vanessa needs to be at the Post Office very early in the morning so her husband, Perry, accompany the girls to school. They also use the BRT. Perry works at Munitoria. Lunch hour is very busy at the Post Office so she takes lunch later in the afternoon. Vanessa needs to buy groceries every day as their house doesn't have so much cupboards and large quantities is difficult to carry on the bus. Her daughters sometimes come to visit her after school and stay in the vicinity with friends until they can go home after work. On Sundays the family enjoy to go to the park around Steenhovenspruit for a picnic or just to play mini-cricket. In the holidays Amanda do odd jobs at the Agricultural Research Centre.

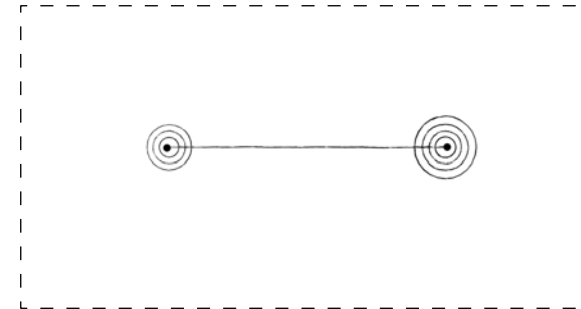


fig. 3.15

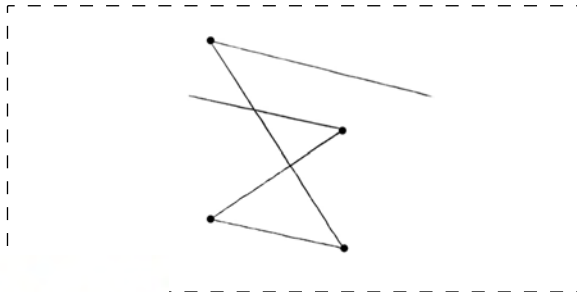




#4 julius malan

direct mover
clerk/ bussiness person

Julius is 32 years old and works as runner for a law firm on Church Street. He lives in a flat on the second floor in Struben Street. The work gave him a bicycle so that he could run his errands as quickly and efficiently as possible. Although Julius is very diligent and efficient in his work, he is also shy and that makes it very hard for him to talk to a girl that he fancy at one of the market stalls. He would really like to ask her out for dinner at a nearby restaurant and then to enjoy a spring jazz festival in the square, but he doesn't know if she even likes jazz. He grows some of his vegetables in a pot on his balcony but still buys a lot of vegetables at the girl's market stall just to see her. His friends live in the vicinity. They like to go and play soccer at the taxi rank in the evenings and then enjoy a cold beer at the market. They don't know about the girl but they constantly tease him about his shyness.



#4 ouma sarah

purposeful wanderer
shopper /tourist

Sarah is 62 years old; she lives in a one bedroom apartment just north of Kruger Park. She moved to this part of the city as her son, John and his girlfriend lives nearby. She used to be a matron at a hostel at the University of Technology. She walks large distances so that she won't feel confined to her apartment. She has a car but hardly uses it, just on Wednesdays when she visits her friend in Wonderboom. She does not like public transport. She enjoys visiting the market as she has enough time to talk to the sellers. On Thursdays there are bingo mornings under the trees which she enjoys. Every second Saturday, her daughter and grandchildren visit her from Rietfontein. Her daughter loves the fashion market that is held on Saturdays in the square. This gives Sarah a chance to spoil her grandchildren with ice-cream while their mom is away shopping. For extra cash Sarah helps to make jam for a friend, Deon Koo in one of the market kitchens. Her fig jam is famous in the market.

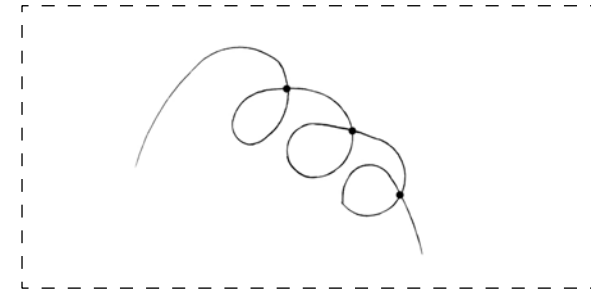
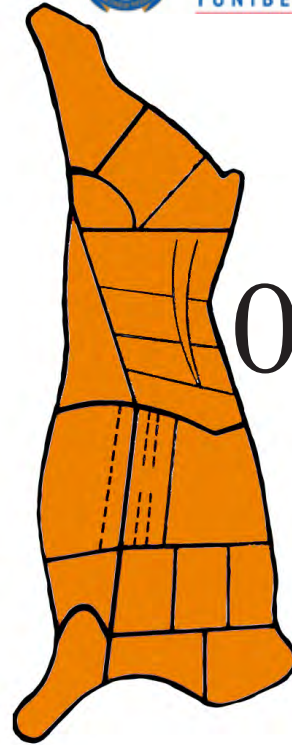


fig. 3.17





04. framework

Pretoria is a consumer.

This city, similar to western approach, functions on a linear influx and output of energy and waste. The city is fed by the surrounding rural environment, but also expects this environment to absorb its wastes. In order for the city to protect its dwellers in the future, it needs to start providing for them.

The city should start to function on energy from a circular motion.

world place



The exploration of an African urban language is of great importance. Cities in Africa were built according to Western ordering systems to establish and support the rule of Colonisers. After African countries obtained independence the “foreign” structure was still used. However, the way of using them changed. Michel de Certeau uses the Spanish colonisers in South America as example; “(the Indians) ...made of the laws (in this case urban design laws) imposed on them something quite different from what their conquerors had in mind... The strength of their difference lay in procedures of ‘consumption’.” (De Certeau 1984: xiii)

African urbanites consume the streets of the city different from what the Western dogma intended. The study that Rem Koolhaas conducted on the works of Lagos in Nigeria indicated that the urbanites utilise and reinterpret any opportunity. The whole city is a market place. When vehicles stand still in a traffic jam, the highway turns into a fair. The ambiguity of spaces creates a sense of chaos and yet it functions. (Imomus:2005)

In South African cities this is not so evident and yet the architect should know that to design in Africa, the spaces would not be dealt with as one would like them to function but will be used as see fit by the users. Opportunity for choice and survival are paramount.



fig. 4.1 SOUTH AFRICA

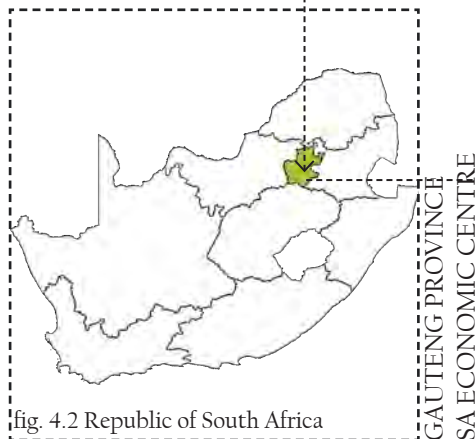


fig. 4.2 Republic of South Africa

GAUTENG PROVINCE
SA ECONOMIC CENTRE

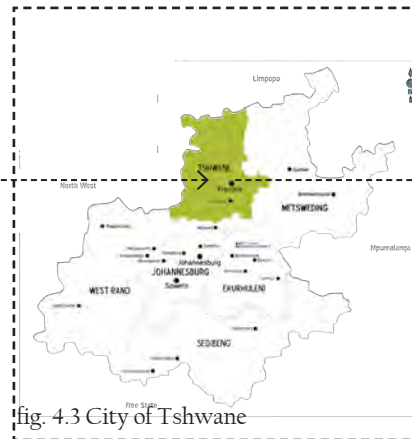


fig. 4.3 City of Tshwane

TSHWANE
MUNICIPALITY
CAPITAL OF
SOUTH AFRICA

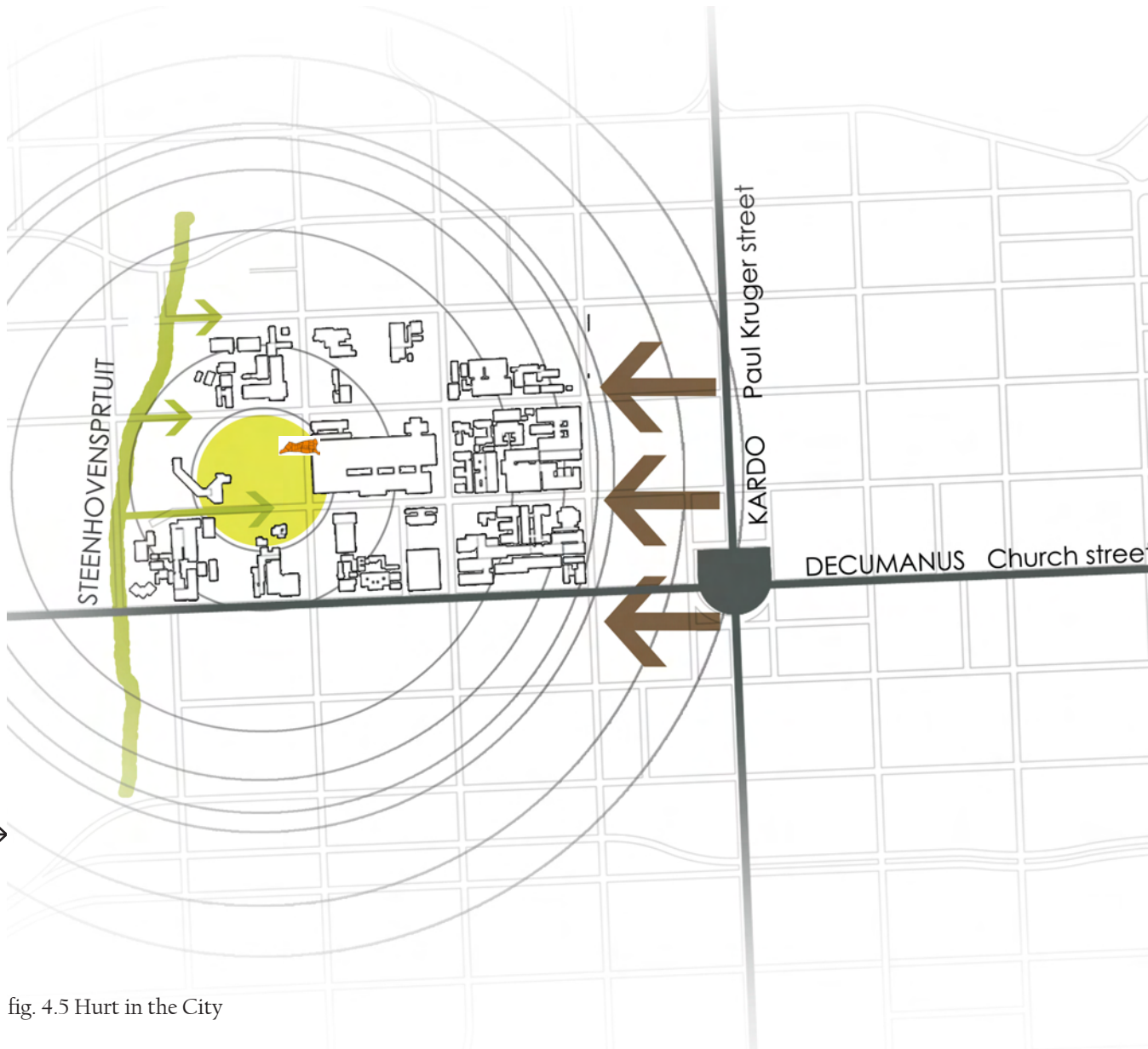


fig. 4.4 Pretoria Central

PRETORIA CENTRAL
HISTORIC CENTRE



study area and objectives



CHOICE OF SITE

Only three blocks away from Church Square, this area has a lack of energy. Despair and vandalism is evident in the area. It is located adjacent to the Steenhovenspruit, the historic boundary of Pretoria. This natural asset is neither maintained nor utilised. This neighbourhood is a scar in the urban fabric. By locating the hurt in the city the following objectives were opted for:

TO CREATE A SUSTAINABLE BOROUGH WITH ITS OWN IDENTITY IN THE CITY:

By focussing on the needs of the pedestrian by densifying and placing focus on shared public space

By providing dwellers with adequate access and choice, a true South African urban space is created

By utilising existing fabric to its fullest potential, both natural and man-made

By reconnecting the city with the landscape, creating a productive system

By addressing the basics of the daily city life

WORK EAT MOVE PLAY

fig. 4.5 Hurt in the City



framework explained



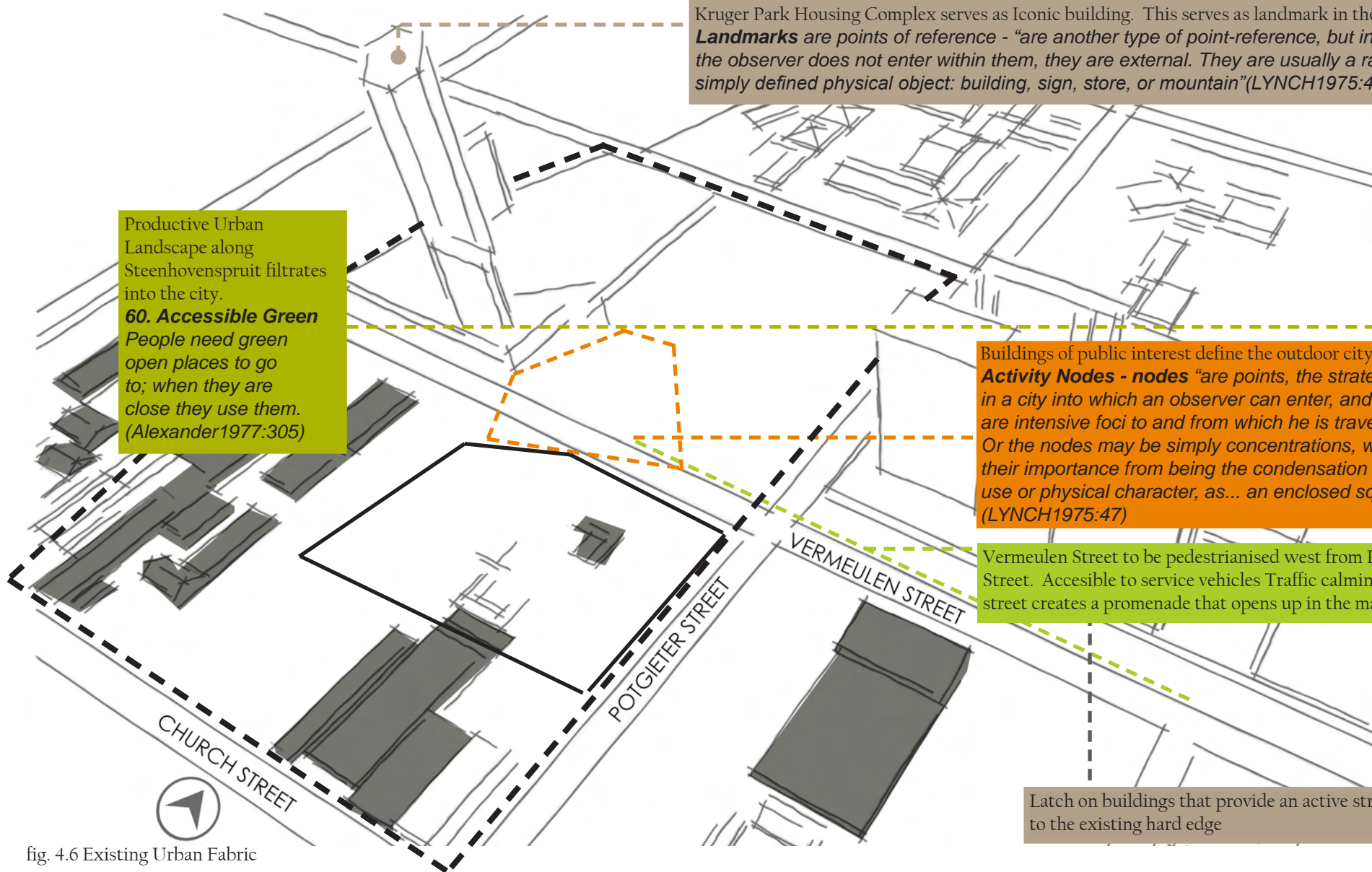
Kruger Park Housing Complex serves as Iconic building. This serves as landmark in the vicinity.
Landmarks are points of reference - "are another type of point-reference, but in this case the observer does not enter within them, they are external. They are usually a rather simply defined physical object: building, sign, store, or mountain"(LYNCH1975:48).

Productive Urban Landscape along Steenhovenspruit filtrates into the city.
60. Accessible Green
People need green open places to go to; when they are close they use them. (Alexander1977:305)

Buildings of public interest define the outdoor city room
Activity Nodes - nodes "are points, the strategic spots in a city into which an observer can enter, and which are intensive foci to and from which he is travelling... Or the nodes may be simply concentrations, which gain their importance from being the condensation of some use or physical character, as... an enclosed square ... (LYNCH1975:47)

Vermeulen Street to be pedestrianised west from Potgieter Street. Accesible to service vehicles Traffic calming two way street creates a promenade that opens up in the main square.

Latch on buildings that provide an active street edge to the existing hard edge



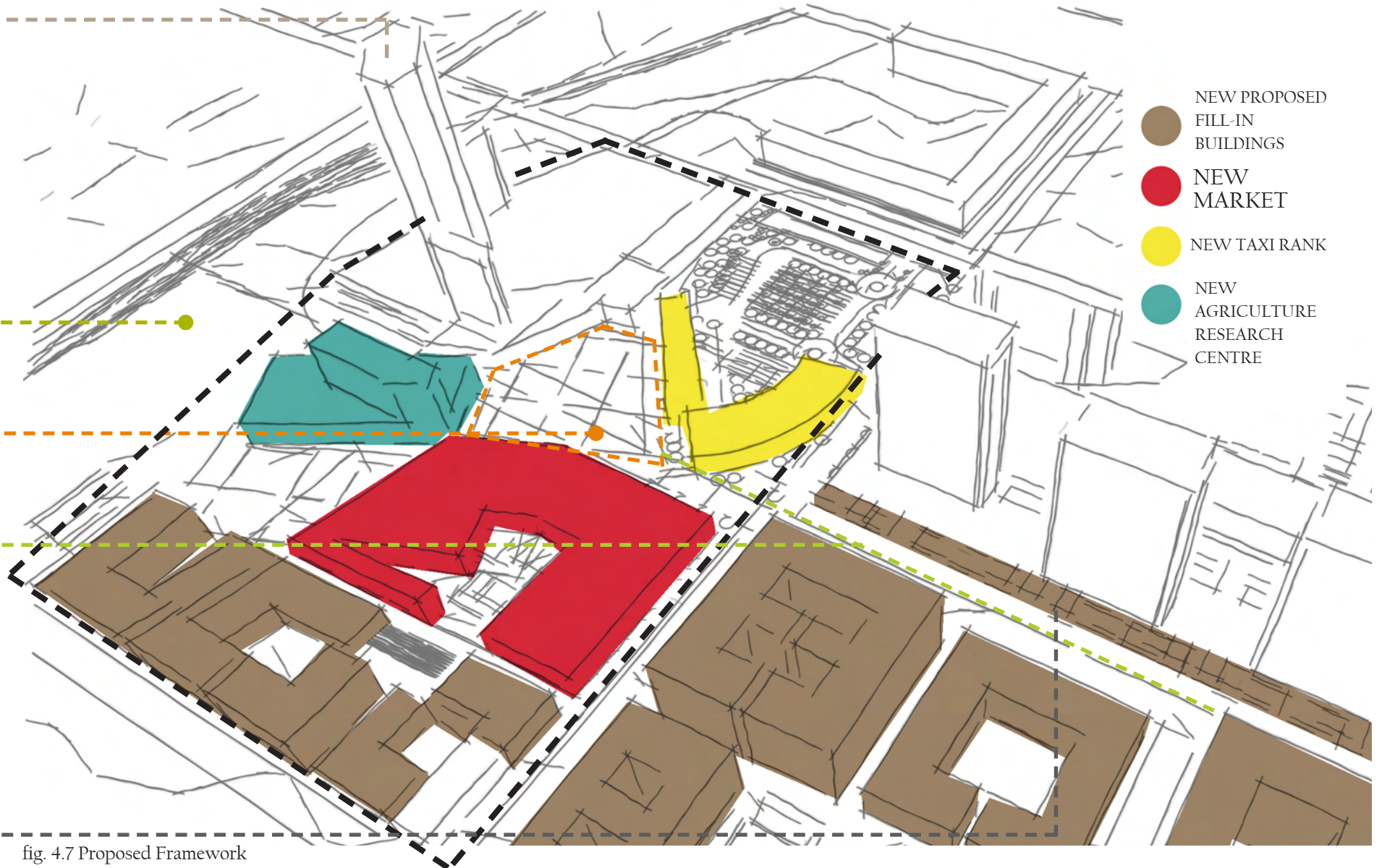


fig. 4.7 Proposed Framework



05. context study

We don't need new cities; we need to reuse and make better use of our existing urban areas. We don't need to take new land; we need to reclaim wasted, abandoned land. - Robert A. M. Stern (Cheng 2003:21)

Address: Abandoned land on
The southern corner of
Vermeulen and Potgieter streets. North
Western quadrant
Central Pretoria
Capitol South Africa

physical features



fig. 5.1 Study area

This part of the CBD is a place of opportunity. With adequate housing complexes, a rich history (see page 34 and 35) and space to develop, a district can be formed in this part of the CBD.

”Districts- areas with perceived internal homogeneity - “are medium-to-large sections of the city, conceived of as having two-dimensional extent, which the observer mentally enters ‘inside of,’ and which are recognizable as having some common identifying character”(LYNCH1975:47). Pretoria is planned around open areas and this language needs to be continued in the urban development of the city.



visual study

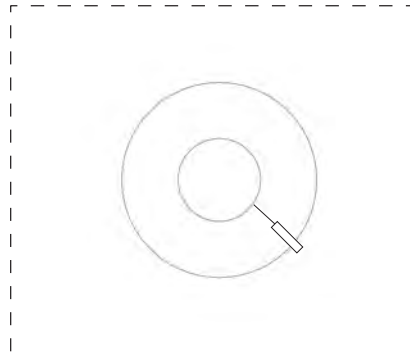


fig. 5.5 Wind rose - South East Wind

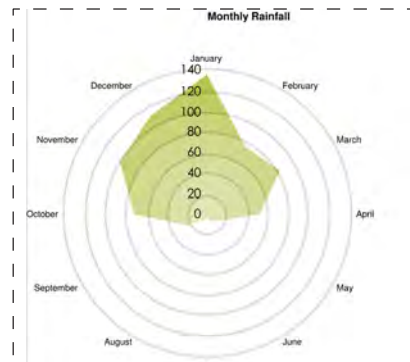


fig. 5.6 Rainfall - Average of 674mm per annum

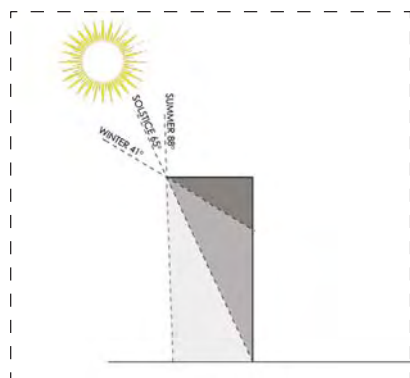


fig. 5.7 Sun Inclinations



fig. 5.2 These streets abounding in trees are diminished by the vacant land that pollutes the area with an ambience of insecurity. The Kruger Park complex towers above the site and form a landmark in the area. The cluster houses in the cul-de-sac need urgent maintenance.(fig.5.6) but will not form part of study.



fig. 5.4 Vermeulen Street east from Potgieter Street



fig. 5.3 Houses built in 1880 in a cul de sac



fig. 5.8 Corner of Vermeulen and Potgieter Street

texture in the city



fig. 5.9 Kruger Park



fig. 5.10 Kruger Park



fig. 5.11 Scubart Park



fig. 5.12 Schubart Park



fig. 5.13 Schubart Park



fig. 5.14



fig. 5.15



fig. 5.16 TPA Building



fig. 5.17 Mesada Building



fig. 5.18 ABSA Building



fig. 5.19 Mesada Building



fig. 5.20 Princess College



fig. 5.21 Koopkrag Building



fig. 5.22



fig. 5.23 New National Library



fig. 5.24 Princess College



fig. 5.25 Telkom Towers



fig. 5.26 Koopkrag Building



fig. 5.27 Queen St Mosque



fig. 5.28 Woltemade Building



fig. 5.29 Hallmark building



fig. 5.30 View from National Library



fig. 5.31 City Scape



fig. 5.32 City Scape

The buildings in Pretoria CBD are articulated in a definite mosaic aesthetic. From the detail on the columns on the ground floor to the cast in motive on the facades echo this aesthetic. Even the fenestration of high rise buildings creates a mosaic repetition. This is evident when one examines the Telkom Towers, Schubert Park and Kruger Park.



food in the city



fig. 5.33 Street vendors in Pretoria



fig. 5.34 Street vendor in Pretoria

Spaza shops are situated in the city where the most movement and energy is. Formalised restaurants and cafes are predominately east of Church Square, near the High Court or commercial activities. In the 10min radius from the site, a spaza shop is located at the entrance of Schubart Park and a shebeen is located opposite Kruger Park in Vermeulen Street. Very little food retail take place in this area. Just like supermarkets are anchors shop in a shopping centres, so can it regenerate abandoned land.

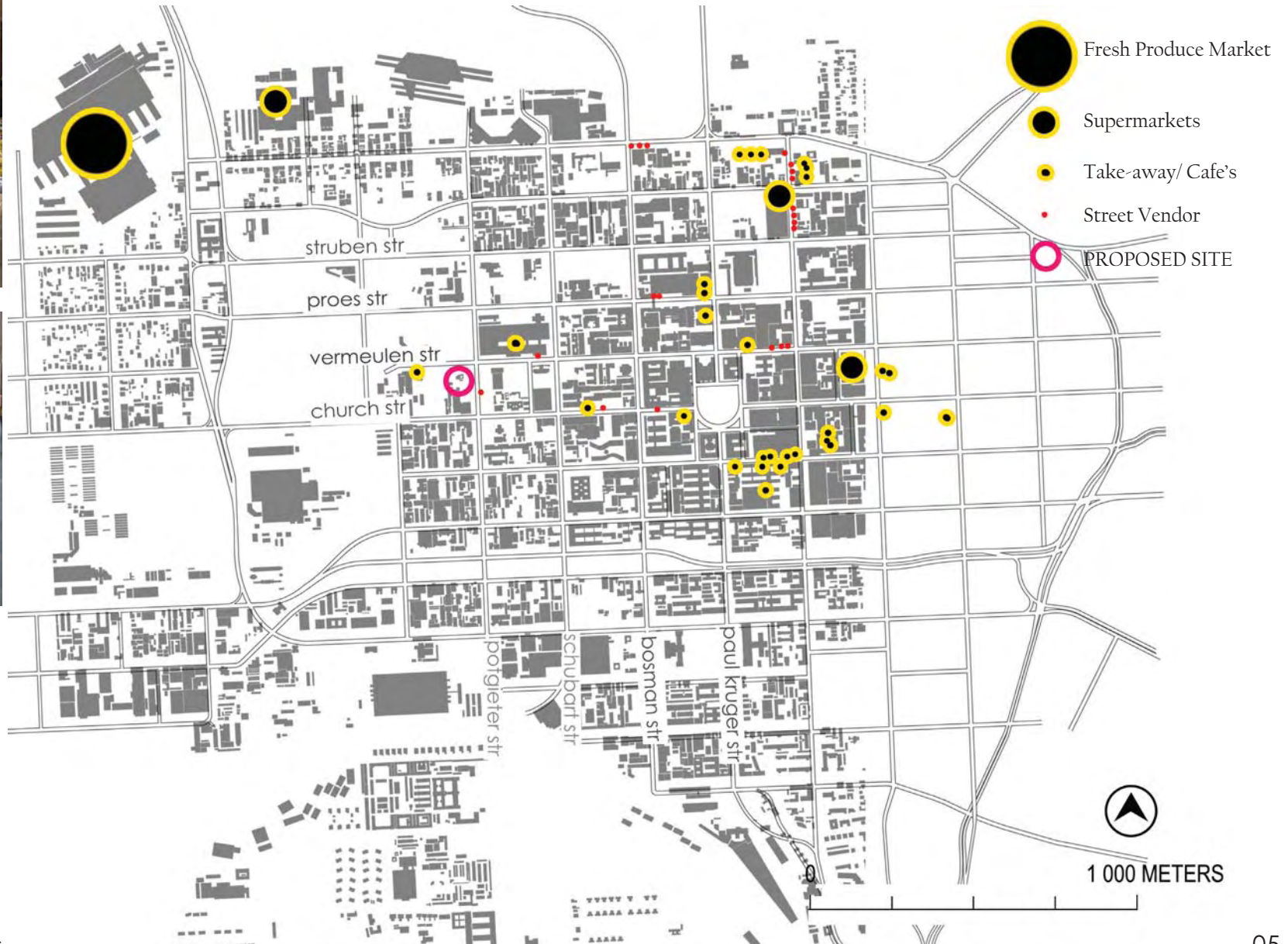
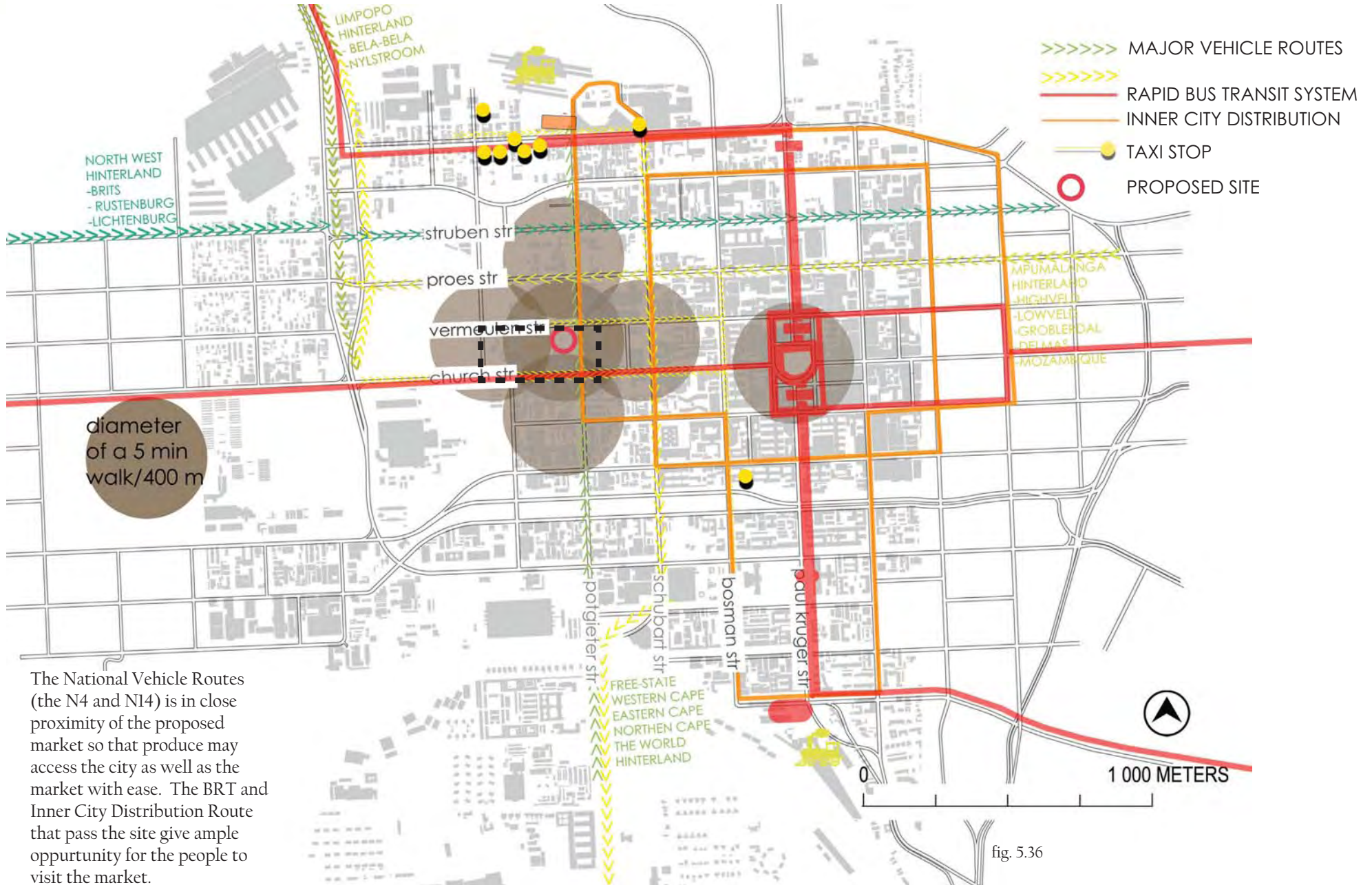


fig. 5.35



major circulation routes



diameter of a 5 min walk/400 m

The National Vehicle Routes (the N4 and N14) is in close proximity of the proposed market so that produce may access the city as well as the market with ease. The BRT and Inner City Distribution Route that pass the site give ample opportunity for the people to visit the market.

fig. 5.36



access to site

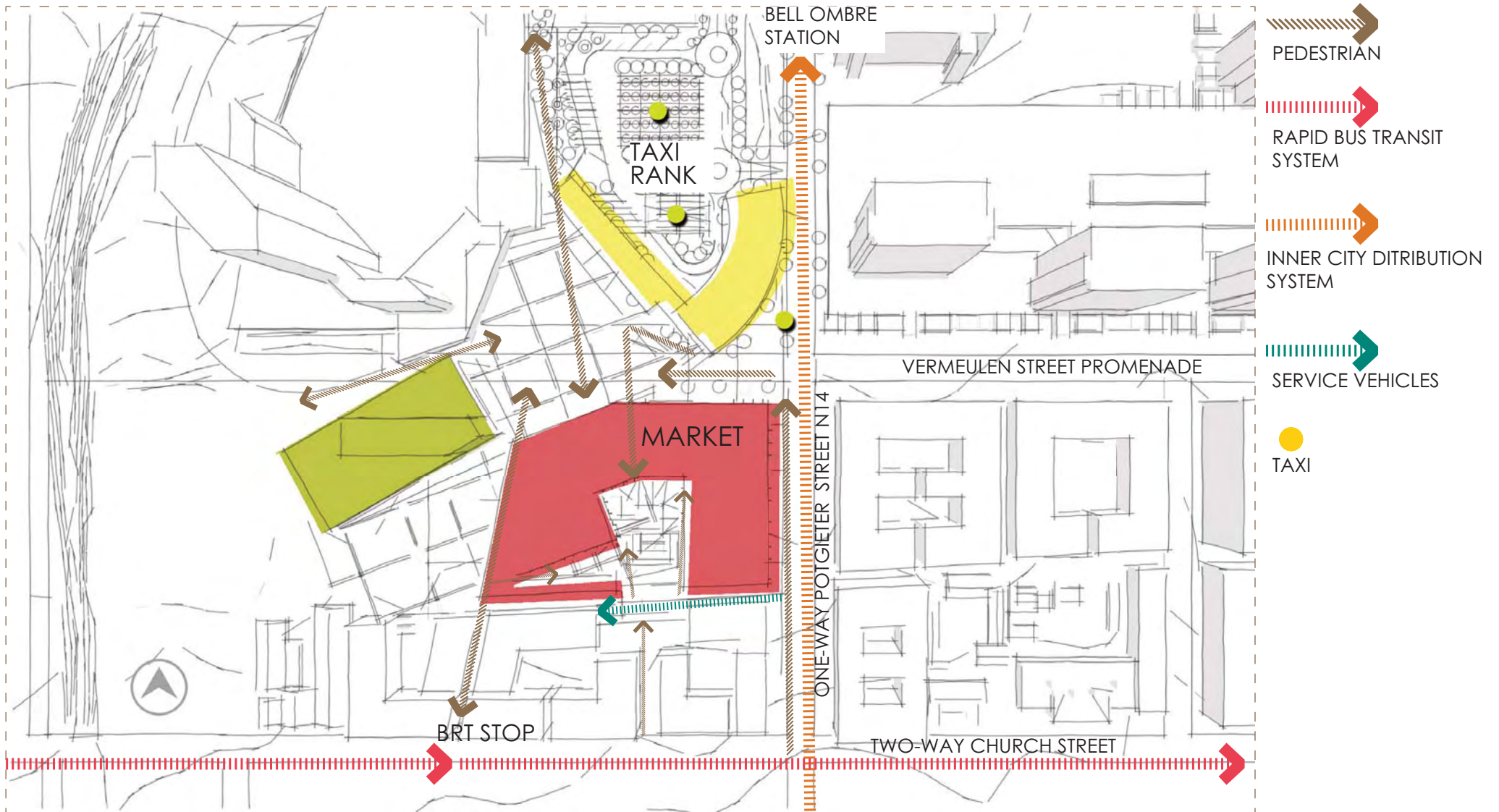


fig. 5.37 A food market must be accessible to both vehicles and pedestrians. However, a food market is a destination for it is a necessary commercial activity.

history

1850-1860 1860-1870 1870-1880 1880-1890 1890-1900 1900-1910 1910-1920

world

WWI

1918 The Influenza Pandemic killed 20-40 million people

south africa

1652 The Dutch East Indian Company established a refreshment stop in the Cape, i.e. a food stop. (SAHO:2009)

1877 - British take over ZAR government (SAHO: 2009)

1880-1881 First Anglo Boer War (Transvaal War) Afrikaners won government back. (SAHO: 2009)

1896 Runderpest, thousand of cattle livestock die. (Rampe: 2009)

1899 Anglo Boer War. Scorched earth policy, evacuated all Afrikaners and their labourers from the farms and destroying most crops and livestock (SAHO: 2009)

city pretoria

Decided that this area will be the central capital for the Zuid Afrikaansche Republiek (ZAR), on the farm Elandspoot. The town was laid out by A.F. du Toit. At the historic centre lies Church Square divided by two streets, one north-south, one east-west, indicative of the Roman kardo and decomanus maximus. (Le Roux et al 1993:5)

1879- Market building is erected on the 'uitspan' now Lilian Ngoyi Square



fig. 5.38 Market Building on market square, now Lilian Ngoyi

- 1931 Industries
1. Laundries
 2. Bakeries
 3. Mineral Water Works
 4. Printing Works
 5. Quarries
 6. Engineering Workshops
 7. Foundries
 8. Coach Builders
 9. Tobacco Manufacturers
 10. Mills
 11. Mattress Makers

market site

Church square was first known as Market square as farmers that came to "Nagmaal" sold their goods, but later moved to the 'uitspan area'



fig. 5.39

Victorian and Edwardian middle class houses. Built in cul-de-sac to densify the block. (Le Roux et al 1993:86)

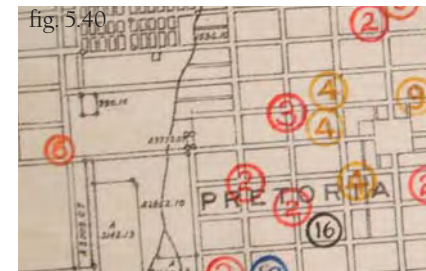


fig. 5.40

1920-1930 1930-1940 1940-1950 1950-1960 1960-1970 1970-1980 1980-1990 1990-2000 2000-2009

1929 Wall street tumble that leads to the Great Depression. People was unemployed and poor. (BBC: 2009)

1934- Effect of the Great Depression. In South Africa some farmers went bankrupt and sold their farms (SAHO: 2009)

WW2

1927, 1932, 1933 severe drought inhibited crops growth and livestock (SAHO: 2009) performance)

1937 - National Market scheme applied to municipal markets (SAHO: 2009)

1948 - The National Party won the elections. (SAHO: 2009)

1950 - Group Areas Act: dominant white CBD Pretoria. (Holm Jordaan Report)

1970's Energy crisis, when mid-east countries applied oil embargo

1976- Soweto uprising (SAHO: 2009)

Mid 80's sanctions applied against Apartheid regime.

1994 Kyoto Protocol signed by 125 countries to fight global warming (Nakada: 2008)

1993 - Trade Sanctions lifted (SAHO:2009)
1994- First democratic election, ANC won. (SAHO:2009)

Oil prices rise and the fossil fuel reserves is under threat, this causes a worldwide rise in Food Prices 2008 Banks in the USA declared bankrupt. Recession caused by reckless lending.

South Africa prepares to host 2010 Soccer World Cup

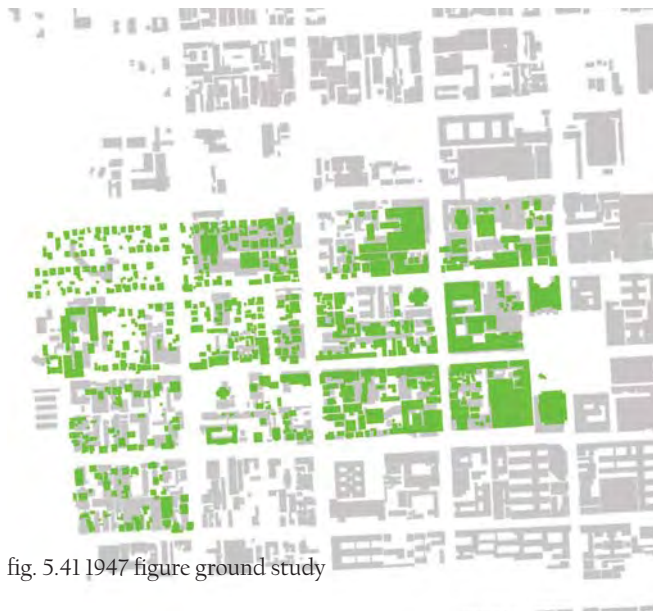


fig. 5.41 1947 figure ground study

1972- Existing Pretoria Market is built in the North West of the City

1960's - Highway Scheme; a large part of the built structure was demolished south of Schubert street.

1976 - Schubert Park Housing Complex finished (Le Roux et al 1993:73)

fig. 5.42 Proposal of Housing Complex



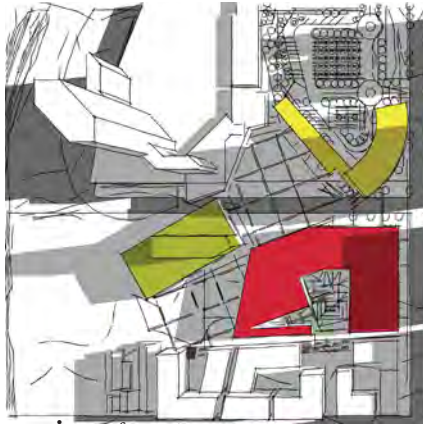
Business and shopping centres decentralise to the East Urban Fringes. (Holm Jordaan Report)

2006 City of Tshwane launches 'Re Kgabisa Tshwane' to revitalise the city centre.

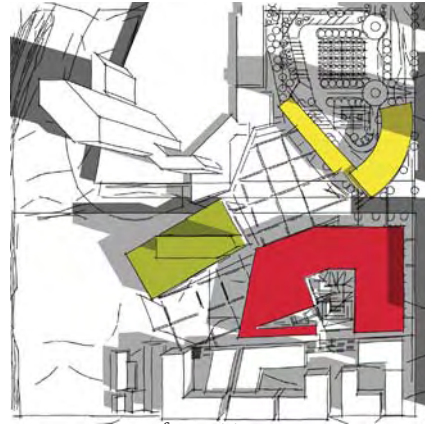
2008 - A fire started in Kruger Park forced people to evacuate, 5 die. (Abhali:2008) Schubart residence in turmoil with municipality.



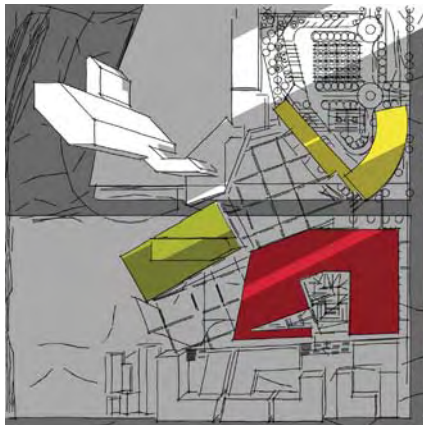
ritual of daily shadows



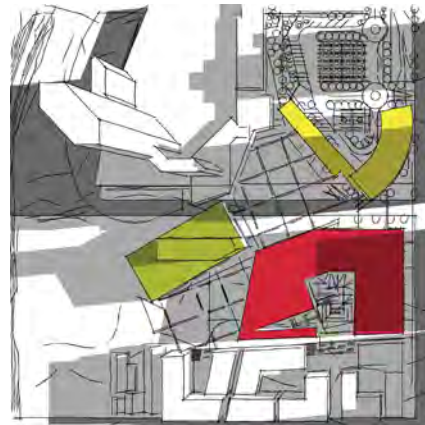
spring fig. 5.43



summer fig. 5.44



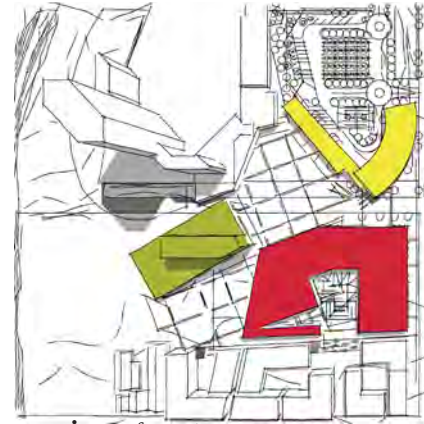
winter fig. 5.45



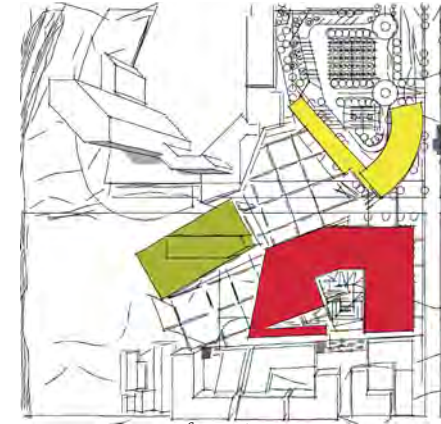
autumn fig. 5.46

7h00 breakfast

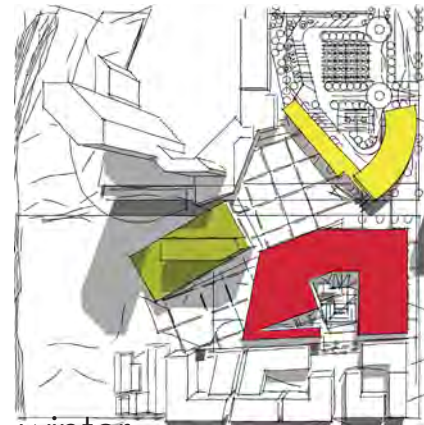
Although most people enjoy breakfast at home the early morning activity when produce may be unloaded or unpacked is applicable. The adjacent buildings east of the site cast shadows on the east facade.



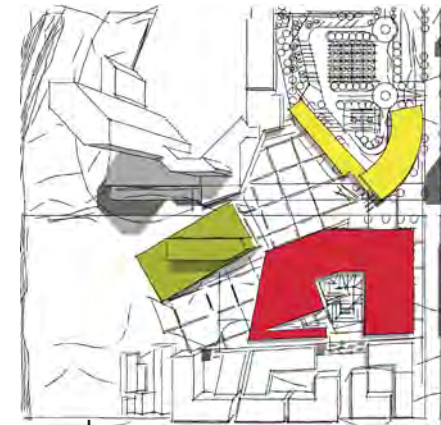
spring fig. 5.47



summer fig. 5.48



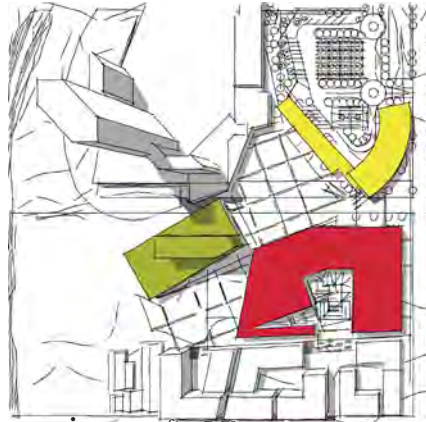
winter fig. 5.49



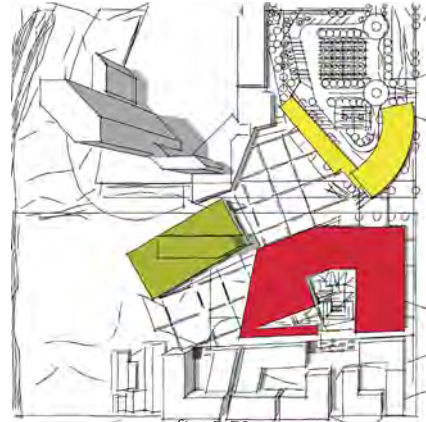
autumn fig. 5.50

11h00 tea time

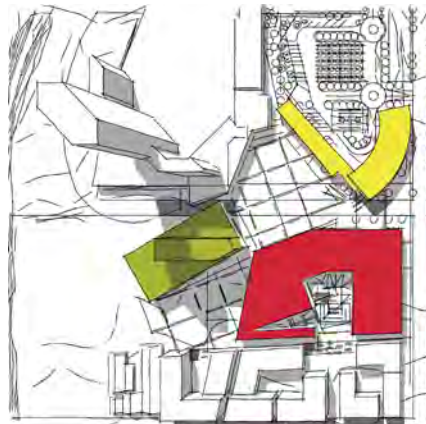
At tea time the site is in full sunlight. Enough vegetation should be provided in the public square to combat glaring. The sun will be welcomed in winter but will give discomfort in summer.



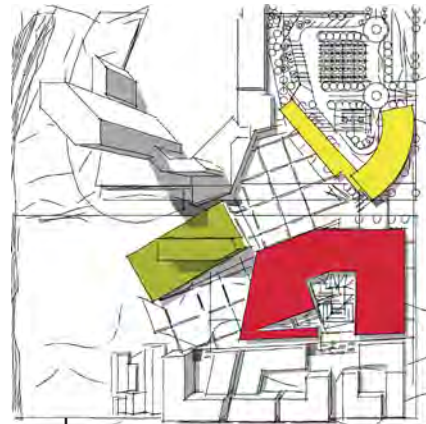
spring fig. 5.51



summer fig. 5.52



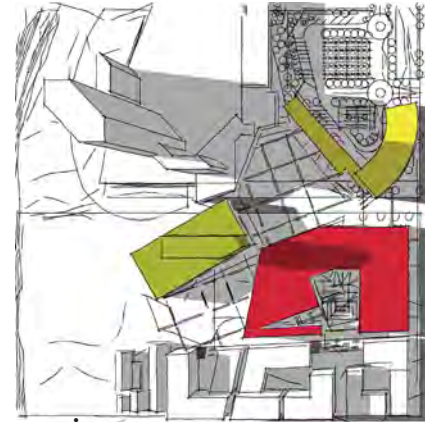
winter fig. 5.53



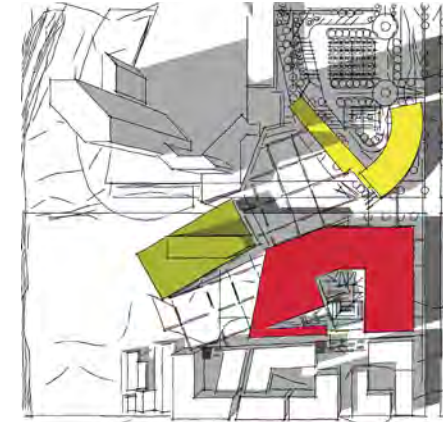
autumn fig. 5.54

13h00 lunch

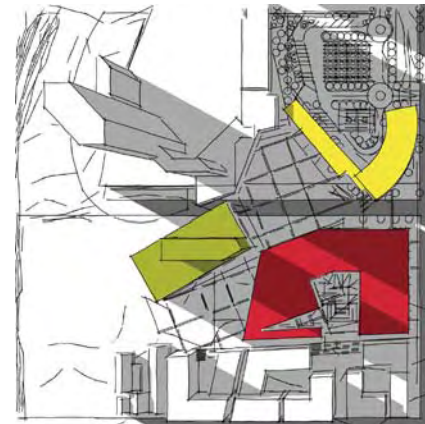
The city is at its busiest during lunch hour from 13h00-14h00. During this time, people may enjoy their lunch that they bought at the market or what they've brought from home. Groceries may also be bought during this time. The site is in full sunlight, but the central heart of the market enjoys some shade. Tea time and lunch has the similar situation. The vegetation may provide sufficient shading. The smaller square west of the market will be uncomfortable in winter.



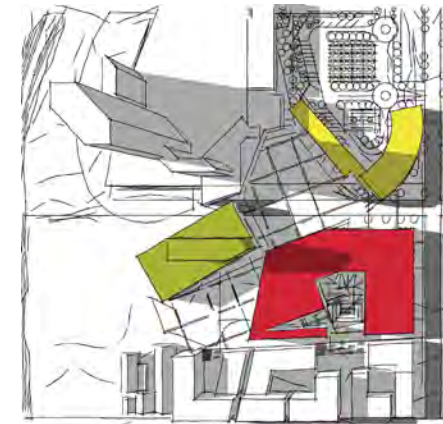
spring fig. 5.55



summer fig. 5.56



winter fig. 5.57



autumn fig. 5.58

17h00 after work shopping

Most people do shopping just after work on their way home. The Kruger Park High Rise Building casts a shadow at this time over most of the public square. The market still enjoys a lot of direct sunlight most of the year except in winter. This must be addressed by minimising fenestration in the west.



please take a coffee break or what you prefer...





06. precedent studies

A recipe is the guideline for any dish, from humble bread to haute cuisine. The recipe is an artefact, a palimpsest of tried and tested methods. The recipe is a guide or stronghold from where new work could be generated from. Precedents form recipes in architectural design as Tom Porter states: "...as no new architecture is, in itself, original but a composite of innovation, past experience and knowledge, and sometime subliminal awareness, of a relevant and significant body of existing work." (Porter 2006; 149)



boeremark - silverton - tshwane - south africa



Type: Farmers Market
 In operation since 1992
 Sellers are responsible for their own structure
 Saturdays 5h45-8h30
 Area: +/-10500m²
 Administrated by TLU-SA (Transvaal Landbou Unie of South Africa)
 a non-profit organisation for farmers
 Stalls: Vary from 150-160 stalls per Saturday.

This informal market attracts people from all walks of life. One can buy fresh traditional roasted coffee, cheeses, puppies, fresh flowers, an array of home made goods and even oriental cuisine. Prices are very reasonable, some people do their weekly grocery shopping here; others come just to partake in the social interaction. This is a true democratic event where all are welcome. Even if one has to rise up early for this event it is still an food attraction in the city of Pretoria.

To have a stall at this market will cost R280 for the first time and thereafter R80. These funds are used to hire the premises for R2400 from the museum. (Van Wyk:2009) The stalls must be open for business by 5h45 and must be manned until 8h30. During the week this area is a picnic area for the open air museum. As this premise is in a suburban area and the visitors need to travel far distances to visit it, parking for all the vehicles is a problem.

The smell of cuisine from different cultures, the melody of 'boeremusiek', and the familiarity with which the regular users are welcomed under the poplar trees create a strong genius loci.

Although this market is not housed in a structure, the sharing of space where the common reason is food, is tangible. The trees

give the illusion of a canopy and enclosure, the adjacent shed like buildings do not support the ritual to sit and enjoy early morning coffee.

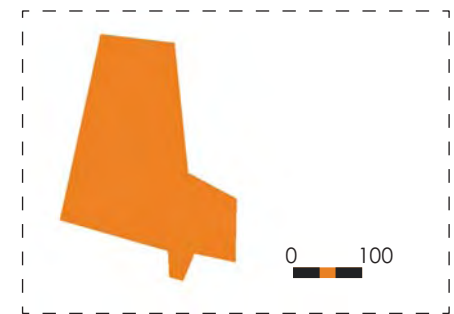


fig. 6.1 Figure Ground

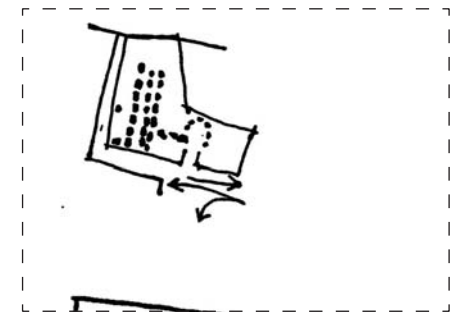


fig. 6.2 Parti



fig. 6.3 Trolley



fig. 6.4 Flowers

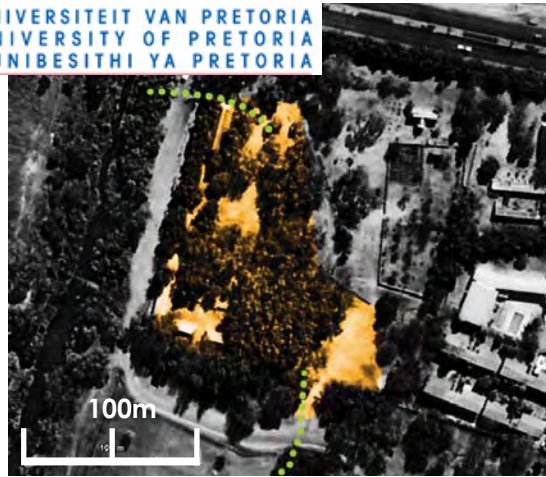


fig. 6.5 Aerial Photo



fig. 6.6 Urban fabric



fig. 6.7 Meat stall



fig. 6.8 Vegetable stall



fig. 6.9 Pets for sale



fig. 6.10 Ephemeral Market



fig. 6.11 Spices

neighbourgood market - woodstock - cape town - south africa

Gourmet Market

In operation since 2006

Liam Mooney from Whatiftheworld (WITW) design studio

Saturdays 7h00- 14h00

Area: 1. Food market: +/-1100m²

2. Design area: +/-250m²

3. Parking/open areas: +/-1700m²

complex: +/-6850m²

Administered by Whatiftheworld. (Justin Rhodes and Cameron Munro)

Stalls, must apply to rent space.

This market is situated in Woodstock, an industrial area of Cape Town. This market is housed in an old biscuit mill complex with an array of permanent shops and a shed that accommodates this ephemeral speciality market. This market is not for the everyday shopper but more an attraction on a Saturday morning where the rich and privileged can savour on speciality food. There is only one fresh fruit and vegetable stall; the most stalls sell food that is mostly consumed on the premises. This market functions more as a communal restaurant with different kitchens where you can choose what your fancy may be for the breakfast, brunch or treat.

To be an exhibitor at this market one has to apply so that the administrators can assess your product to see if it upholds the quality that is upheld at this market. (NG: 2009) However, there is a waiting list to have a space at this market.

To unload the produce the stall owners can drive into the premises but must evacuate their vehicle before it is open for the public. On weekdays the shed is used as parking for the permanent shops.

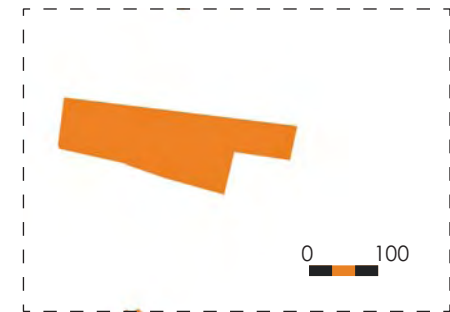


fig. 6.12 Figure Ground

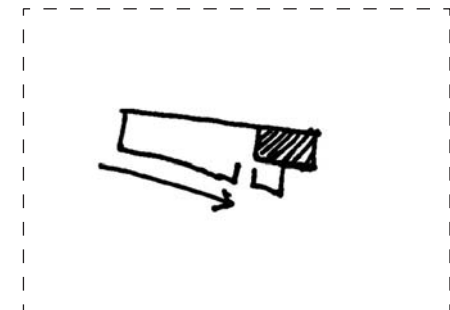


fig. 6.13 Parti



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fig. 6.14 Signage

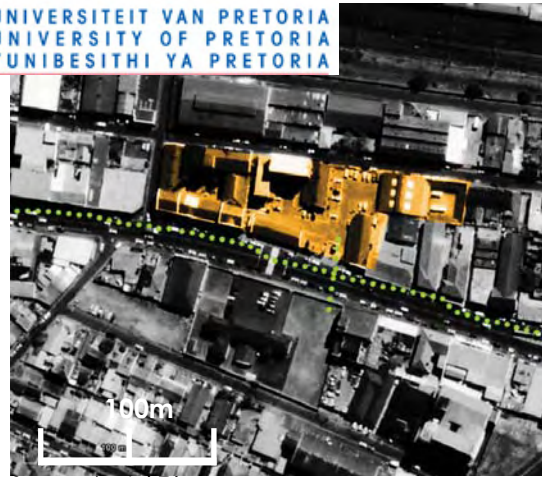


fig. 6.15 Aerial Photo



fig. 6.16 Urban fabric



fig. 6.17 Approach



fig. 6.18 Bread Stall



fig. 6.19 Outside seating



fig. 6.20 Transaction



fig. 6.21 Courtyard seating



fig. 6.22 Indoor seating



fig. 6.23 Butcher

Everyday Food Market

In operation since 1844 but in new structure from 2003

Design by Enric Miralles and Benedetta Tagliabue EMBT studio

open times

Area: 5000m²

Administred by Mercats de Barcelona

Stalls: 100

Santa Caterina Market dates from 1844 and was designed by Josep Mas Villa. After a century and a half the building was in a dilapidated and neglected state. A competition was held in 1997 which EMBT studio won. Their concept was to incorporate the complexity of the context into a project that will accommodate the initial market, social housing, parking and public space that would regenerate the neighbourhood.

A new character was needed while retaining the historical significance. This resulted in a conglomerate, a hybrid of old and new translated into a vibrant and useful public space.

The dialogue with the Francesc Cambó Street that is an important artery in the city became a consideration to ensure a public interface that enhances the urban fabric.

This dialogue and new character is created by means of a theatrical roof that is covered with a colourful display of 325 000 hexagon ceramic tiles resting on a steel and timber frame. The curves of the timber trusses were so intricate that no technology could cut the precise dimensions and was cut by hand. The long span trusses are supported by intertwined steel columns. This provides long spans so that the stall configuration could change.

The project accommodates a market floor with 100 stalls,

basement loading/unloading area for articulated trucks as well as 250 car parks. 11m below is an organic waste depository for the Santa Caterina and La Ribera areas. Next to the market are two new buildings that provide 59 public housing flats for the elderly. (Archiseek:2009)

To be competitive to the streamlined supermarkets, lockers are provided for visitors and wireless internet is available. A system is also in place to provide delivery to people's houses at an extra cost. A service is also provided where one's purchase is carried for you to your home.

This market's design is a catalyst for this area. The roof is a signal for all the freshness and vibrancy that is housed under it. The building is legible in the urban fabric but provides adequate space to be functional. It creates a place where visitors could be encouraged to love and nurture a way of life as well as good food. (Glancey: 2005)

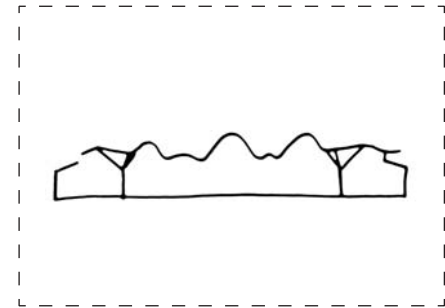


fig. 6.24 Parti of Roof

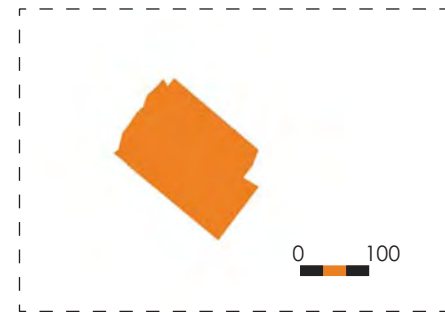


fig. 6.25 Figure Ground

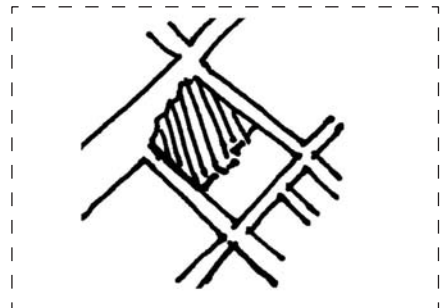


fig. 6.26 Parti



fig. 6.27 Ground floor plan



fig. 6.28 Aerial photo

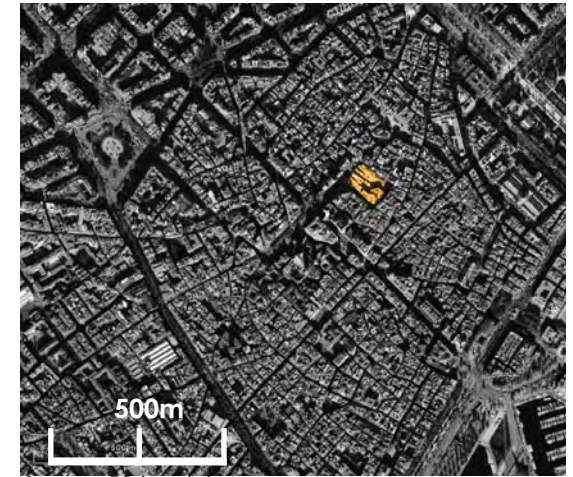


fig. 6.29 Urban fabric



fig. 6.30 View of Roof

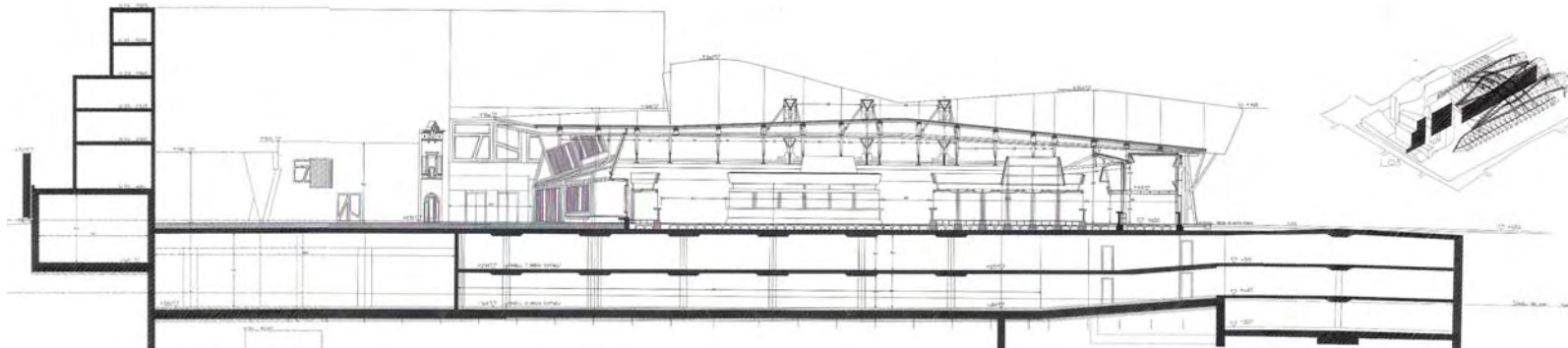


fig. 6.31 Section



market hall



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- laurens quarter - rotterdam - netherlands - europe

Food Market

Will be in operation from 2010

Design by MVRDV Architects

Specific times unknown

Area: Market area: 1800m²

Administered by Provast

100 stalls

This visionary project is the first covered indoor market in the Netherlands, with a 12-storey arched-shape building that consists mainly of apartments. This shape covers the indoor market but still provides adequate natural lighting from the open ends.

These openings are enclosed with a flexible suspended glass facade to provide the most transparency and with the slightest structure. The building is placed in the urban context so that the main entrances can ensure the natural flow of the public circulation to the train station and the main shopping streets.

During the day the hall serves as a fresh market but doubles after trading hours as a vibrant living area for the inhabitants with light and vigour by the restaurants situated on the first floor. The interior membrane of the arch will be lined with LCD technology so that the "city" has an ever changing interior. (MVRDV:2009)

The market will be able to accommodate 100, mostly permanent stalls that results in a gross lettable area of 1800m². The development also comprises of a lettable retail area of 3000m² as well as catering area of 1600m² on the first two levels. The basement can accommodate 1100 cars for visitors to the market as well as the 246 residences housed in the arch-shaped building. (WAN:2008)

The success of this project is not yet known as completion date for the construction is only in 2010.

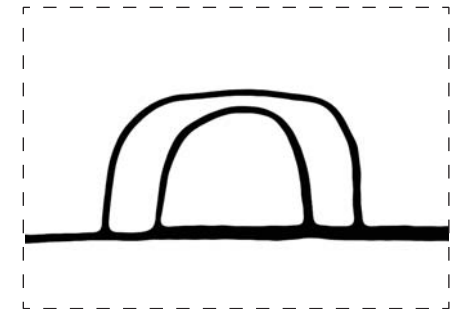


fig. 6.32 Parti of Roof

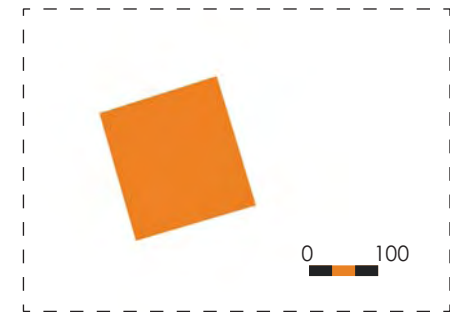


fig. 6.33 Figure Ground

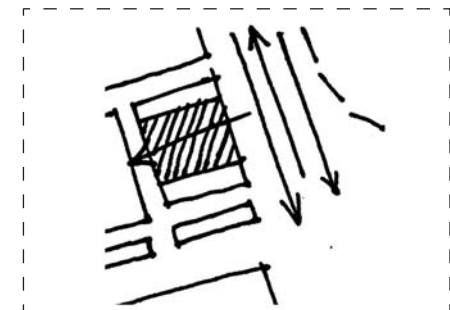


fig. 6.34 Parti



fig. 6.35 Inside view

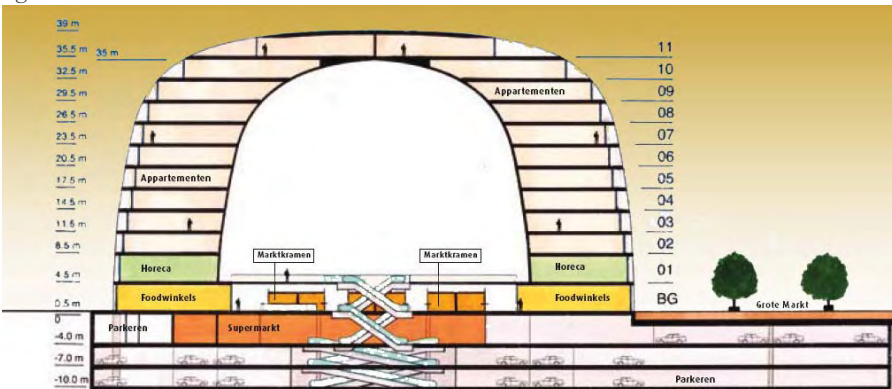


fig. 6.38 Section

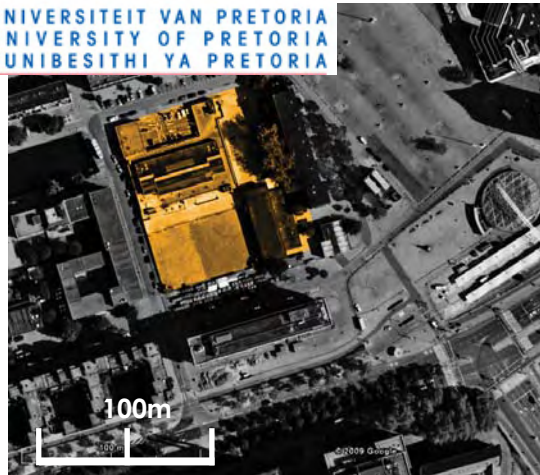


fig. 6.36 Aerial Photo



fig. 6.37 Urban fabric



fig. 6.39 Outside view



fig. 6.40 Inside view



metropol parasol



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-seville - spain - europe

Farmers Market

Will be opened in 2009

Designed by J. Mayer H.

Specific open times is unknown

Area: +/- 6300m²

Administred by Municipality of Seville

Stalls: Unknown

This new development in Seville, Spain is to regenerate and revitalise an uninspiring area of the city. From 1842 this site was a vast covered market named the Plaza de la Encarnacion but was demolished in 1973 to make way for a car park. (Unknown:2007) After excavations in the 1990's to build an underground parking lot, archeological diggings found remains of a Roman Colony. This led to the decision of the Sevilla Urban Planning Agency in 2004 to integrate this area into the commercial fabric of the city. An international ideas competition was held and was won by the architect J Mayer H. Construction started in 2007.

The stems of the “parasols” could only be supported by definite points within the archaeological excavation that can support weight; an arrangement of six curved columns that support a network of a form that reminds of a single organic surface. This form was generated from the vaulted church interiors of Seville, Moorish ornament, such as Andalusian grilles and the large canopies of trees in the city.

This scheme accommodates a museum for the archeological site, a farmers market, an elevated plaza, multiple bars and restaurants underneath and inside the parasols, as well as a panorama terrace on the very top of the parasols.

The local vendors and farmers were involved in the planning of the market. The market is envisioned by the architect as “a fresh local institution, a condensation point of the agricultural activity around Seville that brings pulsating life to the area at daytime.” The market area is so arranged that the market can be closed at night while keeping the restaurants and bars open on the north and south edges of the complex.

The market will be the catalyst to reactivate the vibrant daily life that once was evident on the Plaza de la Encarnacion. This place of commerce serves the community by adding quality to the everyday life of the urbanites. (e-architect:2007)

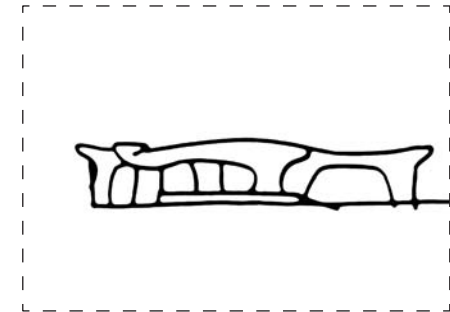


fig. 6.41 Parti of Roof

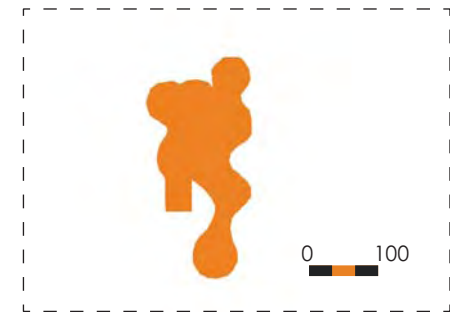


fig. 6.42 Figure Ground

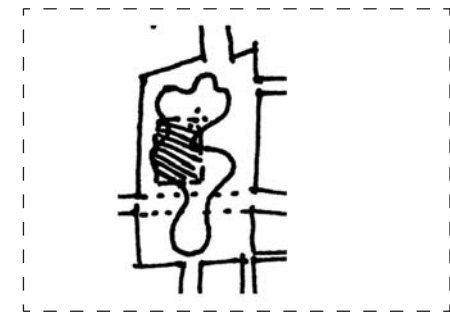


fig. 6.43 Parti



fig. 6.44 Plan



fig. 6.45 Aerial Photo



fig. 6.46 Urban fabric

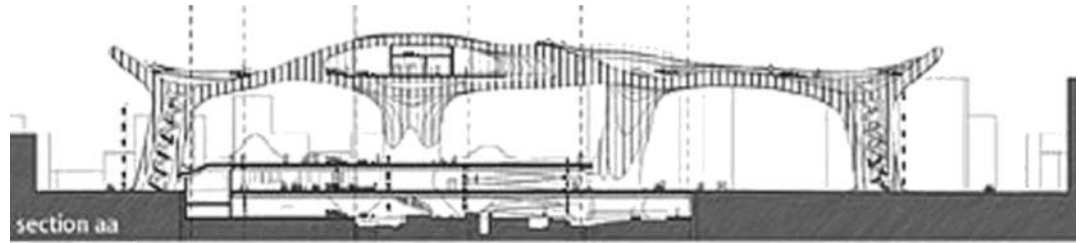


fig. 6.47 Section



fig. 6.48 Outside view



fig. 6.49 Events



central market



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- koudougou - burkina faso - africa

Everyday Market

Built in 2005

Laurent Sechaud

Open times is unknown

Area: Site: 27,750 m² Open market area: 3000m²

Administred by SDC and Koudougou Municipality

600 stalls 125 buildings

This project was the result of Burkina Faso government's programme for the development of medium-sized towns (PDMT) to initiate economic centres for local development. With the financial help of The Swiss Agency (SDC) a Geneva-based architect Laurent Séchaud was appointed by the SDC and Koudougou Municipality. (SDC: 2007)

The project used local materials. Being built of mainly compacted earth blocks of different dimensions, the construction was assigned to the local contractors and sub-contractors so that wealth and skill could be redistributed in the community of Koudougou. The market consists of 125 buildings together with a 3000m² covered market that houses 600 booths. The layout of the market is based on the urban grid but also used an orthogonal grid so that the 'gathering places' that are created between the buildings can benefit from the shade created by the construction. The open market area has been constructed of vaulted roofs, supported by a series of high arches that allow long spans that ensure a visual continuity and ventilation. (Alkayyali 2008:8)

The walls as well as the roofs were built with the earth blocks but corrugated iron sheets were used to reduce the vulnerability of the earth roofs and domes when it rains. An opening of 350

mm was left between the domes and metal sheets so that air can circulate to improve the interior climate.

When designing this complex Laurent Séchaud made considerations for an African market space. The market has a flexible design and allows for spaces between the built fabric to be an engaging public environment.

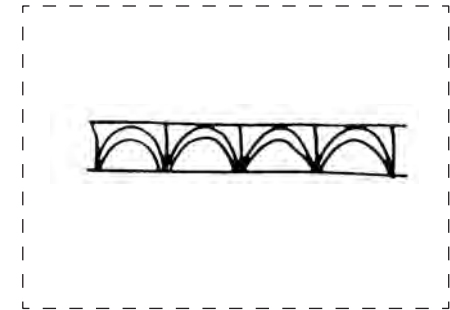


fig. 6.50 Parti of Roof

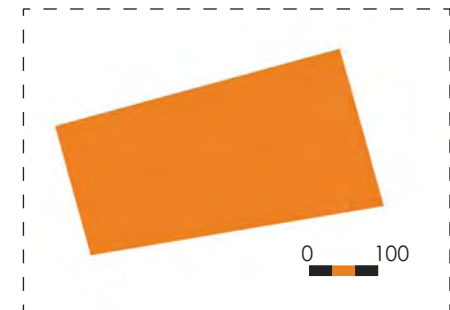


fig. 6.51 Figure Ground

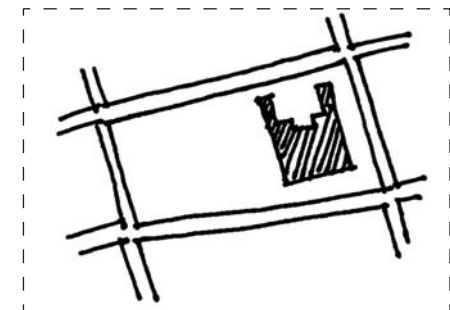


fig. 6.52 Parti

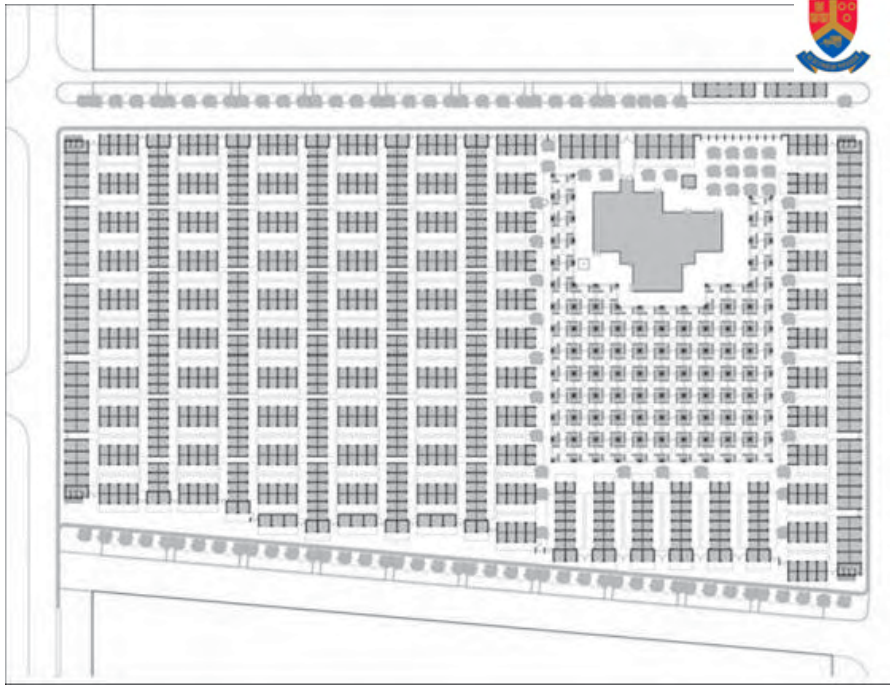


fig. 6.53 Plan



fig. 6.54 Aerial Photo



fig. 6.55 Urban Fabric



fig. 6.57 Individual Stalls



fig. 6.56 General Market



fig. 6.58 Domes and Vaults



fig. 6.59 Market 'street'

conclusion



fig. 6.60



Markets are synonymous with public squares. The very first food retailers were accommodated on common area that was linked with major transport arteries into the city. This forms a typology of a centralised building that is easy accessible and surrounded by residential or commercial buildings.

However, the secluded Neighbourhood Market does not share this typology but uses the open space as cohesion between the different function of the building. The Boeremark is not that accessible as the other markets but illustrates how a market can function with no formal structure.

A market needs space of an uninterrupted, sheltered ground plane that is easy accessible for both produce and people. The roof as archetypical image functions to regulate the interior climate, to concentrate the ritual of trading so that not only produce can be trade, but also advice, ideas and companionship can be shared. Large spans provide adequate space and opportunity for change, whether seasonal, economical or technological. The roof structure provides presence in the urban landscape and reflects the culture of the context it is situated in. Any market just like an individual or a culture, can not be cloned.

fig. 6.61



fig. 6.62

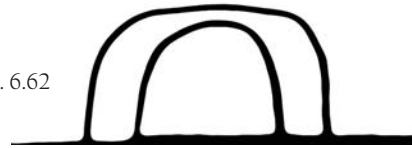


fig. 6.63



fig. 6.64

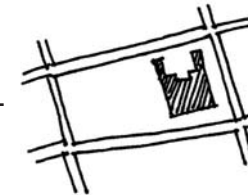
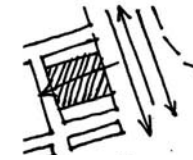
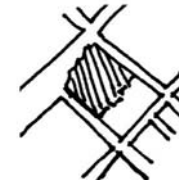
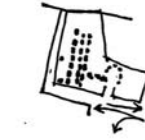
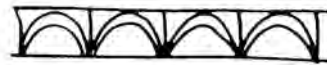


fig. 6.66 Parti diagrams of markets



fig. 6.65 Comparisons of Markets



Wherever food markets survive, they bring a quality to urban life that is all too rare in the West: a sense of belonging, engagement, character. They connect us to an ancient sort of public life. People have always come to markets in order to socialise as well as to buy food, and the need for such spaces in which to mingle is as great now as it has ever been – arguably greater, since so few such opportunities exist in modern life.

- Carolyn Steele



07. program

Defining the brief

The urbanisation of more than 50% of a ever growing human population, makes food security unstable. Therefore more and more people are so removed from the natural environment that they don't realise what they put in their mouth. There is a great truth in the saying, man is what he eats. If man doesn't know where his food comes from, how would he knows where his roots are? This result in a society that is dislocated and depressed.

At the supermarket, one takes the produce from the shelf appose to the ritual in the market where one needs to ask another for the bread or tomatoes that one wants to buy. The supermarket society is selfish and will take what he or she needs without thinking of the community. The society that asks for their food is humble and realise the interdependency of the community. The current global climate crisis will not be solved by the former society.

In Chapter 3 the current state of food security in South Africa was discussed. The current system of food distribution does not benefit the producer nor the consumer. As a result a new approach and organisation of food procurement must be researched. As an architect, one must plan for the future and thus is a new configuration of the food market a study of importance.



REQUIREMENTS

The food market is seen as a destination in the urban landscape. It can be perceived as a city within a city; it has different hierarchies of public spaces, parks and routes. Orientation in the market is important and elements must be so designed to make the market legible.

The market must be easy accessible to both pedestrians and produce. A multitude of entry points ensure the building to extend into the city so that the market visitors could easily transact with the urban context. The delivery of produce is paramount in the market and need special attention when the market is planned.

As the program of this building is a pivoting point of urban ritual (all people need to buy food), is it important that it forms a landmark in the environment. In the same sense as the table give meaning in a space so must the market give meaning in the urban context. This was discussed in Chapter 6.

In the market the relation and situation must be facilitated so that urbanites can perform their role in the city. Adequate seating along routes must be provided.

The philosopher Socrates was a regular speaker in the Agora of antiquity. (Steele2008:121) In the market the designer must cater for the troubadour, philosophers or street preacher so that they can have an audience. This, together with the enjoyment of taste, smell and companionship a vibrant public building could be realised.

ASSUMPTION

This project will not be viable if the framework is not implemented. Although Schubart Park is still in use, Kruger Park is vacant. The residents of Schubart Park alone will not be enough clients for a market of this intensity. Therefore it is assumed that the framework is realised.

The farmers won't be able to sell their produce themselves, the farmer will have to hire someone to sell their goods, the road stall, that is seen in the country side comes to mind.

DELIMITATIONS

This market does not compete with the Tshwane fresh produce market. This place of trading is for the producer and the individual consumer. The groceries that are sold at the market come direct from the farm and don't need to go through the municipal market or a middle man. The direct exchange is of cardinal importance to sustain economic viability for consumer and producer alike.

The Victorian houses on the premise will not be redesigned; it is only proposed that the interior may be adapted to house two deli's and the exterior be restored. They are used to create a presence in the open area in the middle of the market. The houses date from the 1880's are older than 60 years and are therefore protected by SAHRA (South African Heritage Resources Agency).

CONCEPT

African urban space, as stated in Chapter 4, is characterised as an ambiguous place that seems chaotic and yet function well. An African market is no different, a space must be created so that the users could fill and consume it. A covered market floor with a grid as ordering system enables the market to be adaptable according to the users need. The idea is to create a building that spills out into the city and at the same time invite the city back in. The edge is therefore permeable but still well defined. A roof creates the archetypical image of a market, the roof forms a presence in the vicinity but at the same time gives delight and shelter to the dwellers in the market. The ritual of the sun's movement is utilised through the effect that the structures' shade plays on the ground.

Similar to streets that gives orientation in the city, so does the structural grid give direction in the market. The structures form a focus point in smaller squares within the market. In some of these areas is a pit introduced where produce can be hoisted from the delivery basement direct into the market. The design decisions are discussed in depth:



grid dimension

A grid system gives order and legibility in the market. The circulation as well as the structure is super imposed on the grid. The urban fabric's grid and grain change at the Steenhovenspruit. To celebrate this adjustment, the grid on the eastern part of the market respects the grid of the city but alter at the existing cul-de-sac road to accommodate the angle of the square. The road of the cul-de-sac was chosen for the line of grid change to respect the historic fabric and to utilize the vista to the houses. The main entrance to the market is placed on this line to strengthen the importance and energy such a grid adjustment initiate. The appropriate length of linear stalls is 15- 20m (fig 7.4) before allowing a break for circulation. Less than this, some stalls won't get enough feet while with longer runs the shoppers tend to avoid the central stalls. In this case the grid that was opted for is 19m x20m so that the actual run is 15mx16m. Six stalls of 2,5m in width can fit into this dimension. The versatile square configuration is used so that the stall layout may be altered in the future. (Behrens 1997:215)



fig. 7.2

CHANGE IN
GRAIN AND
GRID

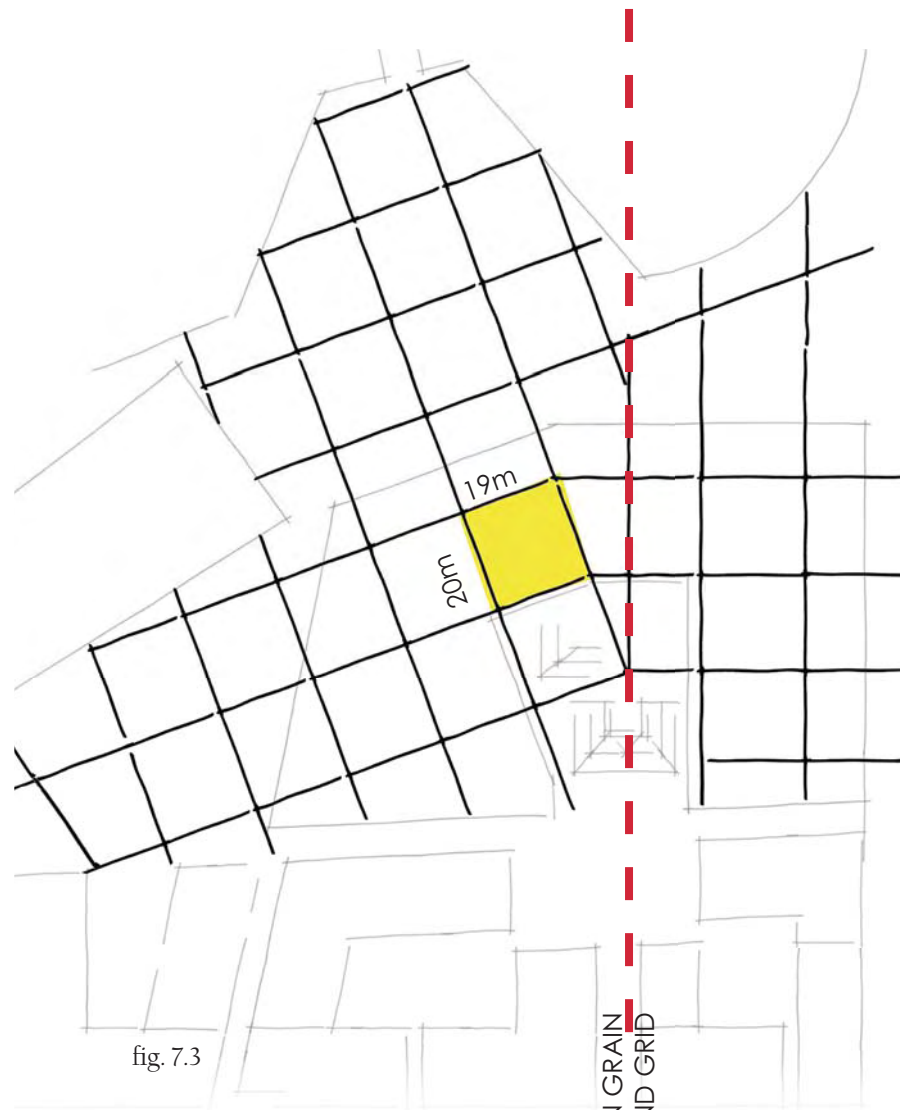


fig. 7.3

CHANGE IN GRAIN
AND GRID

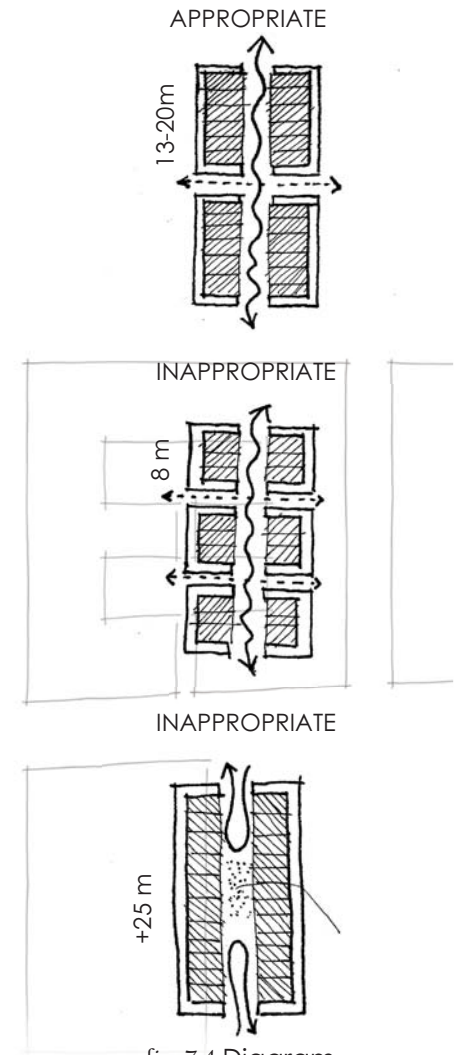


fig. 7.4 Diagram illustrating lengths of linear stall runs

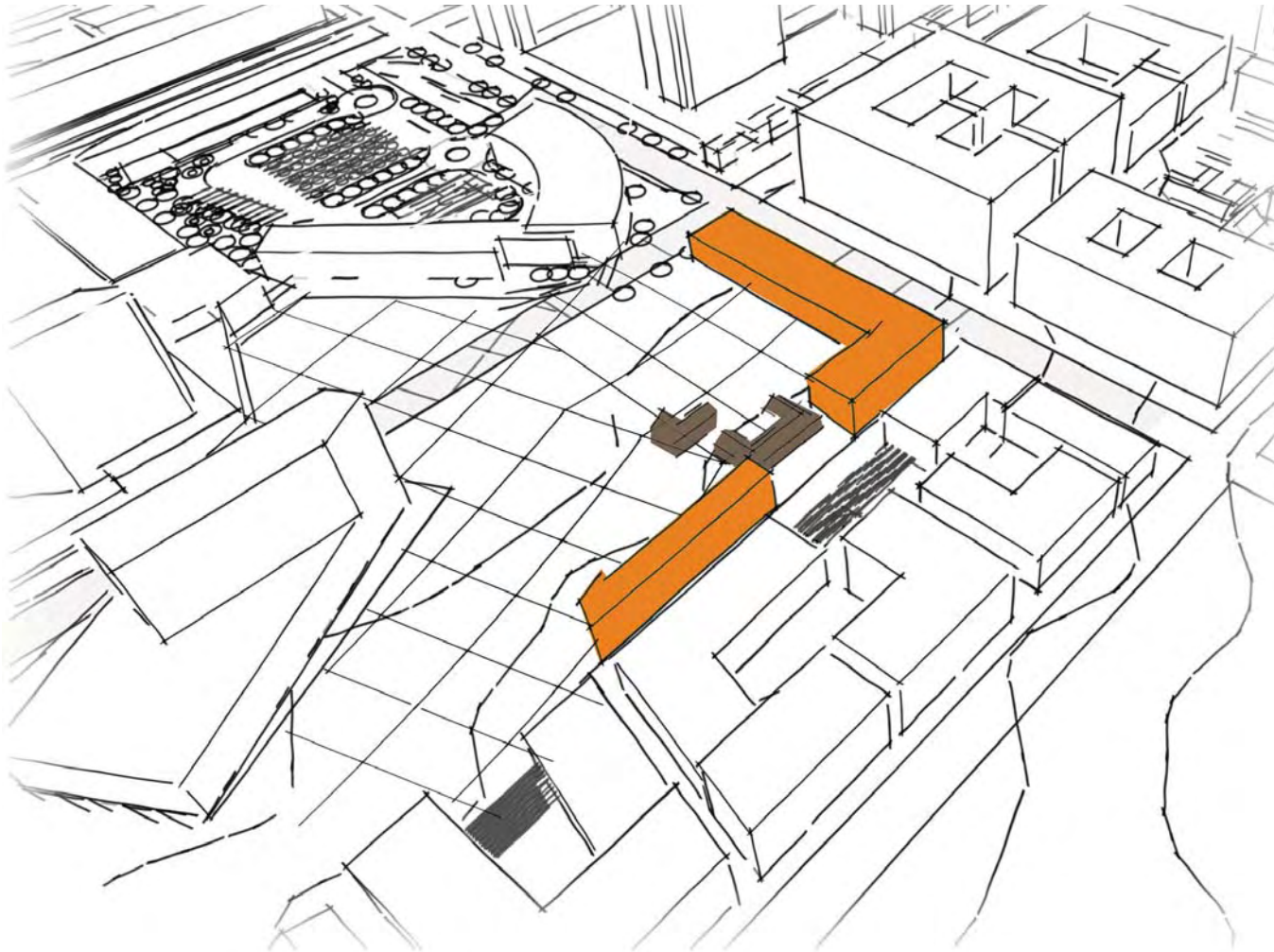


fig. 7.5

The transaction between the new built intervention and the city is of great importance. Two buildings are arranged on the east and south of the site to address and respect the language of the city. A solid edge is formed east, along Potgieter street, and south along the service and pedestrian way. The market floor is enclosed towards the city and thus forces activities from the market to spill into the open spaces. These buildings are 10m high and house the formal eateries, butcheries and industrial kitchens. The restaurants and café bar spill out on the pavement to create an active edge on the streets. This enhances the exchange of the building and the city.



fig. 7.6

The size of a market will change over the period of a week or a month. There will inevitably be times of expansion and contraction, and the development of the market must be flexible enough to accommodate these changes. (Behrens 1997: 217) The public spaces next to the market give the opportunity for the market to spill out into the square. Extending the grid onto these spaces; the ordering system is echoed; the language of the market is maintained and although the expanded market is informal, it will still be legible for the user. Movement routes are placed along the grid lines. These routes continue from within the market into the open spaces. At these times the area can become a carnival, bazaar or feast. Just like the table provide the opportunity in a space to initiate a situation (theoretical argument p.11), so may this market also initiate events.



fig. 7.7 Market in Marakesh, Morocco



fig. 7.8

transaction nodes



A market is a city within a city and has different hierarchies of spaces. The grid indicates the main movement arteries in the market. Through the study the behaviour of people in chapter three, did it became evident that people like to sit along movement routes. As this market is for a South African urban environment the main movement patterns are interrupted with nodes on the cross points where places of transaction can be accommodated in different intensities and levels. Regardless of the social interaction where people can sit and converse, the transaction of the rural producer and the consumer is paramount. The delivery of goods forms a ritual everyday but is normally concealed at the back. Exchange of the produce must be celebrated by designing places where the unloading of products can be efficient.

It seems as if produce is brought into the market from the earth; just like vegetation grow from the earth. Wells or pits are provided at the cross-points of the grid. The produce can be hoist up from the trucks in the delivery basement to the market floor. As a result, this unloading of the produce brings energy into the market but separate the vehicle from the pedestrian. If 70 plus trucks deliver daily to the market, the site will be dominated by vehicles and not pedestrians. Pedestrian safety and the character of the space will be jeopardised. When the wells are not in use, the openings are covered and act as seating or a stage for street entertainers.



fig. 7.9



fig. 7.10

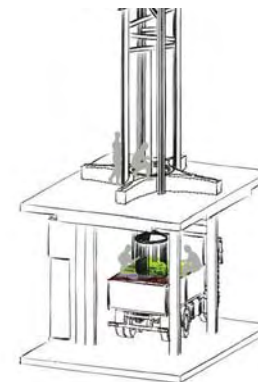


fig. 7.11 Truck stop under the well

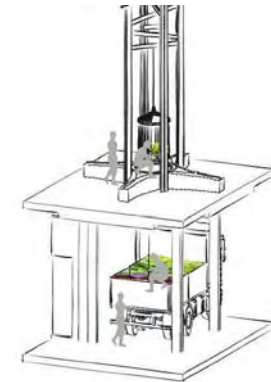


fig. 7.12 Produce is hoist up and distributed

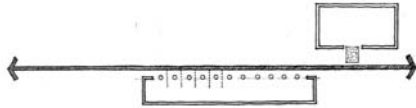


fig. 7.13 Movement along arcade

An urban space should have a well defined edge and some sort of surveillance to establish 'outdoor rooms'. The success of a public space regarding nature, quality and safety is characterised by the way in which these defining edges are made (eg. by planting, by buildings, by walls, by colonnades, and by combinations of these) (Behrens 1997: 211). The edge of the market is defined by means of an arcade that creates a transition zone from the square to the market. This functions also as a movement route as indicated in fig.7.14

The first skin is a brick colonnade and the second interior leaf is an overhead ribbon of brick wall. The interior public space has only one skin, the overhead brick wall. Permanent stalls create a vibrant market edge. A steel mesh on a pulley system enables the market to be closed at times. The steel mesh is visually permeable and creates a feature at night when the market is closed and light shines from within. The existing lane of Jacaranda trees creates a natural arcade along the street edge. These trees are repeated in the square as indicated in fig. 7.15 and provide the arcade shade in the summer and sun in the winter.

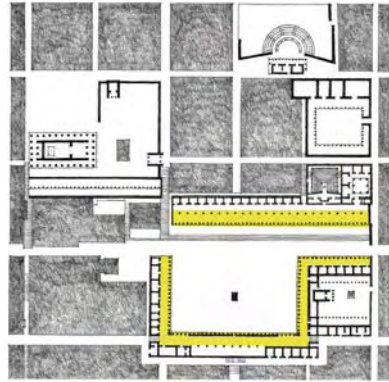


fig. 7.14 Plan of Agora at Prienne and its surroundings, 4th century B.C

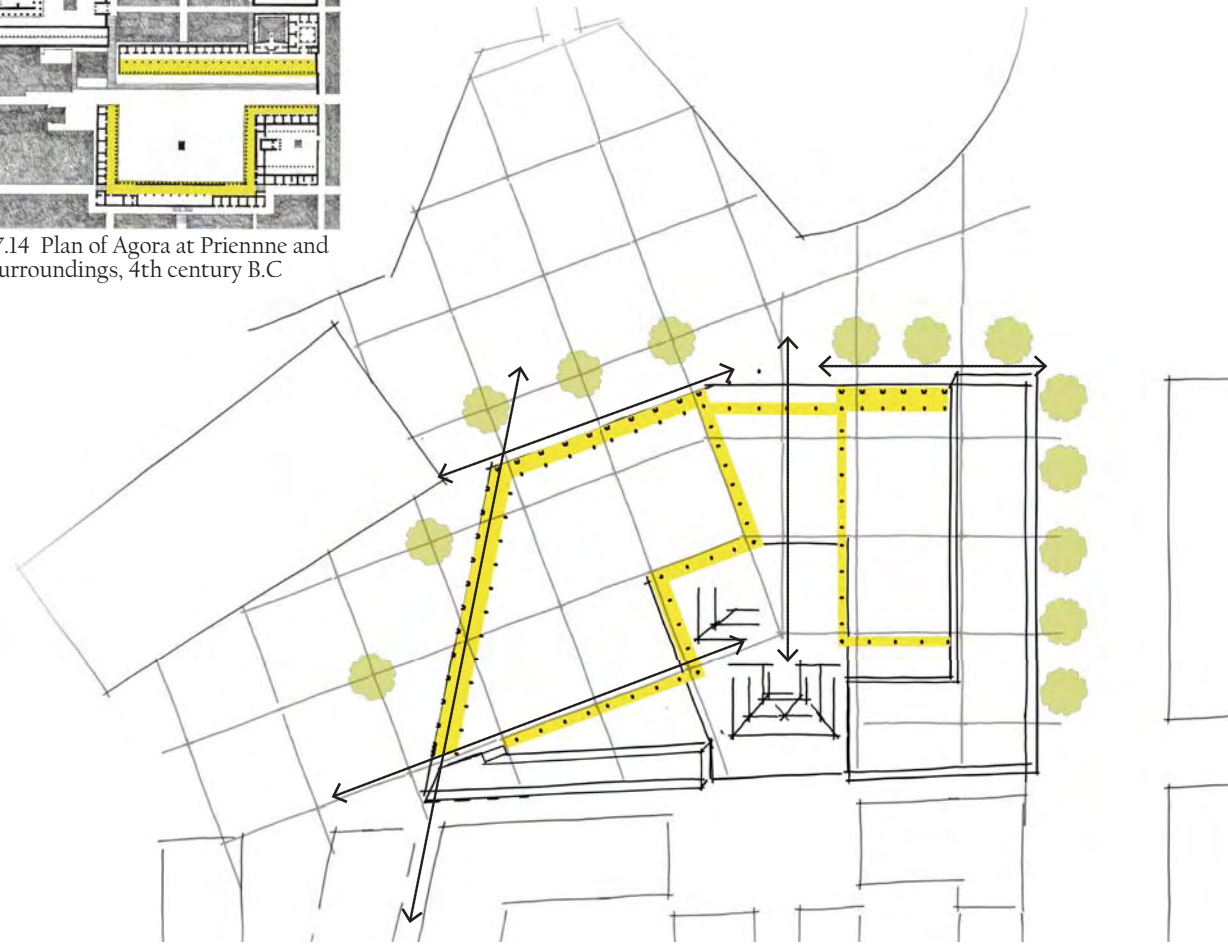


fig. 7.15

market layout



To ensure that the whole market is used, anchor products are located in opposite corners. The bakeries are located in the most south eastern corner of the market. The bakery's distinctive smells invite people from the street into the market and create an appetising atmosphere at the heart of the market.

Fresh produce is positioned near the entrance to give a calming effect. Most of the delivery wells are situated in this area and thus makes daily delivery of fresh fruit and vegetables easy.

Dairy products are also located near the wells for daily delivery and function as an anchor product in the south western corner.

The butcheries are secluded from the rest of the market for health reasons. The meat can be delivered from the service road at the south of the market. In front of the butcheries space is provided so that urbanites could braai their own meat. This adds another smell in the market. Other products like spices are located between these zones. Take-away stalls are positioned along the edge of the market so that it creates a vibrant boundary that faces the square. Restaurants are situated along Potgieter Street to ensure an active edge. The service yard needs to be easy accessible from the street and is located in the south eastern corner.

The core of the market is left open so that different events can be housed in this area. The landscaping around the houses is sloped. This creates a space where people can sit. In the covered open area, tables and seating is provided for a street feasts.

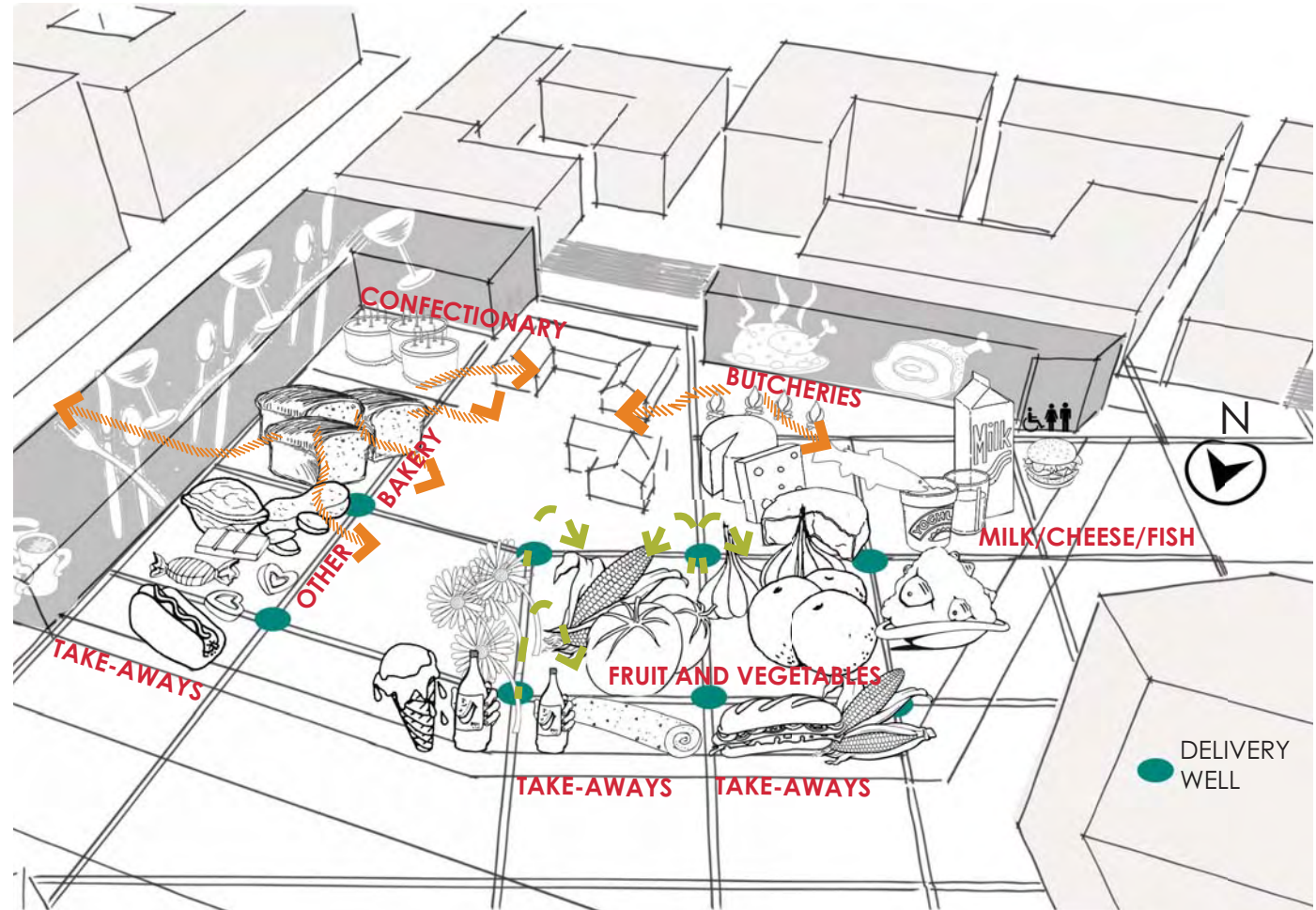
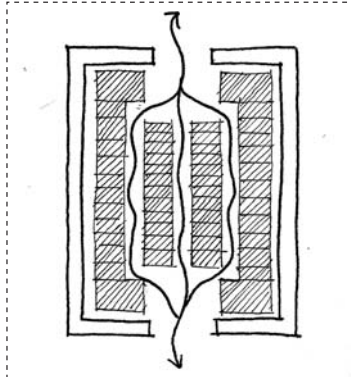


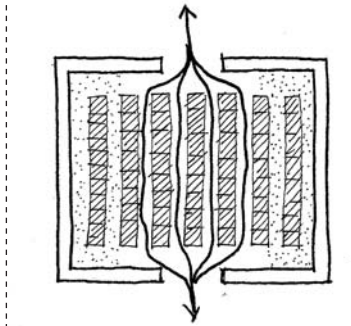
fig. 7.16

stall layout

EVEN PEDESTRIAN FLOW



UNEVEN PEDESTRIAN FLOW



UNEVEN PEDESTRIAN FLOW

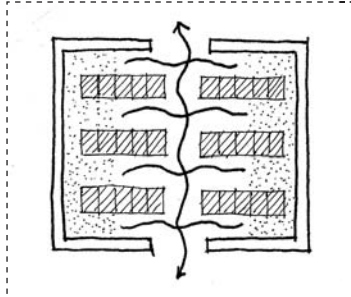


fig. 7.17 Distribution of Pedestrian flows past stalls (Behrens 1997; 216)

A market will only be successful if all the stalls are exposed to passersby. Uneven pedestrian flow must be avoided. Circulation routes must be wide enough so that a people can stand by a stall and that people with trolleys can move between the stalls. The main aisle of a typical market layout should be 4m and the cross aisle 3.5 m. The main aisles have a width of 4m. The secondary routes has a minimum dimension 2,8m.

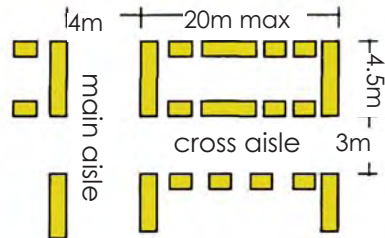


fig. 7.18 Part of typical market layout (Adler 1999: 13.3)

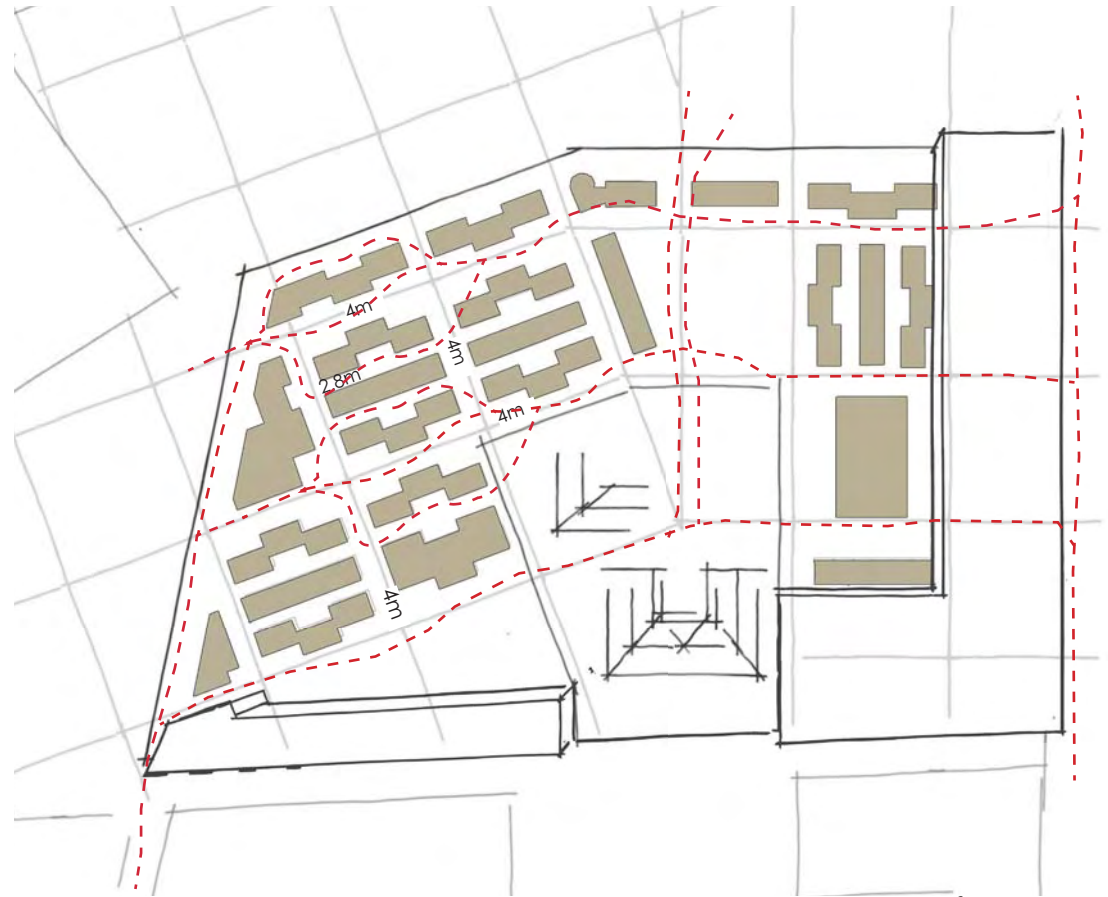


fig. 7.19

movement



The loiterer has his/her place in the city, They give a constant energy in the streets. They have spontaneous rituals that needs to be accommodated by providing places where they can sit or play.

fig. 7.21 Lucky Dlamini wanderer - loiter - school children

This movement pattern is quick and efficient and needs to know where it is going, by making it legible a person can move quickly through the space.

fig. 7.22 Julius Malan - direct mover - clerk/ business person

To group public buildings together, people don't need to run in different directions. They can walk at the different nodes where there is a lot of choices.

fig. 7.23 Vanessa Hotbottom - between nodes - worker/ children

Provide adequate places of rest for the old or the disabled. Provide routes through which this pattern can wander. Not jut sterile straight runs of stalls.

fig. 7.24 Ouma Sarah - purposeful wanderer - shopper /tourist



fig. 7.20



concept development

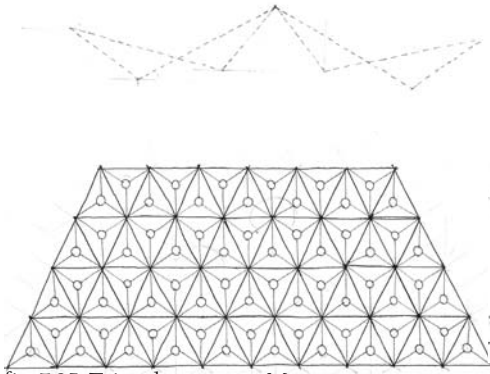


fig. 7.25 Triangle pattern - May

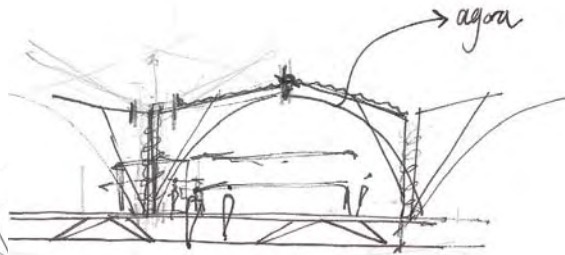


fig. 7.26 Wide spans



fig. 7.27 Floating-Roof - July



fig. 7.28 Floating Roof - July



fig. 7.29 Two buildings- July



fig. 7.30 Working model - August



fig. 7.31 Working model - August

The triangle was used to generate the form. (fig.7.25). It is a versatile shape and was appropriate as the site has odd dimensions. The first pattern did not support the wide spans needed in a market and didn't correspond with the grid ordering system. (fig. 7.26) The grid is important to support the delivery scheme. The triangle form was discarded and a flat roof was proposed.(fig.7.27 and fig.7.28)

A roof that seems to float above and over the boundary of the building and at certain points connects to the ground. A roof garden was investigated; the large spans that were needed could not support loads such as a garden is. The floating roof concept did not provide adequate opportunity for natural light and ventilation.

The triangle was revisited. At first the concept of the accessible roof was kept but the conversation between the two buildings was dissatisfactory. (fig. 7.29) After experimenting with concept models and computer generating models, the design was put on the table.



form generator



fig. 7.32

In the precedent study, it was concluded that the roof is the archetypical image of a market. An elaborate roof makes the market legible in the urban landscape. Besides that, should it also enable adequate daylight to penetrate the building even if the building is more than 40m deep. Natural ventilation was also a major consideration. By using triangles in different orientation these three requirements were satisfied. The square that is generated from the grid is cut in half and therefore create two triangles. The two parts slope in different directions. (fig. 7.33) A form is so created that signify vibrancy and energy in the city context. This reminds one of produce or livestock in a bowl or an enclosure, they signify vitality. In the same way this market signifies a feast in the city, a place where one can not only sustain one's body but also one's life in that of the city's sustainability.

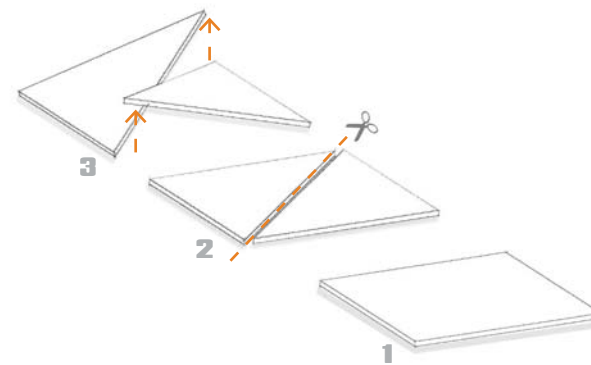


fig. 7.33



“A rough guideline is that markets should accommodate at least 70 operators (preferably more) and that expansion should be allowed for. ...it is a general rule that larger markets are more successful than smaller ones. This is because they offer greater choice and diversity, parts of them tend to be more permanent, and other attractions (eg. restaurants, entertainment) tend to be associated with the market.” (Behrens 1997; 216)

Basement

Basement Total: 4764m²
Basement Storage x 54: 6m²
Basement Storage x6 : 9m²

Market Floor

Existing House Deli 1: +/- 160m²
Existing House Deli 2: +/- 62m²
Flexible stalls: 103
Fixed stalls: 12
Coffee Bar: Ground Floor 50m²
First Floor Lounge 77m²
Restaurant 1 : Ground Floor
90m²
Kitchen 24m²
Washing 8m²
Storage: 5m²
First Floor
94m²
Bar 23m²
Storage 10m²
Washing 7m²
Restaurant 2: 69m²
Kitchen 26m²
Washing 11m²
Storage 7m²
Butchery 1&2: Butchery 49m²
Dry Store 5m²
Cold Sore 9m²
Store 1 :20m²
2 :47m²
Total 67m²

Restaurant 3: 35m²
Kitchen 20m²
Washing 7m²
Storage 6m²
Bar

Rest Rooms: Unisex 31m²
Male 33m²
Female 60m²

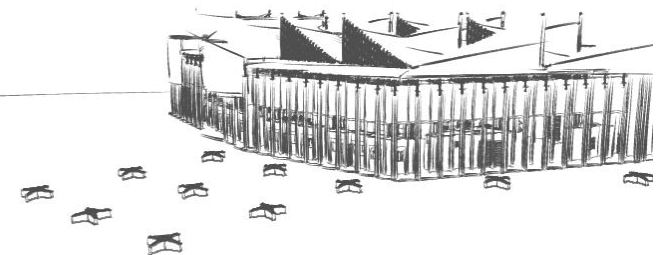
Service Yard: 170m²
Bakery x3: 41m²

First Floor

Industrial Kitchen x 11: 10m²
Lockers: 55m²
Restaurant 4: 91m²
Sushi Bar 9m²
Wash 16m²
Storage 4m²
Restaurant 5: Area 368m²
Kitchen 41m²
Bar 26m²
Store 1: 4m²
Store 2: 6m²
Terrace : 128m²
Service yard: 5m²

Rest Room: 19m²
Security: 24m²
Administration: 50m²

Total Site Area: 7 724m²
Ground Floor Area: 6 494m²
Basement Floor Area: 4 764m²
First Floor: 1 586 m²
Total Floor Area: 12 844 m²
Floor Area Ratio:
7724/12844= 0.6





08. design



fig. 8.1 View from the North

ground floor plan



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

- FRUIT AND VEGETABLES
- MILK/CHEESE/FISH
- MISCELLANEOUS
- BAKERIES
- PERMANENT STALLS
- FORMAL RESTAURANTS
- BATHROOMS
- BUTCHERIES
- SERVICES



fig. 8.2

first floor plan



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

- FORMAL RESTAURANTS
- BATHROOMS
- INDUSTRIAL KITCHENS

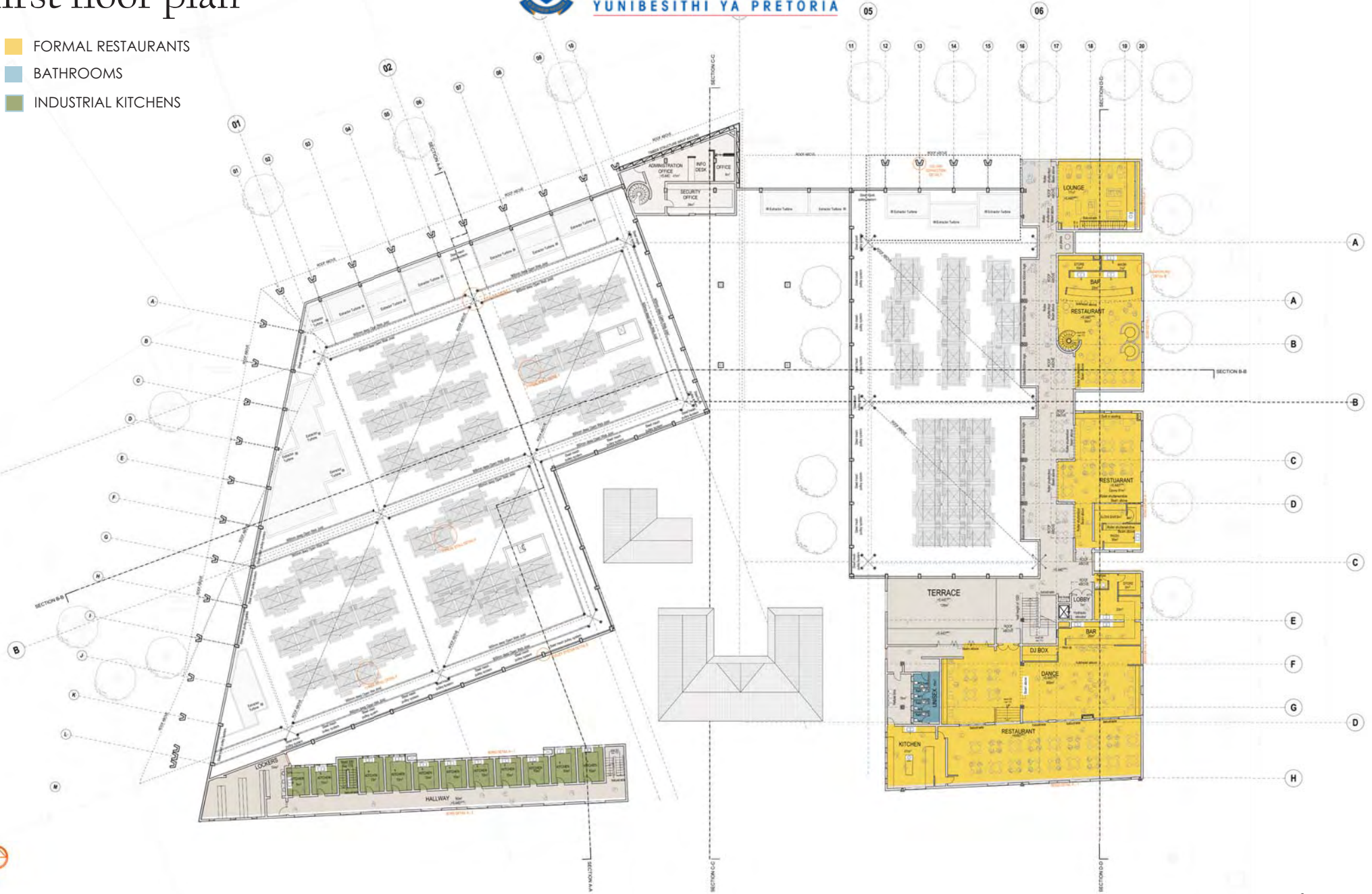


fig. 8.3



fig. 8.4 Approach from Vermeulen Street





fig. 8.5 Potgieter Street



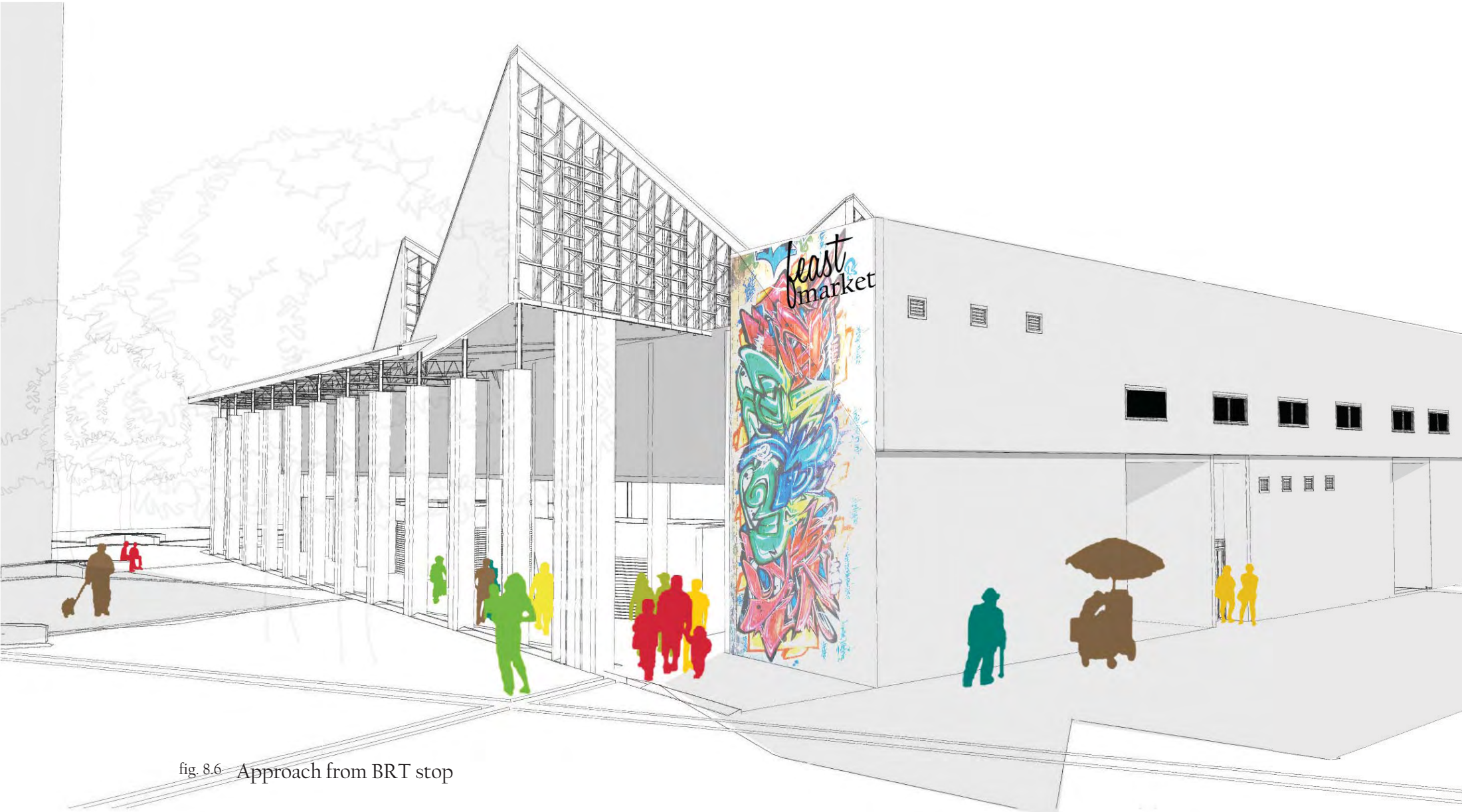


fig. 8.6 Approach from BRT stop



fig. 8.7 Main Entrance of the Market



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fig. 8.8 Historic Houses form the focus point of the market





09. technical investigation

When one visits a food market, the different produce can be smelled, touched and tasted. The ingredients are on display in their natural state. The construction and materials used in this project were chosen to portray the raw and unprocessed products sold at the market. The different ingredients of this dish (the building) are recognisable, and one can tell the elements that make up the building apart from each other. The structure is not concealed behind plaster or veneers but rather celebrated in the natural form. The play of light was an integral part of the design to signify how the natural also dictate the ritual. By using texture the shadows are accentuated. The individual parts don't have any meaning unless they are integrated with each other to shape a building. The different parts lightly touch each other to form this design, more like a salad less like a stew.



administration



ADMINISTRATION

In Barcelona, Spain, a total of 41 markets similar to this project are distributed in the city. A department in the municipality manage these markets. A similar administration faculty could be implemented in this project. Except that where the municipality represent the urbanite, another organisation like AgriSA could represent the farmer. Agri South Africa (Agri SA) is a federal organisation, which promotes on behalf of its members, the sustainable profitability and stability of commercial agricultural producers and agribusinesses. As the market is a place where the rural meet the urban the relationship should be reflected in the representation of the two parties. This partnership is responsible for the general maintenance of the property and services as well as to manage the farmers that rent spaces in the market.

How it works:

The producer rent a stall for a period of time. He/she is responsible to hire a person to handle the delivery and retail of the produce. Similar to the way a farmer would sell produce on the roadside in country side. It is recommended that this person be paid a basic salary and rewarded by giving him/her commission on the goods that is sold. This will encourage active participation and marketing in the market. A producer may not create a monopoly by renting more than two stalls. The idea is that similar markets will be distributed through out the city and the producer can lease a number of stalls at the different markets.



fig. 9.1

In a sustainable market it will be best practise to get the produce from around Pretoria so that local farming enterprises could prosper, food miles are reduced and food that is in season around Pretoria can be enjoyed. Therefore, building materials should also be indigenous to this area. Bricks were manufactured in the vicinity of Pretoria from 1904 by JJ Kirkness. Corobrik still manufacture bricks today. PPC, or Pretoria Portland Cement was founded in 1904 by N H Nellmapius at De Eersten Fabrieken in Daspoort and is still in operation today. ArcelorMittal, the leading manufacturers of steel in South Africa, previously known as Iscor, is situated in Van der Bijl Park in Gauteng. The materials will be discussed in the different applications in this chapter.



fig. 9.2 Open Bond

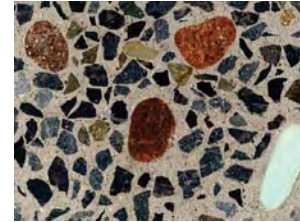


fig. 9.3 Exposed aggregate



fig. 9.4 Corobrick Antique Travertine



fig. 9.5 Masonry Bond Texture



fig. 9.6 Brownbuilt Sheeting



fig. 9.7 Spaceframe



fig. 9.8 Spaceframe



fig. 9.9 Masonry Bond Texture



fig. 9.10 Brownbuilt Sheeting



fig. 9.11 GKD Kiwi steel mesh



basement



CONSTRUCTION

A tank basement construction was used. The basement is within 170m from the Steenhovenspruit; hence the water table may be above the basement floor level. The basement is tanked by inserting 1,0mm polyolefin waterproof membrane between a 300mm thick concrete wall and a 220mm masonry wall. Construction connections must be limited and provided with continuous cast-in rubber water stops. Sumps need to be installed to collect seep water through geo-pipes that is installed in a herringbone pattern in the floor slab. A sump should not catch more than 400 sqm of floor area. The basement floor area is 4400 sqm, therefore 11sumps are needed. An electrical submersible pump with float switch is fitted in the sumps. In this large basement the sumps are connected with pipes to a larger pump chamber. (Wegelin2009:163)

JET GROUTING

The excavation that is in close proximity to the existing structure need to be stabilised and secured by solidifying a layer of soil on the excavation edge. This will minimise vibration and soil movement between the existing building and the construction site. A pipe is drilled into the soil by a driller to the correct depth. From this depth it will start to saturate the soil with a concrete mix and this then causes the soil to solidify and harden. (Franki:2009)

STRUCTURE CALCULATIONS

Columns in Basement:

Clear height required is 5 200 mm
Cast-in-place columns, typical height 2- 8m.
 $L/d = 12$ $L/d = 18$
 $d = 5200/12$ $d = 5200/18$
 $d = 433,33$ $d = 288.9$
thus 350

Two-way reinforced slab. Suitable for heavy loading and concentrated loads.
Typical spans is 6 -11 m
 $L/d = 28$ $L/d = 35$
 $d = 8200/28$ $d = 8200/35$
 $d = 292.8$ $d = 234.28$
thus 255 mm thick

Reinforced Wide Beam is used where height is limited.
 $L/d = 16$ $L/d = 22$
 $d = 8200/16$ $d = 8200/22$
 $d = 512.6$ $d = 372.72$
thus 425

ACCESS

Access to the basement is calculated as follows:
Floor to Pavement Height: 6930 mm
Transition slope length: 4000 mm
 $y/4000 = 8\%$
 $0.08 \times 4000 = 320\text{mm rise}$
 $2 \times \text{transition slope} = 640 \text{ rise}$
 $6930 - 640 = 6290$
 $6290/y = 16\%$
 $6290 \times 0.016 = 39\ 000 \text{ mm}$ (Ching 2008: p1.29)

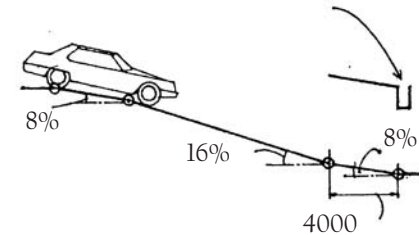


fig. 9.12 Garage Ramp

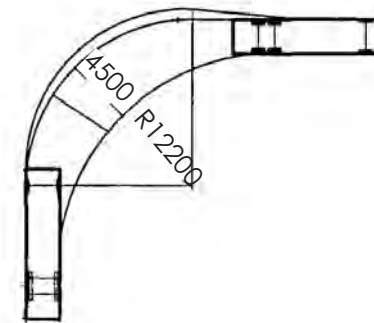


fig. 9.13 Medium Commercial Vehicle

FINISHES

Floor finishes is smooth so that it can be easily cleaned. Epoxy mortar flooring system is used. Abscreed is a hard-wearing and chemical-resistant decorative mortar for a seamless flooring surface. Abscreed is used in areas that are subject to heavy mechanical wear like garages and food processing areas. Abscreed also provides a slip resistant finish. Epoxy flooring must not be used as screed-out-of-doors. (Abe: 2009)

Concrete Columns to be prepared with one coat alkali resistant plaster primer and finished with two coats alkyd Super Universal enamel paint. Different colours on the columns indicate the difference routes in the basement for movement or delivery.

VENTILATION:

Artificial Ventilation will have to be used as not enough natural air could ventilate the basement. Storage of produce will also need a cooler temperature. A central cooling system is proposed. Fresh air is obtained through a raised platform in the open area. Ducts are positioned as indicated on basement plan.

delivery basement plan

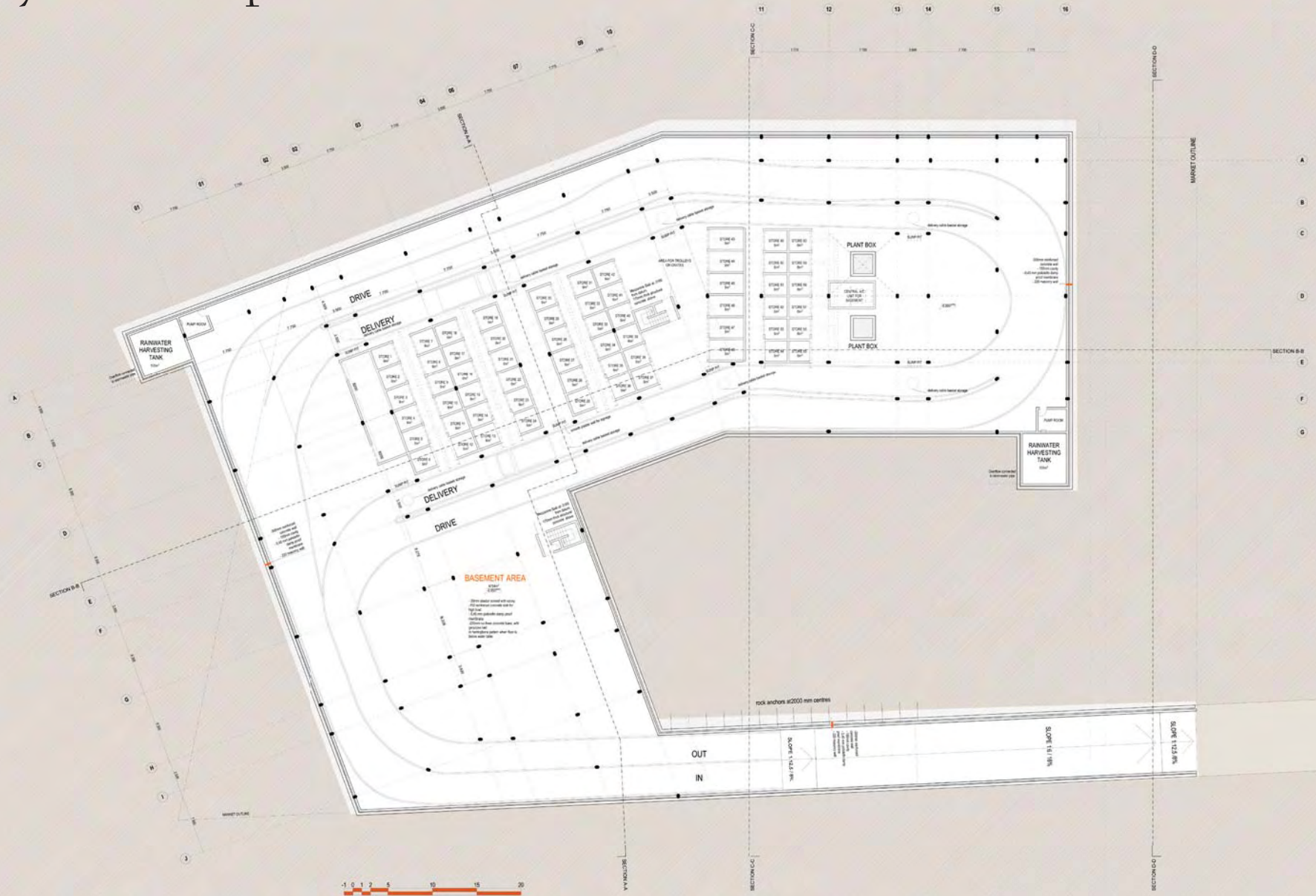


fig. 9.14



structural system



The structural grid is governed by the stall runs mentioned on p. 59. The composite columns are positioned at the cross points and support the triangle roofs. The composite of four steel columns is stabilised and supported by diagonal steel beams. The diagonal beams work against the downward load of the hoist and delivery basket. The four columns consist of two hollow steel sections (two 100x200x6mm hot rolled steel rectangular tube) with steel angels (45x45x4mm equal angle steel section) welded to the section to support the diagonal beams (100x50x3mm hot rolled steel rectangular tube). The hollow sections enable downpipes and electrical conduits to be accommodated inside the columns with accessible openings for inspection.

Open web joist steel beams span between these columns to support the light precast concrete slab of 170mm thick. Beams are bolted with two M20 bolts to the custom made steel hangers that have a minimum bearing length of 100mm. (Ching 2008:6.13)

All steelwork should be treated with a factory primer. Apply two coats of zinc phosphate primer; finish with two coats of structural steel intumescent paint to have a three hour fire resistance. Steel is painted white. All base plates must be galvanised.

CALCULATIONS

Hollow Rolled Steel Section Column
 $h/d = 7 \quad h/d = 28$
 $d = 4700/7 \quad d = 4700/28$
 $d = 671.4\text{mm} \quad d = 167.86\text{mm}$
therefore 200mm

The composite column can be seen as a

Steel Lattice Columns
 $h/d = 21 \quad h/d = 25$
 $d = 8700/21 \quad d = 8700/25$
 $d = 414.3 \text{ mm} \quad d = 348 \text{ mm}$
1500 x 1500 mm would be efficient then

Cold formed open web joist steel joist
Span of 18600mm
 $h/d = 15 \quad h/d = 25$
 $d = 18600/15 \quad d = 18600/25$
 $d = 1240 \text{ mm} \quad d = 744 \text{ mm}$
Thus 900mm deep

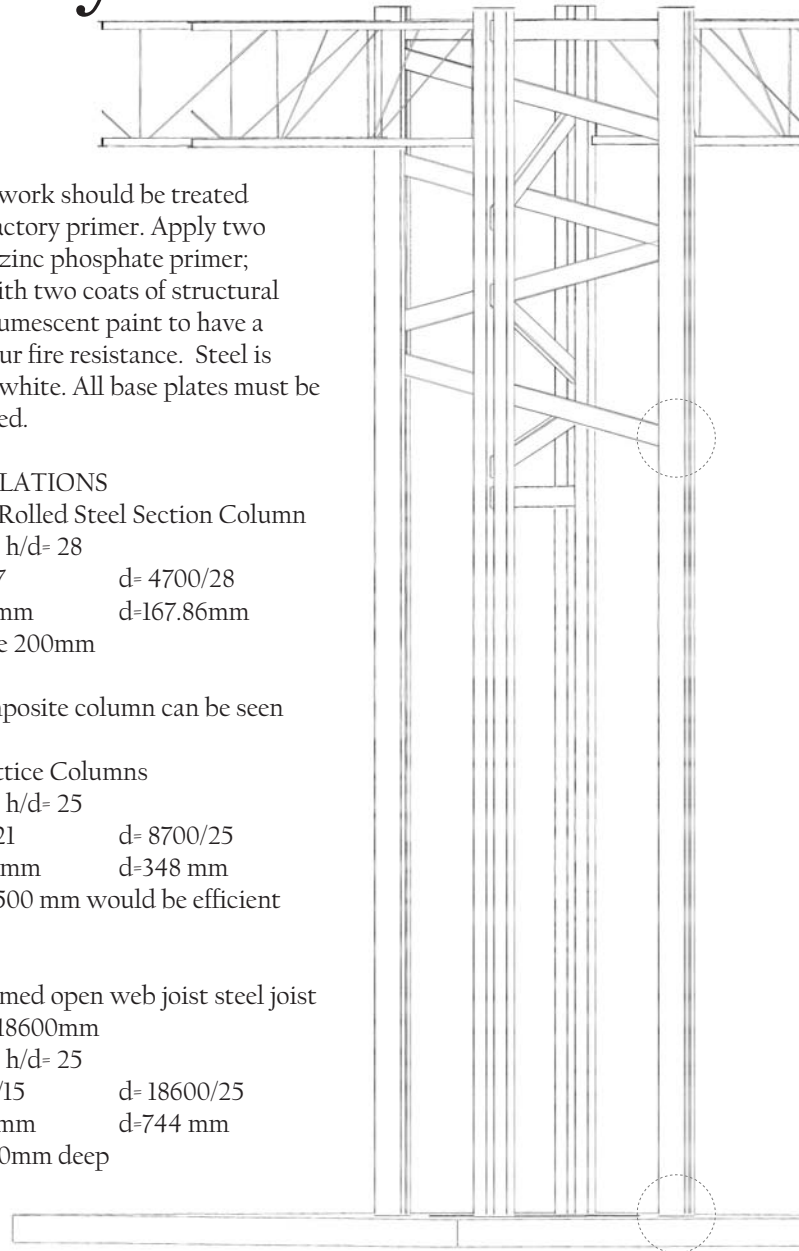


fig. 9.15 Composite column

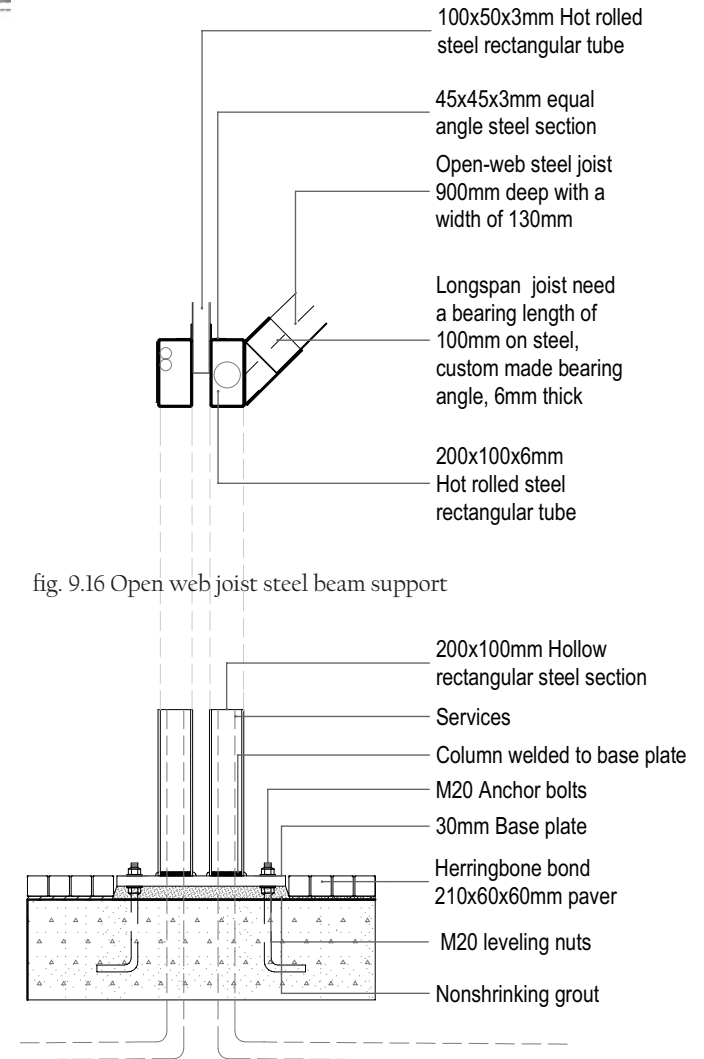


fig. 9.16 Open web joist steel beam support

fig. 9.17 Column Footing



ground floor plan

- FRUIT AND VEGETABLES
- MILK/CHEESE/FISH
- MISCELLANEOUS
- BAKERIES
- PERMANENT STALLS
- FORMAL RESTAURANTS
- BATHROOMS
- BUTCHERIES
- SERVICES



fig. 9.18



delivery system



This thesis accentuated the importance of the direct exchange the farmer must have to the city at its inhabitants. This can only be possible if a market is designed with an infrastructure to accommodate a number of farmers to bring their produce to the market. Produce's quality degrades every time it is handled. In the current industry, produce have a few detours before it ends up in one's plate. To eliminate all the detours a delivery system is proposed where the food can be loaded on the farm and then unloaded on the market floor.

A FI Top, type CTS601 (supplied by lift and shift) hoist with a capacity to pull 2 ton up is fitted on an I-beam of 203x102mm that is supported by the hollow section columns discussed beforehand. The produce is loaded on a 'cable basket' (fig. 9.16) that is constructed of a round shaped unequal angle steel section (50x70mm) with timber fastened to it with countersunk steel woodscrews. Steel cable of 5mm diameter connects the two timber platforms. By using cables instead of fixed steel members enable the basket to collapse and be stored in the basement floor. (fig. 9.22)

The cable construction of the basket enables it to collapse to fit in the pit in the basement floor.

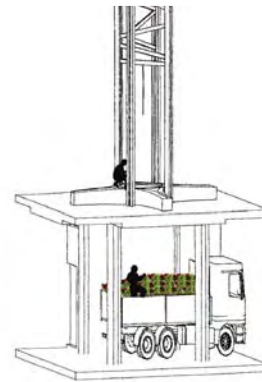


fig. 9.19 Trucks drive into the basement and park underneath one of the eight delivery wells.

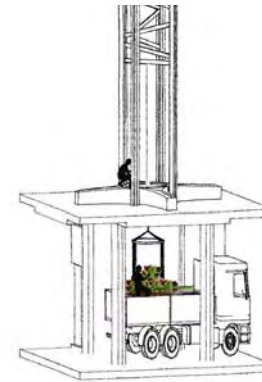


fig. 9.20 The cable basket is loaded with produce and is pulled from above into the market by an electrical hoist.

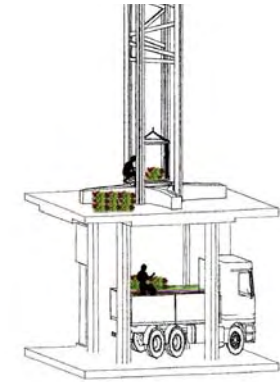


fig. 9.21 The food is then distributed to the designated stall. Excess produce can be stored in the basement.

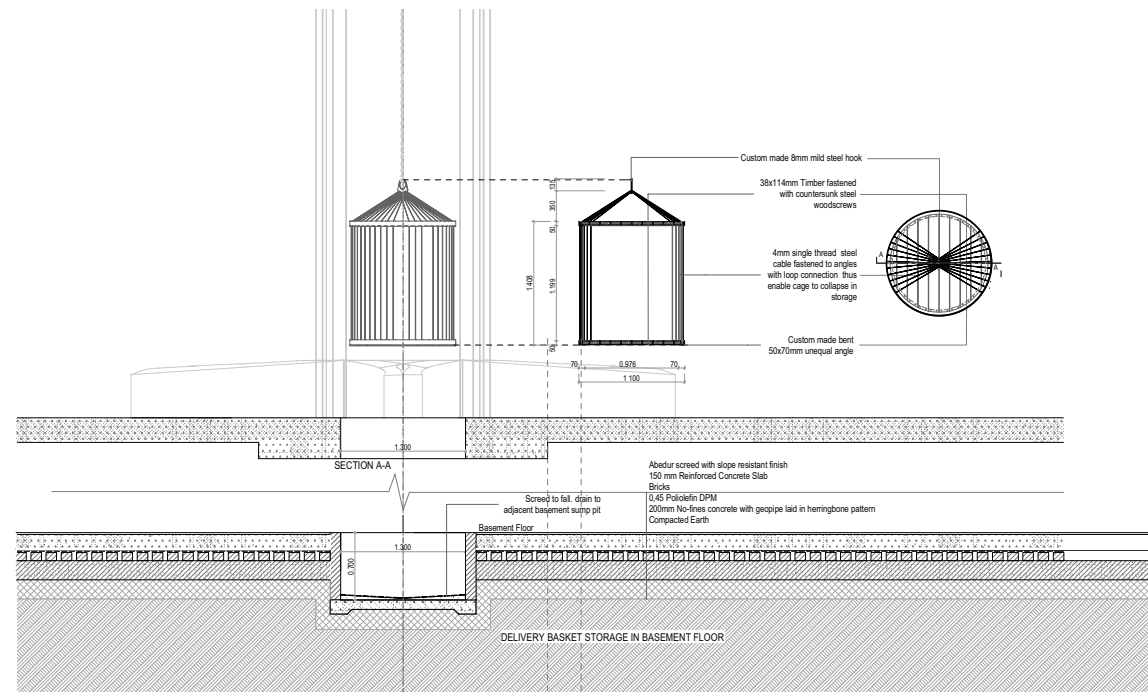


fig. 9.22

INNER BOUNDARY

Concrete columns, with a height of 8200 mm is placed at 5 m centres, define the inner boundary of market from the arcade. These columns support 170mm deep reinforced concrete beams. The beams are finished with exposed fine aggregate. 220 mm normal Flemish bond from Corobrik Village Antique Travertine FBS masonry wall that is built on the beams, 4760 mm from ground level strengthen the inner edge.

Advertisement can be accommodated on these walls.

CALCULATIONS:

Masonry Wall 3400 mm high
 $L/d = 18$ $L/d = 22$
 $d = 3400 / 18$ $d = 3400 / 22$
 $d = 188.9$ $d = 154.5$
 thus 220 mm

Precast concrete columns

Typical height is 2-8m
 $h/d = 15$ $h/d = 30$
 $d = 8200 / 15$ $d = 8200 / 30$
 $d = 586,7\text{mm}$ $d = 293,3\text{mm}$
 therefore 300mm

Reinforced concrete beam

Typical span is 2-7m
 $l/d = 22$ $l/d = 32$
 $d = 5000 / 22$ $d = 5000 / 32$
 $d = 227,3\text{mm}$ $d = 156,3\text{mm}$
 therefore 170mm

ARCADE COLUMNS

The exterior columns that create the arcade around the market are a Reinforced Grouted Masonry Column. The brick used is also the Corobrik Village Antique Travertine FBS. See (fig.9.4)
 Column height of 8200 mm
 $h/d = 15$ $h/d = 20$
 $d = 8200 / 15$ $d = 8200 / 20$
 $d = 544$ mm $d = 408$ mm
 600x 650 mm open column.

CLOSING MECHANISM

For security and control the market must be able to be closed. A pulley system is used where steel mesh of GKD Kiwi metal mesh (fig.9.11) is hoisted up during open times and manually locked when closed. This creates a visual permeable barrier when the market is closed but keeps out vagrants or vandals. The Kiwi mesh with a light weight of 2.44kg/sqm was chosen. The mesh has a total of 25sqm and will be 61kg in total. The weights on either side of the pulley should equal this mass.

BUILDINGS

The buildings (that relate to the urban context on the east and south side of the market) are constructed with masonry walls with concrete floors and roof. Different bonds (fig.9.26) create a texture on the first floor façade that is accentuated by the shadows that the Jacaranda trees cast on the building. This emphasise the individual bricks that make up the masonry wall. Through these bonds the concept of realizing the different ingredients in the buildings is portrayed.

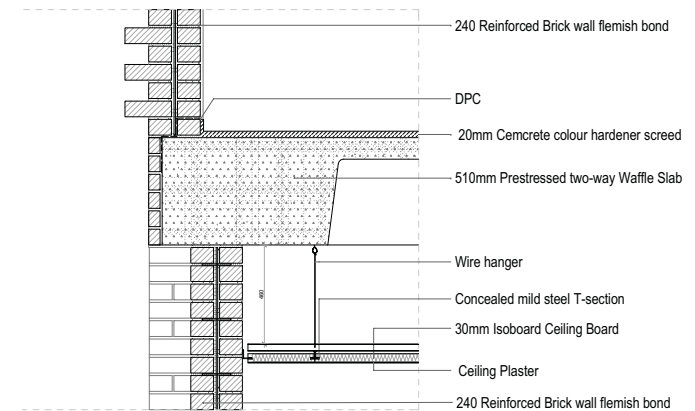


fig. 9.25 Shadowline

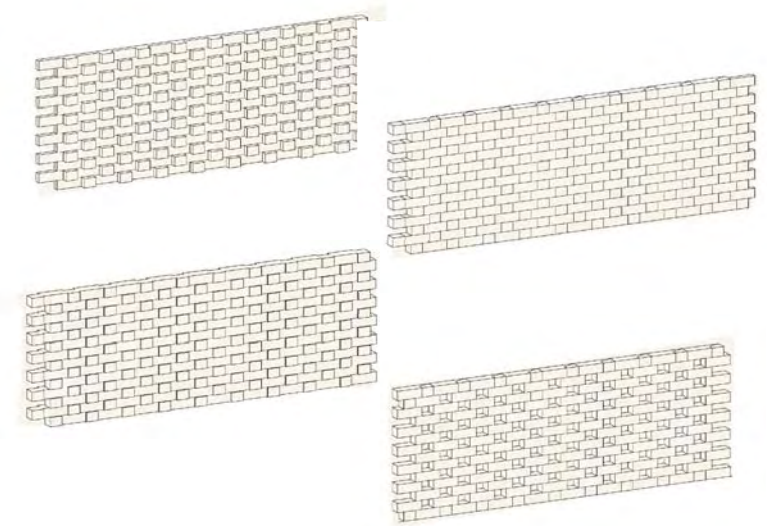


fig. 9.26 Adaptions to flemish bond

first floor plan



- FORMAL RESTAURANTS
- BATHROOMS
- INDUSTRIAL KITCHENS

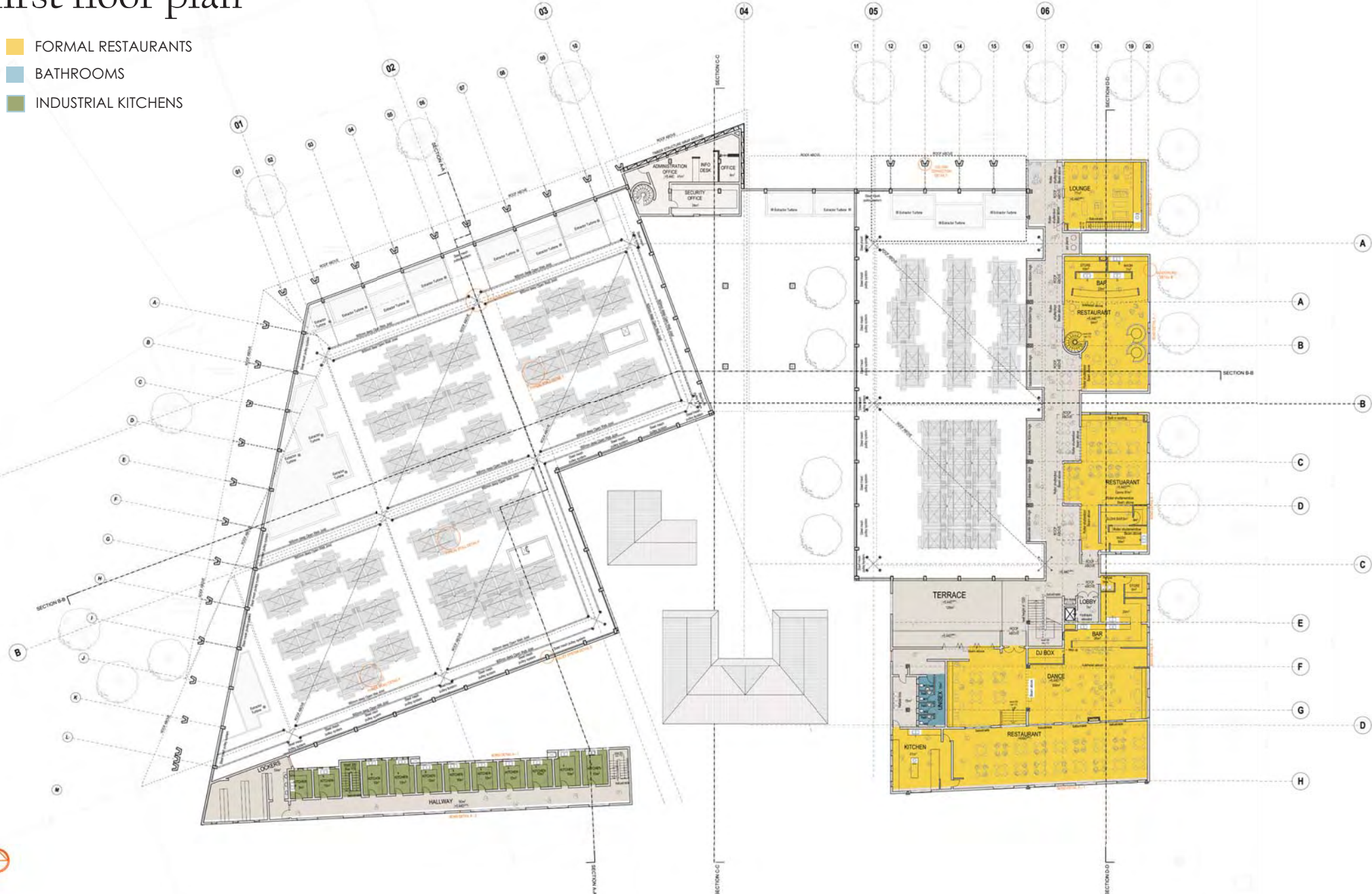


fig. 9.27

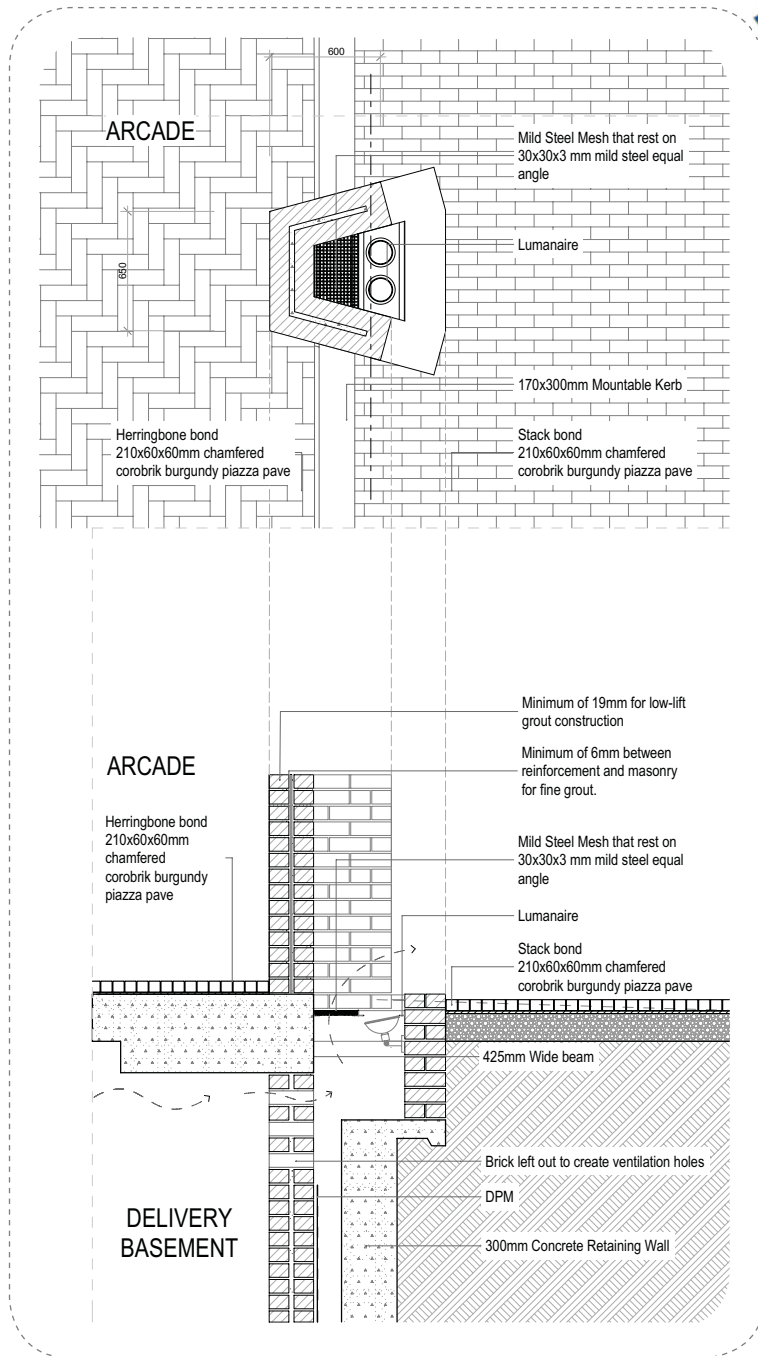


fig. 9.28 Arcade Column Detail

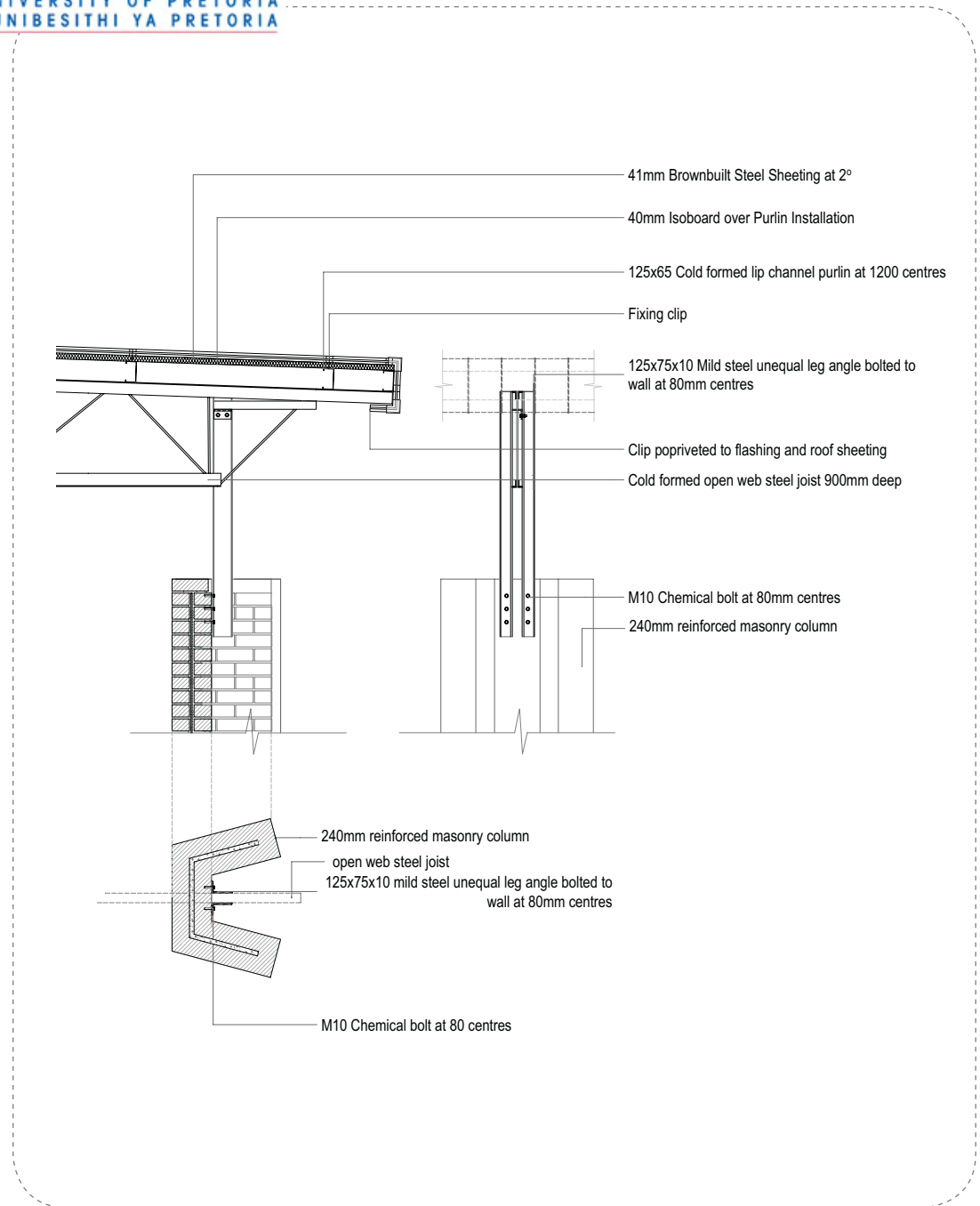


fig. 9.29 Arcade Column Top Detail

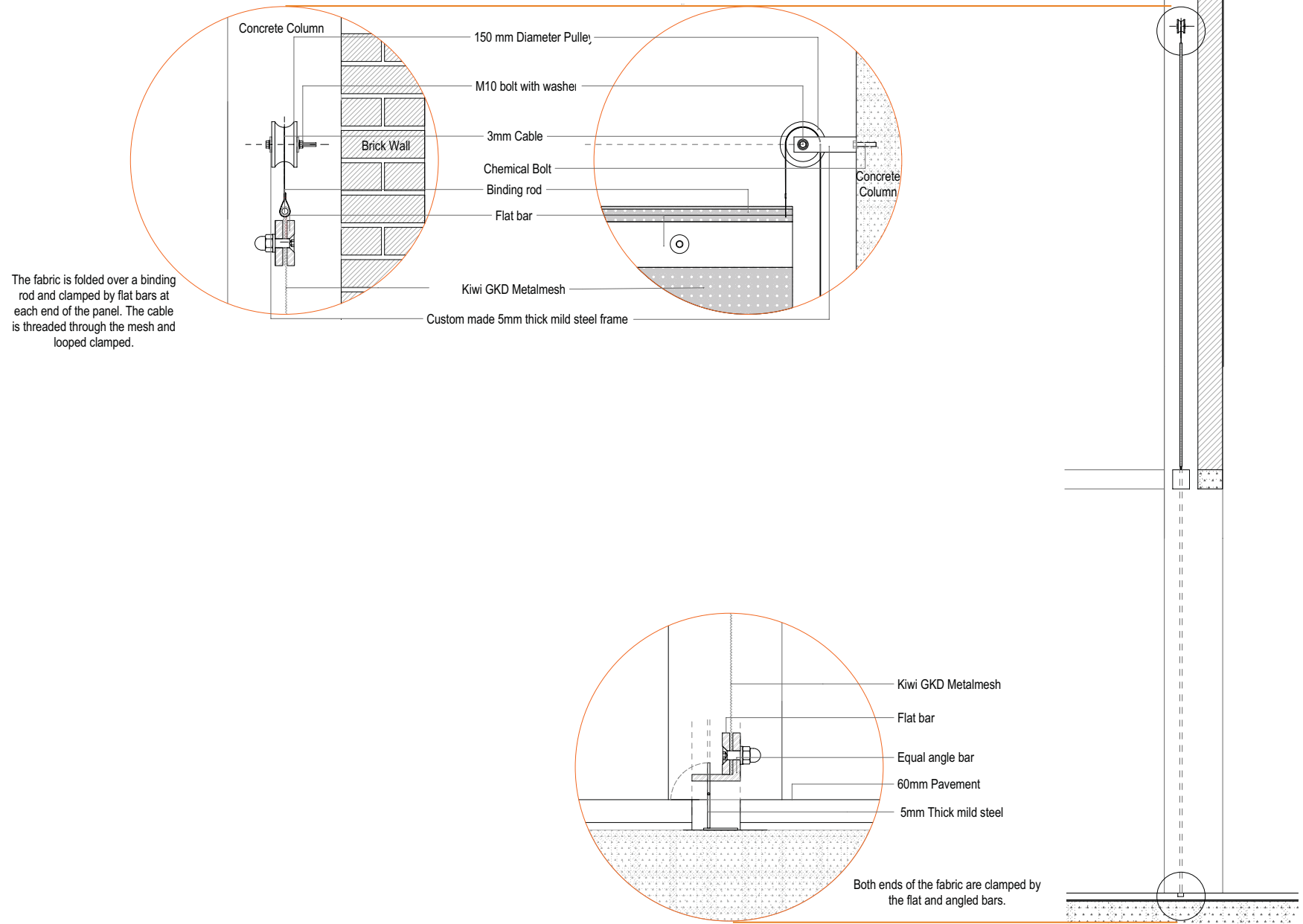


fig. 9.30 Closing mechanism - Steel Mesh Pulley System



roof



STRUCTURE

To accommodate the large spans of 25.6 m, a space frame structure was chosen. Space frames are a long-spanning three dimensional plate structure based on the firmness of the triangle and made of linear steel components subject only to axial tension or compression. The added benefit of a space frame is that it is aesthetically pleasing and need not be concealed. Another consideration was the way the members of the space frame break sunlight in the same manner as foliage of a tree does. This creates a play of shadow on the market floor and strengthens the ritual or the sun's pattern.

A Pyramid Sphere space frame was opted for because:

This is applicable for simple flat or flat sloping space frame projects; spans are not limited; the bottom chords are round with tapered ends, connected to a ball node connector; the bottom connector is unique in that there are no exposed fasteners, no sleeve pins, bolts etc.

The top chord is square or rectangular to allow direct deck attachment. This eliminates the need for a purlin level found on standard ball and tube systems. All web members are round. (Delta:2009)

Noncombustible steel construction may be left exposed if at least 6095 mm above the finish floor. These roofs are more than 8m above floor finish and therefore don't need fire proofing. (Ching 2008: 6.11)

The space frames are supported by rolled steel of hollow section of 200x200 columns

(see structural system) spaced in a nearly square. This square is cut diagonal in two triangles. The two triangles slope at 15 degrees in opposite directions to provide sufficient natural light in the market.

Typical span may be 30-150m
Diagonal span is 25 600mm
 $l/d=15$ $l/d=30$
 $d=25\ 600/15$ $d=25\ 600/30$
 $d=1706.7\ \text{mm}$ $d=853.3\ \text{mm}$
therefore 900 mm deep.

INSULATION

ISOBoardÆ high density 34-36kg/m³ rigid extruded polystyrene, 100% closed cell insulation board is 40 mm thick and 600mm wide. The boards are fixed parallel with roof covering over steel purlins at approximately 900 mm centres. Tongue and groove joints clip the boards together. The lightweight nature of the board, its strength, length and flexibility, as well as the tongue and groove edge profile makes isoboard one of the easiest and cheapest insulators to install, particularly when combined with its ability to be used in exposed applications.

SHEETING

The roof- and side-cladding is Brownbuilt profile sheeting. Roll formed in continuous lengths of 0,8 mm thick ISQ 300 quality galvanised steel with a galvanised finish of Z275. The rib height is 41 mm. This sheeting is used in practise for large

spanning sheds because of its structural strength. It is easy to erect and very versatile to be cranked. Fascia boards are not used as the sheeting is bent to form a lip around the edges. (Brownbuilt:2009)

Gutters are from 0,8mm galvanised steel flashing. (Fig)

Gutter of 125 mm needed for a roof of 130sqm roof. Roof area = $18.5\text{m} \times 19.3\text{m} / 2$
= 180sqm (Ching 2008; 7.17)

Thus is 250mm sufficient.

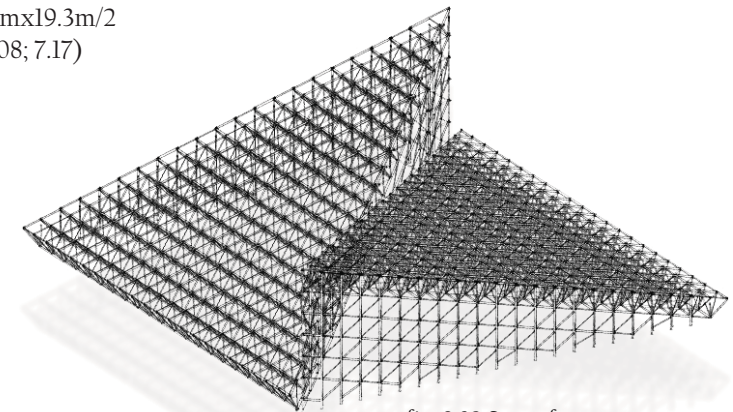


fig. 9.32 Space frame

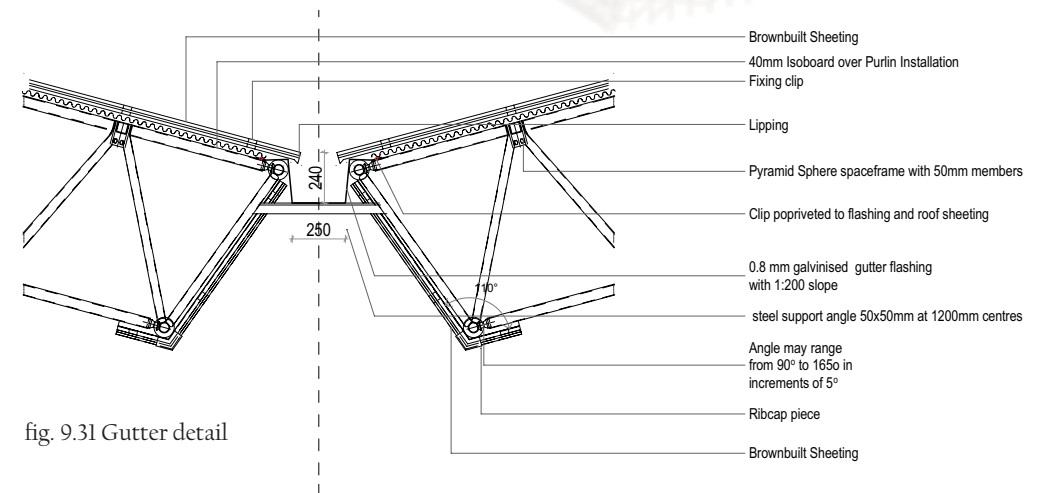


fig. 9.31 Gutter detail

roof plan

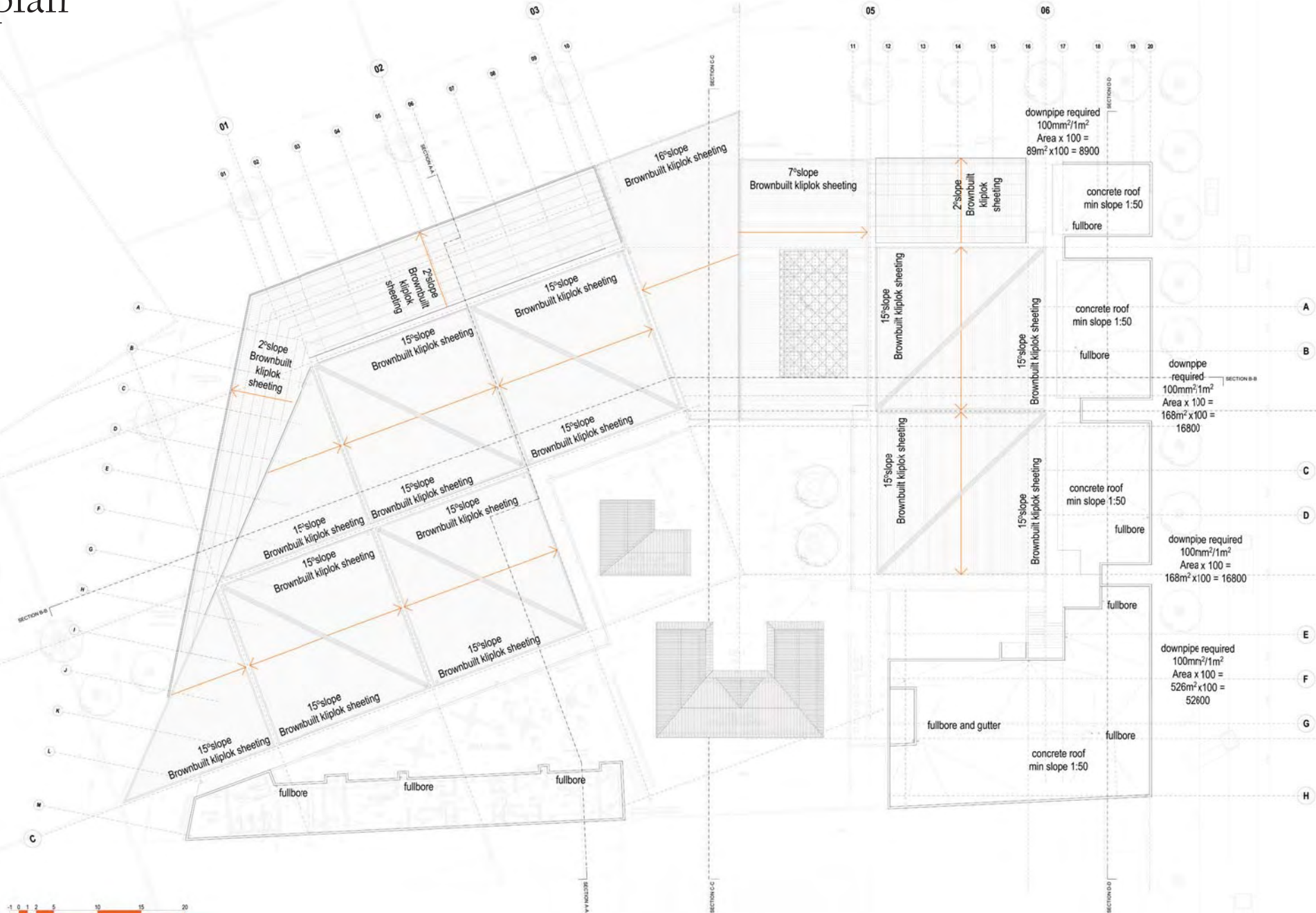


fig. 9.33



ventilation

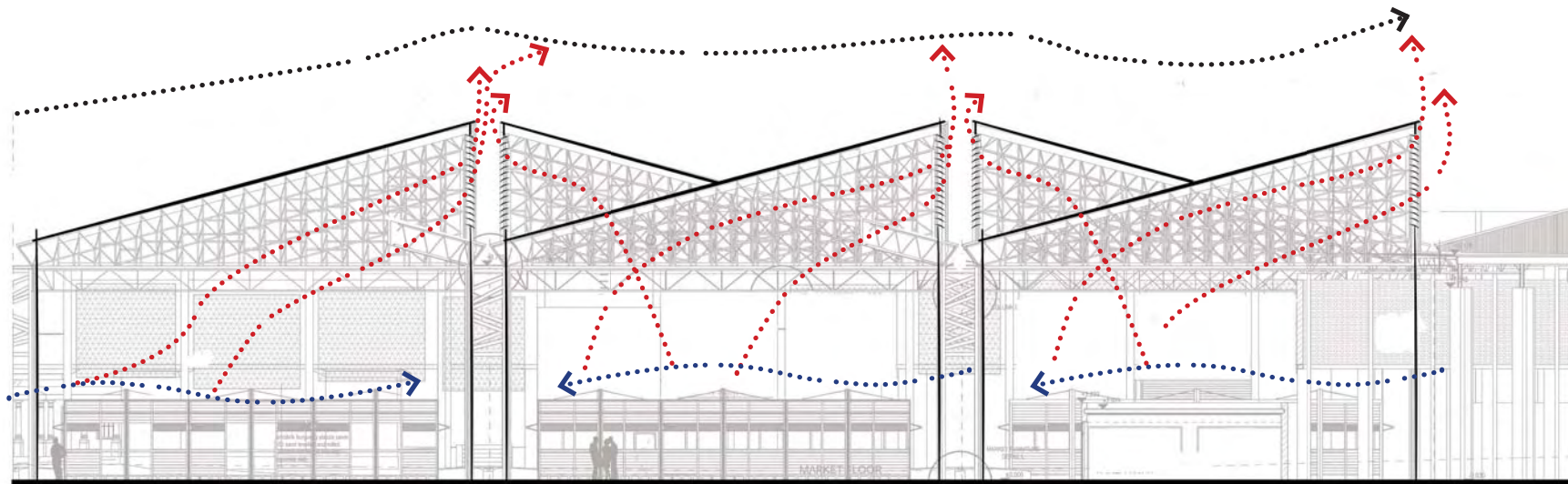
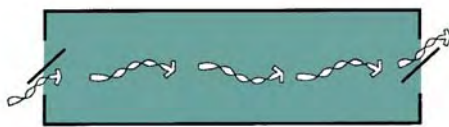


fig. 9.34 Stack Ventilation



6m



15m

fig. 9.35 Cross Ventilation
Diagram (Adler 1999; 38.23)

Passive ventilation is used on the market floor where the stack effect can be used. Stack effect take place when the inside and outside air temperature differs. The air gets warmer from heat emission from the users and produce, warmer air is less dense and will rise. The rising warm air can escape through the louvers provided. (fig.9.36) It will be replaced by cooler, denser air drawn into the space at low level. Stack effect is enhanced with rising inside/outside temperature differences and increasing height between the higher and lower openings. (Adler 1999;38-22) Extractor fans are installed on the roofs of the take-away stalls on the periphery of the market to increase the air flow.

The formal restaurant complex was designed for cross-ventilation. The width of the building is less than 15m (fig.9.34) and will thus be suitable for cross-ventilation. Extractor fans will be needed in the kitchens as the heat and humidity is more intense in this space.

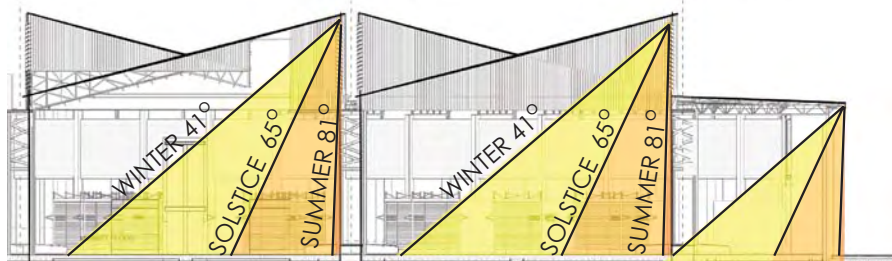


fig. 9.36 Natural Daylight Diagram

NATURAL LIGHTING

Daylight is utilised as far as possible to cut energy cost and to give the space the perception of clarification and freshness. The dweller does not feel enclosed in a building but rather in the open air. This opposes the enclosed supermarket one is accustomed too.

A problem that may arise from this lighting is that direct sunlight from the north will not only light, but also heat the interior space. To prevent this, SolarShield glazing from Smartglass is proposed. Solarshield is a combination of a metallic coating and a clear or tinted PVB (polyvinyl butyral) interlayer, designed primarily to keep out as much of the sun's heat as possible.

In addition to reducing solar heat, Solarshield also limits the amount of light entering the interior and blocks up to 99% of damaging UV radiation. (Smartglass:2009) On the southern façade normal glazing may be used as direct sunlight is not that a big issue.

ARTIFICIAL LIGHTING

The following lighting requirements are needed for different functions:

Storeroom	50 lux
Toilet areas	100 lux
Stairs	100 lux
Office	500 lux
Foodstuffs industry	200 lux
Restaurants	200 lux
Mixing, unpacking	300 lux
Butchery, dairy work	300 lux

Height of more than 5m in supermarkets need up to 750 lux (Neufert :143)

The market is lit with lighting fixtures installed on the open web joist steel beam. With different angles, the fixtures illuminate the whip up roofs so that it becomes a landmark in the urban landscape at night. Lighting at the foot of the arcade columns (fig.9.28) creates a feature in the square.

All bulbs should be energy efficient and recycled.

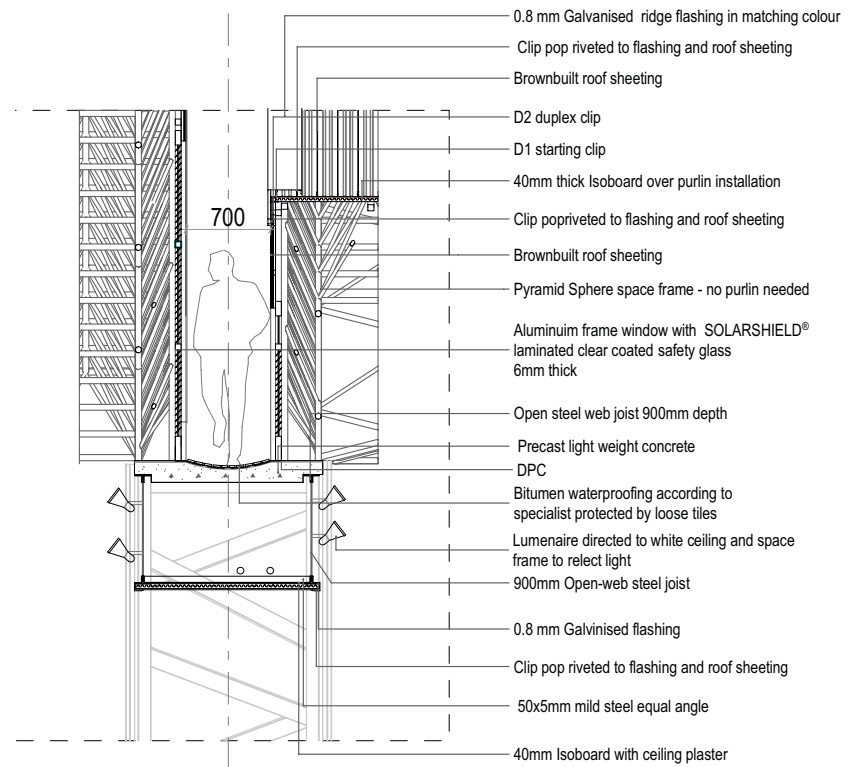
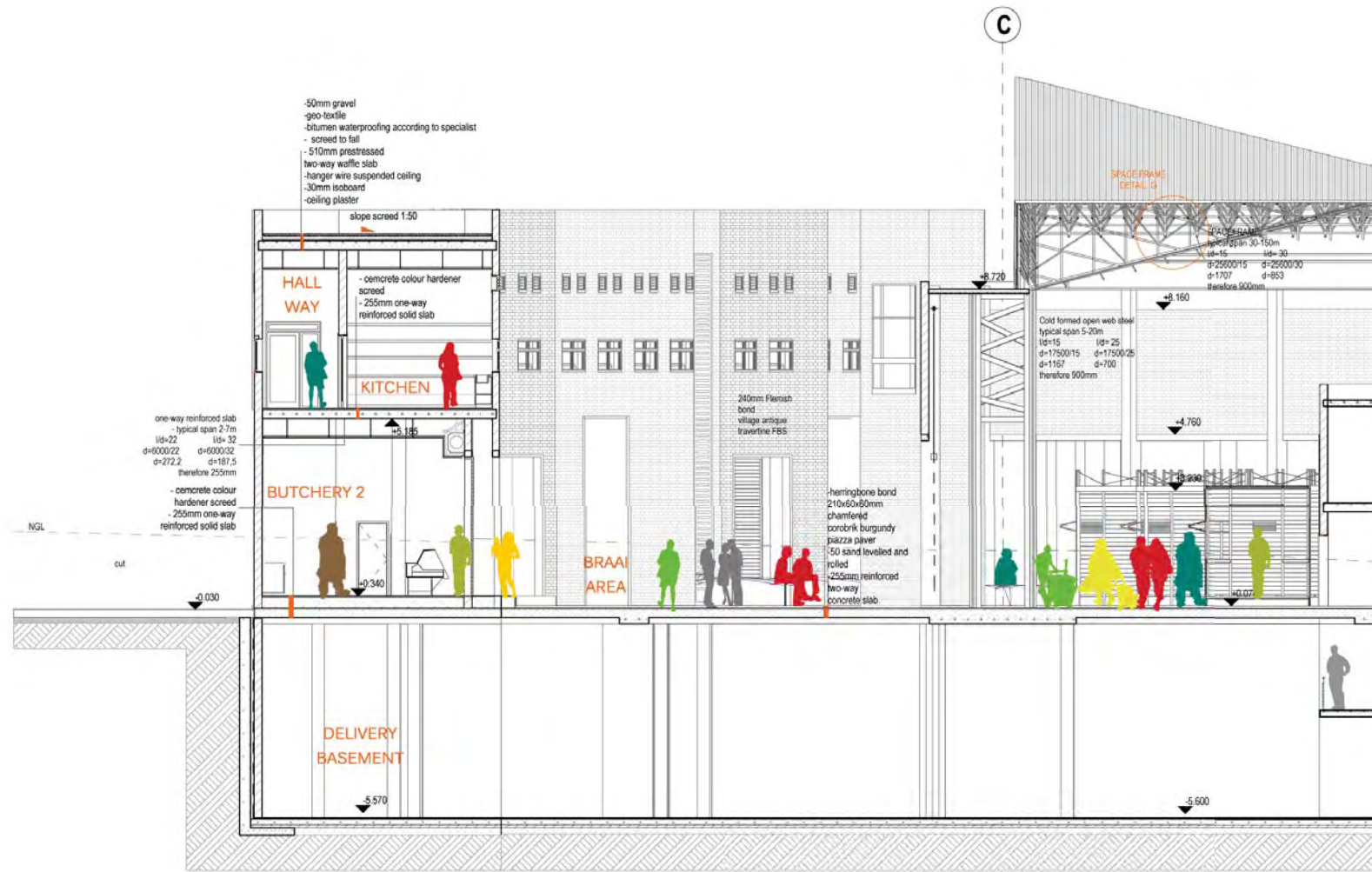


fig. 9.37 Accessible Roof



section a-a



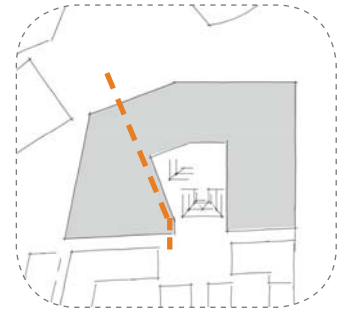
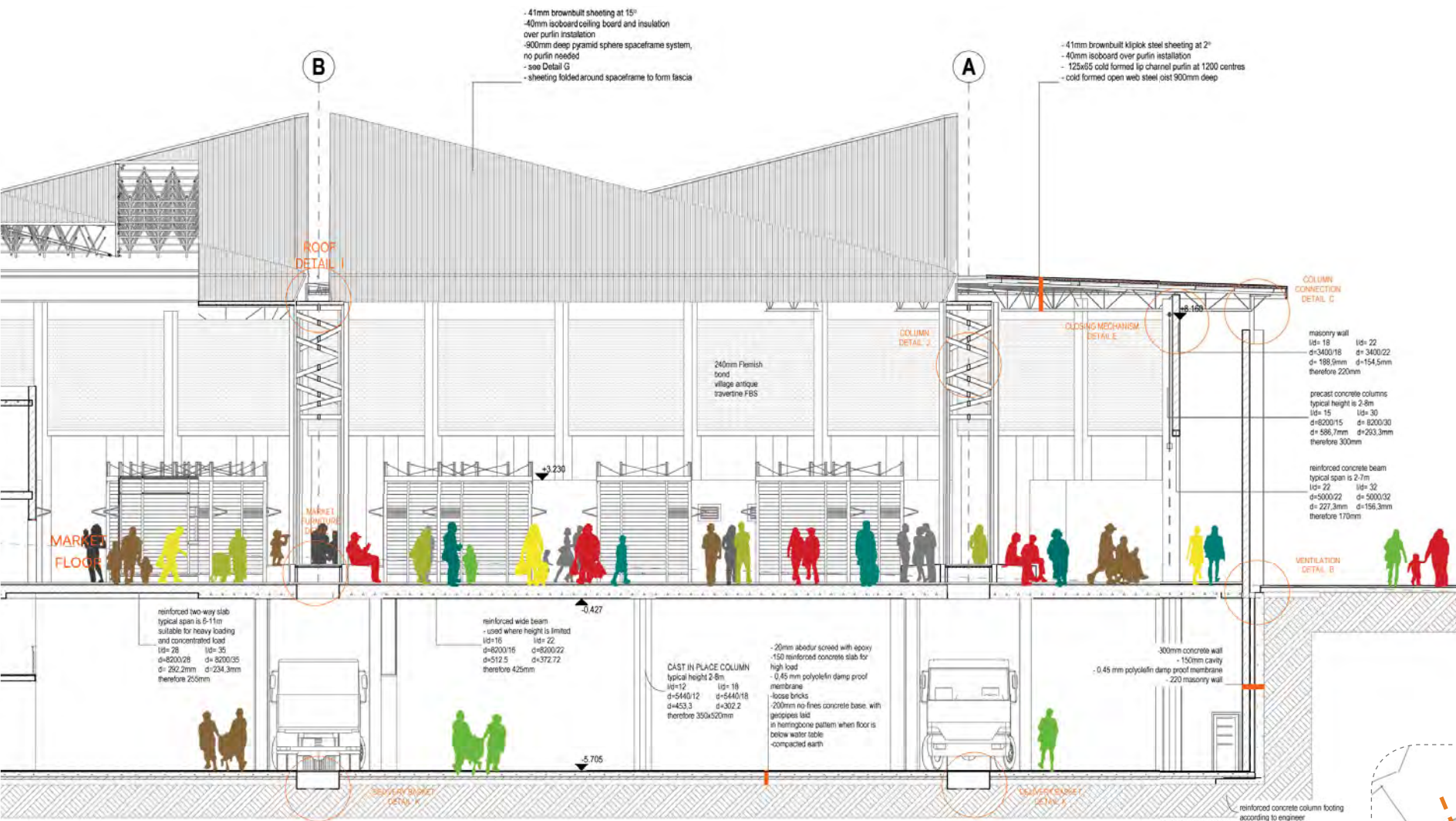
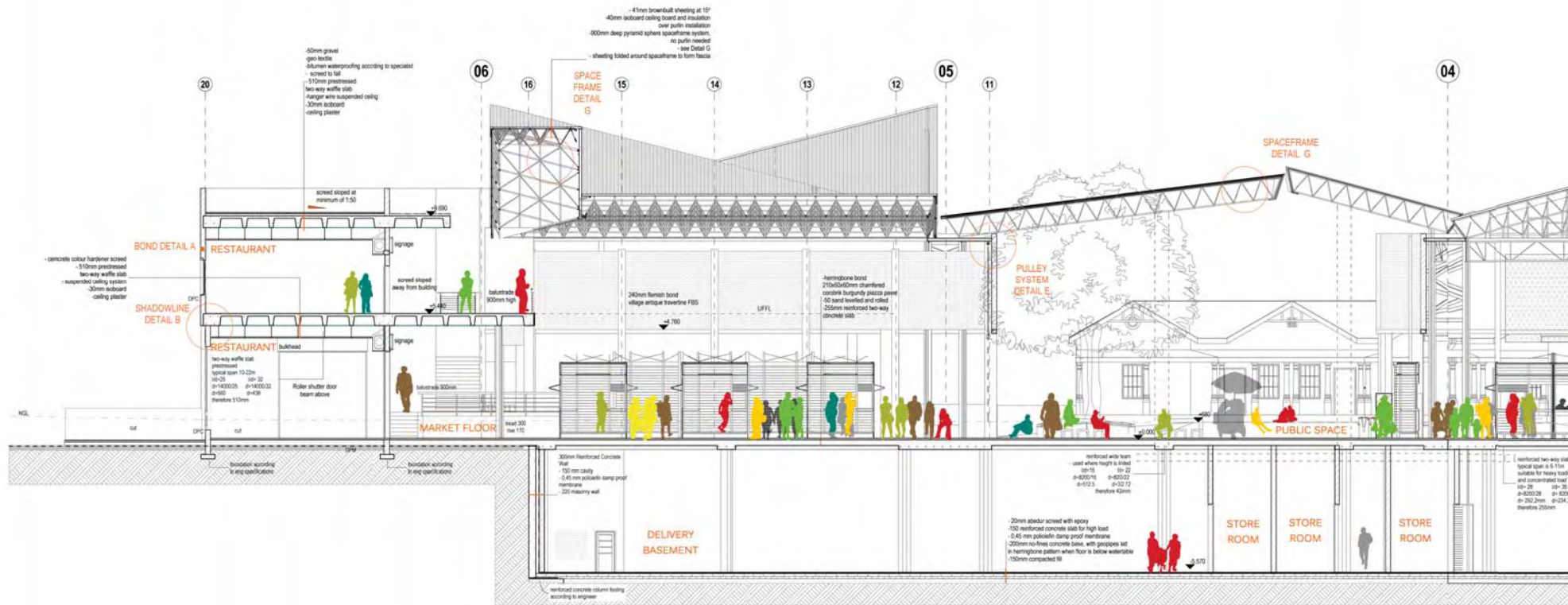
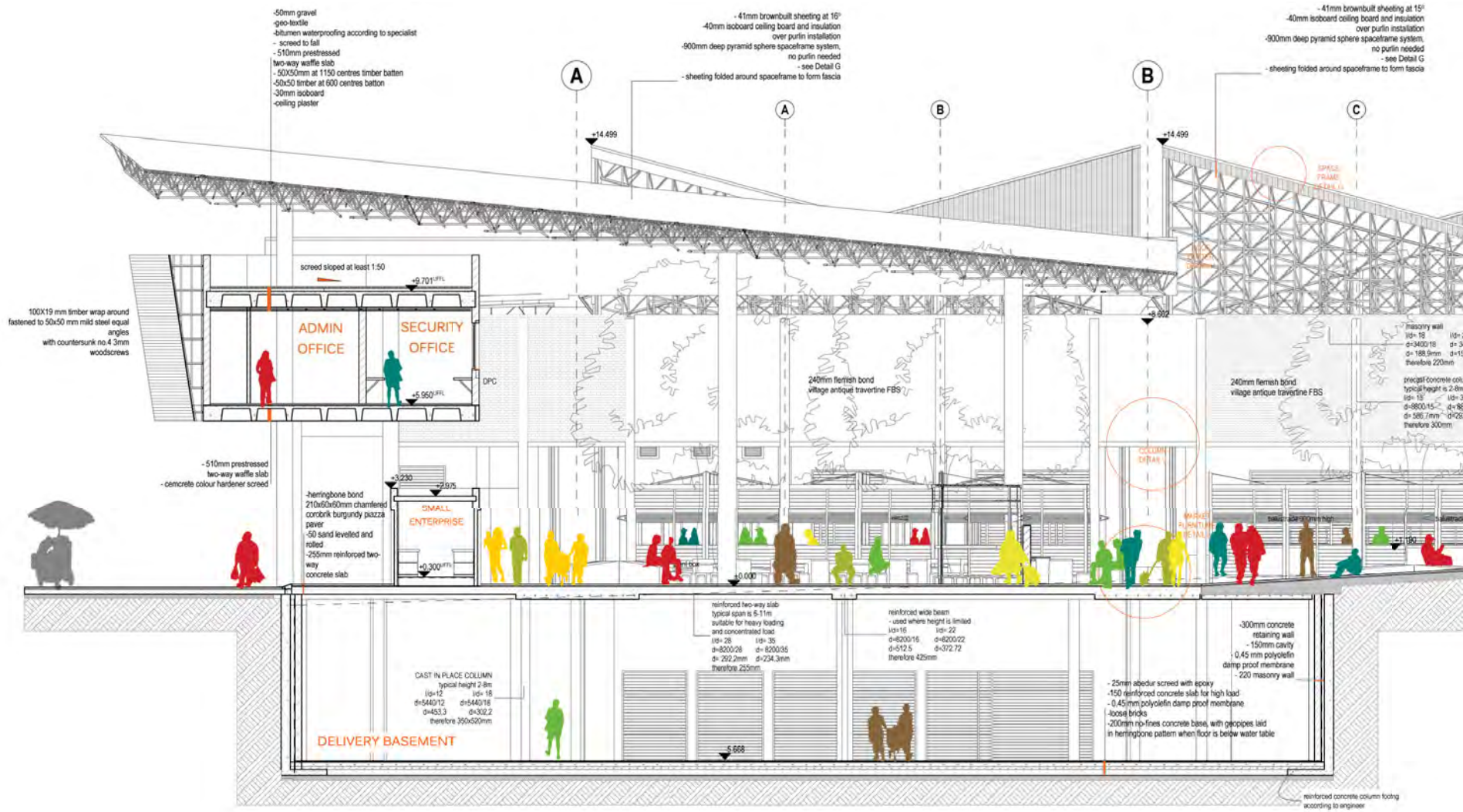


fig. 9.38

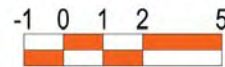


section b-b





section c-c



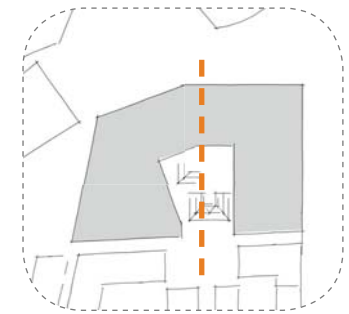
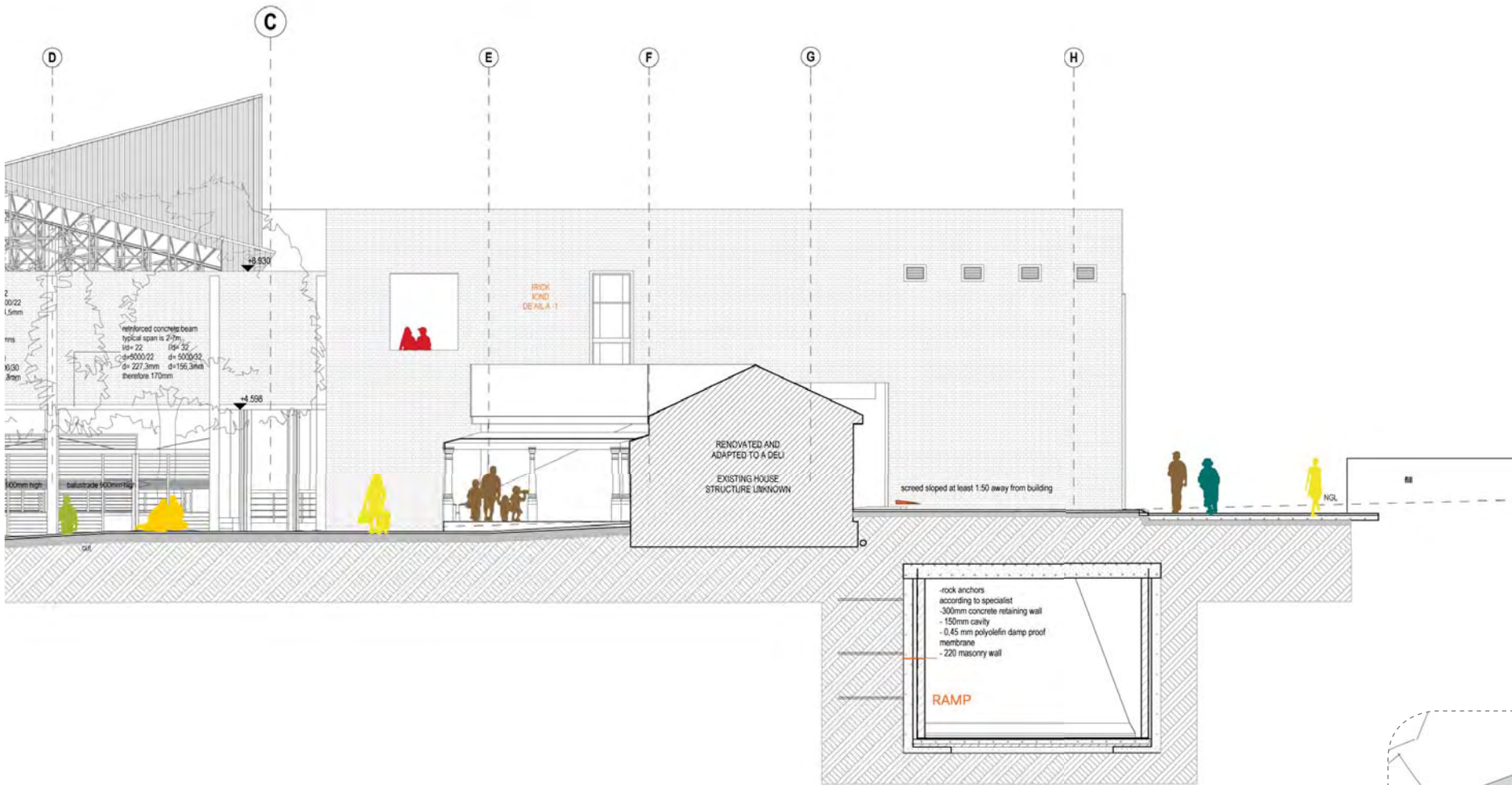
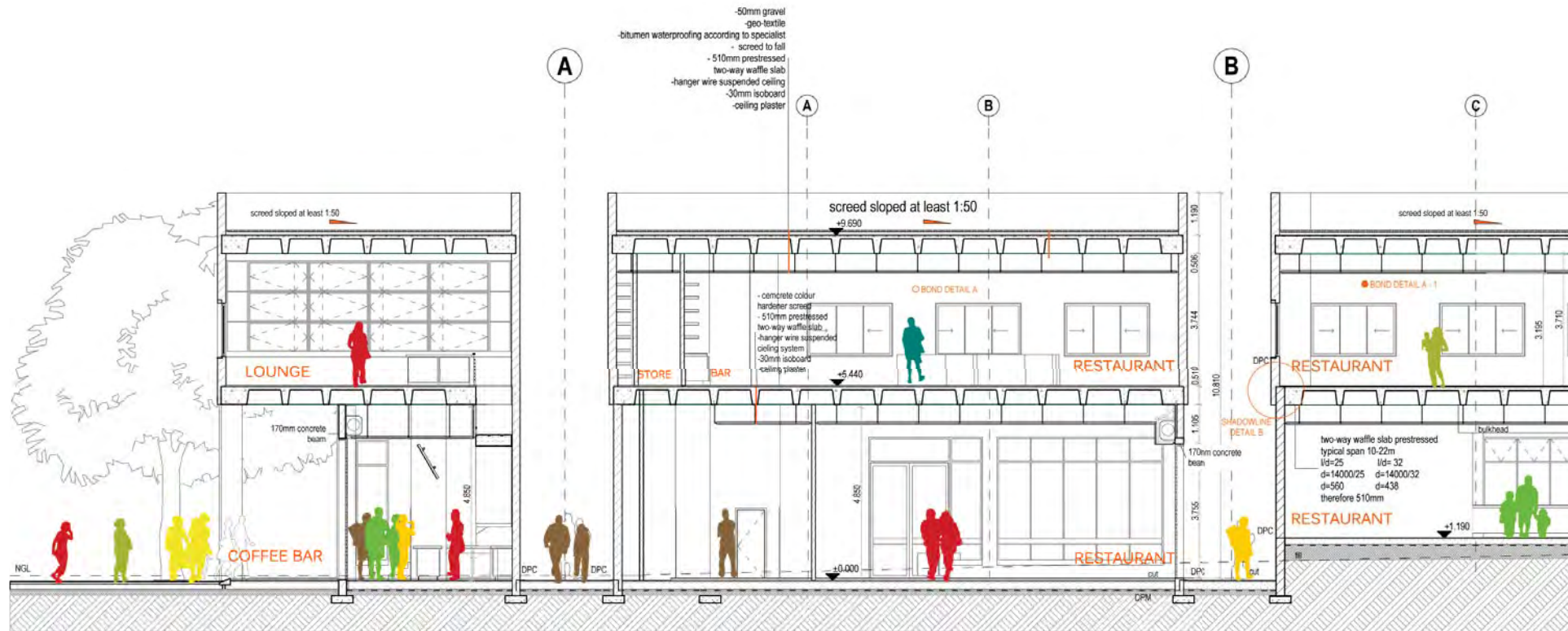
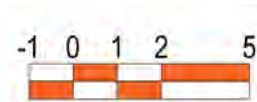


fig. 9.40



section d-d



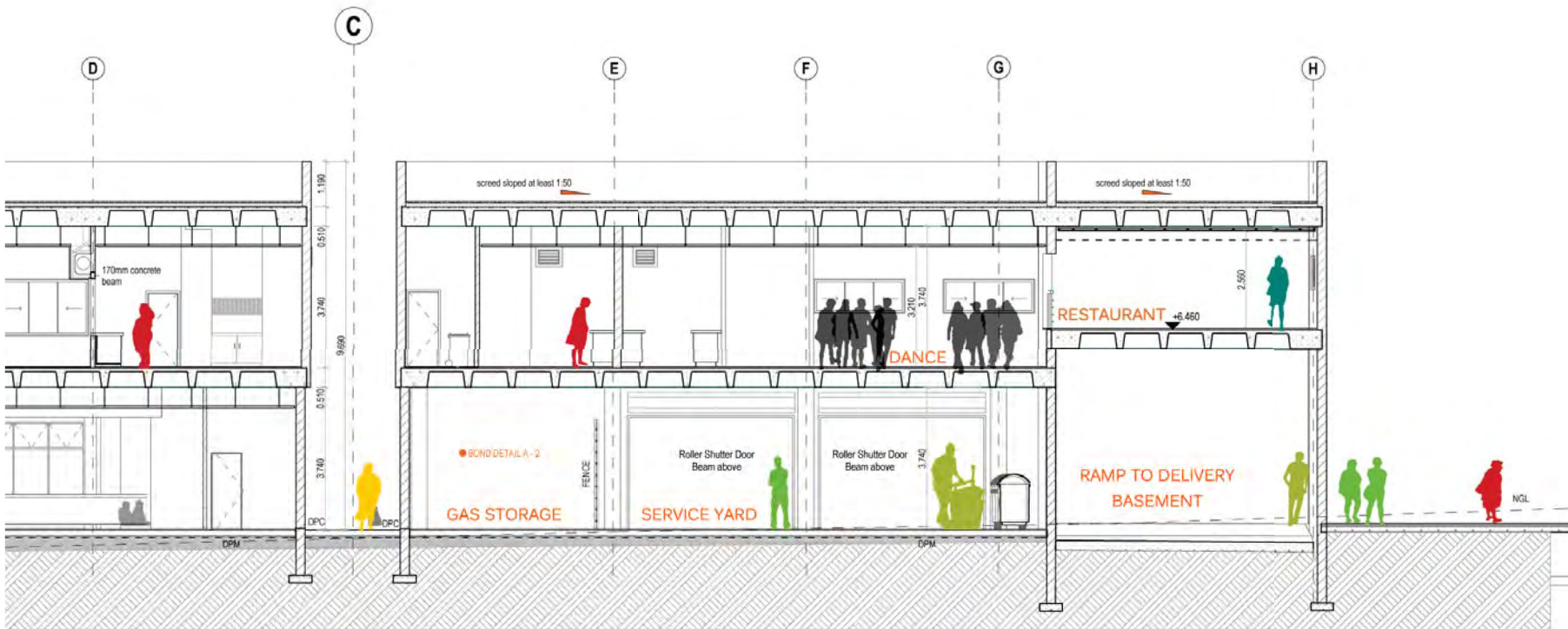


fig. 9.41

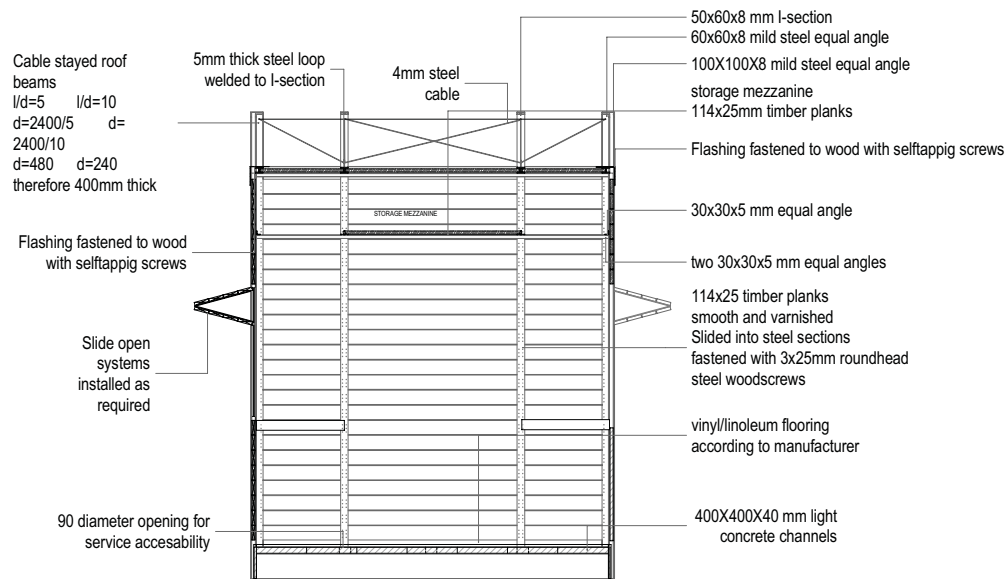


fig. 9.46 Section A-A

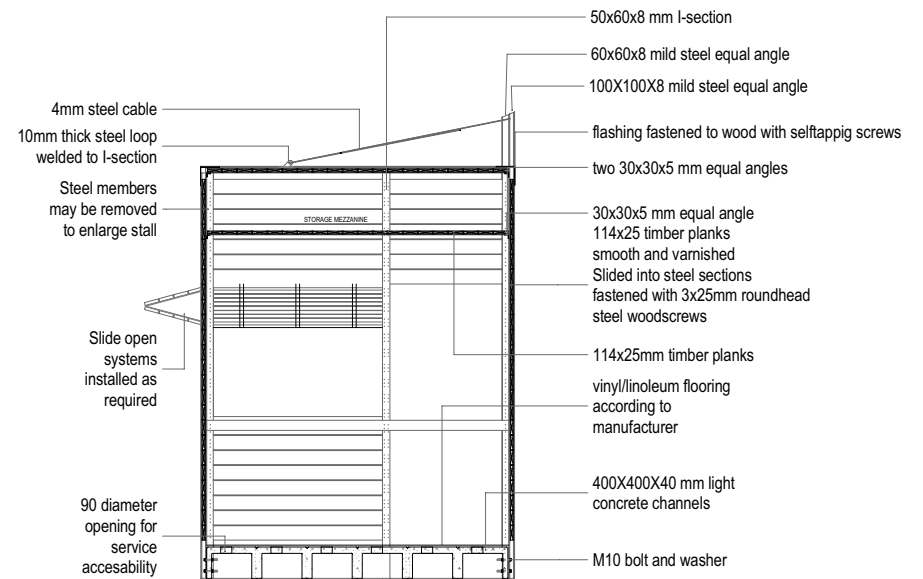


fig. 9.47 Section B-B

services



GENERAL

A market is service intensive as all stalls must be provided with water, gas and electricity. Refuse will inevitably be more than other buildings and may be a health risk.

Water and gas pipelines as well as electrical conduits are accommodated in the basement floor. Manholes are located in the market floor for ease of accessibility in the stalls. (fig.9.45)

RAINWATER HARVESTING.

Rainwater can be collected from the roof to minimise water required from the mains. This saves cost and energy. The rainwater is collected from the gutter into downpipes contained in the 200x100mm hollow section steel columns. The roof runoff is then collected in the rainwater tanks located in the basement. The tanks must be sealed by specialist. Excess water must be redirected to the storm water channel.

The capacity of rainwater tanks is calculated as follows:

Average water use for market

Cooking

3l per day per 4 persons = 90 l/month x 275= 24750l

Dishwashing

10l per day for 4 persons = 300l/month x 275= 82500l

Hands washing

8.4l per day for 4 persons = 252l/

09 month x 275= 69300l

Toilets

6l per flush. 100 flushes a month. 600l/month x 275= 165000 (Freewater:2009)

All water taps to be installed with aerators to minimise water use. Aerators restrict the flow by 50% of water without reducing water pressure. The right insert need to be chosen for flow rate requirements. For example, a 5 litre/minute aerator should be fitted to hand basins and a 7.6 litre/minute aerator is best for kitchen and laundry basins.

Month	Average Rainfall	Roof area sqm	Rainfall harvested	Water	Additional needed
January	136	2 142	291 312	341 550	50 238
February	75	2 142	160 650	341 550	180 900
March	82	2 142	175 644	341 550	165 906
April	51	2 142	109 242	341 550	232 308
May	13	2 142	27 846	341 550	313 704
June	7	2 142	14 994	341 550	326 556
July	3	2 142	6 426	341 550	335 124
August	6	2 142	12 852	341 550	328 698
September	22	2 142	47 124	341 550	294 426
October	71	2 142	152 082	341 550	189 468
November	98	2 142	209 916	341 550	131 634
December	110	2 142	235 620	341 550	105930
Total	674		1443708	4098600	2654892

GAS

Gas requirements: A take-away food outlet in an active area uses 200kg gas a month. (Trollip 2009) This market has 6 restaurants and 13 smaller units. The minimum of about 4000kg of gas is needed a month. A bulk container is proposed that can keep up to 6000kg that will cut cost as individual cylinders are very expensive. The following must be in place for gas storage: Must be placed on a clean, dry and level base, protected from extreme weather conditions. If in a roofed area at least two sides must be permanently open. (Open Flemish bonds is on both sides).

The container must be protected against meddling or entrance from the public. It must be at least 1m away from any opening in a building that is below the valve height of the container. At least 2m away from a gully or manhole. (Wegelin Construction notes)

A biogas plant was investigated. From 2kg of waste food one can produce 500g of methane in 24 hours. That may amount to 560kg waste needed for one day's supply of 140kg. This will not be viable to install and the conventional gas system is more effective, one may assume that methane plants may manufacture gas at a later stage. Refuse that consist of biomass can be collected by pig farmers or used for compost in the productive landscape.

REFUSE

Besides the normal litter in a public space, stale food products that are unsuitable to sell or eat must be removed from the market floor. Refuse should not be held long in the market as this can attract rodents and be a health risk. Refuse are removed daily and collected in dust bins in the service yard. Different materials must be separated so that it can be recycled. As stated before, biomass can be used as compost or feed for pigs.

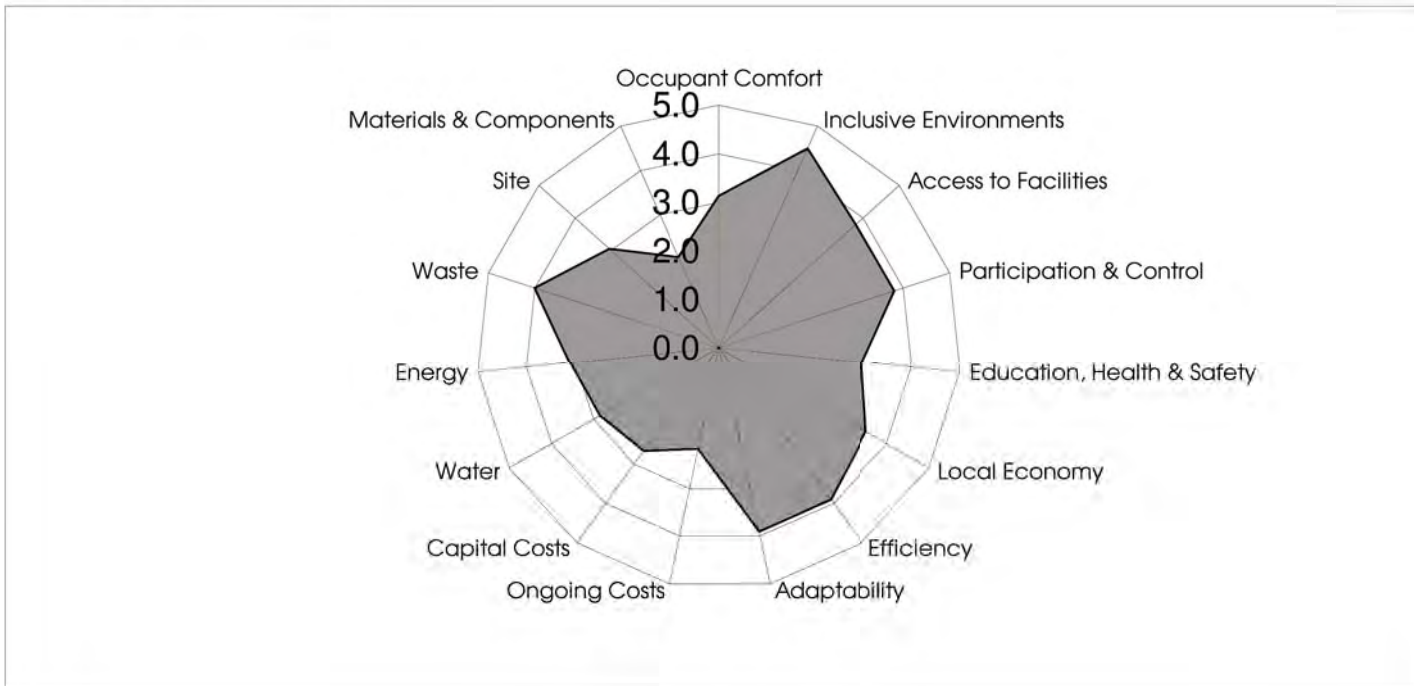


sbat rating

SUSTAINABLE BUILDING ASSESSMENT TOOL (SBAT- P) V1

PROJECT	ASSESSMENT
---------	------------

Project title:	Feast the City
Location:	Pretoria CBD
Building type:	Food Market
Internal area (m2):	12800
Number of users:	1100



Social	3.6	Economic	3.2	Environmental	3.0
Overall	3.3	Classification	Good		

The environmental aspect rated the lowest with a 3 that borders between good and average. The water use in a market is intensive and although enough space is available for rainwater harvesting it only amount to 35% of the estimated water use. The most waste is recycled and adequate space is provided for dust bins. However, the basement construction influences the score negatively. The economic part rated a 3.2. The majority of the materials used are sourced 50km from the site. Most of the building is open plan and can be altered in the future. All the height of the building is well above 3m. The social aspect rated the highest with a 3.9 score. The location of the building being near a transport system and walking distance to existing housing and proposed housing schemes is a major positive. Most of the building except the basement is accessible for disabled persons. An overall rating of 3.4 makes the building good sustainable addition in the urban landscape of Pretoria CBD.



10. conclusion

night cap

How will the everyday food market be articulated in the 21st century urban environment? In this study the importance of food is clear not only for survival but also as adhesive in human relationships. When the architect is faced with the fact of how many people in the city do not have enough to eat, is it the architects responsibility to design a place that may better the situation? If architects are the ambassadors for the future, the future of the food markets needs to change to establish a better situation for the producer as well as the consumer.

The food market must give enough opportunity to adapt and be flexible so that people could express themselves. Unlike

the supermarkets of today that are cold, reserved and where produce magically appears on shelves, the new food market is stripped from pretence. This gives integrity and transparency back to the city.

By reinstating the human interaction in the retail of food an active community is mobilised. A place is created where the interaction between people as well as their interaction with the environment could flourish. The unique way of delivery enables not only transparency and connection with the rural, but also efficiency. The four characters that were created in the dissertation were used to illustrate how the users could consume the space. Their daily

routines are intertwined with the space created in the market. The market fits into the urban fabric and thus strengthen the dialogue that the characters have with the city. This gives the architecture viability in the everyday and the lives of the users.

What Robert A.M. Stern commented on when he said that architects design life out of buildings are here contradicted as life itself was the inspiration. The market is articulated in the 21st century as a place of engagement, belonging and celebration. The control of the space as well as the management of the market is in the hands of the consumers. The success of the project is dependant

on the way the users will consume the space as the four characters did. The proof of this pudding is in the eating. Let us feast the city.

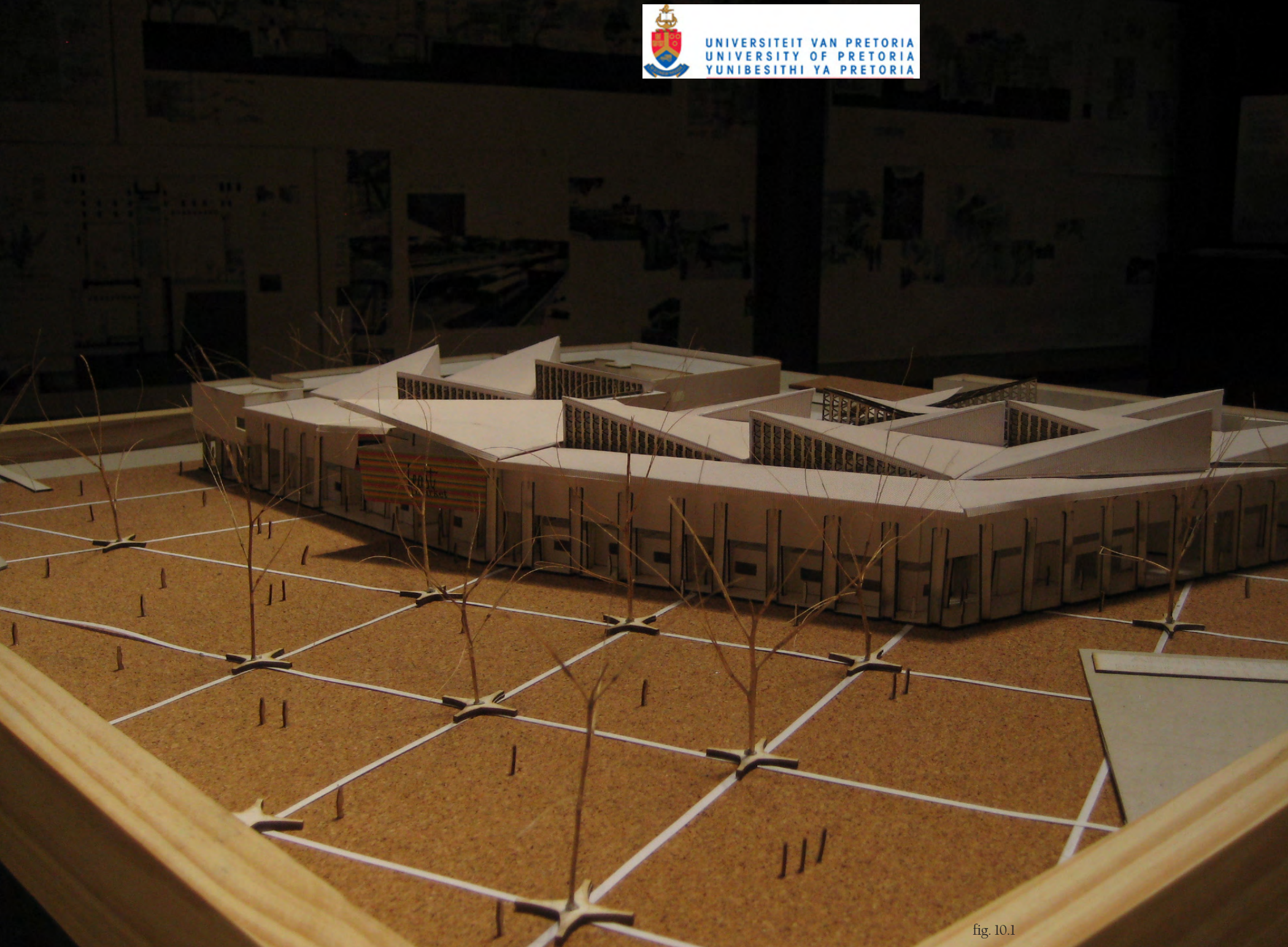


fig. 10.1

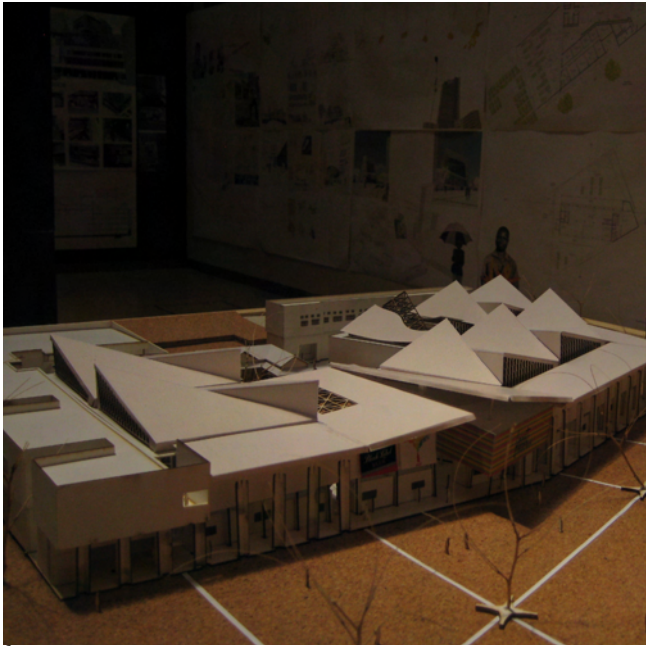


fig. 10.2

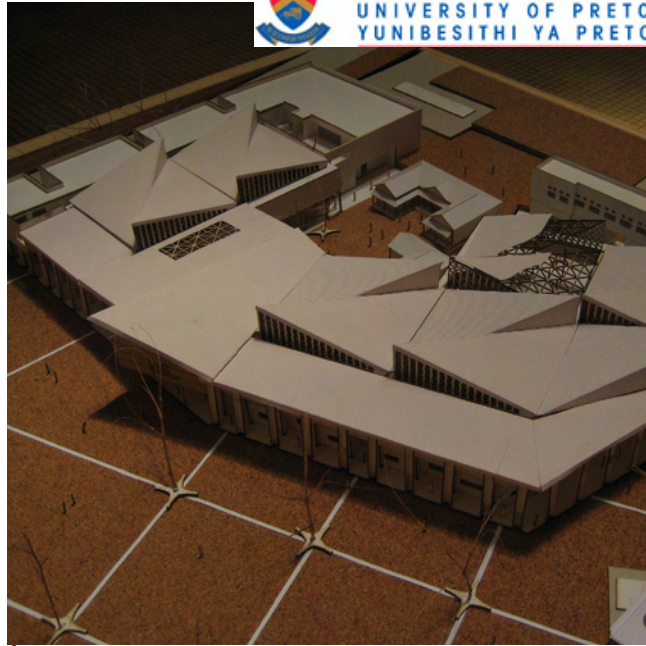


fig. 10.3

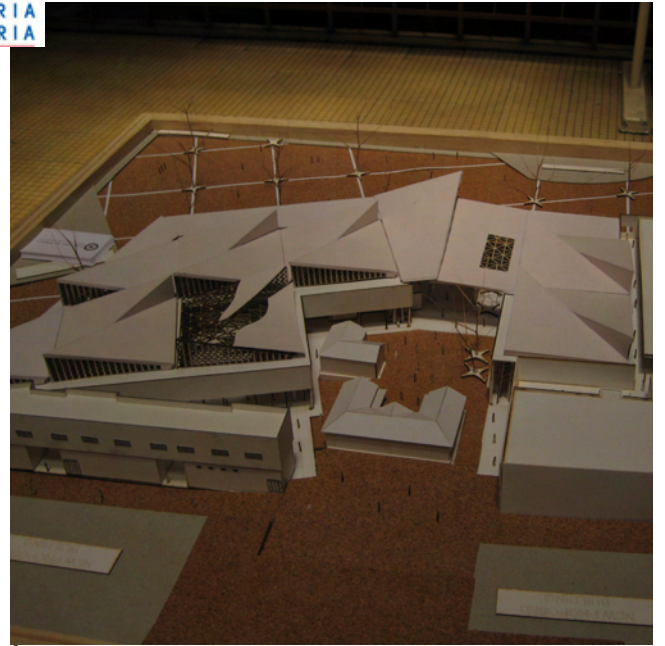


fig. 10.4

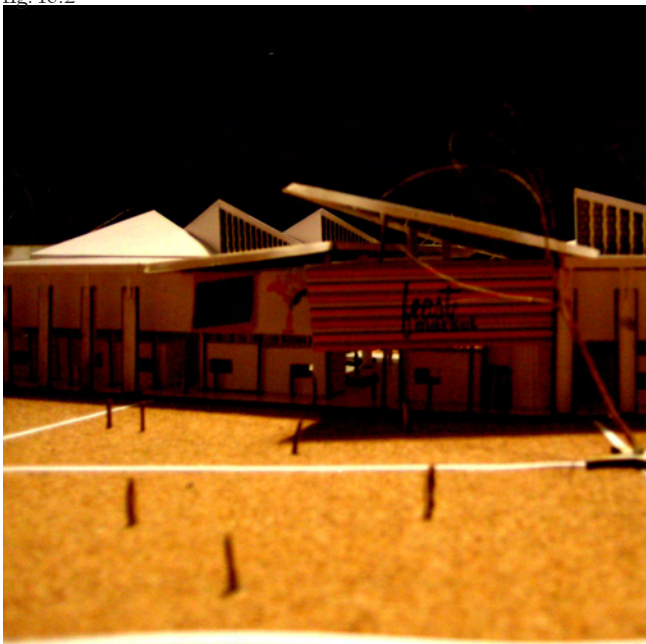


fig. 10.5



fig. 10.6

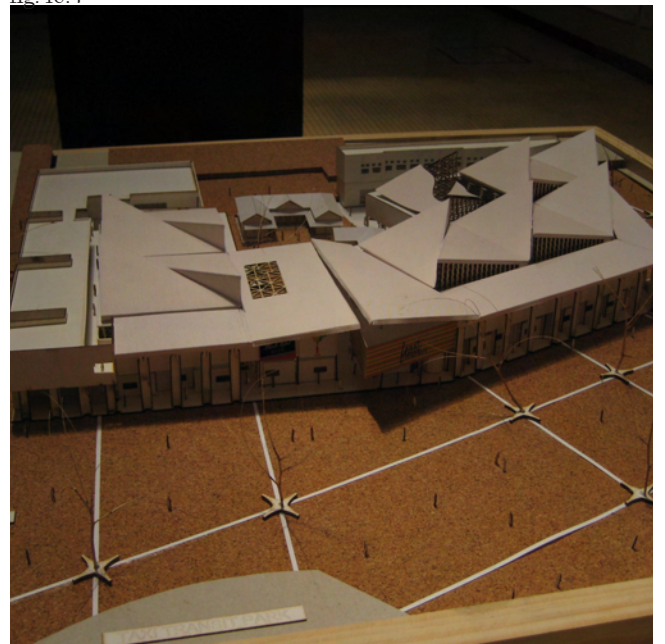


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