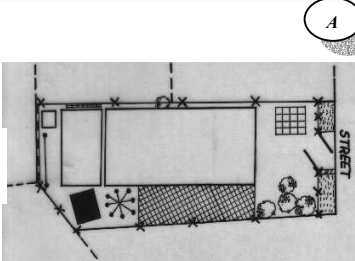
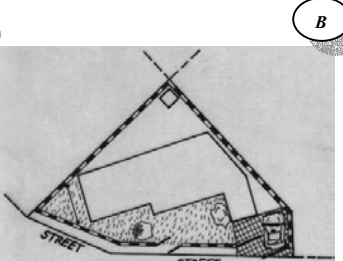
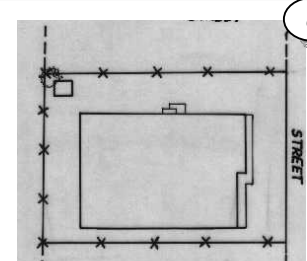


CHAPTER 5: CONSOLIDATION - 3.4.1. SOCIO-ECONOMIC INTRODCUTION

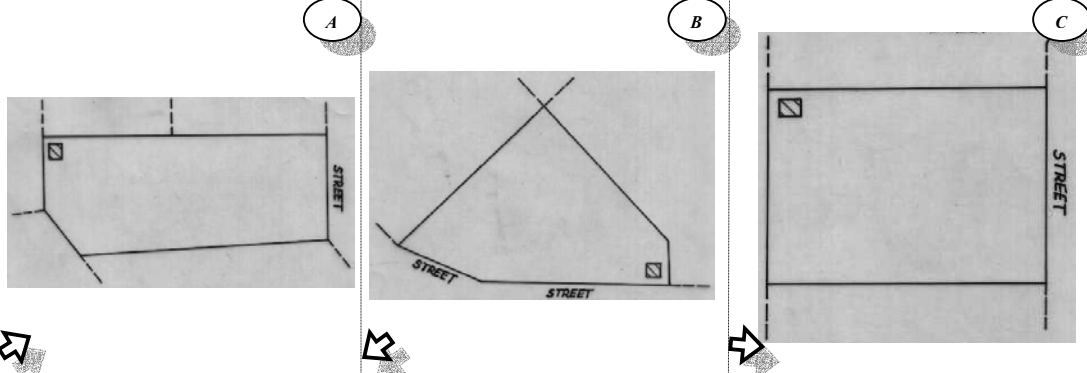
EXT. 6: TYPOLOGY 4

THE HOUSEHOLD			
HOUSEHOLD PROFILE	<p>Family type: <i>Single nuclear family</i> Family size: 8</p> <p>Tenants: <i>No</i> No. of tenants: <i>NA</i> Household size: 8</p>	<p>Family type: <i>Single nuclear family</i> Family size: 6</p> <p>Tenants: <i>No</i> No. of tenants: <i>NA</i> Household size: 6</p>	<p>Family type: <i>Single nuclear family</i> Family size: 4</p> <p>Tenants: <i>No</i> No. of tenants: <i>NA</i> Household size: 4</p>
EMPLOYMENT AND INCOME	<p>No. of sources of income: 2 Sources of income: <i>Father and daughter.</i> Employment: <i>Full time and part time.</i> Location: <i>Waterkloof European Embassy and in extension six (selling vegetables), respectively.</i></p>	<p>No. of sources of income: 3 Sources of income: <i>Husband and wife.</i> Employment: <i>2 x entrepreneurial/informal and 1 part time.</i> Location: <i>The husband runs a taxi and the wife runs the spaza shop from their home. The husband also tenders for electrical work at times.</i></p>	<p>No. of sources of income: 2 Sources of income: <i>Husband and wife</i> Employment: <i>Full time and Entrepreneurial/informal</i> Location: <i>SAA cargo and extension six Mamelodi (selling goods).</i></p>
EXPENDITURE	<p>The expense that is indicated as 'other' refers to other expenses not covered by the expenditure items listed below. All households pay taxes, sanitation, and waste removal as well as for food and education. Water and electricity are also common expenses.</p>		
WATER	X	X	X
ELECTRICITY	X	X	X
TRANSPORT	X	X	X
TELEPHONE	X	X	X
EDUCATION	X	X	X
FOOD	X	X	X
CLOTHING			X
ACCOUNTS		X	X
SAVINGS	X	X	X
TAXES	X	X	X
SANITATION	X	X	X
WASTE REMOVAL	X	X	X
OTHER			

CHAPTER 5: CONSOLIDATION - 3.4.2. PHYSICAL CHANGES

EXT. 6: TYPOLOGY 4

INITIAL
STRUCTURE

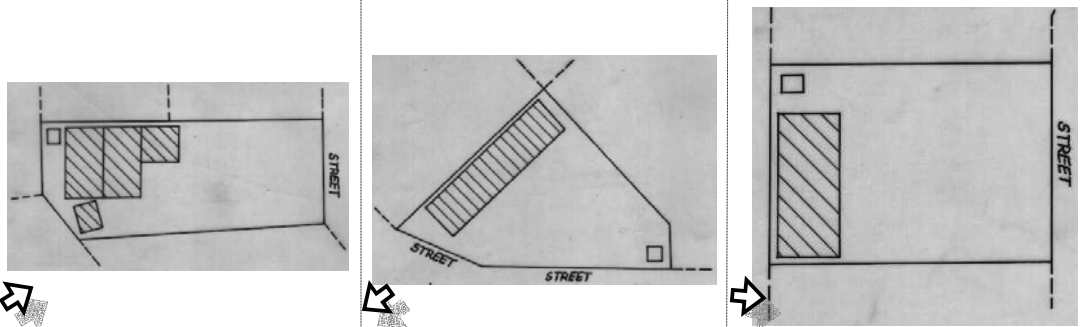


Description: Water Closet
Materials used: Precast concrete
Material supplier: Government
Cost: Unknown
Funding: Government
Builder: Government
Date of Constr.: Unknown
Problems: None

Description: Water Closet
Materials used: Precast concrete
Material supplier: Government
Cost: Unknown
Funding: Government
Builder: Government
Date of Constr.: Unknown
Problems: None

Description: Water Closet
Materials used: Precast concrete
Material supplier: Government
Cost: Unknown
Funding: Government
Builder: Government
Date of Constr.: Unknown
Problems: None

ADDITION
1



Description: Temporary structures
Materials used: Corrugated iron and metal sheets (temporary materials)
Material supplier: Given to them by husband's employer
Cost: Unknown
Funding: Unknown
Builder: Owner
Date of Constr.: 1997
Problems: None

Description: Temporary structure
Materials used: Metal sheets (temporary materials)
Material supplier: Phase 1
Cost: Unknown
Funding: Savings
Builder: Owner
Date of Constr.: 1998
Problems: None

Description: Temporary structure
Materials used: Corrugated iron (temporary materials)
Material supplier: Unknown
Cost: Unknown
Funding: Unknown
Builder: Unknown
Date of Constr.: 1997
Problems: None

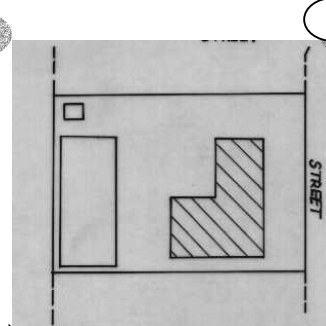
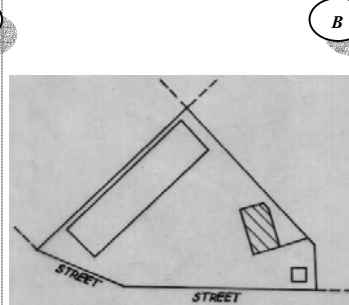
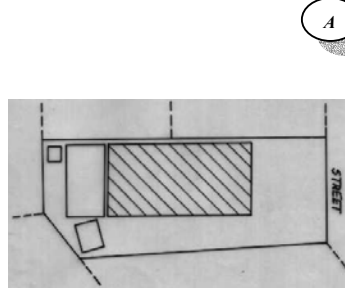
*NOTE

1. Information about the structures is limited, e.g. costs, date of construction, etc. Respondents were reluctant to provide all the information either because of a lack of trust or poor memories.

CHAPTER 5: CONSOLIDATION - 3.4.2. PHYSICAL CHANGES

EXT. 6: TYPOLOGY 4

ADDITION 2

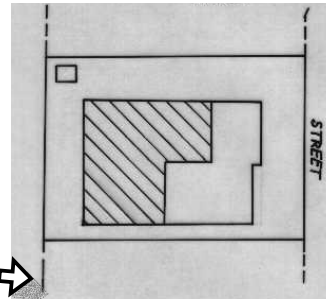
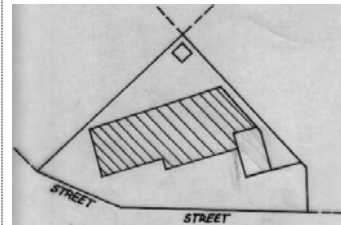


Description: Completed house
Materials used: Bricks (permanent materials)
Material supplier: Reiten
Cost: R4 225 (mater), R15 000 (constr.)
Funding: Savings
Builder: Private contractor
Date of Constr.: August 2002
Problems: Funding

Description: Garage
Materials used: Bricks (permanent materials)
Material supplier: Corobrick - Olifantsfontein
Cost: R17 000
Funding: Savings
Builder: Private contractor
Date of Constr.: Dec 2000
Problems: None

Description: House
Materials used: Bricks (permanent materials)
Material supplier: Unknown
Cost: Unknown
Funding: Loan from husband's place of work
Builder: Private contractors
Date of Constr.: 1998
Problems: None

ADDITION 3



Description: Completed house
Materials used: Bricks (permanent materials)
Material supplier: Unknown
Cost: R20 000
Funding: Savings
Builder: Private contractor
Date of Constr.: September 2001
Problems: Funding.

Description: Completed house
Materials used: Bricks (permanent materials)
Material supplier: Unknown
Cost: Unknown
Funding: Loan from husband's place of work
Builder: Private contractor
Date of Constr.: 2000
Problems: Lack of funds and material shortage

*NOTE

1. Information about the structures is limited, e.g. costs, date of construction, etc. Respondents were reluctant to provide all the information either because of a lack of trust or poor memories.

CHAPTER 5: CONSOLIDATION - 3.4.2. PHYSICAL CHANGES

EXT. 6: TYPOLOGY 4

HOW HAS THE UNIT CHANGED OVER TIME IN TERMS OF:

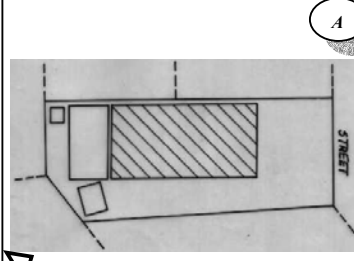
<p>NUMBER OF EXTENSIONS AND THE TREND IN USE OF MATERIALS Two extensions have been made. First, to be constructed were the shacks constructed of temporary materials (4 shacks) and the final one (house) built with permanent materials.</p> <p>SIZE Two shacks were demolished. The two that were retained covered an area of 4m² (now used as a storage facility) and 17m². The house is approximately 64m².</p> <p>Erf size: 187m² Total area of temporary structures: 21m² Total area of permanent structures: 64m² Total area: 85m² Coverage of temporary structures: 11m² Coverage of permanent structures: 34m² Total coverage: 45% Occupational density: 11m²/person</p> <p>SHAPE AND CONFIGURATION All structures take a rectangular shape. The storage facility is 2.2m x 1.8m, the shack is 5.7m x 3m and the house is 5.7m x 11.2m.</p>	<p>NUMBER OF EXTENSIONS AND THE TREND IN USE OF MATERIALS Three additions were made. The initial structure built by the dwellers made use of temporary materials (shack). The other two extensions were built with permanent materials (garage and house).</p> <p>SIZE The initial shack was demolished to enable the construction of the house. The garage occupies 5m² whilst the house is approximately 50m².</p> <p>Erf size: 179m² Total area of permanent structures: 55m² Total area: 55m² Coverage of permanent structures: 31m² Total coverage: 31% Occupational density: 9m²/person</p> <p>SHAPE AND CONFIGURATION The garage (2.5m x 2m) is a regular rectangle shape and the house is trellised (10.7m x 4m + 7.7m x 1m).</p>	<p>NUMBER OF EXTENSIONS AND THE TREND IN USE OF MATERIALS Three extensions have thus far been noted. The first was a shack (temporary materials). The second was the initial construction of the house (permanent materials) and the final extension made use of permanent materials (completed house).</p> <p>SIZE The first shack was destroyed for constructing their new home. The construction of the three rooms occupied 38m². The final additions to the house (additions to the three rooms) occupied an addition 38m², totalling a 76m² house.</p> <p>Erf size: 176m² Total area of permanent structures: 76m² Total area: 76m² Coverage of permanent structures: 43m² Coverage: 43% Occupational density: 19m²/person</p> <p>SHAPE AND CONFIGURATION The initial shack was rectangular and the following two extensions were both 'L' shaped. The dimensions of the house are approximately 7m x 11m.</p>
<p>PLACING OF BUILDINGS: With the size of the erven being approximately 208m² and gross and nett densities estimated at 219p/ha and 364p/ha respectively, space is limited. The amount of space available should, therefore, be optimised for living space of the occupants. As such privacy also becomes an issue for the households.</p>		
<p>PLACING OF BUILDINGS The toilet was placed at the west end of the erf with the initial shacks placed at the back of the erf (south end) and the house in a more central location but along the western boundary line.</p>	<p>PLACING OF BUILDINGS The garage was placed at the entrance to the erf (north westerly position). The house was attached to it in a central position across the erf. The toilet exists at the south easterly end of the erf.</p>	<p>PLACING OF BUILDINGS The toilet appears in a southerly position. The shack was placed in a southerly position. The three rooms appeared closer to the street (north) and the final additions were attached to the south end of the three rooms.</p>

*NOTE

1. The toilet, roof structure and room under the roof structure have fixed values in terms of area, dimensions and shape. Instead of repeating these values throughout the document, it will be noted here. *Toilet - area (1.2m²), dimensions (1m x 1.2m) and shape (rectangle).*
2. Also important to note, when reference is made to extensions, it refers to those made by the dwellers and not by government. This excludes the water closets and roof structures.
3. The measurements given are **approximated** from the diagrams representing the situation of the erven and aerial photographs as a cross check. A measuring exercise was not carried out during the interviewing sessions. The measurements are therefore not true representations.
4. Information about the structures is limited, e.g. costs, date of construction, etc. Respondents were reluctant to provide all the information either because of a lack of trust or poor memories. As a result, issues of cost and date of construction of extensions have been omitted from this analysis. However, assumptions based on available information have been made.
5. All calculations within this section include enclosed structures only, e.g. incomplete roof structures that have been added to the calculation are those that are enclosed but lack internal divisions.
6. When discussing privacy, there are two categories, i.e. from the public on the street and from neighbours. In this section, it refers to privacy from the public.
7. Reasons for the placing of structures by respondents are mentioned only where reasons were given.

CHAPTER 5: CONSOLIDATION - 3.4.2. PHYSICAL CHANGES

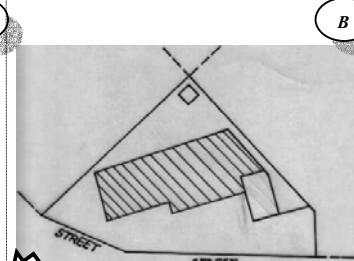
EXT. 6: TYPOLOGY 4



PLACING OF BUILDINGS

Due to the odd shape of the erf not much could be done to avoid odd spaces being created. However, this household managed to create private space at the back, an elongated space on the east side and a garden space at the front. The housing structures take up most of the space. Space has been optimally used considering the circumstances except that more space could have been created at the back if the house had been placed closer to the street.

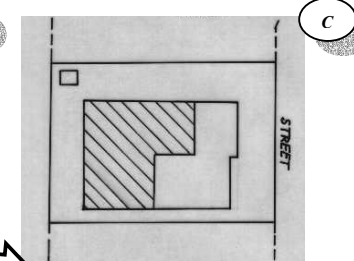
The house is placed in the ideal position, as claimed by the household. Other shacks were demolished for the construction of the house.



PLACING OF BUILDINGS

This erf is also an odd shape, but space has been created at the back of the erf (private space) and space has been created at the front. Odd spaces could not be avoided, but have been used efficiently.

The households claimed this to be the ideal position for the house.



PLACING OF BUILDINGS

The same amount of space created at the front has been created at the back and west side. Had the house been placed closer to the street, more private space could have been created at the back. The area for living space occupies most of the erf. Space has been used efficiently in this circumstance.

Households reflected that this was the ideal position for their home and the shack was built at the back to enable its development.

***NOTE**

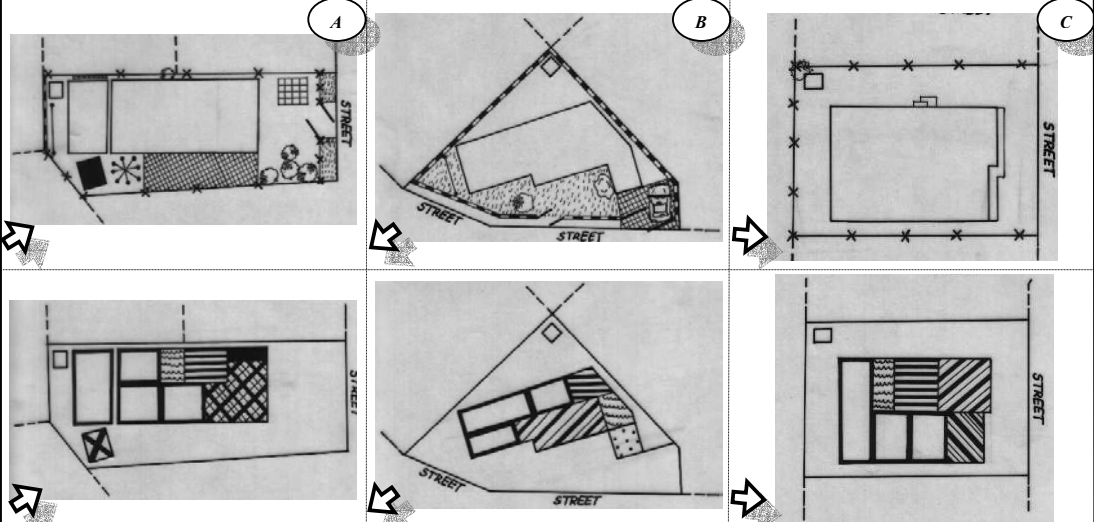
1. The toilet, roof structure and room under the roof structure have fixed values in terms of area, dimensions and shape. Instead of repeating these values throughout the document, it will be noted here. *Toilet - area (1.2m²), dimensions (1m x1.2m) and shape (rectangle).*
2. Also important to note, when reference is made to extensions, it refers to those made by the dwellers and not by government. This excludes the water closets and roof structures.
3. The measurements given are **approximated** from the diagrams representing the situation of the erven and aerial photographs as a cross check. A measuring exercise was not carried out during the interviewing sessions. The measurements are therefore not true representations.
4. Information about the structures is limited, e.g. costs, date of construction, etc. Respondents were reluctant to provide all the information either because of a lack of trust or poor memories. As a result, issues of cost and date of construction of extensions have been omitted from this analysis. However, assumptions based on available information have been made.
5. All calculations within this section include enclosed structures only, e.g. incomplete roof structures that have been added to the calculation are those that are enclosed but lack internal divisions.
6. When discussing privacy, there are two categories, i.e. from the public on the street and from neighbours. In this section, it refers to privacy from the public.
7. Reasons for the placing of structures by respondents are mentioned only where reasons were given.

HOW HAS THE UNIT CHANGED OVER TIME IN TERMS OF:

CHAPTER 5: CONSOLIDATION - 3.4.3. LAND USE AND THE USE OF SPACE

EXT. 6: TYPOLOGY 4

HOW IS THE SPACE WITHIN THE HOME BEING USED?



BEDROOMS

- Four bedrooms: three in the house and one in the temporary structure.

- Three bedrooms.

- Three bedrooms.

KITCHEN

- One kitchen.

- One kitchen.

- One kitchen.

DINING ROOM

- One dining room.

- One dining room.

LOUNGE

- One lounge.

- One lounge.

- One lounge.

TOILET

- Two toilets - one government provision and one indoors.

- Three toilets: two indoors and one government provision.

- Two toilets: one government provision and one indoors.

BATHROOM

- One bathroom.

- Two bathrooms.

- One bathroom.

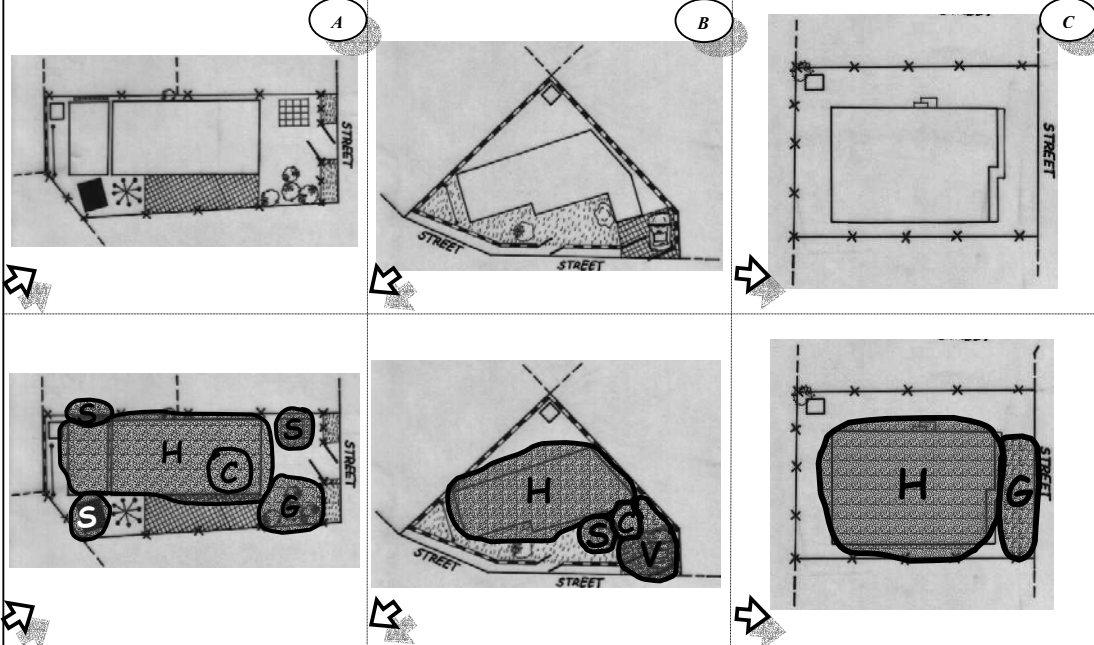
WHY IS IT USED IN THIS WAY?

*NOTE
1. No reasons for the use of space within the structures could be obtained.

CHAPTER 5: CONSOLIDATION - 3.4.3. LAND USE AND THE USE OF SPACE

EXT. 6: TYPOLOGY 4

HOW IS THE PROPERTY BEING USED IN TERMS OF:



GARDENING

The entrance of the erf has a little garden.

The front of the house has a small garden.

RENTAL HSG

COMMERCIAL

Goods are sold from within the house.

Half the garage is used as a spaza shop.

SERVICE

AGRICULTURE

PARKING

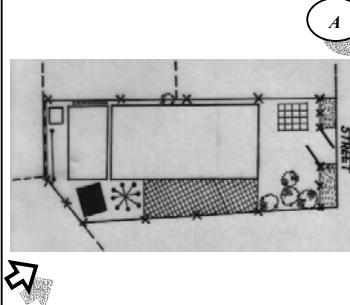
Cars are parked either in the second garage or in front of it.

OTHER

A previous occupied shack is now used as storage. Building materials are also stored in front of the house and numerous clotheslines exist on the side of the erf and at the back.

Building materials are stored in front of the erf and a clothesline is placed to the side of the erf.

**PUBLIC/
PRIVATE
INTERFACE**



RELATION TO THE STREET:

Street Boundary Definition

The 2m tall wire fence at the front of the house with a gate appears transparent. It facilitates interaction with the street.

PRIVACY:

Side and Back Boundaries

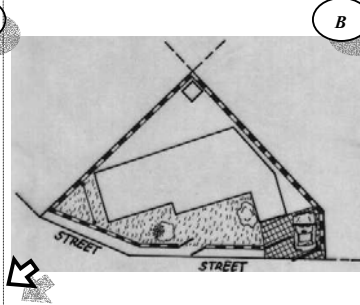
All other sides of the erf are fenced with the use of the same material except for the back boundary. This boundary is a wall and prevents interaction with the neighbour at the back. The rest of the fencing allows for intrusions from neighbours and the public.

Placing of units

The house is placed in front of the shacks along the western boundary (influenced by the narrow shape of the erf). The placing of the house and the shacks has blocked off one neighbour to the west but the other (east) can still invade the privacy of this erf with the use of such transparent fencing.

Placing of the front door

Entrance to the house is made possible via the side where the paving is done. This creates a bit of privacy and security.



RELATION TO THE STREET:

Street Boundary Definition

The entire erf is fenced off with the combination of a wall and fencing spikes (1.5m). This facilitates the interaction with the public to a certain degree.

PRIVACY:

Side and Back Boundaries

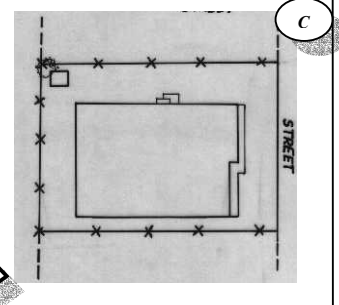
The wall assists in creating privacy at the back of the erf. Neighbours cannot intrude since it is a solid wall with no spikes. Semi-private space is created around the rest of the erf due to the presence of the type of boundary definition.

Placing of units

The triangular shape of the erf has influenced the positioning of the house across the centre of the erf, thereby creating a private space at the back.

Placing of the front door

Since the erf is a meter or two above road level, the front door is slightly hidden. The door faces the street.



RELATION TO THE STREET:

Street Boundary Definition

The entrance to the erf has no fence and is therefore open to the public space.

PRIVACY:

Side and Back Boundaries

The other sides of the erf are fenced off with short (1m) transparent wire fencing. It does not assist in creating privacy.

Placing of units

The unit is placed at the centre of the erf. It doesn't assist in the creation of any private space. It does, however allow for the creation of space around the house.

Placing of the front door

There are two entrances, i.e. one at the front (main) and one at the side (kitchen). The main entrance appears to face the side as well. This seems to be an attempt to create privacy and prevent interaction with the public.

1. SOCIO-ECONOMIC STATUS	<ul style="list-style-type: none"> All families are single and nuclear. The average family size is 6, ranging from 4 to 8. No households have tenants. The average household size is 6, ranging from 4 to 8. The average number of sources of income is 2. There is an even mix of part-time, full-time and entrepreneurial/informal employment. The average number of expenses is 11. All households are able to save.
2. ADDITIONS	<ul style="list-style-type: none"> All initial structures were toilets. Two were placed at the back of the erf and one in front. Eight additions have been constructed in total. Three additions were shacks, three were completed houses, one was an incomplete house and one was a garage. Household A constructed two additions; household B constructed three additions and household C, three. Where information was available, the following was noted: <ul style="list-style-type: none"> Material suppliers were sought in Mamelodi and outside Mamelodi. Temporary materials were purchased within Mamelodi and permanent materials, outside Mamelodi. Costs of permanent structures range from R17 000 to R20 000 (no costs of temporary structures were provided). Savings is used mostly. Two loans had been acquired as well for certain extensions. Owners had used their own building skills in the construction of shacks. Private contractors had been employed to construct the permanent structures (houses). The time lapse between additions appears to be between one to five years.
3. HOW HAS THE UNIT CHANGED OVER TIME?	<p>NUMBER OF EXTENSIONS AND THE TREND IN USE OF MATERIALS</p> <ul style="list-style-type: none"> Eight additions have been made, with an average of 2.5 extensions. All shacks were constructed of temporary materials and all houses were constructed of permanent materials. <p>SIZE</p> <ul style="list-style-type: none"> Temporary structures total area: 21m² Temporary structures average area: 21m² Temporary structures average size: 10.5m² Temporary structures average coverage: 11% Permanent structures total area: 195m² Permanent structures average area: 65m² Permanent structures average size: 49m² Permanent structures average coverage: 36% Combined average extension size: 31m² Combined average area: 72m² Combined average coverage: 40% Combined average occupational density: 13m²/person <p>SHAPE AND CONFIGURATION</p> <ul style="list-style-type: none"> Shape: more or less rectangular Average dimensions of temporary structures: 2.4m x 4m Average dimensions of permanent structures: 5m x 9m Combined average dimensions: 7m x 4m <p>PLACING OF BUILDINGS</p> <ul style="list-style-type: none"> All temporary extensions began at the back of the erven. All houses have been placed centrally on the erven in relation to the front and back boundaries. Two odd shaped erven have resulted in odd spaces being created but have been used efficiently. However, space as been used efficiently in two erven. The placing of the house in household A could have been closer to the street to enable more space to be created at the back instead of being wasted at the front
*NOTE	<ol style="list-style-type: none"> The toilet, roof structure and room under the roof structure have fixed values in terms of area, dimensions and shape. Instead of repeating these values throughout the document, it will be noted here. <i>Toilet - area (1.2m²), dimensions (1m x 1.2m) and shape (rectangle).</i> Also important to note, when reference is made to extensions, it refers to those made by the dwellers and not by government. This excludes the water closets and roof structures. The measurements given are approximated from the diagrams representing the situation of the erven and aerial photographs as a cross check. A measuring exercise was not carried out during the interviewing sessions. The measurements are therefore not true representations. Information about the structures is limited, e.g. costs, date of construction, etc. Respondents were reluctant to provide all the information either because of a lack of trust or poor memories. As a result, issues of cost and date of construction of extensions have been omitted from this analysis. However, assumptions based on available information have been made. All calculations within this section include enclosed structures only, e.g. incomplete roof structures that have been added to the calculation are those that are enclosed but lack internal divisions. When discussing privacy, there are two categories, i.e. from the public on the street and from neighbours. In this section, it refers to privacy from the public. Reasons for the placing of structures by respondents are mentioned only where reasons were given. No reasons for the use of space within the structures could be obtained.

University of Pretoria etd, Velayutham P (2006)

4. HOW IS SPACE WITHIN THE HOME BEING USED?	<ul style="list-style-type: none"> • Ten bedrooms in total. • An average of 3 bedrooms. • All households have one kitchen. • Two households have one dining room. • All have a lounge. • Every household makes use of the toilet provided by government. • Each household has at least one indoor toilet. Total of seven toilets. • Each household has at least one bathroom (four bathrooms in total). • The space utilisation was sufficient for the needs of the family members.
5. HOW IS THE PROPERTY BEING USED?	<ul style="list-style-type: none"> • Two households have gardens in front. • Commercial activity takes place in two households. • Cars are accommodated in Household B. • Storage of building materials is possible on two erven. • Clotheslines are also visible on the same two erven (household A and B).
6. PUBLIC/ PRIVATE INTERFACE	<p>RELATION TO THE STREET:</p> <p><i>Street Boundary Definition</i></p> <ul style="list-style-type: none"> • There is an indication of different degrees of fencing that has been done. • Household C displays the smallest attempt at fencing off the house. There is no fence. • Household A uses transparent wire fencing. • Household B goes built a brick wall. Privacy and security is achieved. <p>PRIVACY:</p> <p><i>Side and Back Boundaries</i></p> <ul style="list-style-type: none"> • Transparent fencing has been used in two households. This does not enable the creation of privacy. • Household B has defined the boundaries with walls. This provides security and privacy. <p><i>Placing of units</i></p> <ul style="list-style-type: none"> • All permanent units have been placed at the centre of the erven. This allows for the creation of private space at the back of the erven. • In two cases the space behind the house is too small, i.e. a shack has been retained at the back in households A and households C has very little space on the erf. <p><i>Placing of the front door</i></p> <ul style="list-style-type: none"> • All doors have been placed in a manner that suggests the need for security and privacy.

*NOTE

1. The toilet, roof structure and room under the roof structure have fixed values in terms of area, dimensions and shape. Instead of repeating these values throughout the document, it will be noted here. *Toilet - area (1.2m²), dimensions (1m x1.2m) and shape (rectangle).*
2. Also important to note, when reference is made to extensions, it refers to those made by the dwellers and not by government. This excludes the water closets and roof structures.
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7. Reasons for the placing of structures by respondents are mentioned only where reasons were given.
8. No reasons for the use of space within the structures could be obtained.

AFFORDABILITY

- **Family structure:** The family structure prevalent in this typology is single nuclear families.
- **Family size:** Family and household sizes range between four and eight (no tenants).
- **Sources of income:** In relation to the sources of income, the largest and smallest household sizes have two sources of income whilst, household B, family of six, has three sources of income.
- **Type of employment:** Household A has one full-time, one part-time income source, whilst household C has one full-time, and one entrepreneurial income source. These households have at least one full-time income source compared to household B. Household B has income sources from two entrepreneurial/informal activities and one part-time employment source.
- **Savings:** All households are able to save, thereby enabling additions to be built.
- **Expenses:** Household C has the most expenses, followed by household B and then household A.

Conclusion

There is no distinguishing factor that would imply one household would be more successful than the other in making additions. Each household has one beneficial factor and two inhibiting ones in comparison, i.e. where households A and B have large family sizes, household C has a small one. Where households A and C have fewer income sources, household B has one more. Where household B and C have more expenses, household A has the least.

PRODUCT

- **Number of additions:** In total, eight additions had been built, of which three were shacks, three were completed houses, one was a garage and one an incomplete house. Household A had constructed two additions, and households B and C had constructed three additions. The number of additions produced by each household appears regular, i.e. 2, 3, 3.
- **Time:** The initial units constructed were toilets, which were placed at the back of the erf in two cases and one at the front. This would imply that all households had arrived after housing provision had been conducted. Households A and C had arrived in 1997 and household B in 1998. Households A and C would therefore be at an advantage of a year.
- **Type of structures:** All households had initially constructed temporary structures, which were quickly followed by permanent structures. The number of permanent structures produced exceeds the number of temporary structures built.
- **Level of formalisation:** Each household went through the phase of constructing an initial shack, followed by a permanent structure and in two cases another permanent structure. The transition from temporary structures to permanent was therefore quick. More than sixty percent of additions were permanent. Households are better able to build additions.
- **Size of additions:** Average extension sizes appear to be 31m². The average size of temporary additions is 10.5m², whilst for permanent structures the average size is 49m² (5m² - 76m²). Permanent structures tend to dominate in this typology, in numbers and in size. Considering the family sizes that need to be accommodated, the size of additions appears sufficient.
- **Configuration:** The combined configuration of additions is 7m x 4m (temporary structures - 2.4m x 4m and permanent structures - 5m x 9m).
- **Area of additions:** The average area covered by all extensions is 72m², which account for 40% of the erven. Almost half of the erven has been occupied. This implies a larger amount of space per person. On average permanent structures, occupy 65m² and temporary structures, 21m². The area of permanent structures is three times as much as temporary structures.
- **Occupational density:** Each person residing within any one of these additions has at least 13m² (ranging between 9m² and 19m²) to himself or herself. The additions built promote comfortable spaces to reside in if family sizes were smaller.
- **Coverage:** Permanent structures have 36% (ranging between 31m² and 43m²) coverage whilst temporary structures have coverage of 11%. Permanent structures occupy three times as much space as temporary structures.
- **Shape:** The dominant shape is rectangular.
- **Arrangement of structures:** The placing of the shacks at the back and the houses in the centre of the erven imply that the households had planned to build their houses in the centre. They were keeping space for the houses by building the shacks at the back. All households had admitted that this was the ideal place for their houses. The arrangement of the structures has created functional space for the erven. Some spaces appeared odd in shape (small pockets of space). These were created because of the odd shaped erven. In this case, the shapes of the erven have affected the efficiency in the use of space. Two households were successful in using space efficiently.
- **Type of employment:** There is no clear relation between the type of employment and the level of formalisation. It does not seem to have affected any households' ability to consolidate.

***NOTE**

1. The toilet, roof structure and room under the roof structure have fixed values in terms of area, dimensions and shape. Instead of repeating these values throughout the document, it will be noted here. **Toilet - area (1.2m²), dimensions (1m x 1.2m) and shape (rectangle).**
2. Also important to note, when reference is made to extensions, it refers to those made by the dwellers and not by government. This excludes the water closets and roof structures.
3. The measurements given are **approximated** from the diagrams representing the situation of the erven and aerial photographs as a cross check. A measuring exercise was not carried out during the interviewing sessions. The measurements are therefore not true representations.
4. Information about the structures is limited, e.g. costs, date of construction, etc. Respondents were reluctant to provide all the information either because of a lack of trust or poor memories. As a result, issues of cost and date of construction of extensions have been omitted from this analysis. However, assumptions based on available information have been made.
5. All calculations within this section include enclosed structures only, e.g. incomplete roof structures that have been added to the calculation are those that are enclosed but lack internal divisions.
6. When discussing privacy, there are two categories, i.e. from the public on the street and from neighbours. In this section, it refers to privacy from the public.
7. Reasons for the placing of structures by respondents are mentioned only where reasons were given.
8. No reasons for the use of space within the structures could be obtained.

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Conclusion

Household A managed to build a good quality house despite the large family size and two sources of income. This household had fewer expenses and an advantage of a year compared to household B.

Household B had an advantage of three income sources and a small family size. This household managed to build the best quality house inclusive of the boundary walls despite arriving a year later than the other households. Household C had the most expenses, the smallest family size and the same number of income sources as household A. Even after being on the erven for a year before household B had arrived, this household has produced permanent structures but not to the same standard and quality as household B. Household B and C produced the same number of additions.

All households had the advantage of having the ability to save.

The factors within these households that have influenced consolidation positively appear to be time, the number of income sources, and small family sizes. Factors inhibiting consolidation were larger family sizes, many expenses and arriving later than other households. However, each household presents a different situation where the factors at play either produce positive or negative outcomes for consolidation. Factors can also not be isolated as 'THE' factor. Instead, how the factors interplay with one another determines whether a household will be able to consolidate or not. Another factor that has affected consolidation is the oddly shaped erven.

PROCESS

- **Sourcing of materials:** The purchasing of temporary materials was done within Mamelodi and for permanent structures, outside Mamelodi.
- **Cost:** The costs of extensions within this typology ranged from R17 000 to R20 000 for permanent structures. A lot of money was invested.
- **Funding:** For certain extensions loans were acquired, but in most cases savings was used.
- **Builders:** In relation to the type of additions made, i.e. temporary or permanent, the type of labour employed correlates. Owners had used their own skills to build their shacks but employed private contractors to build their homes.
- **Time:** The time lapse between additions appears to be between one and five years.

USE OF SPACE

Within structure

- The use of space within the houses displays diversity and the ability of these households to afford to build such homes to accommodate such uses. The uses go beyond the basic needs of a kitchen and bedroom. Each household has an average of three bedrooms, one kitchen, a lounge, an indoor toilet and a bathroom, the latter three uses being luxuries.
- In total there are ten bedrooms across the three households. Two households have a dining room (luxury) and every household makes use of the toilet provided by government apart from their indoor ones.

Within erven

- **Gardens:** Two households have flower gardens in front of their homes (decorative).
- **Parking:** One household is able to accommodate a vehicle. Household B has the luxury of owning a car.
- **Survival strategy:** Commercial activity is conducted from within households A and B and on average accounts for approximately 8% of the erven.
- **Other:** Storage of building materials occurs on two erven (household A and B) and clotheslines are erected at the back and on the side.

*NOTE

1. The toilet, roof structure and room under the roof structure have fixed values in terms of area, dimensions and shape. Instead of repeating these values throughout the document, it will be noted here. Toilet - area (1.2m²), dimensions (1m x 1.2m) and shape (rectangle).
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6. When discussing privacy, there are two categories, i.e. from the public on the street and from neighbours. In this section, it refers to privacy from the public.
7. Reasons for the placing of structures by respondents are mentioned only where reasons were given.
8. No reasons for the use of space within the structures could be obtained.

- Uses of the erven are not very simple.

PUBLIC/PRIVATE SPACE

- **Street Boundary:** Some cases reflect a desire for privacy with the construction of a brick wall whilst in the other cases transparent fencing is used or not at all. There are varying degrees in the type of fencing built. Household B allows for some interaction at the front of the property with the use of spikes in combination with the wall.
- **Side and back boundaries:** The definition of boundaries is quite apparent in all households. However, the use of materials used differs: household A and C have used transparent fencing, which defines boundaries but creates no privacy. Household B constructed a wall, which allows for a great degree of privacy.
- **Placing of units:** All structures have been placed at the centre of the erven which allows for the creation of private space at the back of the erven. It is successful in the case of household B but not to such a degree in the other households because of the type of fencing used.
- **Placing of the front door:** Although household B encourages interaction with the street, this is via the garage (location of the spaza shop). The door of the house is placed in a way that suggests the need for privacy. Households A and C have placed the doors on the side of the houses, which also suggests the need for privacy.

Pattern: Initially temporary structures were placed at the back of the erven with permanent structures placed in front of them. Some temporary structures were removed in order to construct the house. There are differing levels of boundary definition with little diversity in the use of space.

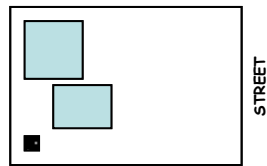


FIGURE 48: Pattern 1 - Phase 1

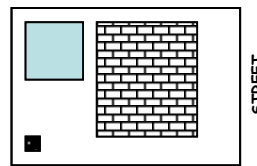


FIGURE 49: Pattern 1 - Phase 2

*NOTE

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