



**Drakenstein Municipality**

# **HUMAN SETTLEMENT PLAN**

**JULY 2014**

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# DRAKENSTEIN HUMAN SETTLEMENT PLAN BUSINESS PLAN

June 2010 (As amended March 2014)

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**AS AMENDED BY DRAKENSTEIN MUNICIPALITY**

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## ACRONYMS

|                 |   |
|-----------------|---|
| CRU             | Community Residential Units (Hostels Redevelopment Programme)         |
| CW              | Cape Winelands  |
| CWDM            | Cape Winelands District Municipality                                  |
| CW HSP          | Cape Winelands Human Settlement Plan                                  |
| CW SDF          | Cape Winelands Spatial Development Framework                          |
| Drakenstein HSP | Drakenstein Human Settlement Plan                                     |
| EHP             | Emergency Housing Programme   |
| FLISP           | Finance Linked Individual Subsidy Programme                           |
| HSP             | Human Settlement Plan   |
| ISHS            | Integrated Sustainable Human Settlement                               |
| IRDP            | Integrated Residential Development Programme (Project Linked Subsidy) |
| NDoHS           | National Department of Housing  |
| NHFC            | National Housing Finance Corporation                                  |
| NSDP            | National Spatial Development Perspective                              |
| PDoHS           | Provincial Department of Human Settlements                            |
| PHP             | People's Housing Process  |
| PSDF            | Provincial Spatial Development Framework                              |
| SDF             | Spatial Development Framework   |
| UISP            | Upgrading of Informal Settlements Programme                           |

## 1. INTRODUCTION

The Drakenstein Human Settlement Plan (HSP) forms part of the Cape Winelands Human Settlement Plan. It draws on the NDoHS Comprehensive Plan for 2004; the Development Facilitation Act; PSDF, BNG, the provincial housing objectives, Isidima as well as the WC Guideline for IDP Human Settlement Plan (December 2008). In addition, Provincial Government has also identified the following new housing objectives (Strategic Objective 6. January 2010) to provide guidance to municipalities:

- Prioritising secure access to basic services
- Acquiring well-located land for well-planned Integrated Human Settlements
- Increasing densities for new housing developments
- Closing the gap in the property market
- Inculcating a sense of ownership
- Improving property management
- A fairer allocation of housing opportunities based on the municipal housing demand database and allocation policy.
- Reducing our carbon footprint
- Introducing a stronger co-ordinated and integrated approach to human settlement planning

The Drakenstein HSP aims to initiate a process of ensuring that housing implementation contributes to the creation of vibrant sustainable and integrated communities in the Drakenstein Municipality. It not only conceptually illustrates how housing projects could contribute to creating integrated sustainable human settlements, but it also identifies pilot projects for the municipal area as well as policy, budget and implementation implications.

This document, which comprises the Business Plan component of the Drakenstein HSP, illustrates the scale of investment needed over the next five years to implement integrated sustainable human settlement projects. It incorporates the pilot HSP projects as well as the Municipality's current and proposed housing projects for the **next five years**. It further makes reference to the Municipality's proposed projects for the next 5 – 10 years. The preparation of this HSP is an important requirement from the National Department of Human Settlements as well as the Provincial Housing Department that will enable the Municipality to access funding and subsidies for housing in the future. In formulating the HSP, the key project phases required by national and provincial guidelines have been undertaken. These are listed below:

1. A situational analysis
2. The formulation of policies, strategies and programmes
3. A Business Plan towards implementation of the HSP
4. The facilitation of the approval of the HSP

Given the project phases to date, this report should be read in conjunction with the reports created in earlier phases for the Drakenstein Municipality and the Cape Winelands District, including the Cape Winelands

Settlement Urban Design Guidelines (September 2009) which should inform detailed planning and design of individual housing projects.

**Table 1: Documents Delivered To Date as part of the CW HSP Project**

| Document   | Contents   | Contact Person                                   |
|--|--|--|
| Drakenstein Municipality: Situational Analysis 2013          | Housing delivery status quo: problems and issues   | Drakenstein Municipality: HOD: Human Settlements |
| CWDM: Situational Analysis 2013                              | District level analysis of housing delivery challenges. Includes evaluation of various housing projects in CWDDM and best-practice case studies throughout the country   | CWDM Housing Manager                             |
| Drakenstein Municipality: Policies and Strategies April 2010 | Identifies the strategies to achieve improved sustainability and integration in settlements.   | Drakenstein Municipality: HOD: Human Settlements |
| CWDM: Policies and Strategies                                | Takes an overall <b>strategic view</b> of the district and includes ' <b>policy library</b> ' which any of the local municipalities can make use of.   | CWDM Housing Manager                             |
| CWDM: Settlement Design Guidelines                           | Identifies urban design guidelines for settlement and housing planning and development in the Cape Wine-lands. These are generic guidelines that take into consideration the historic and cultural pattern of architecture and settlement patterns in the Cape Winelands District. | CWDM Housing Manager                             |

The purpose of the Drakenstein HSP, including this Business Plan Report, is to provide assistance and guidance on the prioritisation of housing projects between provincial allocation and local implementation. Drakenstein Municipality has prioritised the projects as submitted in this report. Drakenstein Municipality will approve the March 2014 amended Human Settlement Plan and that it will be integrated into the Municipal IDP.

## 2. BACKGROUND

### 2.1 Overview of Situational Analysis

#### 2.1.1 Summary of findings

The following are the priority issues with regard to housing delivery within the Drakenstein Municipality:

- The highest need for affordable housing within the municipal area is concentrated in the Mbekweni area and to the east of Paarl.
- The substantial emphasis on evictions, through the SETA process, has increased the housing responsibilities of the Municipality.
- The Municipality relies on subsidies to finance housing and uses contractors/implementation agents and/or the People's Housing Process to deliver housing. The housing provided so far is mostly in the form of single housing units on plots and resulting in individual title being granted.
- The current information database and information management system needs to be improved and aligned with the risk plan for the Municipality. Information regarding preferences for housing typologies, development densities, tenure options, spatial mapping of demand of recent, current and planned projects is required.
- There are significant institutional and funding constraints experienced by the Municipality with regard to housing delivery.
- Until recently, there has been a lack of a housing programme that integrates and aligns the relevant projects of the various departments and allows for land acquisition, appropriate planning and design for sustainable settlements and statutory processes to meet planning and environmental legislative requirements. However, the Municipal Manager has set up a Task Team to co-ordinate inter-departmental planning and implementation.

Internal organisational performance management and the implementation of the IDP Housing Sector Plan is currently being monitored by the Housing Service Delivery Business Implementation Plan (SDBIP). The Service Delivery Plan puts forwards targets for housing development, social housing development, rental stock maintenance and housing administration. This system is currently being upgraded.

#### 2.1.2 Housing Demand

According to the current database or waiting list, estimates for housing demand in Drakenstein vary from 10200 low-, medium- and high-income units to 22 748 (low-income units). In addition to the significant housing demand estimates, there is also an untested demand in the housing market for FLISP, GAP and Social Housing. It is also often the case that people who have applied and qualified for housing in, for instance the year 2000, no longer qualify for the housing when the project is eventually implemented. It is therefore important to analyze the prospective beneficiaries as close to the implementation of a project as possible in order to assess their current socio-economic status. This would indicate which category of housing they would be expected to fit into and hence facilitate the implementation of such demand.

The housing products currently available can be grouped into four broad categories relating to available finance options:

- Government subsidy housing (no beneficiary contribution): This is the government subsidy for households earning below R 3 500 per month.
- “FLISP” housing (those who do not qualify for a full government subsidy): This refers to households earning above R3 501 per month, but below the maximum of R 7 000 that banks require to be eligible for a bond. In this case the government subsidy covers the serviced plot and a decreasing top structure subsidy as the monthly income increases above R 3 501.
- “GAP” housing refers to households earning more than R7 000 to a maximum of R 15 000 per month. In these cases a bond must be obtained through a financial institution who will apply directly to the PDoHS for a top structure subsidy reducing in quantum as more monthly income is received.
- “Bonded” housing: Households earning above R 15 000 per month can qualify for a bond from a financial institution for housing on the open market. This type of housing is normally provided through private developers on private land.

Using similar categories, it is possible to get an idea of the number of households in the Municipality that are eligible for the different housing products. The outcomes are summarised in the table below:

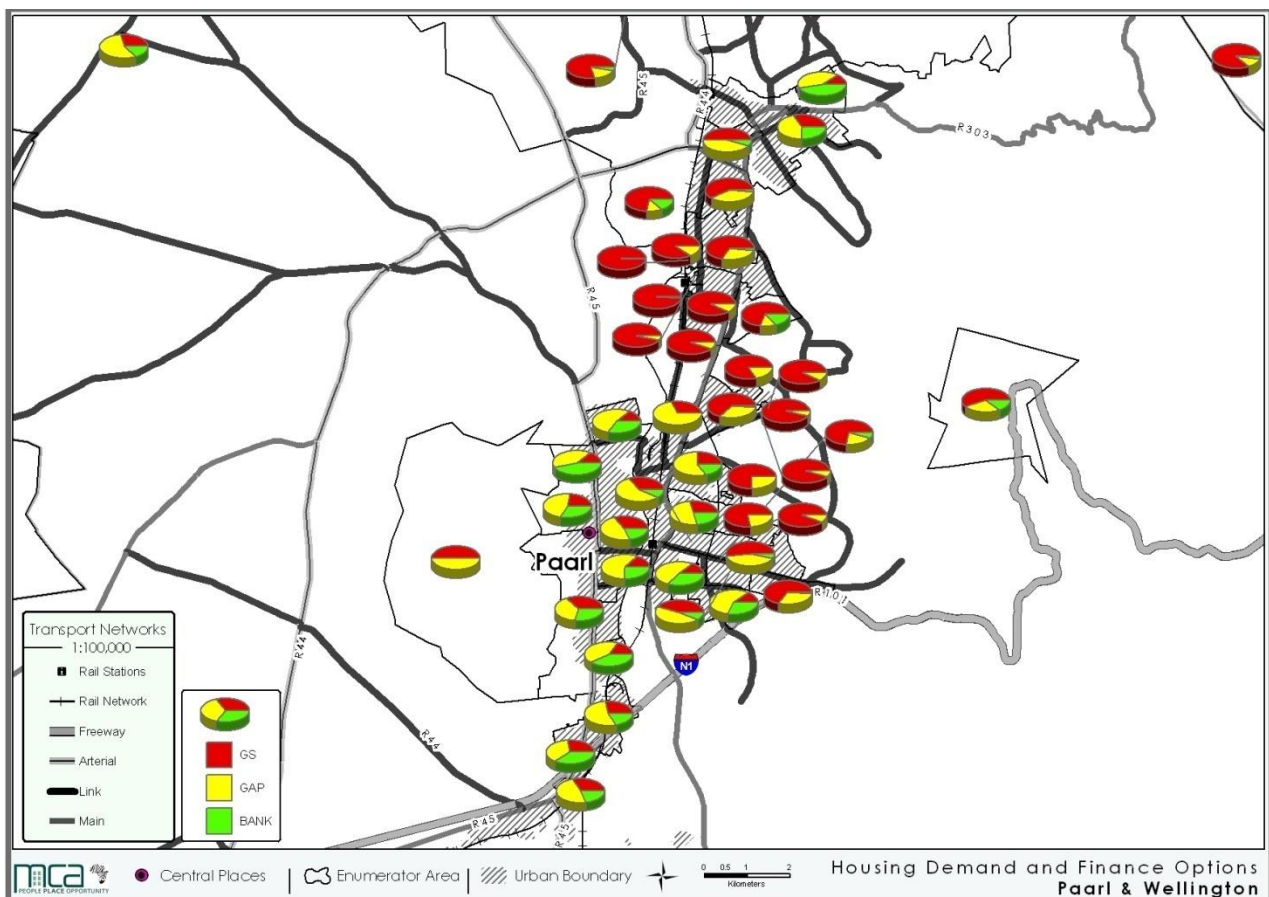
**Table 2: Number of households located in the Drakenstein Municipality that are eligible different housing products (based on April 2014 subsidies).**

| Household income (monthly) | Number of household (%) | Credit institution   | Contribution                     | Product price   |
|----------------------------|-------------------------|--|----------------------------------|---|
| R1 – R1,600                | 10,512 (20%)            | Government subsidy   | none                             | R 160 573   |
| R1,601 – R3,200            | 9,424 (18%)             | Government subsidy   | none                             | R 160 573   |
| R3,201 – R6,400            | 9,527 (18%)             | Government subsidy above R3,500 and below R7500 per month: FLISP | Sliding scale                    | Services R 43 626<br>Sliding top structures                     |
| R6,401 – R12,800           | 5,249 (10%)             | GAP / financial institution (above R7,500 per month)             | Sliding scale for top structures | Private finance plus decreasing contribution for top structure  |
| R12,801 – above            | 6,161 (12%)             | Financial institution (bonded)                                   | Sliding scale                    | Private funding plus decreasing contribution for top structures |

Source: 2007 Community Survey Household income for Drakenstein Municipality (Statistics South Africa)

The above information indicate that over half of the total households in Drakenstein Municipality qualify for a government housing subsidy, with the greatest majority falling into the lowest subsidy group, requiring no contribution from the beneficiaries. The map below indicates the distribution of households qualifying for housing in the four broad finance categories, namely government subsidy housing, FLISP, GAP housing and bonded housing within the Drakenstein Municipal focus area. It clearly illustrates the concentration of households qualifying for government subsidies being concentrated in the Mbekweni area and to the eastern side of Paarl. It also shows that a significant number of households qualifying for FLISP and GAP housing are found in Paarl (particularly Central Paarl) and Mbekweni.

**Figure 1: Distribution and breakdown of Housing Demand in Paarl-Mbekweni-Wellington area**



Source: Drakenstein HSP: Situational Analysis (December, 2008)

## 2.2 Overview of the Strategy and Policy Framework

The Drakenstein HSP: Policy and Strategy Framework puts forward strategies that illustrate the role housing can play in structuring integrated sustainable human settlements. It builds on sustainability principles (taken from national to local policy objectives) and, as a first step, takes into consideration the role of settlements within the Drakenstein Municipality.

The Drakenstein HSP Strategy Framework confirmed the Drakenstein Municipality as a priority area for intervention and housing focus. The following strategies and intervention actions were proposed for structuring and building the Drakenstein Municipality into a more integrated and sustainable settlement node:

Established areas such as Paarl and Wellington: infill and densification to bring people closer to existing work and social opportunities:

- Infill on vacant land;
- Redevelopment of existing informal settlements;
- Structured densification and mixed use development along major transport routes;
- Providing social housing, and
- Private densification through subdivision, redevelopment and second dwellings on existing properties.

Integration zone (between Paarl and Mbekweni): accommodate growth and thereby facilitate established town growth centres and 'townships' to become integrated by:

- Infill of vacant land within areas of development; and
- Redevelopment and/or densification (extensive mixed use) along link routes.

Township areas (Mbekweni): upgrade of marginalised areas to alleviate poverty, overcome urban challenges and improve economic viability and sustainability through restructuring the physical environment:

- Restructuring of the physical environment to improve the layout, structure and integration of townships;
- Infill to provide choice of housing types;
- Improve the quality of community facilities, social services and infrastructure;
- Consolidate under-utilised community facilities; and
- Cleaning, landscaping and greening.

These spatial strategies built on existing SDF and Densification Framework proposals for the settlement and are schematically reflected in figures 2 and 3.

Figure 2: Proposed spatial strategies and pilot projects: Paarl

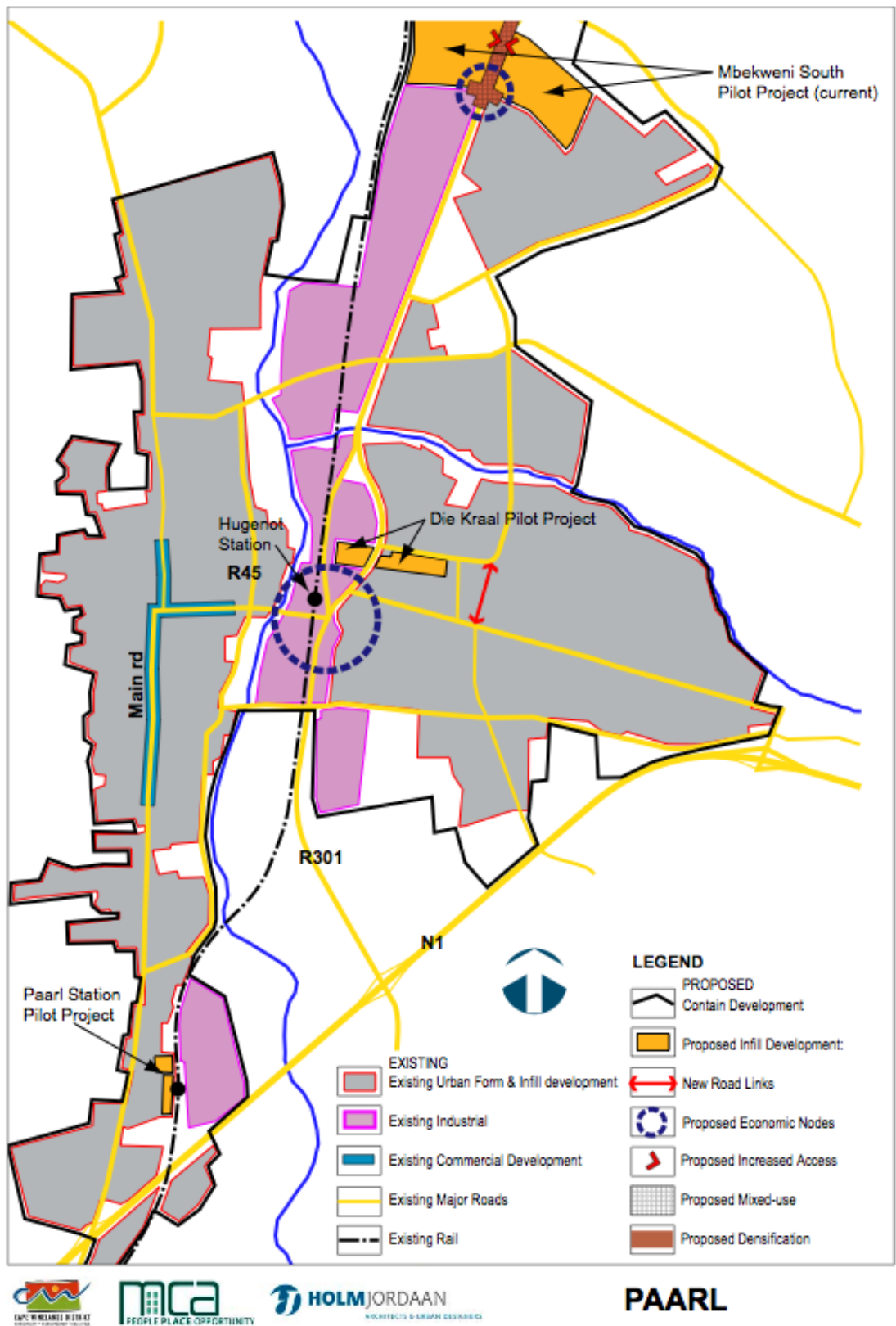
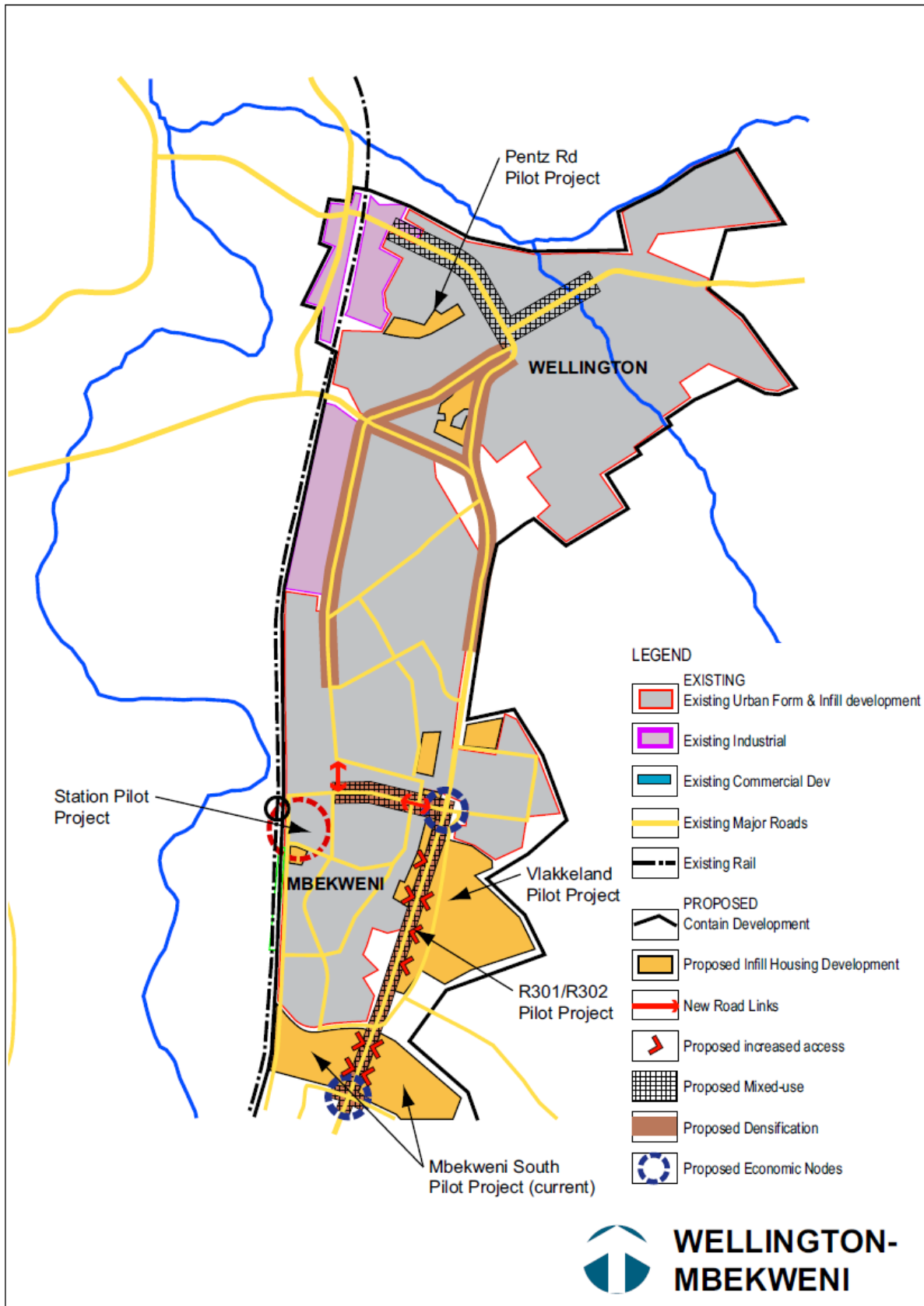


Figure 3: Proposed spatial strategies and pilot projects: Mbekweni and Wellington



Following on the formulation of the spatial strategies, housing pilot projects were identified that could be developed as catalysts and examples for implementing the strategies. The pilot projects are also indicated on Figures 2 and 3 and Table 3 provides an overview of the pilot projects identified for the Paarl-Mbekweni-Wellington area.

**Table 3: Proposed Pilot Projects**

| <b>Pilot Project</b>     | <b>Location</b>        | <b>Erf Numbers</b>                  | <b>ISHS Strategy</b>  |
|--------------------------|------------------------|-------------------------------------|---|
| Paarl Station            | Paarl South            | Various privately owned properties. | Redevelopment within established areas. Infill, densification and social integration.   |
| Vlakkeland               | Mbekweni / Paarl North | 8381 - 8398                         | Accommodate growth within integration zone. Infill, densification, social integration and extending activity streets and mixed use development.   |
| Mbekweni Station         | Mbekweni               | 557, 1526, 1522                     | Township upgrade. Infill, diversification and greening /upgrade of public spaces and facilities. Restructuring of the physical environment to make marginalized areas safer and create more opportunities for economic development. Infill, densification, social integration and extending activity streets and mixed use development. |
| R301/R302 'Buffer Strip' | Mbekweni               | 557, 3389, 2316                     | Township upgrade/ Integration zone Infill, densification, social integration and extending activity streets and mixed use development.  |
| Pentz Street             | Wellington             | 1680, 550, 553                      | Redevelopment within established areas. Infill, densification and social integration.   |

These proposed pilot projects are further explored in the report. Given the concerns raised, these pilot projects will be included in the multi-year business plan.

### **3 UNPACKING THE PILOT PROJECTS**

In order to ensure integrated sustainable development as opposed to only providing housing, the role of each site must be understood in its context. The following therefore needs to be considered in determining the role of the site and the development potential of the site:

- Housing options (tenure and typologies) provided must be appropriate to the housing demand in the area.
- Housing densities proposed should achieve the objectives of integrated sustainable human settlements.
- Community facilities should be accommodated on the site to meet the needs of the people to be housed on the site as well as to ensure integration with the surrounding area where appropriate and possible.
- Opportunities for economic development should be provided.
- Environmental, transport and services constraints need to be addressed.
- Appropriate housing and other funding instruments should be identified to implement the housing options, achieve proposed densities and provide adequate public facilities, services and economic opportunities.

This section therefore briefly deals with housing demand and the need for community facilities as well as housing typologies and the various housing instruments available before the role of the pilot sites are considered and the development potential of each site is further explored.

#### **3.1 Housing Demand**

As stated in a previous section, the Drakenstein Situational Analysis indicated that:

- 60% of households qualify for subsidized housing
- 30% of households qualify for FLISP and Gap housing
- 10% of households qualify for bonded housing.

The recent provincial research (Eighty20, 2009) into the Gap housing market indicates that one third of all households in the Western Cape Province are in the FLISP/GAP market. According to the research, the Western Cape Province has a higher proportion of FLISP/GAP market households, this market is growing and 15% of the FLISP/GAP market in the province is located in the Cape Winelands District. Also of relevance is that almost one fifth of the FLISP/Gap market lives in inadequate housing conditions for example shacks, backyard dwellings and poor sanitation or in overcrowded conditions.

The housing to be provided in the Drakenstein Municipality must therefore begin to proportionately address the needs of both the subsidized housing market as well as the FLISP/GAP housing market.

#### **3.2 Community Facilities**

The provision of housing should go hand in hand with the provision of adequate public facilities, not only to address the need created by the number of people to be accommodated on the site but also taking into consideration the existing shortfall of facilities. The extent to which a site needs to accommodate public facilities will also depend on the distribution of facilities in the site's immediate context as well as the extent

and location of the site (e.g. if situated on a major movement route it could potentially accommodate a higher order facility).

In order to ascertain the need for facilities in the Paarl-Mbekweni-Wellington settlement area, a quick desktop review of the overall need for facilities was undertaken. An estimated population figure of 193 000 was used for calculating the need for facilities. The review was based on a set of standards adapted from a recent study by the City of Cape Town (CSIR, 2007). Annexure B provides an overview of the analysis of the need for public facilities in Paarl-Mbekweni-Wellington area. In addition, information around the distribution and current provision of facilities was used and this information was obtained from a commercial GIS vendor. Refer to Figures 4 – 6.

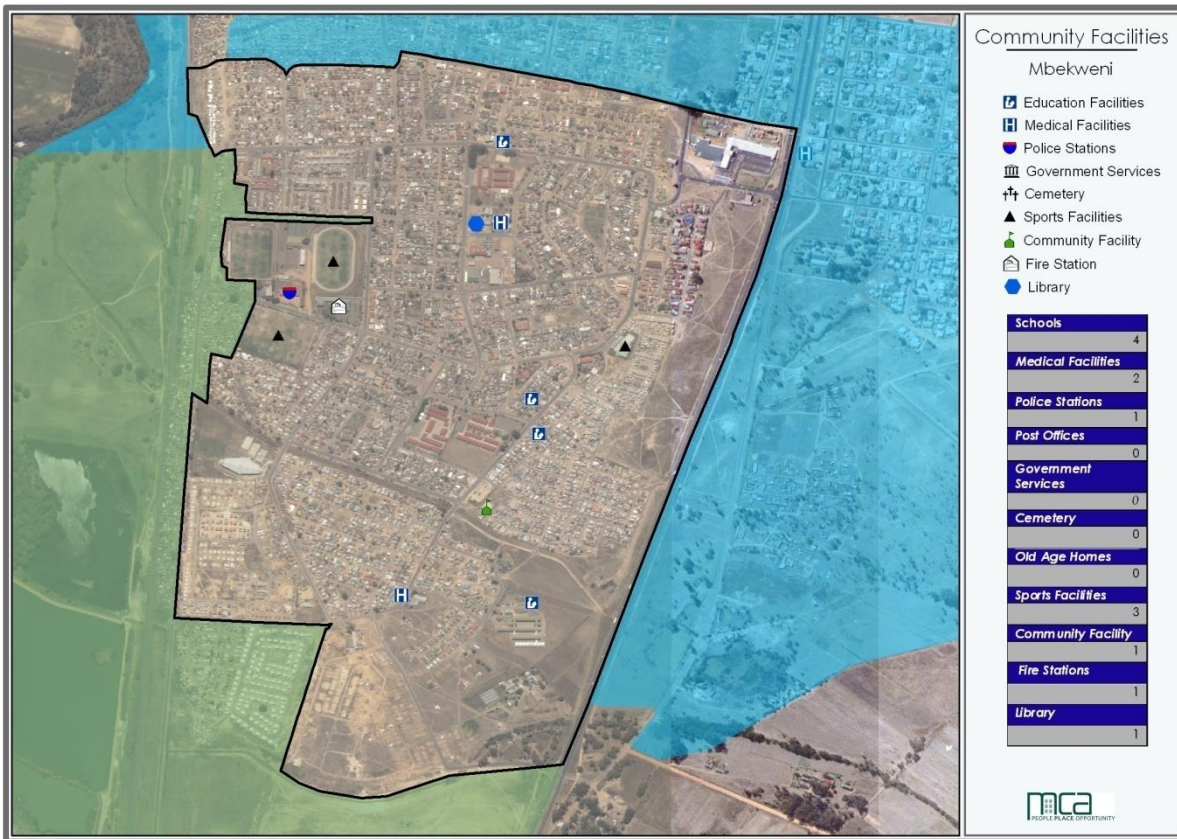
The desk-top review revealed that:

- There is a shortfall of high order facilities in the settlement area, such as old age homes and children's homes.
- There is a shortfall of primary and secondary schools, crèches, multi-purpose community centres, clinics, libraries, community halls, sports facilities and food gardens and of community level public facilities within the settlement. In addition an unequal and unsustainable provision of sports, recreation amenities and parks exist throughout the area. The areas of greatest need are within Mbekweni and Paarl-East.

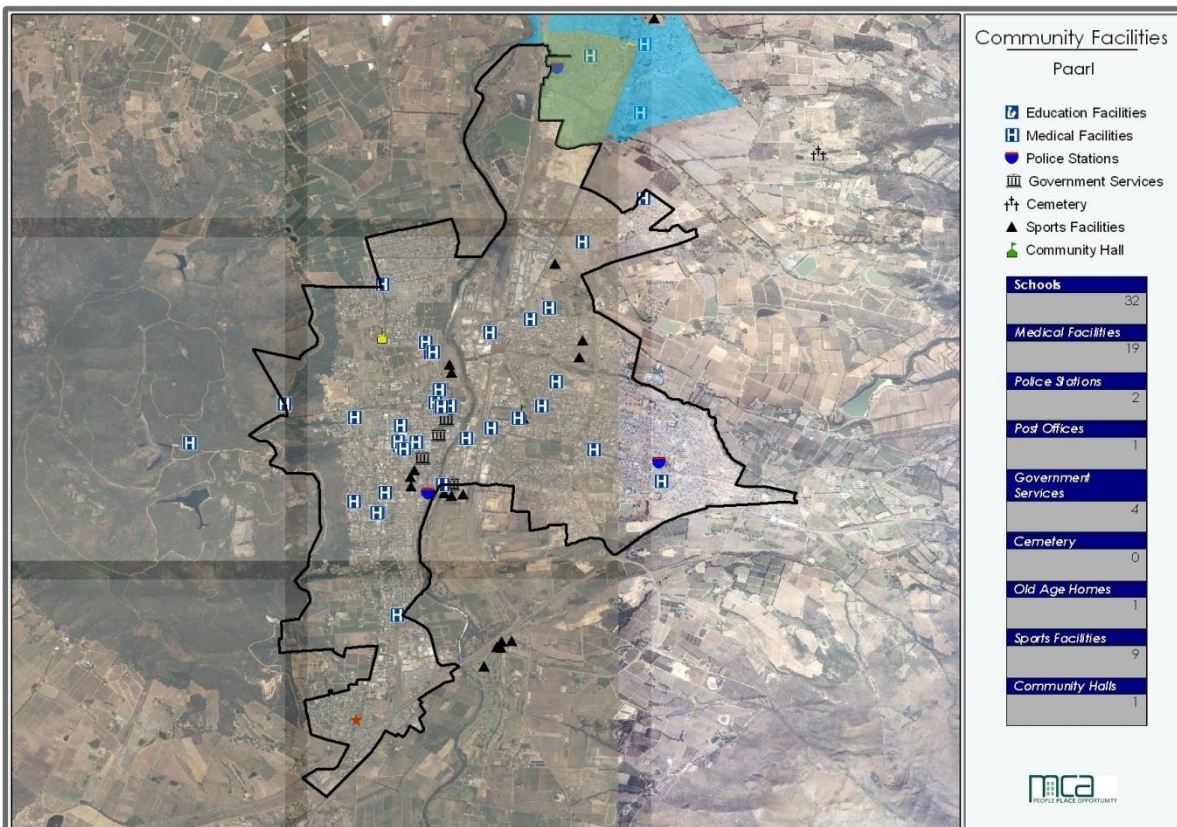
Although existing facilities should be rationalised for optimal use and ways should be found to manage and operate these more cost effectively, the implication is that sustainable housing projects within Mbekweni and Paarl East need to include the provision of community level public facilities such as multi-purpose community centres. Larger sites within the integration zones could, on the other hand, accommodate higher order facilities that will meet the need of and attract people from the surrounding communities.

The above only provides a broad overview of the existing situation and the GIS information used is not regarded as complete. Unfortunately, there is also no central information database regarding municipal and other public facilities within the municipality as each department manages its relevant databases. It is therefore suggested that a comprehensive survey of community facilities be undertaken as part of the review of the SDF.

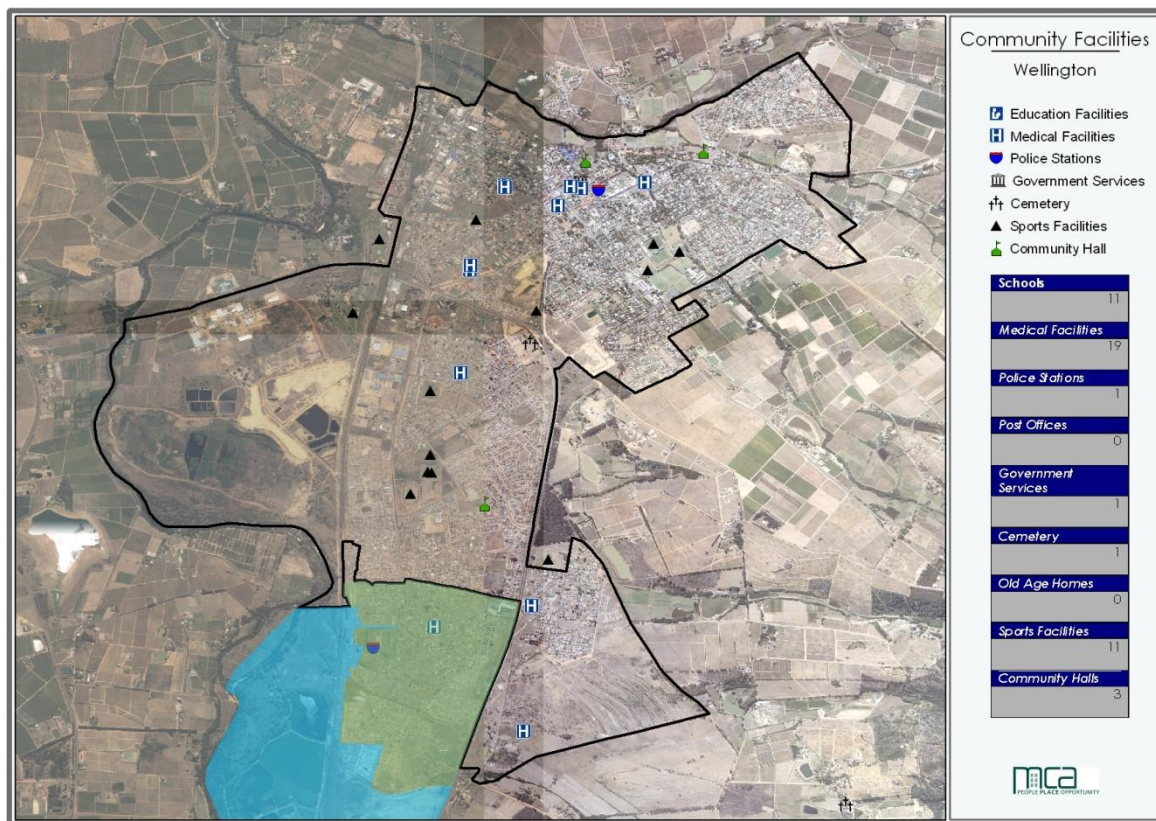
**Figure 4: Spatial distribution of public facilities in Mbekweni**



**Figure 5: Spatial distribution of public facilities in Paarl**



**Figure 6: Spatial distribution of public facilities in Wellington**



### 3.3 Housing Typologies and Densities

The type of housing that is implemented has a critical role to play in achieving the objectives of integrated sustainable human settlements. For purposes of the preparation of this business plan, the selection of housing typologies and densities for the various pilot projects have been done based on best practice examples which include housing typologies ranging from single-story, free-standing units through to eight-storey apartment blocks with elevators.

Given the scale and urban form of the Paarl-Mbekweni-Wellington settlement area, it is recommended that higher densities than is at present being constructed be adopted. High-rise development is not considered appropriate at this point in time in any of the areas in which the pilot projects are located. This must not be overlooked as the preferred option within the next five years due to shortage of land. The following specific recommendations are made, based on what can be achieved, within a low-rise development context.

Subsidised Housing: Medium-density, low-rise housing based on the following best practice examples:

- Stock Road, Philippi, Cape Town (64 du/ha)  
semi-detached double- and single-storey units and free-standing units
- Weltevreden Valley, Cape Town  
various double-storey options which include units in free-standing, semi-detached and row-housing arrangements
- Sakhasonke Village, Nelson Mandela Métropolitan Municipality (75 du/ha)

duplex and triplex semi-detached units

Social Housing: High-density, low-rise housing based on the following best practice examples:

- Joe Slovo Phase 1, Cape Town (132 du/ha)  
rental in 2 – 4 storey walk-up units
- Joe Slovo Phase 3, Cape Town ( 135 du/ha)  
double storey semi-detached grouped housing ( in blocks)
- Carr Gardens, Johannesburg (80du/ha)  
social rental / flats with shared facilities, 3-4 storey buildings
- Newtown Urban Village, Johannesburg (192 du/ha)  
co-operative housing in three-storey walk-ups

GAP Housing: high density low rise housing based on the following best practice examples:

- Royal Maitland (90 – 125 du/ha)  
combination of single-, double- and three-storey walk-up structures
- Springfield Terrace (165 du/ha), Cape Town)  
Double- and three-storey, walk-up structures

These best practice densities were applied to the pilot projects and high- and low-density options were considered for each of the various pilot sites for illustrative purposes (see tables 4 and 5). It must be stated however that no single housing density, typology or specific mix is considered ideal and although the selection of housing densities and typologies may have been simplified for illustrative and budgeting purposes, it is acknowledged that housing typologies for instance, is only one element that contributes to more sustainable quality environments. It is further anticipated that careful consideration will be given in the design process to settlement layout, the design of streets, public spaces, location of community facilities, size and shape of housing sites and the design and placement of the housing units. Such a design process and the ultimate mix of housing options entails a complex balancing between costs, site context, user needs and social acceptability, tenure options and management arrangements. This business plan does not attempt to address these.

### **3.4 Housing and other Funding Instruments**

Lack of funding is often seen as a major stumbling block to the provision of integrated sustainable development which includes adequate services and facilities, appropriate housing typologies and good quality urban environments. The quality of new housing development is therefore often compromised in order to 'cut costs'. However, a range of programmes and funding instruments are available to municipalities to assist them in developing integrated sustainable human settlements. Annexure A provides a summary of some of the key housing and other funding instruments available. These vary from instruments that assist with the development process, infrastructure funding, social and economic facilities provision to a variety of housing delivery instruments. Funding can be sourced from the national departments of Human Settlements, National Treasury, the Department Cooperative Governance and Traditional Affairs, the Municipality's own funding, NGOs, corporate social investment budgets, bilateral donor agencies and the National Housing

Finance Corporation, amongst others. The onus rests on the Municipality to identify and approach the various institutions for human settlement development related funding.

### **3.5 Role of Pilot Sites**

Following on from the above, a more detailed role for each of the pilot project sites is explored and presented in the following table:

**Table 4: Role of Pilot Sites**

| Description               | Erf Numbers | Ownership                                 | Surrounding Context   | Potential Role of Site  | Community Facilities  | Commercial, Manufacturing  | Transport and Services  | Environmental Informants   |
|---------------------------|-------------|---|---|---|---|--|---|--|
| Area around Paarl Station |             | Privately owned                           | Within established area with existing opportunities, facilities and services. | Infill with high-density, low-rise residential development. Limited mixed use development, including small scale retail and local level community facilities such as a crèche. Spatial and social integration.  | Full range of community facilities within easy public transport access. | Close to existing retail and adjacent to industrial area.                | Located adjacent to railway line and station. Surrounded by established road network. Services capacity unknown.      | No environmental constraints. Situated within Heritage Area and therefore subject to heritage constraints. |
| Vlakkeland                | 8381 - 8398 | Municipal owned. One erf privately owned. | Within integration zone and situated adjacent to marginalized areas.          | Should accommodate growth in medium to high density low-rise, mixed-use development. High potential to achieve spatial and social integration and to accommodate a range of land uses (residential, retail, community facilities) and a range of, housing typologies. Potential to accommodate higher order community | None.   | Not close or within easy access to existing retail and industrial areas. | Situated along a major link road. No internal road network. External services capacity unknown. No internal services. | Environmental constraints. Heritage constraints. Extent of constraints not known.                          |

| Description                  | Erf Numbers     | Ownership  | Surrounding Context  | Potential Role of Site   | Community Facilities  | Commercial, Manufacturing  | Transport and Services   | Environmental Informants   |
|------------------------------|-----------------|--|--|--|---|--|--|--|
|                              |                 |  |  | facilities given the extent of the site, its location on a major transport route and existing and future thresholds.   |   |  |  |  |
| Area around Mbekweni Station | 557, 1526, 1522 | Municipal owned  | Situated within marginalized area with limited economic and other opportunities. | Infill opportunity to introduce diversity and contribute to the general upgrade of the environment.  | Limited number of community facilities in surrounding area. Surrounding facilities likely to be operating at over capacity. | Some distance from commercial and industrial areas. Public transport access to established areas.            | Located adjacent to railway line and station. Surrounded by established road network. Services capacity unknown. | Electrical pylons may pose serious constraint. Environmental constraints (flood line). |
| R301/R302 'Buffer Strip'     | 557, 3389, 2316 | Municipal owned. Privately owned. Dept of Public Works | Situated within marginalized area with limited economic and other opportunities. | High potential to achieve spatial and social integration and to accommodate a range of land uses (residential, retail, community facilities) and a range of, housing typologies. Situated on a major link road and potential for integration and activity corridor | Limited number of community facilities in surrounding area. Surrounding facilities likely to be operating at over capacity. | Adjacent to existing commercial facility but some distance from significant commercial and industrial areas. | Adjacent to major transport route. Services capacity unknown. No internal roads or services.                     | Environmental constraints (biodiversity area).   |

| Description  | Erf Numbers    | Ownership                                      | Surrounding Context   | Potential Role of Site  | Community Facilities                                   | Commercial, Manufacturing                     | Transport and Services   | Environmental Informants                                  |
|--------------|----------------|--|---|---|--|---|--|---|
|              |                |  |   | development.  |  |   |  |   |
| Pentz Street | 1680, 550, 553 | Municipal & state (Dept of Public Works) owned | Within established area with existing opportunities, facilities and services. | Infill with high-density, low-rise residential development. Limited mixed-use development, including local level community facilities such as a crèche. Spatial and social integration. | Full range of community facilities within easy access. | Close to existing retail and industrial area. | Surrounded by established road network. Services capacity unknown. Upgrade of bulk sewer network critical. | No known environmental constraints. Heritage constraints. |

### 3.6 Development Potential of Pilot Sites

Following on from understanding the role of the pilot sites in terms of the site's context, Table 5 provides an overview of the development potential of each site with specific reference to land use budgets, breakdown of the residential component of each site appropriate to the housing need in the area, suggested housing typologies and densities and infrastructure requirements and environmental constraints. With regard to the proposed land use, housing typologies and densities, it must be noted that a comparison with the proposals of the study called, "Investigation on the provision of Industrial and Residential Land in the Drakenstein Municipal Area", was done. This study addressed the status and potential of vacant and under-utilised land parcels within the municipal area for industrial and residential use. The study was commissioned by the Planning Services Department of the municipality and was undertaken at the same time as the preparation of the Human Settlement Plan. The comparison, using the information provided by the consultants, revealed that the proposals for the pilot project sites made by the Human Settlement Plan are in line with the proposals put forward for the same sites by the Investigation on the Provision of Industrial and Residential Land study. The study included the following proposals for the sites identified as pilot project in the HSP:

| <b>Area</b>               | <b>Classification</b>   | <b>Density</b> | <b>Funding</b>               |
|---------------------------|-------------------------|----------------|------------------------------|
| Paarl Station Area:       | Residential             | High           | Subsidy or Gap               |
| Mbekweni Station Area:    | Residential             | High           | Social                       |
| Pentz Street:             | Residential             | High           | FLISP/Gap                    |
| Vlakkeland:               | Residential             | Medium - High  | FLISP, Gap, Social & subsidy |
| R301/R302 'Buffer Strip': | Residential & Mixed Use | High           | FLISP, Gap, Social & Subsidy |

With regard to infrastructure, it has been indicated by the Municipality that housing, specifically 'low-cost and FLISP/Gap housing' is one of the priority drivers for infrastructure provision (Drakenstein Municipality, 2010). It has also been indicated that from an infrastructure perspective, the most economical development will be close to existing services and therefore established areas.

The proposed pilot projects are all located within the area earmarked for water and sewerage infrastructure upgrades within the next five years, including Vlakkeland (Drakenstein Municipality, 2010). The estimated cost of the planned sewer, water, roads & stormwater, electricity and solid waste bulk infrastructure for the next five years, is R1,403,050,000 with an estimated budgetary shortfall of R922 230 000 (Drakenstein Municipality, 2010). The impact of the proposed pilot project developments on the planned bulk infrastructure upgrades still needs to be determined and the final phasing of the proposed development and/or infrastructure upgrades (where possible) will need to be adjusted accordingly.

**Table 5: Development Potential of Pilot Sites**

| Pilot Project<br>Extent of site  | Role of Site   | Proposed Land Use<br>Budget & breakdown of<br>residential component.   | Housing<br>Typologies                       | Density Option<br>A & number of<br>units    | Density Option<br>B & number of<br>units   | Funding<br>Sources   | Infrastructure<br>requirements   |
|--|--|--|---|---|--|--|--|
| Area around<br>Paarl<br>Station<br>(Extent of area<br>to be<br>redeveloped still<br>to be<br>determined.<br>Approximately 2<br>ha) | Predominantly<br>residential<br>redevelopment<br>of existing<br>urban fabric.    | 90% residential<br><ul style="list-style-type: none"><li>100% commercially<br/>developed gap housing</li></ul><br>10% local level community<br>facilities, e.g. crèche and<br>small retail outlets | 2-4-storey walk ups<br>with loft apartments | 150 du/ha gross<br>270 gap housing<br>units | 70 du/ha gross<br>126 gap housing<br>units | Private Sector<br>End User<br>Finance<br>(including FLISP) | Existing connections<br>to bulk infrastructure<br>required.<br>Impact of proposed<br>development on the<br>planned bulk<br>infrastructure<br>upgrades needs to<br>be determined. |
| Area around<br>Mbekweni<br>Station<br>(erven 1526 &<br>1522)<br>±1.5ha<br>(excluding<br>sports fields)                             | Township up-<br>grade.<br>Introduce<br>wider choice in<br>housing<br>typologies. | Residential 100% with multi-<br>purpose open spaces<br>between buildings<br><ul style="list-style-type: none"><li>100% Social housing /<br/>rental units &amp; co-<br/>operative housing</li></ul> | 2-3-storey walk ups                         | 150 du/ha<br>200 social<br>housing units    | 70 du/ha<br>90 social<br>housing units     | Social grants &<br>IRDP                                    | Connections to bulk<br>infrastructure<br>required.<br>Impact of proposed<br>development on the<br>planned bulk<br>infrastructure<br>upgrades needs to<br>be determined.          |
| R301/R302<br>Buffer Strip<br>(erven 557,   | Township<br>upgrade/<br>Integration  | Residential 70%<br><ul style="list-style-type: none"><li>15% Social housing<br/>/public rental units</li></ul>   | 2-3 storey walk ups                         | 150 du/ha<br>91 soc/h units                 | 70 du/ha<br>42 soc/h units                 | Social Housing<br>PHP<br>IRDP                              | Connections to bulk<br>infrastructure<br>required.   |

| Pilot Project<br>Extent of site                          | Role of Site  | Proposed Land Use<br>Budget & breakdown of<br>residential component.   | Housing<br>Typologies   | Density Option<br>A & number of<br>units  | Density Option<br>B & number of<br>units  | Funding<br>Sources  | Infrastructure<br>requirements  |
|--|---|--|---|---|---|---|---|
| 3389, 2316)<br><br>±5.8ha                                | zone  | <ul style="list-style-type: none"> <li>15% GAP housing /private rental or ownership units</li> <li>70% Subsidised housing</li> </ul> Commercial 10%<br>Roads 15%<br>POS & local level facilities<br>e.g. crèche and play areas<br>5%                                     | 2-4 storey walk ups<br><br>2-3-storey walk ups<br>Row housing<br>Semi-detached<br>double storey units | 150 du/ha<br>91 gap/h units<br><br>70 du/ha<br>198 subsidised<br>units<br><br>Total Units:<br>380 | 70 du/ha<br>42 gap/h units<br><br>35 du/ha<br>99 subsidised<br>units<br><br>Total Units:<br>174 | Private Sector<br>End User<br>Finance<br>(including FLISP)<br>NHFC loan | Impact of proposed<br>development on the<br>planned bulk<br>infrastructure<br>upgrades needs to<br>be determined.   |
| Pentz Street<br>(erven 1680,<br>550 & 553)<br><br>±7.8ha | Infill and<br>densification<br>within an<br>established<br>area.<br><br>Mix of housing<br>typologies and<br>income<br>groups. | Residential 80%<br>Roads 15%<br>POS & local level facilities<br>e.g. crèche and play areas<br>5%<br><br>Residential Mix: <ul style="list-style-type: none"> <li>80% GAP housing / private rental or ownership</li> <li>20% Social housing public rental units</li> </ul> | 2-3-storey walk ups   | 150 du/ha<br>748 gap housing<br>units<br>187 social<br>housing units<br><br>Total units:<br>935   | 70 du/ha<br>349 gap housing<br>units<br>87 social housing<br>units<br><br>Total units:<br>436   | CRU<br>Private Sector<br>End User<br>Finance<br>(including FLISP)       | Connections to bulk<br>infrastructure<br>required.<br><br>Impact of proposed<br>development on the<br>planned bulk<br>infrastructure<br>upgrades needs to<br>be determined. |

### 3.7 Project Costing

Given the proposed densities and housing typologies, the number of potential housing units for each site can be used to calculate estimated costs. Project costs are estimated based on industry averages as well as good practice examples projected with average annual growth rates in construction costs. The costs are intended to provide an indication of possible project costs. They are not exhaustive and are likely to change in the detailed design phase of the projects. Detailed and accurate costs can only be determined when detailed planning and lay-out designs have been completed.

The assumptions used to estimate the costs were based on the following:

- Subsidy House: Top structure R 110 947 plus an A grade municipal services R 43 626 of per stand.
- GAP Market House: R 150 000 plus an A grade services R 43 626 per stand)
- The cost of the land and site preparation has been excluded but amounts to R 6 000 per stand..
- Professional fees have been calculated at 10% of total cost for FLISP/GAP housing. The cost of professional fees for subsidized housing is included in the cost listed above.
- The costs of social and economic facilities were not calculated and would require a separate exercise in order to do so dependent on the design requirements.
- Bulk service capacity upgrades are not included. It has however been estimated that the sewer, water, roads & stormwater, electricity and solid waste bulk infrastructure for the next five years will cost R1,403,050,000 with an estimated budgetary shortfall of R922,230,000 (Drakenstein Municipality, 2010).
- The funding sources provided in Table 5 are a guide for sourcing the primary funds; various options are often applicable to the project depending on the final project specification (e.g. tenure and typology). The top up or bridging financing requires the initiative of the municipality to source alternative funding sources.

The following table provides an overview of the illustrative development costs of the various pilot projects.

**Table 6: Pilot Projects: Illustrative Development Costs**

| Project  | No of subsidised units | Cost of Subsidised Housing (R154 573/unit) | No of GAP units Private Rental | Cost of Gap Housing ( R 150 000/unit) | Services cost estimate (R43 626 ps) | Prof fees (applicable to gap housing at 10% of total cost) | TOTAL       |
|--|------------------------|--|--------------------------------|---------------------------------------|-------------------------------------|--|-------------|
| Area around Paarl Station<br>(various privately owned erven) | 0                      | 0  | 270                            | 40 500 000                            | 11 779 020                          | 1 177 902  | 53 456 922  |
| Vlakkeland<br>(erven 8381 – 8398)                            | 486                    | 75 122 478                                 | 2214                           | 332 100 000                           | 96 587 964                          | 9 658 796  | 513 469 238 |
| Area around Mbekweni Station<br>(erven 557, 1526 & 1522)     | 0                      | 0  | 225                            | 33 750 000                            | 9 815 850                           | 981 585  | 44 547 435  |
| R301/R302 Buffer Strip<br>(erven 557, 3389 & 2316)           | 182                    | 28 132 286                                 | 198                            | 29 700 000                            | 8 637 948                           | 863 795  | 67 334 029  |
| Pentz Street<br>(erven 1680, 550 & 553)                      | 0                      | 0  | 935                            | 140 250 000                           | 40 790 310                          | 4 079 031  | 185 119 341 |

## **4 PROJECT ASSESSMENT**

### **4.1 Current and Proposed Housing Projects**

#### The Human Settlements

Department of the Drakenstein Municipality has put forward a number of current and proposed housing projects for inclusion in the Drakenstein Human Settlement Plan. The proposed projects include projects for which applications have been submitted to the Provincial Government: Western Cape for funding as well as projects proposed for the next 5 – 10 years.

The Table 7 provides a summary of all the current and proposed housing projects for the Drakenstein Municipality. Refer to Annexure C.

## 4.2 Western Cape Provincial Sustainability Criteria

The Western Cape Department of Housing has initiated a process of ensuring that housing implementation contributes to the creation of vibrant sustainable and integrated communities in the Western Cape. Municipal housing plans are often focused on setting housing projects and delivering numbers of units, with not enough attention being paid to location, quality and sustainability. In addition to the National Housing Policy *Breaking New Ground*, the Provincial Housing Sustainable Human Settlements Policy *Isidima* as well as the following new provincial housing objectives provide guidance to municipalities:

- Prioritising secure access to basic services
- Acquiring well-located land for well-planned Integrated Human Settlements
- Increasing densities of new housing developments
- Closing the gap in the property market
- Inculcating a sense of ownership
- Improving property management
- A fairer allocation of housing opportunities
- Reducing our carbon footprint
- Introducing a stronger co-ordinated and integrated approach to human settlement planning.

The Provincial Department of Housing is calling on all municipalities to revisit the housing chapters in their IDPs with a focus on delivering integrated sustainable human settlements, rather than only housing. This shift in policy includes the following:

- A shift from housing construction to “sustainable human settlements”;
- A shift to sustainable resource use; and
- A shift to real empowerment.

It is understood that all housing projects will in future be assessed on the contribution of such projects to creating integrated sustainable human settlements. Sustainability criteria were therefore developed and approved by the MEC on 1 April 2009, to assess new human settlement projects in the Western Cape. The criteria are a tool which assists in achieving the overarching goal of improved settlement performance; they in effect operationalise the principles set out in the strategy document. Principles such as economic sustainability, social sustainability and ecological sustainability underpin the criteria. It is important to note however, that the criteria will be applied as a filter prior to project approval, and therefore should be used as a planning tool and guide rather than a project approval tool. To this end the criteria are split in two; step 1) encompasses the prequalification criteria, which act as a funnel and step 2) the project benefits criteria which aims to evaluate to what degree the project makes an impact on the economic, social and environmental fronts.

In Step 1 (see Table 1), the prequalification criteria are applied and attempts to filter projects at the outset to ensure projects contribute to settlement sustainability, these criteria are based on:

- Evidence-based **demand** for housing
- **bulk capacity** for additional housing, or
- **funding** for the extra **bulk** services capacity required
- avoidance of critical **environmental risks**
- proximity to **economic opportunities**
- availability of **land**

Once the projects have demonstrated some basic adherence and contribution to improved sustainability, projects should display economic, social and environmental robustness as far as sustainability are concerned. In step 2, the criteria deal with whether the project addresses, inter alia, the following:

*Economic efficiency:*

- Enhancement of **economic opportunities**
- **land use** and **housing typology** variegation
- optimal use of **bulk infrastructure**
- **Innovation**

*Social Justice:*

- Access to **social amenities**
- Promotion of **social integration**
- **Community Participation**

*Ecological Integrity:*

**Ecologically sensitive** settlement **design** alternatives

The detailed criteria, objectives and indicators are set out in Annexure B and will be used as the basis for the following assessment of the current and proposed projects of the Drakenstein Municipality.

#### **4.3 Assessment of Current and Proposed Projects**

Table 8 below provides an overview of the assessment of the Municipality's current and proposed projects in terms of the provincial sustainability criteria, as outlined in the previous section. The assessment is done to inform project prioritization and future provincial funding applications. It is included in order to assist in the motivation for funding from PDoHS and, where necessary, highlights aspects that need to be further addressed in order to successfully access funding. It looks at the projects from a broad perspective, assessing which projects adhere to economic, social and ecological sustainability and the creation of vibrant sustainable integrated communities. Given that this is a five- year Business Plan, only the projects proposed by the Drakenstein Municipality for the next 1 – 5 years have been assessed. The projects proposed for the next 5 – 10 years have not been included in this assessment.

**Table 8: Assessment of Current and Proposed Projects**

| Project                 | Assessment in Terms of Sustainability Criteria<br>Step 1   | Assessment in Terms of Sustainability Criteria<br>Step 2  | Required procedures                             | Skills and resources required  | Prioritisation: Sustainability | Comments   |
|-------------------------|--|---|---|--------------------------------|--------------------------------|--|
| <b>Current Projects</b> |  |   |   |                                |                                |  |
| Mbekweni Siyazama       | Project almost complete  |   |   |                                |                                |  |
| Mbekweni Nompumelelo    | Project complete   |   |   |                                |                                |  |
| Mbekweni Drommedaris    | <p>Meets the following requirements:</p> <ul style="list-style-type: none"> <li>• Demand</li> <li>• Sufficient bulk services</li> <li>• Avoidance of environmental risks</li> </ul> <p>However, isolated from economic opportunities and insufficient public facilities in the area.</p> | <p>Choice in typology and medium density housing, but project will not meet all the criteria for economic efficiency, social justice and ecological integrity.</p> <ul style="list-style-type: none"> <li>• Limited access to economic opportunity and does not promote economic activity</li> <li>• Provision of social facilities not integrated within the project</li> <li>• No social integration</li> <li>• No evidence of ecologically sensitive settlement design alternatives</li> </ul> | Implementation underway                         | Requires full range of skills. | medium                         | Project already in progress. Intervention not possible at this stage.                                  |
| Wellington Noodkamp     | <p>Meets the following requirements:</p> <ul style="list-style-type: none"> <li>• Demand</li> <li>• Sufficient bulk services</li> <li>• Avoidance of environmental risks</li> </ul> <p>However, isolated from economic opportunities and insufficient public facilities in the area.</p> | <p>Choice in typology and medium density housing, but project will not meet all the criteria for economic efficiency, social justice and ecological integrity.</p> <ul style="list-style-type: none"> <li>• Limited access to economic opportunity and does not promote economic activity</li> </ul>  | Layout Design<br>EIA<br>Subdivision<br>Rezoning | Requires full range of skills. | medium                         | Project almost complete - different income groups, and ecologically sensitive design and alternatives. |

| Project             | Assessment in Terms of Sustainability Criteria   | Assessment in Terms of Sustainability Criteria  | Required procedures                 | Skills and resources required  | Prioritisation: Sustainability | Comments   |
|---------------------|--|---|-------------------------------------|--------------------------------|--------------------------------|--|
|                     | Step 1   | Step 2  |                                     |                                |                                |  |
|                     |  | <ul style="list-style-type: none"> <li>Provision of social facilities not integrated within the project</li> <li>No social integration</li> <li>No evidence of ecologically sensitive settlement design alternatives</li> </ul>   |                                     |                                |                                |  |
| Mbekweni White City | <p>Meets the following requirements:</p> <ul style="list-style-type: none"> <li>Demand</li> <li>Sufficient bulk services</li> <li>Avoidance of environmental risks</li> </ul> <p>However, isolated from economic opportunities and insufficient public facilities in the area.</p> | <p>Project will not meet all the criteria for economic efficiency, social justice and ecological integrity.</p> <ul style="list-style-type: none"> <li>Limited typologies</li> <li>Low density</li> <li>Limited access to economic opportunity and does not promote economic activity</li> <li>Provision of social facilities not integrated within the project</li> <li>No social integration</li> <li>No evidence of ecologically sensitive settlement design alternatives</li> </ul> | Implementation underway             | Requires full range of skills. | medium                         | Project already in progress. Intervention not possible at this stage.                            |
| <b>New Projects</b> |  |   |                                     |                                |                                |  |
| Carterville Balance | Project started – 150 outstanding units to be completed.   |   |                                     |                                |                                |  |
| Gouda               | <p>Meets the following requirements:</p> <ul style="list-style-type: none"> <li>Demand</li> <li>Sufficient bulk services</li> </ul>  | <p>Project will not meet all the criteria for economic efficiency, social justice and ecological integrity.</p> <ul style="list-style-type: none"> <li>Limited typologies</li> </ul>  | Layout Design<br>EIA<br>Subdivision | Requires full range of skills. | medium                         | Consideration should be given to introducing various typologies, facilitating economic and other |

| Project                                       | Assessment in Terms of Sustainability Criteria   | Assessment in Terms of Sustainability Criteria  | Required procedures                             | Skills and resources required  | Prioritisation: Sustainability | Comments  |
|---|--|---|---|--------------------------------|--------------------------------|---|
|   | Step 1   | Step 2  |   |                                |                                |   |
|   | <ul style="list-style-type: none"> <li>Avoidance of environmental risks</li> </ul> <p>However, isolated from economic opportunities and insufficient public facilities in the area.</p>  | <ul style="list-style-type: none"> <li>Low density</li> <li>Limited access to economic opportunity and does not promote economic activity</li> <li>Provision of social facilities not integrated within the project</li> <li>No social integration</li> <li>No evidence of ecologically sensitive settlement design alternatives</li> </ul>   | Rezoning  |                                |                                | opportunities, higher densities, catering for different income groups, and ecologically sensitive design and alternatives.  |
| Paarl East<br>Siyahlala 1 & 2                 | <p>Meets the following requirements:</p> <ul style="list-style-type: none"> <li>Demand</li> <li>Sufficient bulk services</li> <li>Avoidance of environmental risks</li> </ul> <p>However, isolated from economic opportunities and insufficient public facilities in the area.</p> | <p>Project will not meet all the criteria for economic efficiency, social justice and ecological integrity.</p> <ul style="list-style-type: none"> <li>Limited typologies</li> <li>Low density</li> <li>Limited access to economic opportunity and does not promote economic activity</li> <li>Provision of social facilities not integrated within the project</li> <li>No social integration</li> <li>No evidence of ecologically sensitive settlement design alternatives</li> </ul> | Layout Design<br>EIA<br>Subdivision<br>Rezoning | Requires full range of skills. | medium                         | Consideration should be given to introducing various typologies, facilitating economic and other opportunities, higher densities, catering for different income groups, and ecologically sensitive design and alternatives. |
| Paarl East<br>Lantana Street/<br>Kolbe Street | <p>Meets the following requirements:</p> <ul style="list-style-type: none"> <li>Demand</li> <li>Sufficient bulk services</li> </ul>  | <p>Project will not meet all the criteria for economic efficiency, social justice and ecological integrity.</p> <ul style="list-style-type: none"> <li>Limited typologies</li> </ul>  | Layout Design<br>EIA<br>Subdivision             | Requires full range of skills. | medium                         | Consideration should be given to introducing various typologies, facilitating economic and other  |

| Project                    | Assessment in Terms of Sustainability Criteria<br>Step 1   | Assessment in Terms of Sustainability Criteria<br>Step 2  | Required procedures                             | Skills and resources required  | Prioritisation: Sustainability | Comments  |
|----------------------------|--|---|---|--------------------------------|--------------------------------|---|
|                            | <ul style="list-style-type: none"> <li>Avoidance of environmental risks</li> <li>Proximity to economic opportunities</li> </ul> <p>However, isolated from economic opportunities and insufficient public facilities in the area.</p>   | <ul style="list-style-type: none"> <li>Low density</li> <li>Limited access to economic opportunity and does not promote economic activity</li> <li>Provision of social facilities not integrated within the project</li> <li>No social integration</li> <li>No evidence of ecologically sensitive settlement design alternatives</li> </ul>   | Rezoning  |                                |                                | opportunities, higher densities, catering for different income groups, and ecologically sensitive design and alternatives.  |
| Paarl East – Kingston Town | <p>Meets the following requirements:</p> <ul style="list-style-type: none"> <li>Demand</li> <li>Sufficient bulk services</li> <li>Avoidance of environmental risks</li> </ul> <p>However, isolated from economic opportunities and insufficient public facilities in the area.</p> | <p>Project will not meet all the criteria for economic efficiency, social justice and ecological integrity.</p> <ul style="list-style-type: none"> <li>Limited typologies</li> <li>Low density</li> <li>Limited access to economic opportunity and does not promote economic activity</li> <li>Provision of social facilities not integrated within the project</li> <li>No social integration</li> <li>No evidence of ecologically sensitive settlement design alternatives</li> </ul> | Layout Design<br>EIA<br>Subdivision<br>Rezoning | Requires full range of skills. | medium                         | Consideration should be given to introducing various typologies, facilitating economic and other opportunities, higher densities, catering for different income groups, and ecologically sensitive design and alternatives. |

| Project              | Assessment in Terms of Sustainability Criteria<br><br>Step 1   | Assessment in Terms of Sustainability Criteria<br><br>Step 2  | Required procedures                       | Skills and resources required  | Prioritisation: Sustainability | Comments  |
|----------------------|--|---|---|--------------------------------|--------------------------------|---|
| Paarl East Fairyland | <p>Meets the following requirements:</p> <ul style="list-style-type: none"> <li>• Demand</li> <li>• Sufficient bulk services</li> <li>• Avoidance of environmental risks</li> </ul> <p>However, isolated from economic opportunities and insufficient public facilities in the area.</p> | <p>Project will not meet all the criteria for economic efficiency, social justice and ecological integrity.</p> <ul style="list-style-type: none"> <li>• Limited typologies</li> <li>• Low density</li> <li>• Limited access to economic opportunity and does not promote economic activity</li> <li>• Provision of social facilities not integrated within the project</li> <li>• No social integration</li> <li>• No evidence of ecologically sensitive settlement design alternatives</li> </ul> | Subdivision and rezoning to be finalized. | Requires full range of skills. | medium                         | Consideration should be given to introducing various typologies, facilitating economic and other opportunities, higher densities, catering for different income groups, and ecologically sensitive design and alternatives. |

| Project                          | Assessment in Terms of Sustainability Criteria<br>Step 1   | Assessment in Terms of Sustainability Criteria<br>Step 2   | Required procedures          | Skills and resources required  | Prioritisation: Sustainability | Comments  |
|----------------------------------|--|--|------------------------------|--------------------------------|--------------------------------|---|
| <b>Social Housing</b>            |  |  |                              |                                |                                |   |
| District Paarl North- Nuiwedrift |  |  |                              |                                |                                |   |
| Paarl East Farm workers project  | Meets the following requirements: <ul style="list-style-type: none"> <li>• Demand</li> <li>• Sufficient bulk services</li> <li>• Avoidance of environmental risks</li> </ul> However, isolated from economic opportunities and insufficient public facilities in the area. | Project will not meet all the criteria for economic efficiency, social justice and ecological integrity. <ul style="list-style-type: none"> <li>• Limited typologies</li> <li>• Low density</li> <li>• Limited access to economic opportunity and does not promote economic activity</li> <li>• Provision of social facilities not integrated within the project</li> <li>• No social integration</li> <li>• No evidence of ecologically sensitive settlement design alternatives</li> </ul> | EIA investigations underway. | Requires full range of skills. | medium                         | Consideration should be given to introducing various typologies, facilitating economic and other opportunities, higher densities, catering for different income groups, and ecologically sensitive design and alternatives. |
| <b>Other Considered Projects</b> |  |  |                              |                                |                                |   |
| Paarl East Schoongezicht         | Meets the following requirements: <ul style="list-style-type: none"> <li>• Demand</li> <li>• Sufficient bulk services</li> <li>• Avoidance of environmental risks</li> </ul> However, isolated from economic opportunities and insufficient public facilities in the area. | Project will not meet all the criteria for economic efficiency, social justice and ecological integrity. <ul style="list-style-type: none"> <li>• Limited typologies</li> <li>• Low density</li> <li>• Limited access to economic opportunity and does not promote economic activity</li> <li>• Provision of social facilities not</li> </ul>  | Planning phase underway.     | Requires full range of skills. | medium                         | Consideration should be given to introducing various typologies, facilitating economic and other opportunities, higher densities, catering for different income groups, and ecologically sensitive design and alternatives. |

| Project                          | Assessment in Terms of Sustainability Criteria   | Assessment in Terms of Sustainability Criteria  | Required procedures  | Skills and resources required  | Prioritisation: Sustainability | Comments  |
|----------------------------------|--|---|--|--------------------------------|--------------------------------|---|
|                                  | Step 1   | Step 2  |  |                                |                                |   |
|                                  |  | <p>integrated within the project</p> <ul style="list-style-type: none"> <li>No social integration</li> <li>No evidence of ecologically sensitive settlement design alternatives</li> </ul>  |  |                                |                                |   |
| Paarl East Dal Josafat           | <p>Meets the following requirements:</p> <ul style="list-style-type: none"> <li>Demand</li> <li>Sufficient bulk services</li> <li>Avoidance of environmental risks</li> </ul> <p>However, isolated from economic opportunities and insufficient public facilities in the area.</p> | <p>Limited social integration but project will not meet all the criteria for economic efficiency, social justice and ecological integrity.</p> <ul style="list-style-type: none"> <li>Limited typologies</li> <li>Low density</li> <li>Limited access to economic opportunity and does not promote economic activity</li> <li>Provision of social facilities not integrated within the project</li> <li>No evidence of ecologically sensitive settlement design alternatives</li> </ul> | <p>Layout Design</p> <p>EIA</p> <p>Subdivision</p> <p>Rezoning</p> | Requires full range of skills. | medium                         | Consideration should be given to introducing various typologies, facilitating economic and other opportunities, higher densities, catering for different income groups, and ecologically sensitive design and alternatives.   |
| Paarl East Next to swimming pool | <p>Meets the following requirements:</p> <ul style="list-style-type: none"> <li>Demand</li> <li>Sufficient bulk services</li> <li>Avoidance of environmental risks</li> </ul> <p>However, isolated from economic opportunities and insufficient public facilities in the area.</p> | <p>Limited social integration but project will not meet all the criteria for economic efficiency, social justice and ecological integrity.</p> <ul style="list-style-type: none"> <li>Limited typologies</li> <li>Low density</li> <li>Limited access to economic opportunity and does not promote economic activity</li> </ul>   | Tender documents being prepared.                                   | Requires full range of skills. | medium                         | Assess possibility for intervention in order to give consideration to the following: introducing various typologies, facilitating economic and other opportunities, higher densities, catering for different income groups, and ecologically sensitive design and alternatives. |

| Project                        | Assessment in Terms of Sustainability Criteria   | Assessment in Terms of Sustainability Criteria  | Required procedures              | Skills and resources required  | Prioritisation: Sustainability | Comments   |
|--------------------------------|--|---|----------------------------------|--------------------------------|--------------------------------|--|
|                                | Step 1   | Step 2  |                                  |                                |                                |  |
|                                |  | <ul style="list-style-type: none"> <li>Provision of social facilities not integrated within the project</li> <li>No evidence of ecologically sensitive settlement design alternatives</li> </ul>  |                                  |                                |                                |  |
| Daleville<br>Next to garage    | <p>Meets the following requirements:</p> <ul style="list-style-type: none"> <li>Demand</li> <li>Sufficient bulk services</li> <li>Avoidance of environmental risks</li> </ul> <p>However, isolated from economic opportunities and insufficient public facilities in the area.</p> | <p>Limited social integration but project will not meet all the criteria for economic efficiency, social justice and ecological integrity.</p> <ul style="list-style-type: none"> <li>Limited typologies</li> <li>Low density</li> <li>Limited access to economic opportunity and does not promote economic activity</li> <li>Provision of social facilities not integrated within the project</li> <li>No evidence of ecologically sensitive settlement design alternatives</li> </ul> | Tender documents being prepared. | Requires full range of skills. | medium                         | <p>Assess possibility for intervention in order to give consideration to the following:</p> <p>introducing various typologies, facilitating economic and other opportunities, higher densities, catering for different income groups, and ecologically sensitive design and alternatives</p> |
| Mbekweni<br>Next to Max Garage | <p>Meets the following requirements:</p> <ul style="list-style-type: none"> <li>Demand</li> <li>Sufficient bulk services</li> <li>Avoidance of environmental risks</li> </ul> <p>However, isolated from economic opportunities and insufficient public facilities in the area.</p> | <p>Limited social integration but project will not meet all the criteria for economic efficiency, social justice and ecological integrity.</p> <ul style="list-style-type: none"> <li>Limited typologies</li> <li>Low density</li> <li>Limited access to economic opportunity and does not promote</li> </ul>   | Tender documents being prepared. | Requires full range of skills. | medium                         | <p>Assess possibility for intervention in order to give consideration to the following:</p> <p>introducing various typologies, facilitating economic and other opportunities, higher densities, catering for different income groups, and ecologically</p>                                   |

| Project              | Assessment in Terms of Sustainability Criteria<br>Step 1 | Assessment in Terms of Sustainability Criteria<br>Step 2   | Required procedures | Skills and resources required | Prioritisation: Sustainability | Comments                          |
|----------------------|--|--|---------------------|-------------------------------|--------------------------------|-----------------------------------|
|                      |  | economic activity <ul style="list-style-type: none"> <li>• Provision of social facilities not integrated within the project</li> <li>• No evidence of ecologically sensitive settlement design alternatives</li> </ul> |                     |                               |                                | sensitive design and alternatives |
| Paarl East Springbok | Redevelopment of flats                                   |  |                     |                               |                                |                                   |

## 5 CONSOLIDATED MULTI-YEAR PROGRAMME & BUDGET

The following table provides a multi-year programme and budget for the proposed sustainable housing projects for Drakenstein Municipality. It includes the pilot projects put forward in the HSP Strategy as well as the Municipality's current and proposed projects that meet the PDoHS sustainability criteria. The table therefore represents a proposed consolidated multi-year budget for the Municipality.

As stated in Section 2.2, it has been requested at a political level for the Kraal project not to be included as part of the Business Plan. This project was unpacked in the previous sections but any further planning needs to be undertaken in consultation with the key players involved. It has therefore not been included in the multi-year programme and budget. It is also important to note that the Drakenstein Municipality's proposed projects for the next 5 – 10 years have not been included in this multi-year programme and budget as it is essentially a five- year programme and budget and the DORA budget is already exceeded.

The following should be noted:

- FLISP/GAP housing units to be developed by a private developer or development agency.
- The cost of land, bulk services and additional facilities for the suggested pilot projects has not been calculated. It has been estimated that the sewer, water, roads and stormwater, electricity and solid waste bulk infrastructure for the next 5 years will cost R1,403,050,000 with an estimated budgetary shortfall of R922,230,000 (Drakenstein Municipality, 2010).
- The actions required to set in place the pre-conditions for detailed planning, design and development of the pilot projects have been started in terms of programmes and some not and need to be undertaken in the next financial year. These actions are outlined in the Drakenstein HSP: Policy & Strategy Framework.
- Small projects of 200 units or less have been scheduled over a three-year period, allowing for detailed planning and design in the first year (10%) and implementation over two years (75% in second year and 15% in third year).
- Medium projects of between 200 – 1000 units have been scheduled over a four year period, allowing for detailed planning and design in the first year (10%) and implementation over three years (50% in the second year, 30% in the third year and 10% in the fourth year).
- Large projects of 1 000 units or more have been scheduled over a seven-year period, allowing for detailed planning and design in the first three years (5%, 10%, 5%) and for implementation to start in the third year (15%, 20%, 20%, 10%).
- The detailed planning and design phases mentioned above include the processes for rezoning, subdivision, EIA, HIA and TIA etc. Whilst the scale of the project does not necessarily influence the timeframe of the legislative processes, it is assumed that the detailed planning and design of a 'large scale mixed use development' which includes various housing typologies will take longer than a smaller project and is also likely to be completed in several phases.
- The prioritization of the Drakenstein Municipality's current and proposed housing projects is proposed by the Municipality's Human Settlements Department and the prioritization has to be approved by

Council. The projects are reflected in the consolidated multi-year budget and are listed in order of priority.

- Estimated project costs are provided and the number of potential housing units for each site was used to calculate estimated costs for purposes of completing the draft multi-year business plan. The estimated project costs are not exhaustive and are likely to change in the detailed planning and design phase of the projects or once the Municipality has verified its own estimates. The estimated costs were based on the same assumptions and industry averages used to calculate the estimated costs for the pilot projects (as outlined in section 3.7).

**Refer to the table 7 given above.**

## **6 IMPLEMENTATION AND INTEGRATION**

During the course of the preparation of the Human Settlement Plan for the Cape Winelands District, a number of cross-cutting issues related to implementation have been identified. These issues were discussed at a workshop which was facilitated as part of this phase between the CW District, its constituent municipalities as well as the Provincial Government: Western Cape. It was agreed at this workshop that these issues need to be urgently addressed or further investigated and that ongoing and improved co-ordination between the three spheres of government will be key in addressing blockages and concurrency. The need for National Government to assist in addressing some of these issues was also highlighted. The cross-cutting issues are:

- Land Policy and Management (accessing public land; acquiring private land; land-swopping, etc).
- Housing funding allocation to municipalities, the cost of funding integrated sustainable human settlements and accessing other funding sources (MIG, NDPG, etc).
- Concurrent delivery of community facilities with housing.
- Funding of bulk infrastructure and upgrade of infrastructure in established areas.
- Capacity building and training of staff in the application of the principles of BNG and Isidima, housing instruments, funding sources and partnering with the private sector, housing typologies and best practice in settlement restructuring and housing management.
- The responsibility of municipalities to cater for the Gap market and the potential role of the District Municipality in terms of regional co-ordination of role players and or investors and management agents.
- The need for improved information management regarding the housing market and beneficiaries.

In addition to the above, the following issues related to the implementation of the Human Settlement Plan are specifically relevant to the Drakenstein Municipality:

- The current DORA allocation is not sufficient to meet the demand in the Drakenstein Municipality.
- The implications for focusing housing delivery in Paarl-Mbekweni-Wellington and how to address the demand and expectations in smaller settlements and rural areas.
- The lack of well-located land available to achieve significant integration in the towns of Paarl and Wellington, specifically looking at subsidized housing.

- The need to upgrade existing bulk infrastructure and address the financial implications thereof prior to the implementation of the HSP.
- Institutional capacity constraints with regard to housing delivery.
- The need to investigate and identify other funding sources e.g. employee housing.
- The need to establish partnerships with the private sector and relevant organizations such as the DBSA.
- The need to create awareness and empowerment amongst beneficiaries.
- The need to align internal processes and budgets and to establish an Inter-Departmental Steering Committee to co-ordinate all housing projects.

The purpose of preparing a multi-year budget and programme is also to ensure improved integration of inter-departmental strategies and budgets and to facilitate better planning and co-ordination between all spheres of government. In this regard the multi-year programme and budget has also highlighted certain implications for the municipal IDP and provincial departments. The implications of the proposed pilot projects for the municipal IDP are set out in Table 10 below whereas Table 11 sets out the implications for the provincial departments.

**Table 10: Pilot Projects: Implications for IDP**

| Project Title                | No of units including gap housing | Estimated Timeframe (estimated start date to completion date) | Water Services Plan               | Integrated Waste Management Plan (including sewerage, storm water, solid waste) | Integrated Environmental Management Plan   | Local Economic Development           | Integrated Transport Plan             | Other   |
|------------------------------|-----------------------------------|---|-----------------------------------|---|--|--------------------------------------|---------------------------------------|---|
| Area around Paarl Station    | 270                               | 2014 – 2017   | Bulk capacity to be investigated. | Bulk capacity to be investigated.   | None.                                      | None.                                | None.                                 | Land acquisition and/or other specific role of municipality needs to be determined in facilitating GAP housing by private sector. |
| Vlakkeland                   | 4624                              | 2011 – 2018+  | Bulk capacity to be investigated. | Bulk capacity to be investigated.   | Environmental constraints to be determined | Development of local business sites. | Access and integration with R301/303. | Land acquisition.   |
| Area around Mbekweni Station | 225                               | 2014 - 2017   | Bulk capacity to be investigated. | Bulk capacity to be investigated.   | Environmental constraints to be determined | None.                                | None.                                 |   |
| R301/R302 Buffer Strip       | 380                               | 2014 - 2017   | Bulk capacity to be investigated. | Bulk capacity to be investigated.   | None.                                      | Development of local business sites. | Access and integration with R301/303. | Land acquisition.   |
| Pentz Street                 | 935                               | 2014 - 2018   | Bulk capacity to be investigated. | Bulk sewerage capacity needs to be upgraded.                                    | None.                                      | None.                                | None.                                 | Land acquisition from Dept of Public Works  |

**Note: The proposed 'Die Kraal' pilot project is not included at this stage given the concerns raised regarding the future use of the site. Refer to end of Section 2.2.**

**Table 11: Pilot Projects: Implications for Provincial Departments**

| Project Title                | Estimated Timeframe (estimated start date to completion date) | Education                                    | Transport                      | DEA&DP   | Health | Public Works                            | Dept of Agric  | Other   |
|------------------------------|---|--|--------------------------------|--|--------|---|--|---|
| Area around Paarl Station    | 2014 – 2018   | None.  | None.                          | None.  | None.  | None.                                   | None.  | Heritage Western Cape permission required.                              |
| Vlakkeland                   | 2011 – 2018+  | 3 x Primary Schools<br>2 x Secondary Schools | Approval of rezoning required. | ROD required.<br><br>Funding approval.   |        | 1 x Old Age Home<br>1 x Children's Home | Approval of rezoning required. Also from National Department of Agriculture. | Heritage Western Cape permission required.                              |
| Area around Mbekweni Station | 2014 - 2017   | None.  | None.                          | ROD required.<br><br>Approval of rezoning (falls within Mbekweni and portion zoned POS)<br><br>Funding approval. | None.  | None.                                   | None.  | Heritage Western Cape permission required.<br><br>PRASA input required. |

| Project Title          | Estimated Timeframe (estimated start date to completion date) | Education  | Transport                      | DEA&DP  | Health | Public Works | Dept of Agric | Other                                      |
|------------------------|---|--|--------------------------------|---|--------|--------------|---------------|--|
| R301/R302 Buffer Strip | 2014 - 2017   | None.  | Approval of rezoning required. | ROD required.<br><br>Approval of rezoning (falls within Mbekweni).<br><br>Funding approval. | None.  | None.        | None.         | Heritage Western Cape permission required. |
| Pentz Street           | 2014 - 2018   | Approval of rezoning required. Land reserved for educational purposes. | None.                          | ROD required.<br><br>Approval of rezoning (portion zoned POS).<br><br>Funding approval.     | None.  | None.        | None.         | Heritage Western Cape permission required. |

## **7 CONCLUSION**

The focus of this report is to unpack the pilot project proposals and putting forward the development potential of each pilot project site in order to prepare a multi-year programme and budget. This multi-year budget includes the current and proposed projects which are likely to meet the PDoHS sustainability criteria.

This business plan therefore provides a Human Settlement Plan which should be refined and developed in line with other departments through inter-departmental co-ordination and in consultation with the affected communities as part of the IDP chapter. Drakenstein HSP forms part of the IDP Housing Chapter.

## 8 REFERENCES

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## 9 ANNEXURES

### Annexure A: Summary of housing and other funding instruments

| Intervention Category  | Description  |
|--|--|
| <p><b>1. Financial Instruments facilitating Human Settlement Development</b></p> <p>Funds and Programmes that facilitate access to housing goods and services</p>          | <ul style="list-style-type: none"> <li>i. Individual Housing Subsidies: Credit and Noncredit linked (R0 – R3 500 income group)</li> <li>ii. Integrated Residential Development Programme (project linked subsidy)</li> <li>iii. Consolidation Subsidy (for top structures on serviced sites)</li> <li>iv. Relocation Subsidies (allows the borrower to 'right size')</li> <li>v. Institutional Subsidies (includes transitional subsidies, allocated to housing institutions esp. for rental/social housing)</li> <li>vi. Enhanced Extended Discount Benefit Scheme</li> <li>vii. Rural subsidies (used to provide functional tenure as opposed to full title)</li> <li>viii. FLISP: to assist first time home owners earning between R3500-R7000</li> <li>ix. Community Residential Unit (funding to upgrade of hostels or other rental stock owned by government)</li> </ul>   |
| <p><b>2. Housing Supply Methods and Instruments</b></p> <p>Programmes that address different housing needs and facilitate access to a variety of housing opportunities</p> | <ul style="list-style-type: none"> <li>i. Incremental/formal housing (phased process of housing supply, often starting with tenure and services)</li> <li>ii. People's Housing Process (beneficiaries build or manage the building of their houses, which affords greater choice of the top structure)</li> <li>iii. Social Housing (run by housing institution and facilitates development of rental stock)</li> <li>iv. Community Residential Units Programme aims to deliver secure rental tenure for low income persons</li> <li>v. Rectification of Houses (post 1994 housing stock through subsidy or post 2002 through NHBRC managed process)</li> <li>vi. Emergency Housing Programme (provides temporary shelter and services for exceptional circumstances)</li> <li>vii. Special Needs Projects (such as those who are orphans, seriously ill, disabled, street children/adults) often tied to the Dept. of Welfare or Health</li> <li>viii. Upgrade of Informal Settlements Programme</li> </ul> |
| <p><b>3. Provision of Social and Economic Amenities</b></p> <p>Funding and programmes for social and economic amenities</p>  | <ul style="list-style-type: none"> <li>i. Programme for the provision of social and economic facilities (WC Dept. of Local Government and Housing)<br/>Provides funding for provision of facilities such as community halls, taxi ranks, sports facilities, clinics, parks, trading areas, etc</li> <li>ii. Neighbourhood Development Partnership Grant (Dept. of National Treasury)<br/>Funds capital expenditure and technical assistance for township</li> </ul>  |

|   |  |
|---|--|
|   | renewal and redevelopment. Projects include catalytic economic development projects but also urban greening initiatives  |
| <b>4. Municipal Infrastructure</b>      | <p>Municipal Infrastructure Grant provides funding for the following Infrastructure</p> <ul style="list-style-type: none"> <li>a. Electricity</li> <li>b. Water supply</li> <li>c. Sanitation</li> <li>d. Storm water management</li> <li>e. Municipal roads</li> <li>f. Refuse removal</li> <li>g. Street lighting</li> </ul>   |
| <b>5. Miscellaneous Funding Sources</b> | <ul style="list-style-type: none"> <li>i. Bilateral Donor Agencies (DFID, SIDA, USAID, etc)</li> <li>ii. National Housing Finance Corporation</li> <li>iii. Social housing foundation</li> <li>iv. Corporate Social Responsibility funds (bridging finance etc)</li> <li>v. Employer Housing (employer housing stock)</li> <li>vi. Employer Assistance Housing (loans with larger employers who have access to pension and provident funds)</li> </ul> |

Sources:

- a. NDGP Toolkit 1 of 1.
- b. Integrated and Sustainable Human Settlements: A guide for the IDP Human Settlement Plan. Guidelines for the provision of Social and Economic Amenities within the Housing Development Context
- c. MIG: 2004-2007 from programmes to projects to sustainable services

## Annexure B: Assessment of overall need of public facilities: Paarl-Mbekweni-Wellington

|   | Population Threshold max     | Travelling Distance/ time         | Site Space     | Location Criteria  | Issues and Considerations   | Need for facility |
|---|------------------------------|-----------------------------------|----------------|--|---|-------------------|
| <b>EDUCATION</b>                          |                              |                                   |                |  |   |                   |
| Crèche- low income area                   | 2400                         | 750                               | 130m2 to 500m2 | Easy walking distance from residences and places of work                   | Where demand is indicated population profile should be considered                               | 80                |
| Crèche- high income area                  | 3600                         |                                   |                |  |   | 54                |
| Primary School                            | 6000                         | 1500m                             | 2ha            | Public transport near to but not on main roads accessible by several modes |   | 32                |
| Secondary School                          | 10000                        | max 30 min                        | 3ha            |  |   | 19                |
| Special Needs                             | Regional Demand driven       |                                   |                |  |   |                   |
| Places of safety-home or detention centre | Regional Demand needs driven |                                   |                |  |   |                   |
| <b>PUBLIC SERVICES AND INSTITUTIONS</b>   |                              |                                   |                |  |   |                   |
| Municipal Offices                         | 50000                        | 15-30 mins                        | Min 3000m2     | Urban node- high levels of exposure, accessible by public transport        |   | 4                 |
| Post Office                               | 10000                        | 30-40mins                         | 80-100m2       | Shopping area accessible   |   | 19                |
| Police Station                            | 25000                        | 5km 15min response time           | 0.1-1ha        | Urban nodes and central to communities served, should be on main arterials | Population threshold of 25000 ideal but proved not to be feasible in larger metropolitan areas. | 8                 |
| Fire Station                              | 30000                        | Response time major consideration | 1.2ha          | On arterial away from congested areas                                      | Needs to be ITO risk  | 6                 |
| Home Affairs (mobile)                     | <20000                       | 60 min                            |                |  |   | 10                |
| Home Affairs (permanent)                  | 20000                        | 30mins                            |                |  | max 30000 persons   | 10                |

|                                 |        |            |   |   |   |    |
|---------------------------------|--------|------------|---|---|---|----|
| Home Affairs District Office    | 60000  |            |   |   | max 80000 persons   | 3  |
| Multi Purpose Community Centres | 22000  | 15 mins    | unique  |   | At least one per district and metropolitan muni. Communities can identify services according to needs | 9  |
| Town Hall                       | 50000  | 20mins     |   | major urban node  | max 500000  | 4  |
| Old Age Homes                   | 50000  |            |   | accessible by public transport  | Requires further investigation according to community profile   | 4  |
| Children's Homes                | 50000  |            |   | near schools libraries and daycare centres  | Provision in terms of development framework and statistics regarding homeless children                | 4  |
| HIV/Aids Centre                 | 250000 |            |   | accessible by public transport  |   | 1  |
| <b>HEALTH FACILITIES</b>        |        |            |   |   |   |    |
| Mobile Clinic                   | 5000   | 1000m      |   | Should be within walking distance   | Type of clinic depends on population density & community needs  | 39 |
| Satellite Clinic                | 10000  |            | 0.2-0.5ha   | Should be within 5 min walk from public transport stop/ or near public transport interchange              | Type of clinic depends on population density & community needs  | 19 |
| Static Clinic                   | 30000  | 1000-4000m | 0.5ha   |   |   | 6  |
| Community Health Centre         | 30000  | 2000-5000m |   | 1-2.5ha & space for ARV clinic  |   | 6  |
| <b>SOCIAL FACILITIES</b>        |        |            |   |   |   |    |
| Library                         | 35000  | 3-4km      | 0.1-0.2ha<br>Floor space<br>595m2 min-<br>2450m2<br>optimum | within walking distances or at least 5 min from public transport stop clustered with community facilities | min 12000 books per 20000 population. No more than 70000 people should be served by a lib             | 6  |
| Library Mobile                  | 2000   | 1km        |   |   |   | 97 |
| Community Hall                  | 15000  | 1.5-2.2km  | 0.2-0.5ha   | within walking distances or at least 5 min from public transport stop clustered with community facilities |   | 13 |

|   |                             |                                       |   |  |   |     |
|---|-----------------------------|---------------------------------------|---|--|---|-----|
| Religious Centre Established                | 2100                        | 2km                                   | 1200-5000m2   |  |   | 92  |
| Religious Centre Transient                  | 700                         | 1km                                   | 200-100m2   |  | Size depends on affordability of group and facilities attached. Can be accommodated in community halls or schools   | 276 |
| <b>RECREATIONAL &amp; SPORT FACILITIES*</b> |                             |                                       |   |  |   |     |
| District                                    | 30000                       |                                       |   | Along public transport routes serving two or more neighbourhoods adjacent or in close proximity to secondary schools   |   | 6   |
| Community                                   | 5000                        |                                       |   | Along community level public transport routes- proximity to schools  | Designed to enable multipurpose use social aspects around use must be considered  | 39  |
| Local /Neighbourhood                        | 7700                        |                                       | varies  |  | or 1 per 3 primary schools  | 25  |
| Swimming Pools                              | 60000                       |                                       | 15-30min  |  | 60000 threshold is for CCT - 1 per town perhaps more appropriate  | 3   |
| <b>CULTURAL OPEN SPACES</b>                 |                             |                                       |   |  |   |     |
| Food Gardens                                | 6000                        | Close proximity to homes of gardeners | Example: 2500m2- 20 plots of 100m2 & additional 500m2 for paths and sheds | Close to existing need, security availability part of green open space system. Close to natural sources of irrigation, under power lines or in servitudes where protected from competing land uses | More applicable to low income areas as this activity is a survival strategy. Important to identify potential practitioners and allocate resources amongst them as demand may outweigh supply. Different forms of land ownership and leasing may need to be explored<br>Availability of water for irrigation<br>NB | 32  |
| Livestock                                   | Depends on number of owners |                                       | 600 owners could keep 3 animals each on 50 ha                             | Community kraals and commonage on urban edge   | Feasibility and desirability must be investigated,  |     |

|                           |                            |       |  |  |   |     |
|---------------------------|----------------------------|-------|--|--|---|-----|
| Market- Trading           | 5000                       | 2-6km | 0.28ha -4ha  | accessible by public transport, near ranks or transport interchanges, at designated business areas/zones                                       | Must be in line with pedestrian flows, hygiene considerations for some product (e.g. fish) is important.                          | 39  |
| Cemetery                  | Depends on regional demand |       | 200 graves per ha or 5m2 per grave plus additional 10% for circulation | 15.6ha over a 30 year period (assumes annual death rate of 1.5% per 100000, no reburials for at least 30 years and that 63% of dead are buried | High water table constraints, additional capacity in current cemeteries. Can potentially form part of usable open space provision |     |
| <b>PARKS</b>              |                            |       |  |  |   |     |
| General Public Open Space | 1000                       |       | 0.38   | Clustering   | Access is also an issue   | 193 |

| Facility                          | Access distance km | Access travel time | Optimum size/dimensions | Location Criteria  | Key Issues   | Number needed |
|-----------------------------------|--------------------|--------------------|-------------------------|--|--|---------------|
| <b>PARKS ACCESSIBILITY</b>        |                    |                    |                         |  |  |               |
| Community Park Multifunctional    | 1.5                |                    | 1-2ha                   |  |  | 4             |
| Community Park Single Function    | 0.75               |                    | 450-1200m2              |  |  | 0             |
| Play Pocket/Park                  | 0.3                |                    | 450m2                   | Easy surveillance from surrounding houses critical                 | Can be located within larger parks preferably located within other facilities 15m width and 30m length for better surveillance | 0             |
| Built Open Spaces                 |                    |                    |                         | Mixed use higher density areas commercial nodes and special places | Have different levels of significance and functions separate from sports facilities  |               |
| <b>Sports facility dimensions</b> |                    |                    |                         |  |  |               |
| Soccer                            | 65x105             | 6825m2             |                         |  |  |               |
| Rugby                             | 69x125             | 8625m2             |                         |  |  |               |
| Cricket                           | 128x128            | 16384m2            |                         |  |  |               |
| Hockey                            | 50x87              | 4350m2             |                         |  |  |               |
| Volleyball                        | 9x18m2             | 162m2              |                         |  |  |               |
| Basketball                        | 14x26m             | 364m2              |                         |  |  |               |
| Netball                           | 15x30m             | 450m2              |                         |  |  |               |

**Source:** CSIR, 2007: Schedule of Standards and Guidelines for the Spatial Provision and development of social facilities, public institutions and Public Open Space in Cape Town.

## Annexure C: Western Cape Provincial Government: Project Sustainability Criteria

Table 2 Step 1 Pre-qualification Criteria

| Pre-Qualification Criteria  | Key objectives   | Instrument calibration and measurements  |
|---|--|--|
| A clear indication of housing / human settlement upgrading need exists  | To ensure adequate planning of housing demand and supply has taken place (i.e. ensure there is political support and that municipality has applied their mind to assessing need and costs) | <ul style="list-style-type: none"> <li>• Provision of a list of project / community beneficiaries</li> <li>• Record of municipal Council decision<sup>1</sup> which supports implementation of project in principle<sup>2</sup></li> <li>• Housing plan contained in the IDP and SDF (or compliant with SDF principles)</li> </ul> |
| Evidence that sufficient funding is provided for bulk services  | To ensure that the project has been factored into the budget cycle of relevant spheres of government   | <ul style="list-style-type: none"> <li>• Documentation showing budgetary commitment by relevant spheres to cover key project costs factors (planning, land, bulk services, top structure etc.)</li> </ul>  |
| Existence of sufficient bulk infrastructure capacity to accommodate demand from project, or approved plans in place to upgrade infrastructure | To avoid bottlenecks created by insufficient bulk infrastructure   | <ul style="list-style-type: none"> <li>• Evidence of existing bulk infrastructure capacity adequate to accommodate forecast additional demand, or plans to upgrade infrastructure which have been approved by DEADP</li> </ul>   |
| Disaster management and avoidance of critical environmental risks   | To ensure that adequate disaster management takes place and that environmental disasters and loss of life are avoided or minimised   | <ul style="list-style-type: none"> <li>• Existence of geo-technical study – a standard requirement</li> <li>• Environmental scoping report (not full-blown EIA) indicating no significant environmental risks – This only applies if legislation requires an EIA</li> </ul>  |
| Proximity to nearest centre of economic opportunities   | Maximise local community job creation and small business opportunities resulting from project  | <ul style="list-style-type: none"> <li>• Map submitted by municipality to show location of project is within X km of<sup>3</sup>: <ul style="list-style-type: none"> <li>○ PHC clinic</li> <li>○ Economic hub</li> <li>○ Primary school</li> </ul> </li> <li>• Compliance with Provincial Government EPWP guidelines</li> </ul>    |

<sup>1</sup> In case of CCT, decision of Housing Portfolio Committee.

<sup>2</sup> Where possible, also a decision to budget the necessary funds, and indication from the Council that the municipality has the capacity to maintain basic services following project implementation. Only a decision of support in principle is required.

<sup>3</sup> Perhaps travel time instead of distance?

**Table 3: Step 2 Criteria for evaluating housing project benefits**

| <b>Key objectives</b>   | <b>Criteria</b><br>(based upon provincial guidelines of PSDF, MEDS and integrated with settlement specific requirements)  |
|---|---|
| <b>A: Economic efficiency (PROSPERITY)</b>  |   |
| Enhance economic security and/or promote employment (job creation)                  | Access to economic opportunities <ul style="list-style-type: none"> <li>▪ Proximity to relevant employment opportunities (e.g. low and medium skilled)</li> </ul>   |
| Promote an “affordable” range of options (context of generally very poor customers) | Ability to leverage additional resources <ul style="list-style-type: none"> <li>▪ Ability to mobilise commercial housing finance</li> <li>▪ Cross subsidisation of housing by other developments</li> <li>▪ Mixed uses including commercial, business industry (hives)</li> <li>▪ Mixed income communities</li> </ul>   |
| Promote optimal use of space and infrastructure                                     | Extent of bulk infrastructure (existing): <ul style="list-style-type: none"> <li>▪ Bulk services e.g. water, sewerage, electricity and roads</li> <li>▪ Transport capacity, including public transport linkages</li> </ul>  |
|   | Provision of higher density housing which supports efficiencies such as along major routes (e.g. public transport corridors/ routes/ interchanges), around open spaces, and underdeveloped sites with development potential   |
| Promoting economic activity and SMME’s  | Layout and/or design promoting and/or supporting economic activities e.g. <ul style="list-style-type: none"> <li>▪ Support to small business sector development and building connections between the second and first economy</li> <li>▪ Extent to which make provision for commercial/SMME activities (e.g. innovative designs and layouts which provide commercially feasible formal and informal small business premises and trading areas)</li> </ul> |
| Fostering creativity  | Ability/measures to reduce risk and enhance access to commercial housing credit (redress red-lining)  |
|   | Application of alternative construction methods to promote cost efficiency and/or employment creation   |
| <b>B. Social justice (PEOPLE)</b>   |   |
| Quality of life and access to resources   | Improved access to social development resources- reliable basic services (education, recreational, cultural, health, welfare & policing) <i>NB: This could be achieved through the quality of the design (for example: the strategic location of the project close to such amenities and/or through the provision for the amenities within the overall project development plans.)</i>  |
| Promoting social & spatial integration  | Proximity and/or linkages with other income or social groups/communities (extent of integrated/mix communities and income groups (in close proximity))  |
| Building communities (including: upgrading of informal                              | Involvement of communities at an early stage in planning process and establishment / implementation phases<br><br><i>Note: Evidenced by: records of community consultation; provision of</i>  |

|   |   |
|---|---|
| settlements)  | <i>beneficiary lists; community management and ownership structures and plans (e.g. community forums, body corporate &amp; trusts)</i>      |
|   | Provision of social facilities and amenities integrated within the project (new)  |
| <b>C: Ecological integrity (PLANET)</b>   |   |
| Attaining sustainability (e.g. Incorporating ecologically sensitive settlement design alternatives) | Compatibility with existing cultural landscapes, artefacts and buildings  |
|   | Application of building materials to conserve costly resources (recycling, insulation, solar heating etc.)                                  |
|   | Demonstrate the minimisation of the consumption of scarce environmental resources: water and electricity                                    |
|   | Promote ecologically sensitive settlement design alternatives (e.g. water saving potential, waste disposal, power, appropriate orientation) |
|   | Must have EIA (if relevant)   |

Source: Sustainability criteria for assessment of IRDP, PHP, and UISP Projects

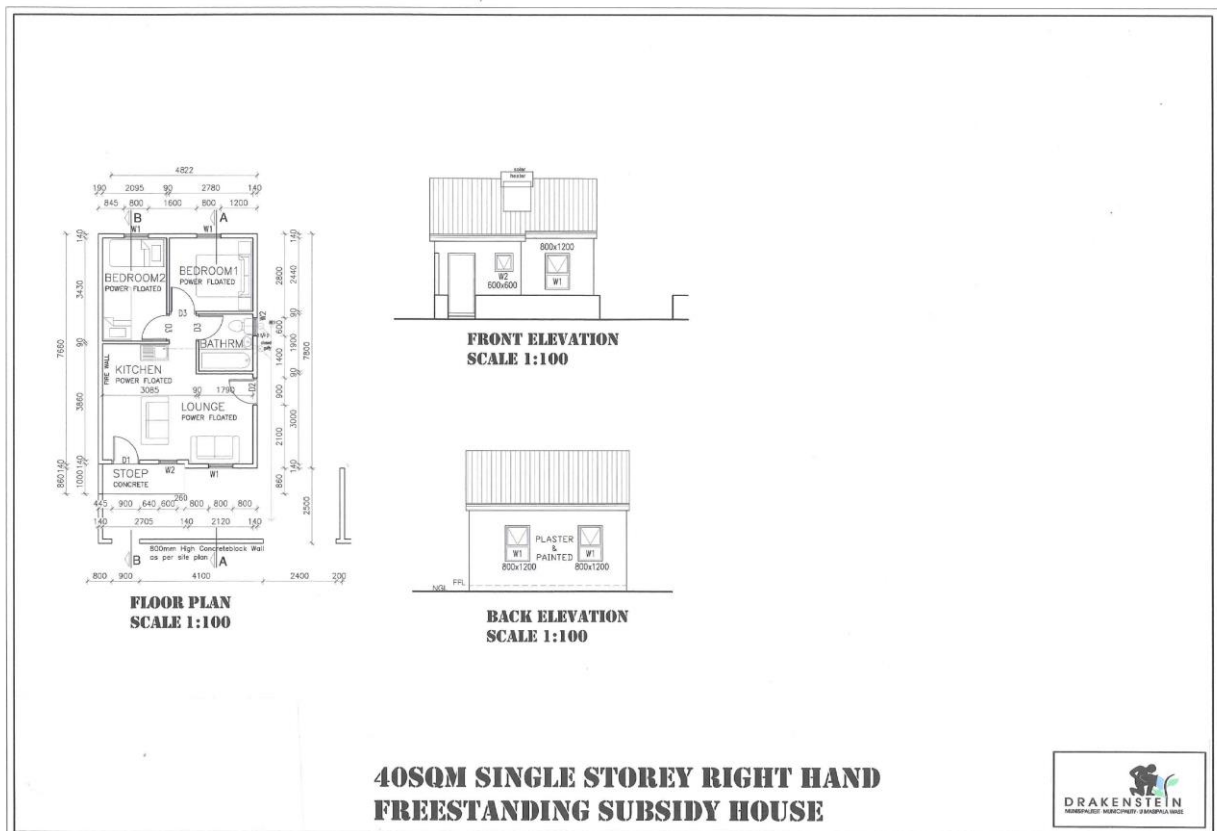
**Annexure D: PIPELINE PROJECTS**

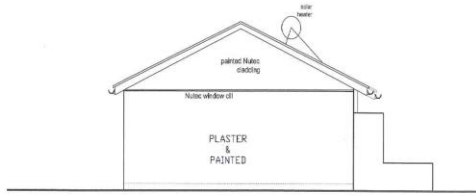
**Annexure E: MINIMUM STANDARDS FOR THE CONSTRUCTION OF SUBSIDY HOUSING**

# SPECIFICATION FOR A SINGLE STOREY 40 M<sup>2</sup> BNG HOUSE

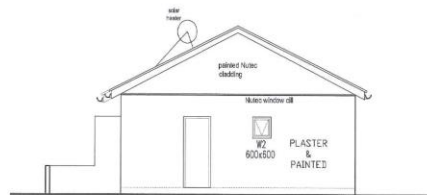
April 2014

## 40 SQM SINGLE STOREY SUBSIDY HOUSE

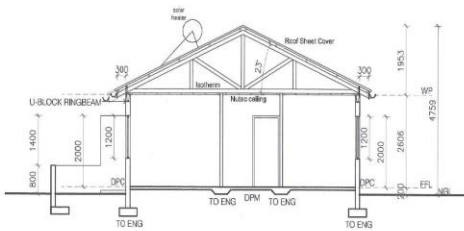




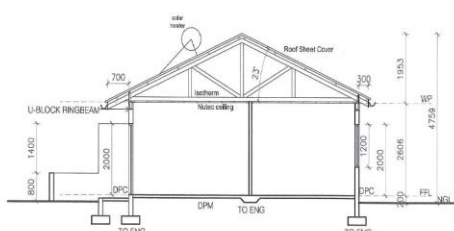
**SIDE ELEVATION  
SCALE 1:100**



**SIDE ELEVATION  
SCALE 1:100**

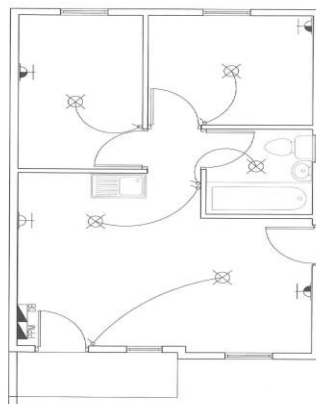


**SECTION A-A  
SCALE 1:100**



**SECTION B-B  
SCALE 1:100**

**40SQM SINGLE STOREY RIGHT HAND  
FREESTANDING SUBSIDY HOUSE**



**ELECTRICAL PLAN  
SCALE 1:50**

| ELECTRICAL SYMBOLS LEGEND |                                      |
|---------------------------|--------------------------------------|
| ○                         | 1 Light Switch                       |
| ○                         | 2 Way Light Switch                   |
| ○                         | Fluorescent or Ceiling Light Fitting |
| ○                         | Single Outlet (1000mm x 75mm)        |
| ○                         | Single Outlet (500mm x 75mm)         |
| ○                         | Distribution Point                   |
| ○                         | Fire Proof Meter                     |
| ○                         | Water Meter (NCR) 4 in Pressure      |
| ○                         | Wall Light (External)                |

**40SQM SINGLE STOREY RIGHT HAND  
FREESTANDING SUBSIDY HOUSE**



## **SPECIFICATIONS**

### **GENERAL**

Housing to be built to the following standards:

- Contractor built houses are subject to NHBRC regulations and enrolment.
- All construction methods and workmanship to comply with the relevant SABS Codes of Practice and NBR.

The following specifications must be seen as the Municipal's requirements to the above.

- Each unit shall have an enclosed bathroom (complete with a door with the walls built up to the underside of roof covering or ceiling with a toilet, hand wash basin and bath.
- Kitchen to have sink fixed to wall with Falcon brackets with a closed unit below.
- Basin, bath and sink to be supplied with cold water. Piping from the future solar geyser to the kitchen sink and hand basin to be installed. No hot water taps to be supplied.
- Patented building systems to have Agrèment South Africa approval and accepted by the NHBRC. All other relevant standards in this document shall apply.

### **STRIP FOOTINGS**

- 230X650MM 20 mpa concrete strip footings for external and loading bearing walls and 200x450mm 20 mpa concrete slab thickenings to internal walls. Foundations to be certified by a registered structural engineer.
- Top of footing shall be min 300mm below NGL
- Foundation walls to be filled with mortar
- Minimum of eight (8) successful Dynamic Cone Penetrometer (DCP) tests per unit, at random locations, to be recorded.
- Where footings are stepped, the laps shall be twice the thickest of the concrete.
- If casting in sand the footing sides are to be shuttered.

### **GROUND FLOOR SLABS**

- Ground floor slabs shall be a min of 75mm thick and of 10 MPA concrete.
- Ground floor slab level shall be a minimum of 200mm above the highest top of road kerb and the highest ground level around the footings on the property.
- Control joints – to provide structural engineer's drawings for approval by municipal and NHBRC inspectors.
- A DPC membrane of 250 micron must be laid under the slab or raft with 150mm overlaps.
- Subsurface to be wetted and compacted in layers not exceeding 150mm.
- Ground floor slab to be power floated only to a smooth level surface. After completion of the house all unevenness must be removed to the satisfaction of the inspectors.

## **WALLS**

- External ground floor loadbearing walls to be 7MPa 140mm wide hollow block construction.
- Blocks shall be of a good standard with a high water resistance
- 375 micron embossed DPC membrane to be placed under all walls.
- 100mm wide brickforce of minimum 2.8mm shall be placed in every course above window and door openings around the house.
- Internal walls intersecting with external walls shall be bonded by means of hoop iron straps. (Refer part 3 sections 3, item 3.6.3 of HBM).
- Prestressed lintels or U-blocks with 2Y10 steel bars over opening of more than 800mm and up to a minimum 3000mm long.
- Mortar mix to be 1 volume cement x 1 volume unhydrated lime x 6 volumes of sand.
- External walls to be plastered on the outside only (minimum 12mm thick).
- Each room to have an air vent with concrete vent cover, including one air vent in bathroom internal wall above door.
- Control joints to be placed in all walls exceeding 6m in length.
- Fire walls between adjacent units to be min. 190mm block walls with openings filled with mortar or sand with beamfill to u/s of roof cover and approved expanding foam sealant on either side. Polycop pipes to be installed in the cavity of the 190mm fire wall. No chasing will be permitted.
- Blockwork on both sides of the external door frames to receive a Y10 steel bar and the blocks to be filled with concrete.
- A one (1) m x 100mm thick 15Mpa concrete apron around the entire house.
- Step at the external doors if the step height is more than 200mm.

## **WALL FINISHES**

- External and internal walls shall be plastered and painted with 1 coat masonry primer and with 2 coats waterproof acrylic paint (SABS 0400 Code KK17)
- External and internal paint finishes:  
Priming: Apply one coat of Professional Plaster Primer;  
Recessed screw heads to be filled with Polycell Mendall 90;  
Topcoat: Apply two coats of Professional Super Acrylic Matt allowing one hour between coats.

## **PLUMBING and DRAINAGE**

- Water pipe to be 15mm approved HDPE pipe, minimum 12 bar pressure, laid at a minimum depth of 450mm with a single stopcock. A 15 mm Polycop pipe to be installed within the house.
- All soil drain pipes (110mm) to have a minimum fall of 1:60 with minimum cover of 450mm with a vented closed gulley (minimum class 34). All waste pipes to be 40mm external diameter.
- All plumbing to comply with SABS and municipal standards.
- Water meters shall be installed by Municipality in compliance with the municipal requirements. The water meter, together with all necessary attachments, is to be supplied by the builder.
- Plumbing to be prepared for solar heating to be possibly installed later a

Separate contract.

- A rodding eye or manhole is required at every change of direction. A type 9C ferrous cement frame and brick manhole to be installed one (1) metre inside the property boundary in accordance with the Municipal standards.
- Stainless steel kitchen sink with falcon brackets as per the Municipal minimum standards
- Hot or cold water taps to be installed to kitchen sink, bath and hand wash basin.
- Taps to be SABS approved.
- Toilet to be Ceramic White.
- Hand wash basin to be Ceramic White.
- Bath to be Acrylic White.

### **WINDOWS**

- The window openings shall be a minimum of 10% of the floor area.
- Powder coated aluminium window openers encased in concrete as per Betcrete with top hung opening sections.
- Glass panes shall be in accordance with SABS 0137-2000 Code of Practice. Special low E clear and E opaque safety glass for all window types as prescribed.
- In areas where environmental noise levels exceed 55dBa, all glazing facing the source of the noise shall be 6mm thick.
- Obscure glazing to be fitted to bathroom windows

### **DOORS**

- Internal and External door frames to be Betcrete type door frames 2m high.
- External doors to be Class 1 heavy duty with SABS marked and fitted with a SABS 3 levers lock set 70X40mm weatherboards on each door.
- Internal doors and doorframes to be painted 1 coat universal undercoat and 2 coats gloss enamel.
- Back door to be a Stable Door.
- Timber doors must be treated with paint sealant or varnished before installation (2 coats).

### **CEILINGS**

- Air gap required for the entire dwelling.
- 4mm Nutec ceiling nailed to 38X50mm branderling at 450c/c with PVC Joiners.
- 75mm Coved cornice.
- A trapdoor shall be installed to each ceiling.
- All houses must comply with Agreement regulations regarding thermal properties. All other ceiling systems to be approved by the Municipality and the NHBRC before installation.
- In areas where environmental noise levels exceed 55dBa, the design of ceiling shall be approved by the Dept. of Environmental Affairs and Development Planning, the Municipality and the Government of the Western Cape.
- 160mm Glass/mineral wool insulation laid on top of ceilings or 130 mm mineral glass fibre blanket for the entire house.

## **ROOF STRUCTURE**

- The structure shall be approved by a registered practising Engineer or be an Accredited factory designed system.
- Purlins & beams must be anchored to the structure with 2 strands of galvanised Wire (min 4mm dia) or galvanised hoop irons 1.2mm thick directly under roof trusses or beams and anchored at least 600mm deep in the walls, including in load bearing internal walls.
- Cement tiles fixed on Sisalation vapour barrier as per manufacturer's specifications to 38x50mm timber battens fixed to the roof trusses which rest on 114x38mm timber wall plates.
- Roof space to be enclosed by 12mm Nutec cladding with ventilation holes covered by mesh and vent cover.
- Roof structure must be able to carry a 100 litre solar heating panel weighing up to 250kg. The design of the roof trusses by a certified structural engineer is required.
- Bargeboards and fascia boards to be 220x12mm Nutec fixed to timber fascia beams fixed to rafter ends.
- Bargeboards and fascia's to be painted 1 coat universal undercoat and 2 coats Acrylic paint.
- Upvc half round gutters to be fixed to fascia board with closed ends and down pipes.
- Roof overhang – 300mm front and back
  - 700mm front stoep
  - 150mm at sides

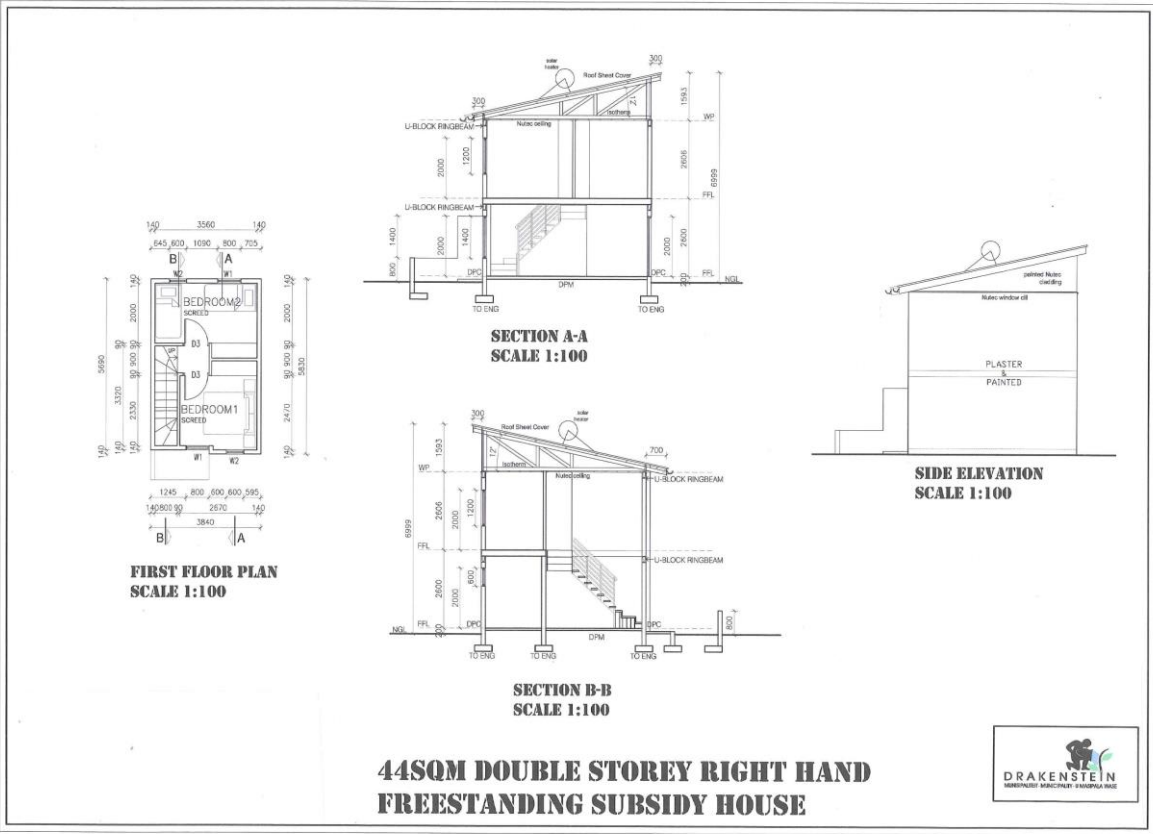
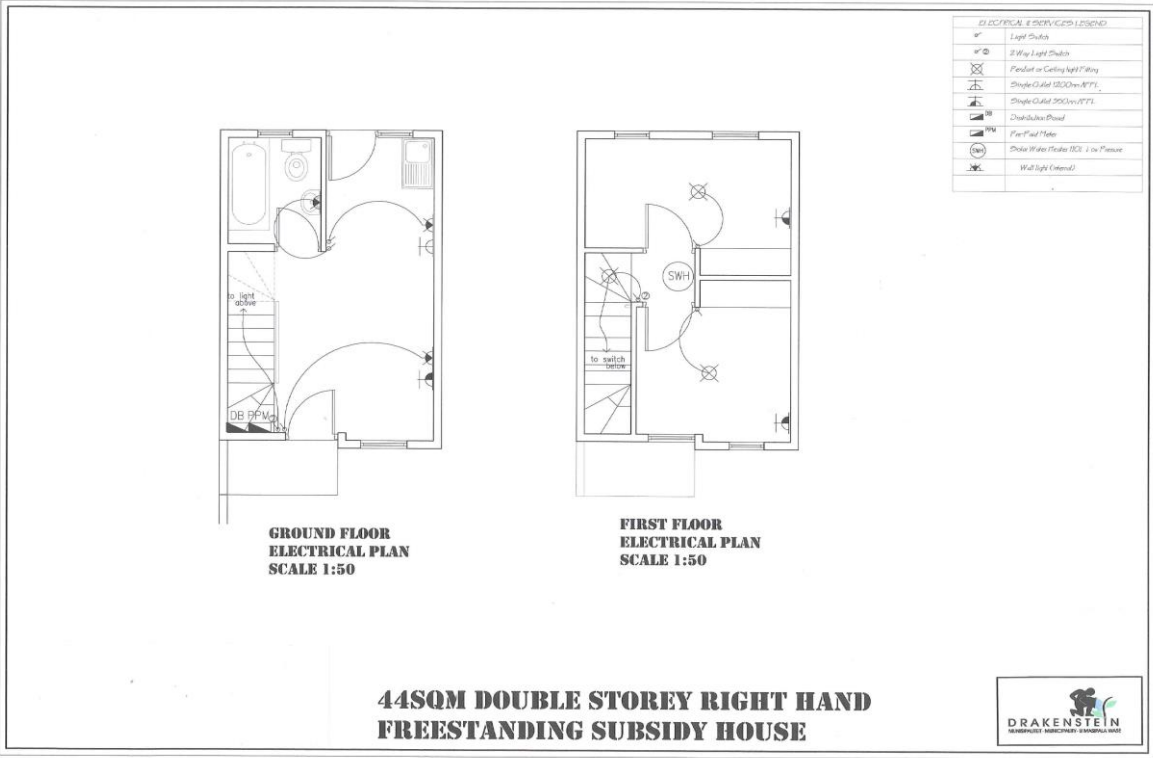
## **ELECTRICIAL**

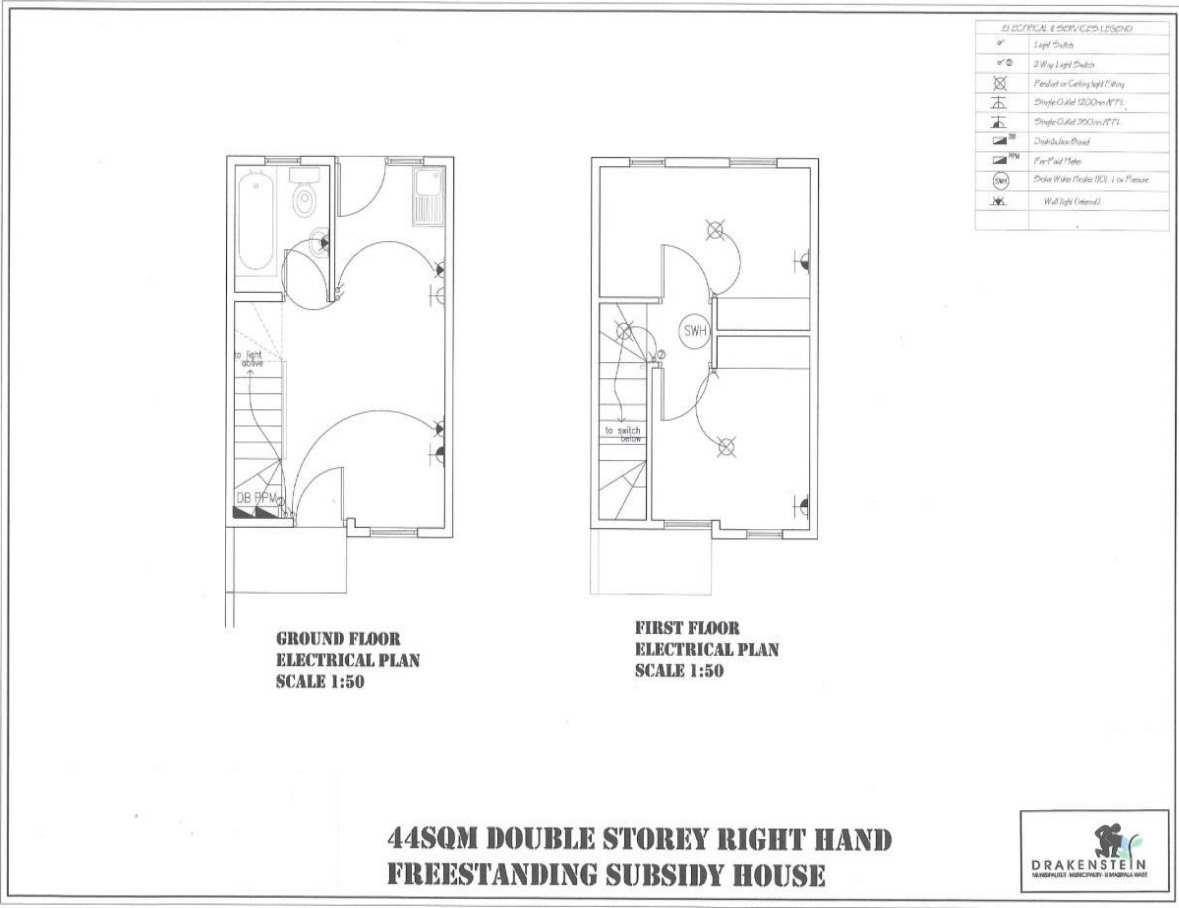
- Refer to the Municipality's electrical guidelines.
- The electrical installation must comply with SABS 0142- the code of practice for the wiring of premises and the relevant municipal by laws and standards.
- Prepaid meter to be supplied and installed specialist by the Municipality.
- The electrical reticulation must include a ready board/DB in accordance with municipal specification.
  1. One light point in each room.
  2. One double wall plug in each room except bathrooms.
  3. A stove point in the kitchen.
  4. An isolator on the distribution board for the solar system.
  5. All electrical conducting to be located in the wall cavities. No surface mounting and/or chasing will be permitted.

**SPECIFICATION  
FOR A DOUBLE STOREY  
44 M<sup>2</sup> BNG HOUSE**

**April 2014**

**44 SQM DOUBLE STOREY SUBSIDY HOUSE**





## **SPECIFICATIONS**

### **GENERAL**

Housing to be built to the following standards:

- Contractor built houses are subject to NHBRC regulations and enrolment.
- All construction methods and workmanship to comply with the relevant SABS Codes of Practice and NBR.

The following specifications must be seen as the Municipal's requirements to the above.

- Each unit shall have an enclosed bathroom (complete with a door with the walls built up to the underside of roof covering or ceiling with a toilet, hand wash basin and bath.
- Kitchen to have sink fixed to wall with Falcon brackets with a closed unit below.
- Basin, bath and sink to be supplied with cold water. Piping from the future solar geyser to the kitchen sink and hand basin to be installed. No hot water taps to be supplied.
- Patented building systems to have Agrèment South Africa approval and accepted by the NHBRC. All other relevant standards in this document shall apply.

### **STRIP FOOTINGS**

- 300X750MM 20 mpa concrete strip footings for external and loading bearing walls and 250x600mm 20 mpa concrete slab thickenings to internal non load bearing walls. Foundations to be certified by a registered structural engineer.
- Top of footing shall be min 300mm below NGL
- Foundation walls to be filled with mortar
- Minimum of six (6) successful Dynamic Cone Penetrometer (DCP) tests per unit, at random locations, to be recorded.
- Where footings are stepped, the laps shall be twice the thickest of the concrete.
- If casting in sand the footing sides are to be shuttered.

### **GROUND FLOOR SLABS**

- Ground floor slabs shall be a min of 75mm thick and of 10 MPA concrete.
- Ground floor slab level shall be a minimum of 200mm above the highest top of road kerb and the highest ground level around the footings on the property.
- Control joints – to provide structural engineer's drawings for approval by municipal and NHBRC inspectors.
- A DPC membrane of 250 micron must be laid under the slab or raft with 150mm overlaps.
- Subsurface to be wetted and compacted in layers not exceeding 150mm.
- Ground floor slab to be power floated only to a smooth level surface. After completion of the house all unevenness must be removed to the satisfaction of the inspectors.

## **FIRST FLOOR SLAB**

- Extruded Hollowcore precast element to the structural engineer's design. Installation to be supervised and certified by the supplier. Floor panels to have a minimum end bearing of 90 mm. Shear keys to be thoroughly cleaned, wetted and filled with 25 Mpa concrete using a maximum 6mm stone. Topping to be nominal screed (30mm) only after the shear keys have been filled. Perimeter Blockwork may commence immediately after placing the deck. All dimensions to be checked on site prior to the construction and manufacture precast elements.
- Control joints must be accommodated according to the structural engineer's instructions.

## **STAIRS**

- Handrails to be 1000 mm high as per SABS 0400. The handrails to be constructed as per the structural engineer's design. A latent defect period of five (5) years will apply to the handrails.
- The stair tread shall be a minimum 250mm wide and riser maximum of 200mm high as per SABS 0400. The usable width of the stairs shall be a minimum 900mm.
- The stairs shall be constructed of precast concrete as per the structural engineer's design.

## **WALLS**

- External ground floor loadbearing walls to be 7MPa 140mm wide hollow block construction.
- Blocks shall be of a good standard with a high water resistance
- 375 micron embossed DPC membrane to be placed under all walls.
- 100mm wide brickforce of minimum 2.8mm shall be placed in every course above window and door openings around the house.
- Internal walls intersecting with external walls shall be bonded by means of hoop iron straps. (Refer part 3 sections 3, item 3.6.3 of HBM).
- Prestressed lintels or U-blocks with 2Y10 steel bars over opening of more than 800mm and up to a minimum 3000mm long.
- Mortar mix to be 1 volume cement x 1 volume unhydrated lime x 6 volumes of sand.
- External walls to be plastered on the outside only (minimum 12mm thick).
- Each room to have an air vent with concrete vent cover, including one air vent in bathroom internal wall above door.
- Control joints to be placed in all walls exceeding 6m in length.
- Fire walls between adjacent units to be min. 190mm block walls with openings filled with mortar or sand with beamfill to u/s of roof cover and approved expanding foam sealant on either side. Polycop pipes to be installed in the cavity of the 190mm fire wall. No chasing will be permitted.
- Blockwork on both sides of the external door frames to receive a Y10 steel bar and the blocks to be filled with concrete.
- A one (1) m x 100 mm thick 15 Mpa concrete apron around the entire house.
- Step at the external doors if the step height is more than 200mm.

## **WALL FINISHES**

- External and internal walls shall be plastered and painted with 1 coat masonry primer and with 2 coats waterproof acrylic paint (SABS 0400 Code KK17)
- External finishes:  
Priming: Apply one coat of Professional Plaster Primer;  
Recessed screw heads to be filled with Polycell Mendall 90;  
Topcoat: Apply two coats of Professional Super Acrylic Matt allowing one hour between coats.

## **PLUMBING and DRAINAGE**

- Water pipe to be 15mm approved HDPE pipe, minimum 12 bar pressure, laid at a minimum depth of 450mm with a single stopcock.
- Internal water pipes to be an approved high density polypropylene type.
- All soil drain pipes (110mm) to have a minimum fall of 1:60 with minimum cover of 450mm with a vented closed gully (minimum class 34). All waste pipes to be 40mm external diameter.
- All plumbing to comply with SABS and municipal standards.
- Water meters shall be installed by Municipality in compliance with the Municipal requirements. The water meter and all necessary attachments are to be supplied by the builder.
- Plumbing to be prepared for solar heating to be possibly installed later a separate contract.
- A type 9C ferrous cement frame and brick manhole to be constructed one (1,0) metres inside the front boundary as specified by the Municipality.
- A rodding eye or manhole is required at every change of direction.
- Stainless steel kitchen sink with falcon brackets as per the Municipal minimum standards
- Hot or cold water taps to be installed to kitchen sink, bath and hand wash basin.
- Taps to be SABS approved.
- Toilet to be Ceramic White.
- Hand wash basin to be Ceramic White.
- Bath to be Acrylic White.

## **WINDOWS**

- The window openings shall be a minimum of 10% of the floor area.
- Powder coated aluminium window openers encased in concrete as per Betcrete with top hung opening sections.
- Glass panes shall be in accordance with SABS 0137-2000 Code of Practice. Special low E clear and E opaque safety glass for all windows as prescribed.
- In areas where environmental noise levels exceed 55dba, all glazing facing the source of the noise shall be 6mm thick.
- Obscure glazing to be fitted to bathroom windows

## **DOORS**

- Internal and External door frames to be Betcrete type door frames 2m high.
- External doors to be Class 1 heavy duty with SABS marked and fitted with a SABS 3 lever lock set and 70X40mm weatherboards.
- Internal doors and doorframes to be painted 1 coat universal undercoat and 2 Coats gloss enamel.
- Back door to be a Stable Door.
- Timber doors must be treated with paint sealant or varnished before installation (2 coats).

## **CEILINGS**

- Air gap required for the entire dwelling.
- 4mm Nutec ceiling nailed to 38X50mm brandering at 450c/c with PVC Joiners.
- 75mm Coved cornice.
- A trapdoor shall be installed to each ceiling.
- All houses must comply with Agreement regulations regarding thermal properties. All other ceiling systems to be approved by the Municipality and the NHBRC before installation.
- In areas where environmental noise levels exceed 55dBa, the design of ceiling shall be approved by the Dept. of Environmental Affairs and Development Planning, Municipality and the Government of the Western Cape.
- 160mm Glass/mineral wool insulation laid on top of ceilings or 130 mm material glass fibre blanket for the entire house.

## **ROOF STRUCTURE**

- The structure shall be approved by a registered practising Engineer or be an Accredited factory designed system.
- Purlins & beams must be anchored to the structure with 2 strands of galvanised wire (min 4mm dia) or galvanised hoop irons 1.2mm thick directly under roof trusses or beams and anchored at least 600mm deep in the walls, including in load bearing internal walls.
- Cement tiles fixed on Sisalation vapour barrier as per manufacturer's specifications to 38x50mm timber battens fixed to the roof trusses which rest on 114x38mm timber wall plates.
- Roof space to be enclosed by 12mm Nutec cladding with ventilation holes covered by mesh and vent cover.
- Roof structure must be able to carry a 100 litre solar heating panel weighing up to 250kg. The design of the roof trusses by a certified structural engineer is required.
- Bargeboards and fascia boards to be 220x12mm Nutec fixed to timber fascia Beams fixed to rafter ends.
- Bargeboards and fascia's to be painted 1 coat universal undercoat and 2 coats Acrylic paint.
- Upvc half round gutters to be fixed to fascia board with closed ends and down-pipes.
- Roof overhang – 300mm front and back
  - 700mm front stoep
  - 150mm at sides

**ELECTRICIAL**

- Refer to the Municipality's electrical guidelines.
- The electrical installation must comply with SABS 0142- the code of practice for The wiring of premises and the relevant municipal by laws and standards.
- Prepaid meter to be supplied and installed specialist by the Municipality.
- The electrical reticulation must include a ready board/DB in accordance with The municipal specifications.
  - One light point in each room.
  - One double wall plug in each room except bathrooms.
  - A stove point in the kitchen.
  - An isolator on the distribution board for the solar system.
  - All electrical conducting to be located in the wall cavities. No surface mounting and/or chasing will be permitted.