

SECTION 5: DEVELOPMENT STRATEGIES

Facilitating the re-structuring and re-engineering of the existing urban form and function of the City without defined direction and intervention will take generations.

To accelerate the delivery of developments that support a desired urban form the following strategies have been developed and refined to support medium to long-term objectives:

- Supporting an Efficient Movement System;
- Ensuring Strong Viable Nodes;
- Supporting Sustainable Environmental Management;
- Initiating and Implementing Corridor Development;
- Managing Urban Growth and Delineating an Urban Development Boundary;
- Increased Densification of Strategic Locations;
- Facilitating Sustainable Housing Environments in Appropriate Locations.

These strategies and instruments are used on a daily basis to address recurring development issues and assess the appropriateness of a development proposal or initiative and inform potential investors, developers or communities of the expected approach towards development.

Table 5.1 provides an overview of the Development Strategies and the desired form of the SDF.

This section will introduce and explain the seven Development Strategies of the SDF and their inherent linkages with the development paradigms and sector plans of the City's Growth and Development Strategy (GDS). As an introduction to the development strategies, the contextualisation and assessment of development proposals are considered.

Table 5.1: Strategies, Instruments and Objectives

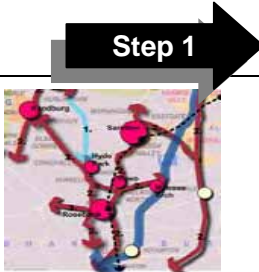


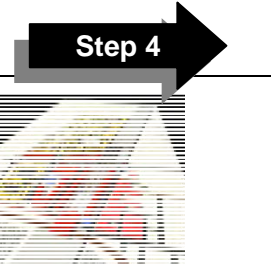
Development Strategies	Past trends	SDF desired urban form	SDF instruments	Objectives
Supporting an efficient movement system	<ul style="list-style-type: none"> • Developments designed for private vehicles. • Inefficient public transport • Hierarchical road network with numerous unconnected roads, loops and dead-ends • Mobility of arterials compromised 	<ul style="list-style-type: none"> • Multi-modal transportation and land use patterns that support public transport and pedestrian movement. • Focusing development (esp. higher density residential uses) in support of existing public transport infrastructure. 	<ul style="list-style-type: none"> • Road Hierarchy • Bus Rapid Transit (BRT)/Strategic Public Transportation Network (SPTN) • Gautrain Stations • Existing rail network • Non- Motorised Transport (NMT) Modes 	<ul style="list-style-type: none"> • Support public transport, and non-motorised options, i.e. cycling & pedestrians. • Reduce travel and transport costs. • Promote accessibility of communities to employment, recreation and social opportunities. • Protect the mobility function of major arterials and roads. • Ensure that movement system directly links with and is supported by strong high intensity nodes and higher density residential development.
Ensuring Strong Viable Nodes	<ul style="list-style-type: none"> • “Creep” of non-residential uses into residential areas • Increasing vacancy rates and declining amenity in key nodal points • Unchecked, market led, speculative nodal development that has placed demands on public investment in infrastructure 	<ul style="list-style-type: none"> • A Managed Hierarchy of nodes within the City • Non-residential uses limited to existing and emerging, managed nodal points • Increased profile of the pedestrian and public transport aspects of nodes 	<ul style="list-style-type: none"> • Nodal Hierarchy • Nodal Profiles and Boundaries • Management guidelines 	<ul style="list-style-type: none"> • Ensure clustering of various activities (work, live, play and pray) at appropriate locations. • Support viable public transport. • Maximise opportunities and diversity at accessible points.
Supporting Sustainable Environmental Management	<ul style="list-style-type: none"> • Emphasis is on private space i.e. shopping malls, security estates and private open space. • Lack of functional and connected network of open space • New development has outstripped the provision of open spaces and social amenities • Stormwater infrastructure being exceeded 	<ul style="list-style-type: none"> • Emphasis on public space i.e. pedestrian environment, public parks and facilities. 	<ul style="list-style-type: none"> • Johannesburg Metropolitan Open Space System. • Design Guidelines. 	<ul style="list-style-type: none"> • Create a network of open spaces • Support sustainable stormwater catchment practices. • Protect important environmental areas. • Promote the prevention and reduction of pollution.
Initiating and Implementing Corridor Development	<ul style="list-style-type: none"> • Ad-hoc and unmanaged approach to linear development • No consistency in the use of the term corridor 	<ul style="list-style-type: none"> • Delineation of two development corridors • Focused infrastructure delivery to support corridor development • Series of goals and objectives established per corridor 	<ul style="list-style-type: none"> • East West Development Corridor (EWDC) • North South Development Corridor (NSDC) 	<ul style="list-style-type: none"> • Determine appropriate interventions • Maximise opportunities • Facilitate linkages • Manage new developments in a co-ordinated fashion.

Development Strategies	Past trends	SDF desired urban form	SDF instruments	Objectives
Managing Urban Growth and Delineating an Urban Development Boundary	<ul style="list-style-type: none"> • Urban sprawl onto greenfield sites • Erosion of rural character of the limited rural assets of the City • Proliferation of subsidised housing initiatives on peripheral locations away from economic and social opportunities • Escalating physical and social infrastructure demands and costs for both new infrastructure and maintenance costs 	<ul style="list-style-type: none"> • Infill, “brown-fields” developments • Conservation of rural character of areas beyond the Urban Development Boundary (UDB). • Abatement of urban sprawl on the periphery of the City 	<ul style="list-style-type: none"> • Land use guidelines. • Subdivision of Land Table. • Development Principles outside the UDB. • Amendment Procedures. 	<ul style="list-style-type: none"> • Combat urban sprawl. • Create economies of urbanisation. • Focus on in-fill and redevelopment. • Support efficient infrastructure provision (capital investment). • Provide a mechanism for effective growth management. • Support a more efficient urban form that is public transport orientated. • Protect environmentally sensitive areas, agricultural land and open space. • Support a multi-modal transportation system.
Increased densification of strategic locations	<ul style="list-style-type: none"> • Low density and dispersed activities • Market preference for one erf one unit • Perceptions that increased density equates to low cost housing • Wasted land opportunities e.g. car parking above ground • Low coverage and height restrictions 	<ul style="list-style-type: none"> • Higher densities and clustered activities in identified strategic locations, • Co-ordinated investment in infrastructure to support densification initiatives 	<ul style="list-style-type: none"> • Strategic Densification Priority Areas • Base and density guideline proposals 	<ul style="list-style-type: none"> • Promote appropriate densities and densification in appropriate locations. • Promote the optimal use of existing and future infrastructure and resources.
Facilitating sustainable housing environments in appropriate locations	<ul style="list-style-type: none"> • Subsidised housing located on the periphery of the City and related opportunities • Lag in delivery of non-residential components of new housing schemes e.g. clinics / schools • Focus on 250m² per erf 	<ul style="list-style-type: none"> • Increased focus on in-fill and regeneration programmes in closer proximity to existing opportunities and infrastructure • Range of housing typologies to support the accommodation of various needs 	<ul style="list-style-type: none"> • Spatial location and database of the City’s informal settlements • Housing Programme • Pilot Projects (e.g. Princess Plots) 	<ul style="list-style-type: none"> • Develop appropriate housing typologies. • Promote adequate provision of social and economic amenities.

Contextualising Development Proposals

Understanding the potential impact of each and every development, irrespective of scale and location, is key to determining a future City that is Sustainable, Efficient and Accessible to all. The following table illustrates a broad assessment framework for all prospective developments with a view to considering “the bigger picture”. The assessment framework compels a prospective developer to consider this bigger picture by assessing and demonstrating the contribution of a new development to the City’s strategies and desired urban / form structure.

Table 5.2: Assessment Framework

	 Step 1	 Step 2	 Step 3	 Step 4
	CITY CONTEXT ASSESSMENT	SITE SPECIFIC ASSESSMENT	OPPORTUNITIES AND CONSTRAINTS	DETAILED DESIGN
OBJECTIVE	Assessing implications and demonstrating impact of development on City’s defined strategies and desired urban structure / form	Assessing implications and demonstrating impact on surrounding area	Recognising opportunities/mitigating against constraints	Optimising the development via the application of sound urban design guidelines
EXAMPLES OF ASPECTS TO CONSIDER	<ul style="list-style-type: none"> • Movement • Nodal development • Densities • Open space system • Sustainable neighbourhoods • Corridor development • Alignment with Urban Development Boundary 	<ul style="list-style-type: none"> • Availability of infrastructure (social/physical) • Compatibility/Character of surrounding areas • Adequacy of access • Site topography • Natural features • Heritage Features 	<ul style="list-style-type: none"> • Linkages with the public transport system • Opportunities for increased density • Provision of open space • Scale/mix of developments 	<ul style="list-style-type: none"> • Arrangement of buildings/sites • Promote frontage development • Indicate pedestrian links/public space provision • Focus intensive development on major routes and spaces • Storm water treatment
RESOURCES AVAILABLE	<ul style="list-style-type: none"> • IDP / SDF 	<ul style="list-style-type: none"> • SDF / RSDF • Input from respective MOEs 	<ul style="list-style-type: none"> • RSDF Sub-Area Intervention Tables • Precinct Plans 	<ul style="list-style-type: none"> • Urban Design Guidelines • Site Development Plan (inc. Landscaping) • Architectural drawings • Service agreements

Management Controls

Effective management controls to mitigate against potential impacts on surrounding properties are key to the successful implementation of a development proposal. These controls can provide the critical link between what a proposal should be allowed and how, ultimately it can / should be developed.

A development control and table only approach could for example result in the following:

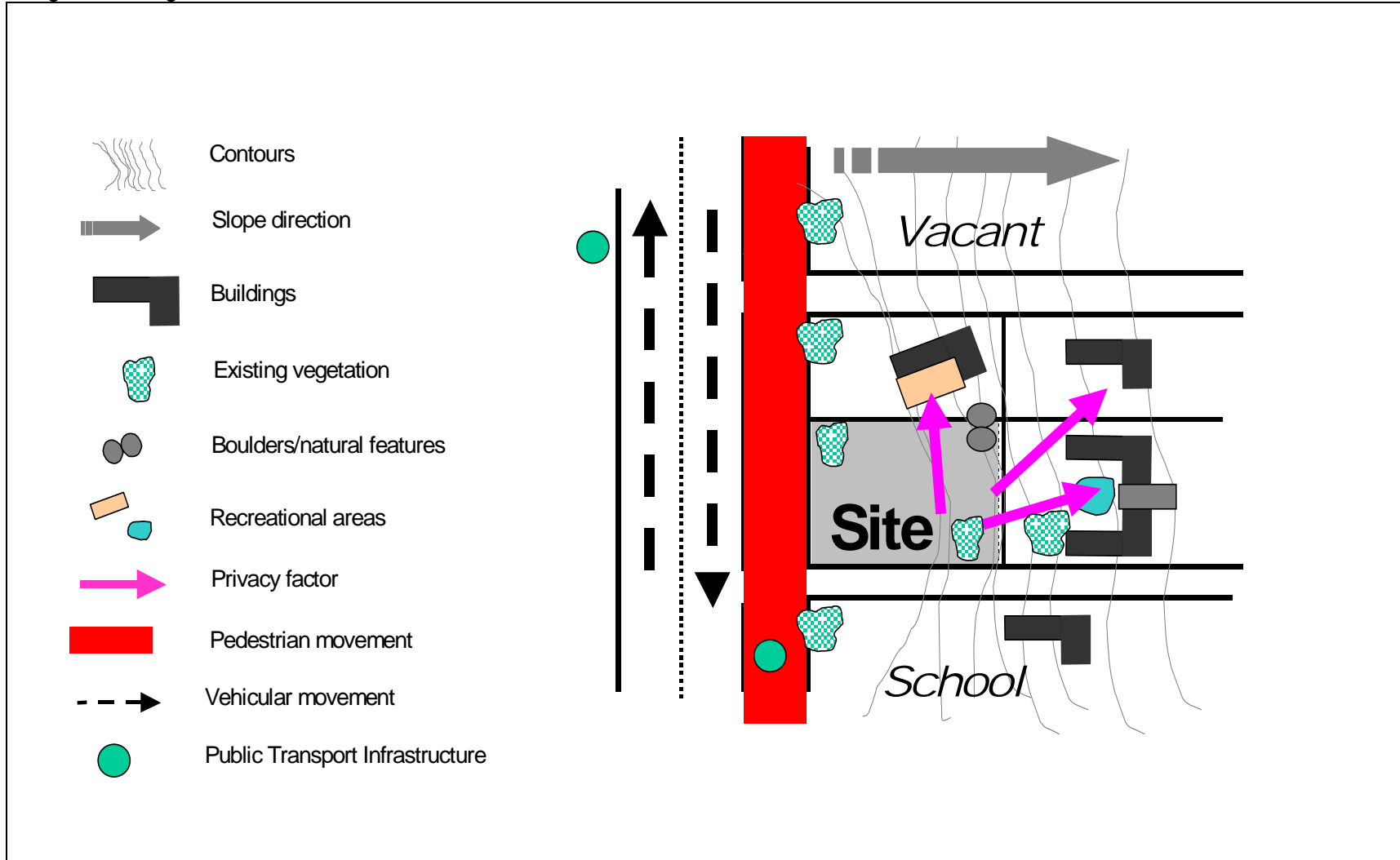
Primary right:	Residential 2
Coverage:	50%
Height::	4 storeys
Density:	35 du/ha
Building line:	3m on western boundary
General conditions:	A Site Development Plan to be submitted to the satisfaction of the Council

However, a more comprehensive approach might highlight other issues that need to be addressed as part of the decision process as indicated in **Diagram 5.1**.

An integrated assessment of the site, per proposal, can result in a more appropriate set of development controls sympathetic to the surrounding development and site-specific factors as shown in the following:

Primary right:	Residential 2
Coverage:	40%
Height::	2 storeys on eastern boundary 3 storeys on northern boundary 4 storeys on other boundaries
Density:	25 du/ha
Building line:	3m on western boundary 2m on northern boundary 3m on eastern boundary
General conditions:	A Site Development Plan to be submitted including: <ul style="list-style-type: none"> ○ 14% soft landscaping ○ Storm water treatment ○ Retention of existing, established trees on perimeter. ○ Facilitation of pedestrian movement at access point to the development. ○ Boundary treatment to protect privacy on northern and eastern boundary ○ Incorporation of appropriate design guidelines as prescribed by CoJ

Diagram 5.1 Integrated Site Assessment



Sustainable Human Settlement (SHS) Development Indices

In addition, to the broad assessment framework discussed in the previous section, the City is intending on introducing a set of Development Indices based on Sustainable Human Settlement (SHS) Principles. These principles are considered in the following section and represent the proposed minimum “thresholds” and requirements relating to new development proposals in the City. They remain work in progress and are included in the Draft SDF for public comment.

In the recent past, the City of Johannesburg has been confronted by a challenge of accelerated demand for large-scale housing and mixed-use developments. These developments do not necessarily pay heed to social and spatial qualities, economic viability and environmental sustainability of areas they are intended to serve. The sustainability of these developments therefore remains compromised and questionable. This set of indices considers sustainability in a broader sense and looks beyond the financial viability of developments.

One of the greatest challenges facing the City now are housing developments located at the periphery of the City, far from employment opportunities and commercial and social facilities. In addition, a majority of these developments have limited access to public transport services. Consequently, this imposes the City with a burden of providing these areas with subsidised public transport facilities and services. In addition, the City has to ensure that these areas are socially and economically functional with access to basic services, infrastructure and amenities.

The following are some of the common shortcomings related development projects considered to be unsustainable:

- Spatial fragmentation
- Poor public transport network
- Environmentally unsustainable
- Sterile economic environment
- Mono-functional land use patterns

Whilst the City has already set out its position on some of the sustainability issues in policies such as the GDS, IDP and SDF, there has not as yet been a set of development ‘Indices’ that could be used to practically inform and evaluate future large-scale housing and mixed-use developments. The SHS indices are therefore a multifaceted approach concerned with shaping developments and creating the conditions under which people in both new and established housing and mixed use developments can enjoy healthy, productive and integrated urban lives. In summary, SHS Indices are aimed at the following:

- Improving spatial, social, economic and environmental quality of developments
- Promoting sustainable land-use planning and management
- Promoting the sustainable and integrated provision of infrastructure and services
- Promoting sustainable energy and transport systems

Table 5.3 Key SHS Elements

Key SHS Element	Description
Spatial Integration	Spatial integration plays a pivotal role in ensuring that housing and mixed use developments are located in areas closer to high order social and commercial facilities. Housing and mixed use developments should be conveniently accessible and connected to major economic centres of the City. This equally improves efficiency in the city system and promotes compaction in city development. Compaction prevents the costly supply and maintenance of infrastructure, services and a public transport system in peripheral areas.
Integrated Public Transport Network and Walkability	Developments without access to an efficient public transport system are a major setback to the City's commitment to passenger transport facilities and services. A public transport system contributes enormously to shaping the city morphology by amongst other things, enabling the concentration of housing and mixed use developments along public transport routes. An efficient public transport system is crucial for the integration of urban spaces and contributes significantly to the efficiency of the City system. Non- Motorised Transport Modes especially walking and cycling have become important aspects in the City's planning agenda and should be sufficiently integrated with the public transport system.
Resource Management and Environmental Sustainability	It is important that all planning phases for developments should follow a sustainable development approach (i.e. balancing the need for development with the requirement to protect ecologically sensitive areas and preserving areas of open space for active and passive recreation, therefore helping to preserve and expand the city's urban natural resources and enhance the performance and integrity of ecological systems (flood attenuation, drainage areas, wetlands etc) through promoting greening of the environment of proposed developments. The City strives to achieve the development that meets the needs of present generations without compromising the ability of future generations to meet their own needs. In the same vain, development proposals should adhere to the City's Energy Efficiency Guidelines.
Open Space System	As densities are promoted and increased within the City, the need to preserve existing open spaces and create new open spaces is increasingly important. In terms of these guidelines, housing and mixed use developments should make provision for open space on site as part of their proposals and/or contribute to the maintenance of existing open spaces within the vicinity. These developments may alternatively have to rehabilitate degraded and / or under utilised land to be able to provide quality open space environments to communities.
Informal Economy	The informal economy accounts for a considerable component of City's economy. It is essentially typified by wide array of survivalist businesses such as kerbside traders and traders at pedestrian malls, major transport interchanges, intersections and townships (for example house shops, shebeens, shisanyamas-braai spots). Housing and mixed use developments are required to support the informal economy in the continued fight against poverty and unemployment.
Employment Creation	The City's growing economy often excludes formal opportunities for the section of the population who are uneducated and poor, with a bias towards the tertiary sector where opportunities are predominantly focussed on skilled people. Employment interventions should therefore be focused to include the marginalised sectors of the population. It is recognised that mixed use developments that include high order commercial facilities and residential products offer a range of employment opportunities and are therefore strongly emphasized by SHS guidelines.

Safety and Security	The SHS guidelines seek to ensure that developments promote safety and security in their principles and designs. Community safety is the crucial aspect in the functionality of the urban system. This primarily includes the safety of communities from crime and fear, and safety of pedestrians. The City experiences high volumes of pedestrian traffic which is not sufficiently supported in terms of infrastructure (pavements, crossings, lighting etc) at present. The SHS will place an emphasis on making provision for pedestrian and cyclist movement, striving for universal access and a working relationship between pedestrian and vehicular movement.
Adequate Infrastructure and Service Provision	No development can be functional and viable without adequate infrastructure, services and social amenities. These should also be within a convenient reach of communities. Infrastructure, services and social amenities include but are not limited to; supplying water, collecting and disposing of sewage, refuse removal, supplying electricity, road infrastructure, storm water management system, streets lighting, schools, crèches, clinics, police station, post office and community centre.
Security of Tenure and Mixed Housing Typologies	There is a need to emphasise the provision of affordable home-ownership and rental accommodation at scale, addressing the needs of a range of housing segments, with a special focus on the needs of poorer residents not currently catered for.

Implementation

The SHS indices will be applied at the Township Establishment/Rezoning process and the Site Development Plan stage. The aforementioned SHS elements will be evaluated on each development proposal within the threshold. Under each element, the intention is to develop scores and/or weightings which will determine an objective level of sustainability of the development on that particular element i.e. Spatial Integration and energy efficiency. The scoring and weighting would incorporate both qualitative and quantitative aspects of the proposals and would become the basis for determining the level of sustainability. Should a development proposal not meet the minimum threshold, mitigating aspects would need to be negotiated to an acceptable sustainability standard between the City and the prospective developer.

Table 5.4 and **5.4** below illustrate how the key SHS elements will be evaluated per development proposed.

Table 5.4 Evaluation at the Township Establishment/Rezoning Level

Sustainability Aspect	Questions to be addressed	Examples of Sustainable Qualities
Spatial Integration	<p>Is the proposal located within the Urban Development Boundary?</p> <p>Is the proposal close to amenities and employment opportunities?</p> <p>Is it promoting a compact city?</p> <p>Does the proposal benefit from good access to economic and social opportunities?</p> <p>Does the proposal increase city connectivity?</p> <p>Is it contributing to the efficiency of the city system?</p>	<ul style="list-style-type: none"> • Integration of urban spaces/areas/developments; • 0-2km away from economic opportunities; • Densification along key transport routes; • Increased accessibility and connectivity relating to the economic and social opportunities, public transport and other surrounds; • Reduction of costs of development-infrastructure capacity and services; • The horizontal and vertical integration of compatible residential and non-residential uses; and • Variety of compatible land uses within the same area or on the same land parcel.
Integrated Public Transport Network and Walkability	<p>Is there a sustainable, efficient and predictable public transport system?</p> <p>Is the environment in and around the development proposal pedestrian friendly and does it provide universal access?</p> <p>How far is the nearest public transport station?</p> <p>How far is the closest employment opportunity and/ or economic centres?</p>	<ul style="list-style-type: none"> • Reduced costs of providing public transport infrastructure and services; • Within 0-500m from the nearest passenger transport facilities and services; • Reduced travel times; • Reduced travel distance and costs; and • Promotion of public transport and NMT over car travel.
Environmental Sustainability	<p>Does the proposal encroach onto environmentally sensitive areas (ridges, wetlands, rare grasslands, red data habitats etc)</p> <p>Does the proposal remove existing active or passive recreation space?</p> <p>Does the proposal make provision for open space within the development?</p> <p>Does the development improve or contribute to the quality and long term sustainability of the City's environmental resources?</p>	<ul style="list-style-type: none"> • Preserve environmentally sensitive areas in situ; • Protection of key priority wetland areas, grassland areas, ridge system and biodiversity areas/hotspots; • Balance the loss of open space with the need for development; • Limit pressure on the environment and the natural ecology of the area; • Reduce, reuse and recycle all waste, including water; • Incorporate Sustainable Urban Drainage Systems; • Overall reduction on the City's carbon footprint.
Infrastructure, services and social amenities	<p>Does the proposal make provision for or contribution to community facilities and amenities where it creates demand in the area? Eg. School, clinic, play park, community hall.</p> <p>Does the proposal make provision for service and infrastructure upgrading where appropriate?</p>	<ul style="list-style-type: none"> • Provision of surfaced roads, storm water management system, attenuation points, water services, sewer line and electricity. • Within 0-300m radius access to schools, clinics, crèches, libraries, police stations, taxi rank and bus stations.
Mixed- housing typology	<p>Is the development addressing the needs of a range of housing segments, variety in terms of size and units?</p>	<ul style="list-style-type: none"> • Affordable home ownership mixed with rental accommodation (different mixed income groups). • Mix of housing units and sizes. • Balanced provision for variety of family sizes (singles and families).

Table 5.5 Evaluation at the Site Development Plan (SDP) Stage

Sustainability Aspect	Questions to be addressed	Examples of Sustainable Qualities
Safety and Security	<p>Is the development preventing crime through designs? What are the safety and security design principles of the development? Is the proposal designed for the pedestrian scale?</p>	<ul style="list-style-type: none"> • Paths and pedestrian routes located in a well used area with good lighting and public surveillance; • Fencing and gates that do not restrict the view of the public environment; • Buildings oriented onto street and public space for surveillance; • Active uses and openings situated at street level; • Landscaping avoiding hiding spaces with shrubs below 700mm and trees below 1, 5m; • Mixed use and multifunctional development to ensure 24 hour activity ; and • Provision of well-defined and conducive outdoor spaces located within the neighbourhood or well used environment.
Energy Efficiency	<p>Is the development energy efficient? Is the development proposing renewable energy sources?</p>	<ul style="list-style-type: none"> • Developments that use renewable energy i.e. technology such photovoltaic cells and solar water heaters; • Buildings orientated within 15 degrees of North; • Developments comprising a mix of land use activities (mixed use developments) within 500m radius from nearest public transport route; • Maximum energy demand less than 50 VA/m²; and • Dual aspect to maximise natural light.
Open Space System / Landscaping	<p>Are open spaces created? What is the open space ratio? Does the proposal incorporate a landscaping plan and is it indigenous?</p>	<ul style="list-style-type: none"> • Protection of rivers, wetlands, ridges, floodplains, pans and nature areas; • Allocation of 15 percent of the development site towards public open space (hard open space and soft open space); • Well interconnected and appropriately vegetated open spaces; • Current and future tree structure; • Storm water management proposals ; • Planting policy; and • Rehabilitation plan of ecological sensitive areas.
Walkability	<p>Is provision made for pedestrian sidewalks, bridges, crossings? Is provision made for universal access and cycle parking / facilities?</p>	<ul style="list-style-type: none"> • Within 500m radius from shops, offices, parks, recreational facilities, community facilities, neighbouring residential/compatible areas, and nodes as defined in this SDF; and • Walker-friendly designs (eg. lower walls +/-1 m, side walks, pedestrian bridges, street/road fronting developments, compact settlement, adequate lighting).