



CITY OF UMHLATHUZE
REVISION OF SPATIAL DEVELOPMENT FRAMEWORK

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1. BACKGROUND

A Spatial Development Framework (SDF) is a sector plan of a municipal IDP (Integrated Development Plan). The SDF is the visual representation of a municipality's vision, goals and strategies. As such, it is essentially a forward planning document that should not only reflect the current reality but also future development options. An SDF should therefore be used to guide decision making as well.

The quality and utility of an SDF is increased by the level of base data that is available when preparing it. Apart from the municipal IDP, a number of investigations and specialist studies have informed the revision of the SDF for the City of Umhlathuze. These include:

- Geohydrological Assessment
- Floodline Assessment
- Environmental Services Management Plans
- Air Quality Study
- Wetland Boundaries
- Coastal Development Setback Lines
- Agricultural Spatial Development Framework
- Water Services Development Plan
- Umhlathuze Rural Planning Initiative
- Biosphere Study
- City of Umhlathuze Five Year Development Plan (2005)
- Umhlathuze Housing Needs Assessment
- Umhlathuze Housing Development Plan
- National Ports Authority (NPA) Port Master Plan
- Umhlathuze Arterial Roads Programme

The analysis of the above studies and development tendencies in the City of Umhlathuze have been the main informants of the SDF.





Two other elements are also key when considering the future spatial development of the City of Umhlathuze. These are the PSEDS (Provincial Spatial Economic Development Strategy) of KZN as well as the potential future Metropolitan status of the City of Umhlathuze.

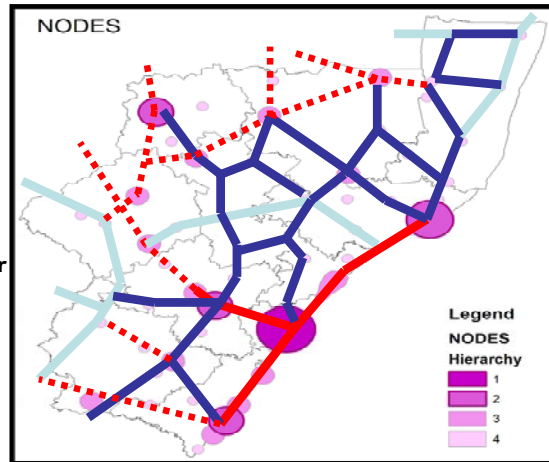
At overleaf, the importance of the City of Umhlathuze in relation to the rest of the Province of KwaZulu-Natal can be seen from some of the outcomes of the PSEDS that were presented at the Uthungulu Growth and Development Summit during November 2006.

NODES AND CORRIDORS

The key investment nodes and activity corridors for the cluster over the next 5 years have been identified.

Primary Purpose of Activity Corridor

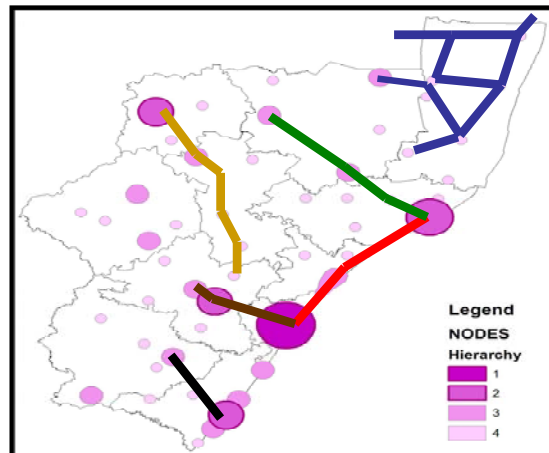
Multi-Sectoral Activity Corridor	
Tourism Activity Corridor	
Agriculture Activity Corridor	
Existing Corridor	



PROVINCIAL CORRIDOR DEVELOPMENT PROGRAMME

Provincial Priority Corridors

PC1	eThekwini/Umhlathuze
PC2	eThekwini – Msunduzi - Umgeni
SC1	Umhlathuze – Ulundi - Vryheid (P700)
SC5	Lebombo SDI - Maputo
SC6	Port Shepstone – St Faiths - Ixopo
SC12	Greytown – Msinga – Madadeni (Battlefields route)



This document is structured in the following manner:

- Section 1 provides a summary of the purpose of reviewing the City of Umhlathuze SDF.
- Section 2 recaps on the guiding principles, development concepts, spatial development goals and strategies that have been applied in the preparation of the SDF review.
- Section 3 considers the issues that are changing the spatial pattern of the City of Umhlathuze.
- Section 4 details the proposed development scenarios for the future spatial development of the City of Umhlathuze.

2. GUIDING PRINCIPLES, CONCEPTS, GOALS AND STRATEGIES

2.1 Guiding Principles

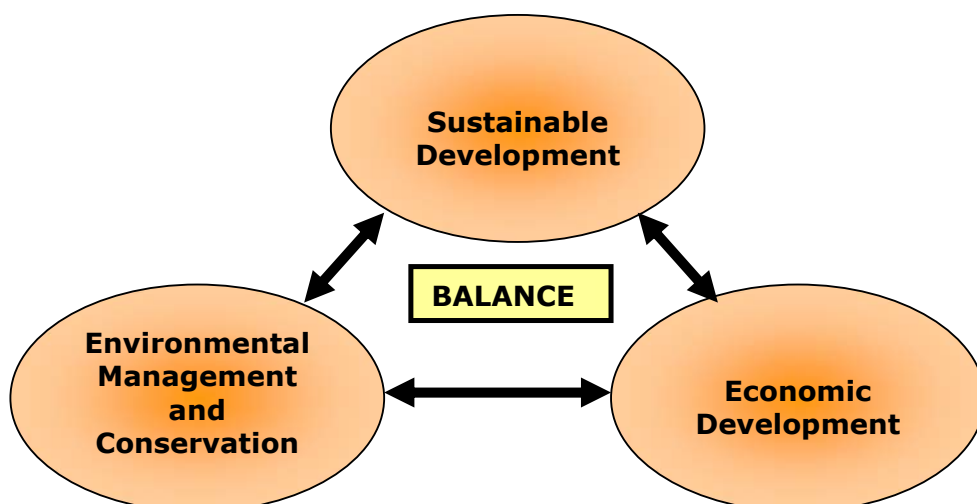
Broadly, the following set of guiding principles for spatial development was derived. These include:

- Balance between urban and rural land development.
- Development should integrate social, economic, institutional and environmental aspects.
- Sensitive, vulnerable, highly dynamic or stressed ecosystems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.
- Urban and rural areas should be developed in support of each other.
- Development should be within limited resources (financial, institutional and physical).
- A Spatial Development Framework (SDF) should indicate areas where strategic intervention is required and should act as marketing tool to indicate where development can be promoted.

2.2 Balanced Approach

It is important that a balanced approach be adopted in spatial planning to ensure sustainable development. The detrimental environmental impacts of economic growth and development should be mitigated as far as possible. This does not mean that economic growth and development should not take place or that environmental management and conservation not be implemented, but rather that there should be a balance between the two. This would also mean that there will be areas of trade-off between the two.

The figure at overleaf shows the relationship outlined above.



2.3 Development Concepts

Three development concepts have been identified and are described hereunder to explain the rationale of spatial development planning. These concepts relate to concentration, connectivity and conservation. Each of these concepts are discussed in more detail hereunder:

<p>Concentration</p>	<ul style="list-style-type: none"> ○ Spatial form aims to achieve equitability by ensuring services and facilities are concentrated in areas of high accessibility. This allows for such services and opportunities to be shared among communities and reduces duplication of inaccessible services. ○ Concentration of services and facilities also promotes an efficient transport system. When development is concentrated at certain nodes, transport routes are clearly defined and serve maximum volumes of people with minimal facilities. ○ Areas with concentrated pockets of development promote vibrant economic and social life.
<p>Connectivity</p>	<ul style="list-style-type: none"> ○ Transport networks are to be promoted as they are the 'veins' of economic growth and a catalyst in economic development. ○ Areas that are highly accessible have better opportunities for economic growth by increasing their market threshold. ○ Good transport systems ensure reliable transport of goods - increasing investor confidence. ○ Diverse goods and services located along the transport network allows for the generation of income by taking advantage of passing traffic. ○ In urban areas development corridors need be supported by dense residential bases.

Conservation	<ul style="list-style-type: none"> ○ Spatial planning should encourage sustainable, balanced growth and development within the carrying capacity of the area. ○ The above is achieved through controlling urban sprawl and conservation of agricultural and environmentally important land. ○ Efficient land use management is critical to attain the above. ○ Rural development and investment could create a degree of sustainability in such areas. ○ Such conservation includes the preservation of natural resources. ○ Spatial planning needs to conserve limited natural resources. ○ Open space and natural resources can be used
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2.4 Goals and Strategies

As part of the SDF preparation four (4) spatial development goals were identified. These have been expanded upon by strategies as listed hereunder:

Promote Sustainable Urban Development
<ul style="list-style-type: none"> ○ Prevent illegal occupation of land by ensuring that provision is made for the formalization of informal residential areas. ○ Residential and employment areas should be integrated to avoid long commuting distances. ○ Provision to be made for a range of residential and commercial types thereby providing the opportunity for the local economy to diversify and develop. ○ Rectify distorted spatial patterns. ○ Discourage urban sprawl. ○ The disturbance of ecosystems and loss of biological diversity should be avoided or where they cannot be altogether avoided, minimized or impacts mitigated. ○ The disturbance of landscapes and sites that constitute the nation's cultural heritage to be avoided.
Environmental Management and Conservation
<ul style="list-style-type: none"> ○ Special development/management areas to be identified to preserve areas of cultural, agricultural or environmental significance. ○ Identify areas at which certain types of land uses could be encouraged or should be discouraged. ○ Indicate where the intensity of land development could be increased or should be reduced. ○ Ensure the ecological sustainability of the study area. ○ Conservation of high potential agricultural land.

- Prepare a plan for refuse removal in areas not already covered by such a service

Promoting Economic Development

- Accommodate future Port Expansion.
- Permitting and encouraging diverse land uses at appropriate locations to develop the economy.
- Ensure alignment with the district and governmental organizations in the interest of promoting tourism development without damaging the environment or ecology.
- Opportunities for small emerging business at accessible locations by identifying nodes/investment points in both the urban and rural environment.
- Boosting those economic sectors/activities that have the potential to grow and create employment and income.
- Promote tourism development without damaging the economy or ecology of the area.
- Accommodate public and private land development.

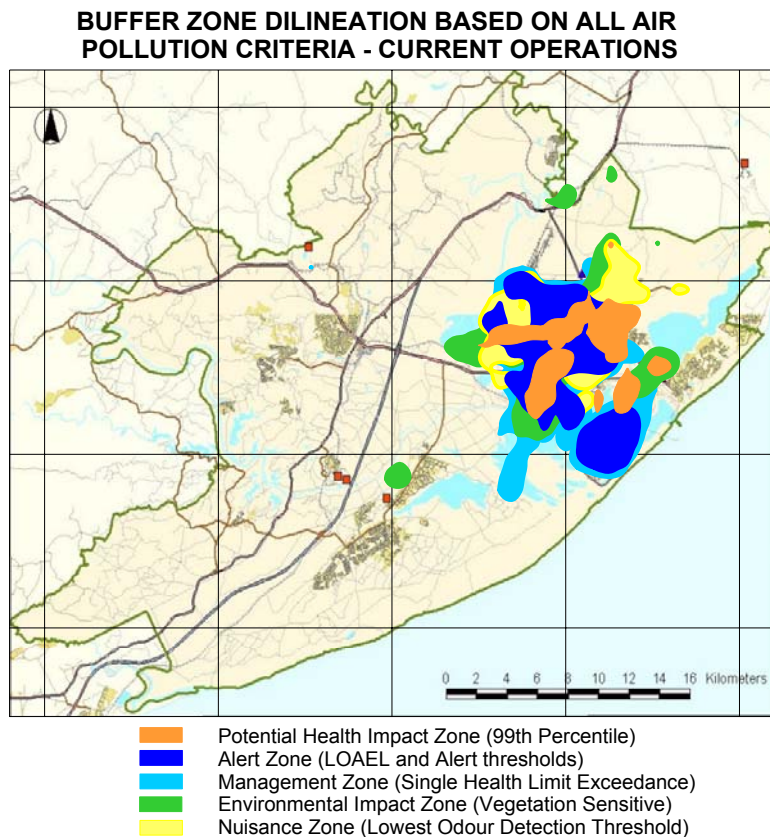
Provision of a Minimum Level of Service (LOS) to all

- Optimize use of existing resources by; inter alia, discouraging long-line services.
- New developments should, as far as possible, be serviced by existing infrastructure networks.
- Address the problem of uncontrolled development in Traditional Authority Areas.
- Provision of basic infrastructure/services and housing to communities.
- Indicate where infrastructure investment is needed to provide minimum levels of services.

The proposed Port expansion, when undertaken, will remove the link that Esikhaweni has with the John Ross Highway and create (albeit) strengthen the link between Esikhaweni and the N2 (Vulindlela and Felixton) in a westerly direction. In the event of Esikhaweni based commuters still being reliant on the Richards Bay area per se for employment and commercial purposes, the economic costs of transport will escalate.

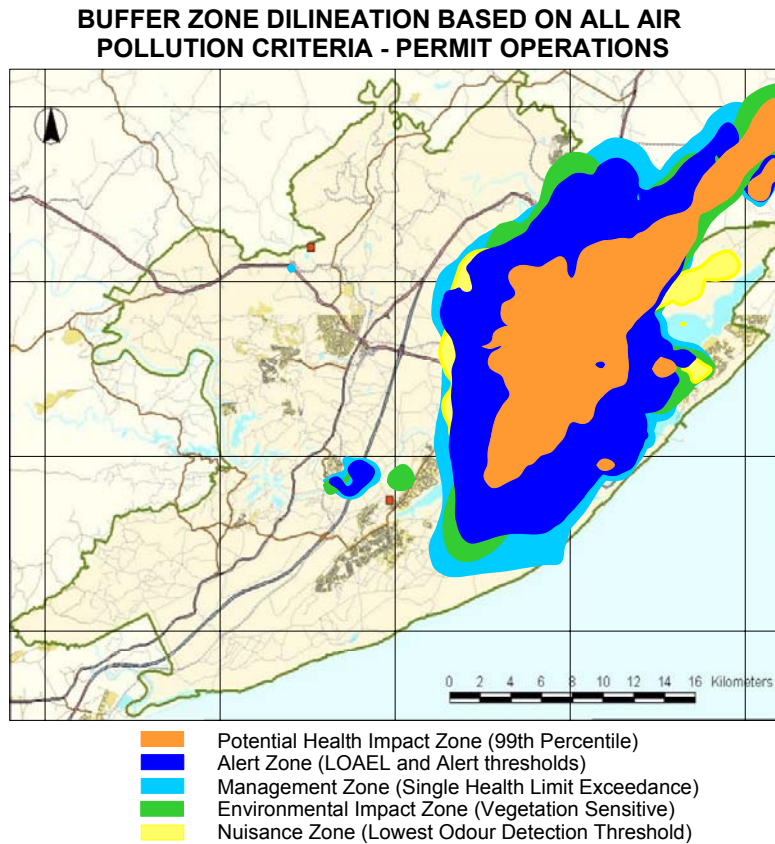
3.2 Air Quality

Also, dangerous emissions Richards Bay area (taking into account anticipated emissions from TATA Steel and Pulp Unite) cannot continue to increase. Based on current emissions, the air has virtually reached its limit. A composite map of the air quality measures is shown hereunder for further explanation:



Form the above it is confirmed that, based on current emissions levels, significant portions of Richards Bay fall within a **health** risk area. An even larger area is subject to odours while sensitive vegetations are also at risk. The map at overleaf shows a more disturbing picture in that it shows the impact should emissions be at permit levels. The health impact zone is much larger. Given the dominant wind directions of NE and SW care is needed in the future sighting of any potentially noxious industry. The whole north-eastern portion of the municipality is restricted for any further emissions. The pictures also highlights the concern that residential expansion in a northerly direction may have to be

limited should emissions on permit operations increase – still within permit amounts.



3.3 Environmental Considerations

The Umhlathuze Strategic Catchment Assessment and Environmental Services Management Plan (ESMP) identified 8 main catchments in the Umhlathuze municipality:

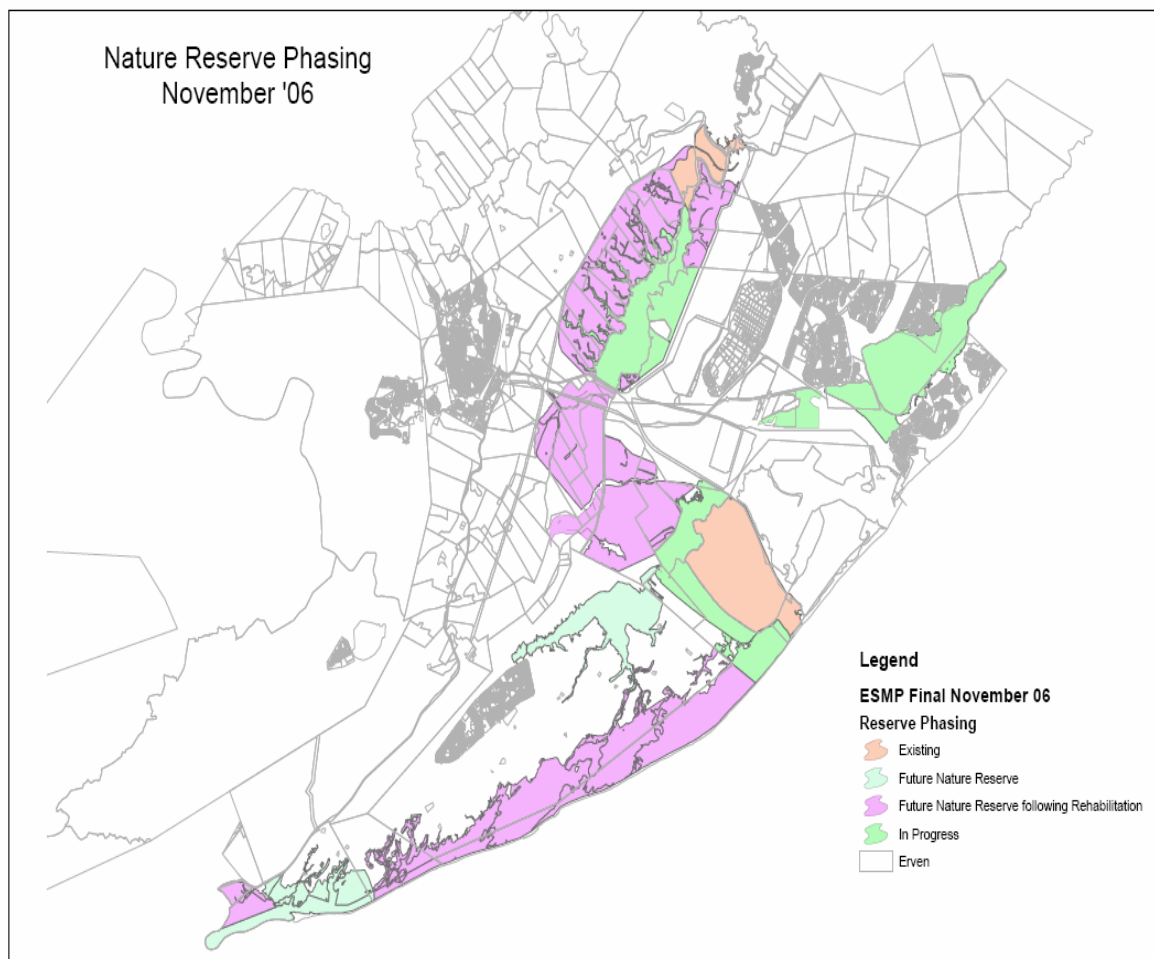
- Nseleni River
- Lake Mzingazi
- Harbour
- City
- Estuary
- Lake Cubu
- Umlalazi Tributaries
- Mhlathuze River

The aim of the ESMP is to provide the municipality with a clear understanding of activities that need to be undertaken to protect and enhance the supply of environmental services in the area.

Each of the listed catchments has been analyzed in terms of an environmental service asset design concept. Subsequently, three tiers of analysis have been identified:

- **Level 1** is the **Conservation Zone** and represents areas of high biodiversity/environmental significance that need or warrant legal protection. In this zone are included unique areas, natural habitats such as wetlands, natural forests and areas within the 1:100m floodline.
- **Level 2** is the **Open Space Linkage Zone** and includes natural buffers for level 1 areas as well as those areas linking level 1 areas.
- **Level 3** represents the **Development Zone** and includes those areas not included in levels 1 and 2. Care should still be taken that development does not negatively impact on level 1 and 2 areas. In other words, development or transformation is allowed but should not adversely impact on environmental sustainability.

During the latter portion of 2006, a fourth level was added to the ESMP mapping, i.e. **Nature Reserve**. The proposed Nature Reserve phasing is shown hereunder.



From the legend on the previous page the following is noted:

- The two existing Nature Reserves in the municipal area are shown
- Future nature reserves are proposed
- Nature reserves that are in the progress of being established are shown
- Future nature reserves are proposed after rehabilitation of the land following the current land uses on the areas

The final SDF map will reflect all the areas listed above given its future (proposed and preferred) state.

The ESMP also indicated that the effective management of the environment will require the application of a range and mix of both legal and financial instruments that can directly or indirectly influence the protection of environment assets, the type and intensity of land use and the type and intensity of human activity for any given area. Typical instruments that could be applied by the municipality relate to land acquisition, legal controls, financial incentives and subsidized management programmes.

3.4 Geotechnical Assessment

A detailed geotechnical assessment has also been undertaken for the City of Umhlathuze. In short, this assessment has assisted in classifying land within the municipal area as follow:

- Costly geotechnical constrains
- Unsuitable geotechnical conditions

3.5 Bulk Infrastructure

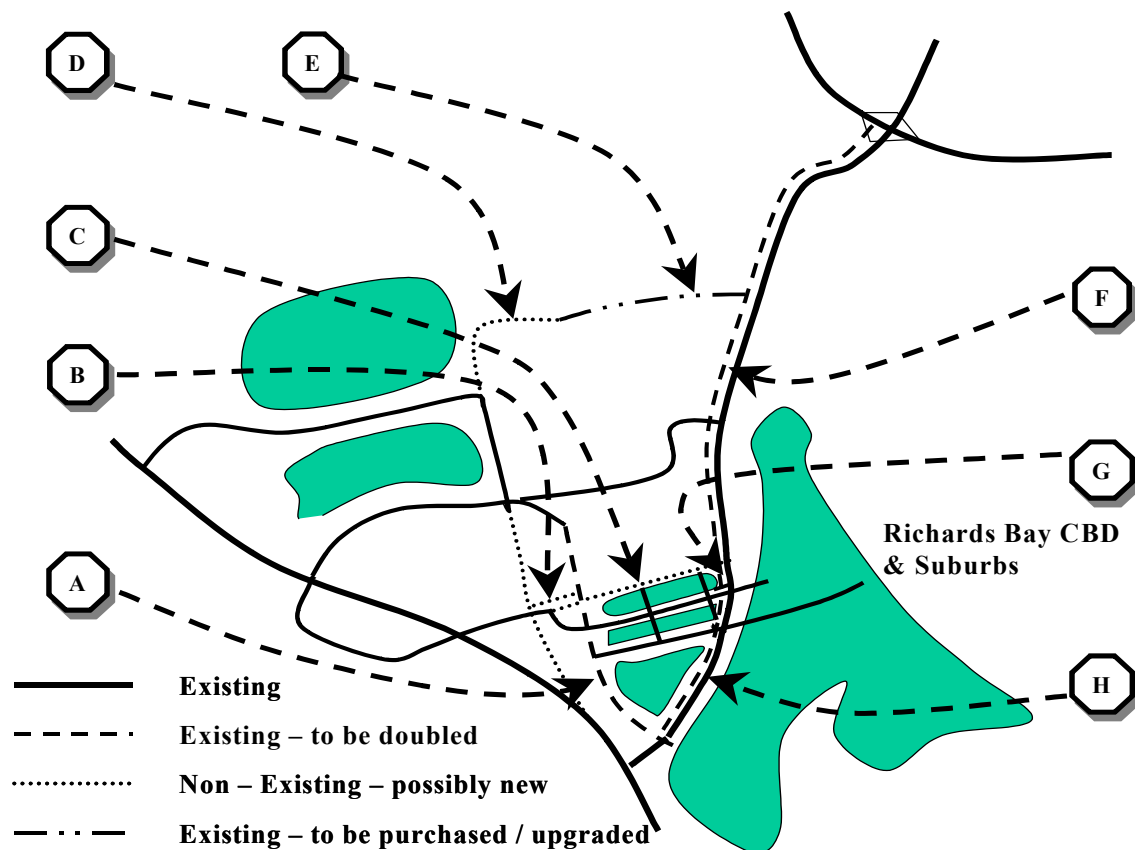
The availability of bulk infrastructure, as well as the additional capacity within the infrastructure system is another crucial factor when considering any form of development. The existing water infrastructure in the City of Umhlathuze has been mapped (attached at overleaf) and the following comments are provided in respect of capacity, proposed additions etc.

- The southern portions of the Municipality, including Port Durnford, Esikhaweni, as well as Vulindlela are supplied by the Forest Reservoirs near Esikhaweni. A third reservoir is proposed bringing the combined capacity to 60MI. The reservoirs are supplied from the Cubu WTW that has a capacity of 27 MI/day. Plans are underway to increase the capacity of the Cubu WTW with an additional 9MI/day. Supply to the Forest Reservoirs can be augmented during periods of drought from a weir in the Umhlathuze River.
- At present, there are sewerage treatment plants at south of Esikhaweni and Vulindlela (Zululand University). The latter has limited capacity. The treatment plant at Felixton also has limited capacity. The Esikhaweni plant has a capacity of 12MI and the current inflow is about 9MI.

- Ngwelezane is supplied from a WTW in the Mhlathuze river and 3 reservoirs are located on the edge of town. The WTW provides 8 MI and Ngwelezane town only uses about 4 MI per day. The Madlebe area to the north of Ngwelezane uses on average 2 MI per day. There is thus a spare capacity of about 2 MI per day from this source.
- Ngwelezane has sewerage treatment plant with spare capacity. At present the daily inflow is about 2,5MI while the capacity is 2,8MI.
- Nseleni town is supplied by Mandlazini Reservoirs (2X47,5 MI). The source of the Mandlazini Reservoirs is the Mzingazi Lake.
- The Mzingazi area has good reticulation and a line also feeds the Mbonambi TA and passes through the area. The source is the WTW at Lake Mzingazi. The capacity of the latter is being improved from 45MI/day to 65MI/day.
- A new 10MI reservoir proposed for Nseleni. The sewage treatment plant has a capacity of 3MI/day and the current inflow is 0,9MI/day.

3.6 Access to Land

Access relates to accessing land via (1) transport routes as well as obtaining (2) rights (and tenure) for the development of land. The Umhlathuze Arterial Roads Programme is shown hereunder depicting areas of potential investment in transport routes.



Obtaining access to land (in terms of development rights and tenure) is currently creating blockages in the natural growth of the urban area. In recent years a number of long term leases have been entered into between Government Departments and commercial agriculture interests. In many instances, land that has now been locked in long terms leases is strategically located along the urban edges of the municipality. Of specific concern are the areas to the north of Birdswood as well as the corridor between Esikhaweni and the N2.

A further land related issue is the limitations (albeit perceived according to some sources) on development in Traditional Authority areas. New legislation, i.e. CLARA Act (Communal Land Rights Act No. 11 of 2004) that has as one of its objective to convert or confirm or cancel old order rights and allocate new order rights have been prepared. However, a number of other constraints are also evident on Traditional Authority land, i.e. levels of services, accessibility and locality.

The allocation of prospecting rights (mineral rights) as depicted on the map attached at overleaf is a further cause of concern as it directly impacts on the developability of a land parcel. Details of mineral rights that have been awarded in the municipal area of the City of Umhlathuze have been mapped and are attached.

A land release strategy is needed for the City of Umhlathuze, albeit that the municipality does not necessarily have land to release but access to privately or other publicly owned land is needed.

The table at overleaf provides the City of Umhlathuze with some guidelines regarding the size of land required to accommodate specific growth rates.

Revision of Umhlathuze Spatial Development Framework

	Census		Annual Growth of 2%				Annual Growth at 5%				Annual Growth at 10%			
	1996	2001	2002	2005	2010	2015	2002	2005	2010	2015	2002	2005	2010	2015
Population Size	191111	289189	294973	313027	345608	381579	303648	351511	448627	572574	318108	423402	681893	1098195
Number of Households		73660	75133	79732	88031	97193	77343	84783	104723	126740	81026	107846	173686	279724
Average Households Size		3.925998												
Increase in Households				4599	8299	9162		7440	19941	22016		26820	65841	106037
Land Required (Ha)														
20 units/ha				230	415	458		372	997	1101		1341	3292	5302
30 units/ha				153	277	305		248	665	734		894	2195	3535

It is suggested that the above figures be kept in mind when considering expansion areas and potential for the City of Umhlathuze. It is, however, problematic to estimate what the population (and subsequent household) growth rate will be in the municipal area. The increase in population between 1996 and 2001 of 51% is attributed to an under count. Still, the City of Umhlathuze is one of the major provincial nodes and does attract people to employment opportunities. The update of land (as a result of population increase) is also dependent of the rather uncertain impact of the HIV/Aids pandemic on the municipal population growth rate.

4. DEVELOPMENT SCENARIOS

The forces and factors described in the previous section allude to a number of components that have to be borne in mind when doing spatial development planning. These include:

- Areas of development pressures
- Development trends
- Areas of sensitivity
- Areas of investment
- Areas of conflicting uses
- Areas of opportunity

A number of development proposals are at advanced stages of planning. Some have even been through a tender process. Through discussion with various departments and consideration of the City of Umhlathuze's Five Year Development Plan a map has been produced showing proposed development. It is important to note that the developments recorded in the Five Year Development Plan are more of a densification nature and are considered to be logical extensions of the urban environment. At overleaf, a map has been attached depicting these proposed developments.

The following table is a summary of the proposed developments depicted on the map at overleaf:

Map No.	Proposed Development Name	Nature of Proposed Development
1	Alton Industrial	Industrial
2	Aquadene Super Block	Residential
3	Birdswood Extension	Residential
4	Carsdale	Residential
5	Casino Resort	Recreational
6	Erf 7436	Eco Estate Residential
7,8	Hillview	Residential
9	Honey Farm	Eco Estate Residential
10	Industrial Development 11451	Industrial
11	Meerensee 5	Eco Estate Residential
12	Meerensee CBD upgrade	Commercial
13	Mzingazi Golf Estate	Residential
14	Ezulwini Estate	Residential
15	Pulp United	Industrial/Manufacturing
16	Retirement Village	Retirement Facility
17,18	Southern Sanctuary	Commercial/Residential
19	Tata Steel	Industrial/Manufacturing
20	The Ridge	Residential
21	Umhlathuze Village	Residential

22	Waterfront & Marina	Residential/Commercial/Recreation
23	Waterworks Node	Residential/Commercial/Recreation
24	Wild-en-Weide Lot 11494	Residential
25	Wild-en-Weide Lot 11497	Residential
26	Wild-en-Weide Buffer Brackenham	Residential

Note: The exact scope of work for all of the above proposed developments is not yet finalized and therefore the contents of this table will require updating in course of time.

Due to locality issues 4 opportunity areas have been identified in the Umhlathuze SDF. They are all located at the intersection (bridge crossing) of main roads, albeit the N2, John Ross Highway or the Old Main Road. These opportunity areas are discussed briefly hereunder:

1. Located in proximity to the intersection of the N2 and the John Ross Highway. This area presents opportunities to facilities (land uses) that require very good visibility. The access to such facilities is not directly off the area depicted on the map due to road safety, visibility and topographical issues but rather at a safe distance from the said intersection.
2. Located at the intersection of the Old Main Road and the N2 this area is both very visible and has good access possibilities off the Old Main Road particularly. This intersection is at the boundary of potential Expansion Areas C and D. (to be discussed in more detail hereunder).
3. Opportunity areas 3 and 4 are significant given their location along the proposed Esikhaweni – Vulindlela development corridor. They offer both visibility (although not off the N2) as well as good access to passing trade and commuters.

It is considered that development pressures will arise at all of the above opportunity areas in the next few years. These areas offer distinct opportunities and development at these areas is inevitable. Due to their accessibility (and visibility off the N2) special attention should be taken to ensure road safety when development occurs at or in the proximity of these opportunity areas.

Apart from the development proposals and opportunity nodes referred to above, the factors that have, and are continually, adding to spatial change in the City of Umhlathuze have been applied to the spatial environment and a number of potential **expansion areas** have emerged. Each of the proposed expansion areas are now further investigated and reported in respect of the following:

1. Why they were identified?
2. The characteristics of the sites are discussed in more detail, i.e. slope analysis, geotechnical and environmental condition.
3. What development constraints are posed by each of the proposed expansion areas? With regard to development constraints, tenure issues, availability of services and similar issues are considered.
4. The potential development that may be accommodated on each of the sites in respect of land use options is also considered. As far as possible,

specific land uses are not mentioned but rather land uses that are compatible with the location. The former has to be driven by market forces at the time of development.

Detailed mapping of the proposed expansion areas is attached as well.

When considering the proposed expansion areas the following should be borne in mind:

1. A **phased approach** will be adopted in the development of both infill and expansion areas. It is likely that the availability, coupled with demand, will direct the phasing of the various expansion areas.
2. The proposed **uses** identified are not prescriptive in that they are options rather than specific zonings. Specific uses will have to be driven by market forces must be **compatible** with the area characteristics as defined (and needs at the time of development).
3. The detailed planning of any development will have to comply with the requirements, standards and norms of the **Red Book (Guidelines for Engineering Services and Amenities & Human Settlement Planning and Design)** in respect of social and community facilities. Neighbourhood commercial facilities will also be required.
4. It has been assumed that the Municipality can **access** (or facilitate the development thereof) of the **land** under discussion whether from its public or private owners.
5. The proposed developments as well as the expansion areas comply with the principles, goals and strategies outlined in section 2 of this report. Some development proposals/expansion may be considered by some as **ribbon development** while it is actually **infill development**. Development does take place at **spatial intervals (in a ribbon manner)** after which infill development takes place.
6. It is useful to have an idea of the **growth** that has taken place over the last few years in the municipal area to, subject to the continued economic growth, the future development demands can be anticipated. From the Economic and Business Report for Richards Bay and the Uthungulu District, the following is noted:
 - The development of office and banking space has been increasing from 55m² per month in 2004 to 107m² per month in 2005.
 - There was an increase of 11295m² of retail space between January 2003 and June 2006.
 - Between 2003 and 2005, a total of 53680m² of industrial space was developed.

The above reflects building space and it can be anticipated that about double the actual floor areas (when considering a coverage of 50%) have been developed in land. Thus, in the region of 3Ha retail space and 11Ha of industrial land.

A further important comment is that, especially with regard to the provision of residential properties, not only will demand be met but it is likely that demand will also be created and an influx of people from outside the municipal area.

4.1 Potential Expansion Area A

Potential Expansion Area A	
Identification Criteria	<ul style="list-style-type: none"> ○ Areas with limited environmental conservation and environmental linkages zones. ○ Areas with minimal geotechnical constraints. ○ Slopes less than 25%. ○ Good linkage between Esikhaweni and Vulindlela, especially in lieu of proposed Port Expansions. ○ Potential linkage with existing urban developments, as well as processing and value adding activities at Felixton town as well. ○ Very accessible. ○ Potential to accommodate overflow from Esikhaweni, especially in lieu of potential upgrading/formalizing of informal rural nodes around Esikhaweni. ○ Area can be easily serviced with water and sanitation infrastructure. Forest Reservoirs located in the area and gravity feeding to sewage treatment plants.
Area Characteristics	<ul style="list-style-type: none"> ○ Total area: 593.03Ha ○ Developable Area: 279.87Ha ○ Total area with minor constraints: 442.69Ha ○ Area subject to prospecting rights: 593.03Ha ○ Area under forestry plantations
Potential Development Constraints	<ul style="list-style-type: none"> ○ There is a concern that the whole area is subject to mining/prospecting rights. ○ Area is subject to a long terms lease between DWAF and commercial forestry concern.
Area Potential	<ul style="list-style-type: none"> ○ Care should be taken not to adversely affect air quality given the dominant wind direction and the existing air quality issues to the north east of Area A. ○ Developable area of 36Ha in close proximity to Esikhaweni appropriate for residential development and some (albeit limited) commercial development due to good access. ○ The process is already underway for the development of a cemetery to the west of the N2 – within the

- corridor area.
- At the intersection of the Old Main Road and the link road between Esikhaweni and Vulindlela a mix of land uses (higher density residential and commercial) is proposed due to the good access.
 - To the east of the area referred to above, medium to higher income residential development is proposed.
 - Land uses of a more commercial nature are proposed in direction proximity to the cemetery site with possible value adding to the north of the area. The reason for the latter being that the portion to the north of the north of the railway line has limited access – at present only one bridge over the railway line.

In the context of the map attached at overleaf, the following calculations have been made:

POTENTIAL USE	TOTAL AREA WITH NO RESTRICTIONS (Ha)	TOTAL AREA WITH MINOR CONSTRAINTS (Ha)	DEVELOPABLE AREA (Ha)	TOTAL AREA (Ha)
RESIDENTIAL & LIMITED COMMERCIAL	0.00	36.48	36.48	70.14
RESIDENTIAL	0.00	67.19	67.19	71.17
MIX OF USE	0.00	95.18	95.18	124.92
MEDIUM TO HIGHER INCOME RESIDENTIAL (1)	0.00	81.01	81.01	86.89
MEDIUM TO HIGHER INCOME RESIDENTIAL (2)	0.00	81.18	81.18	96.51
RESIDENTIAL/COMMERCIAL	0.00	37.59	37.59	39.54
VALUE ADDING		44.06	44.06	65.24
CEMETERY	N/A	N/A	N/A	38.63
TOTAL	0.00	442.69	279.87	593.03

NB: MINERAL RIGHTS EXCLUDED FROM CALCULATIONS

4.2 Potential Expansion Area B

Potential Expansion Area B	
Identification Criteria	<ul style="list-style-type: none"> ○ Areas with limited environmental conservation and environmental linkages zones. ○ Areas with minimal geotechnical constraints. ○ Slopes less than 25%. ○ Area is natural extension of Empangeni in a southerly direction. Has potential for infill development between existing towns of Felixton and Empangeni. ○ Portions on the east on the area have very high visibility along the N2 and John Ross Highway but very limited accessibility. ○ Access to the western portions of the site is good with the Old Main Road passing through the area in a North South direction. ○ Area can be easily serviced with water infrastructure. The provision of sanitation could be problematic and would require upgrade of treatment plant at Vulindlela or the development of a new facility in the area.
Area Characteristics	<ul style="list-style-type: none"> ○ Total area: 2982.65Ha ○ Developable Area: 628.86Ha ○ Area with minor constraints: 2174.08Ha ○ Area subject to prospecting rights: None
Potential Development Constraints	<ul style="list-style-type: none"> ○ Land in private ownership. ○ Higher potential agricultural land. ○ Cost of land potentially high due to existing sugar cane. ○ Sewage provision to the area problematic.
Area Potential	<ul style="list-style-type: none"> ○ Portions very visible but with limited accessibility due to boundary on John Ross Highway and N2. Certain land uses require high visibility but not necessarily direct access. ○ Northern portions of area under pressure for industrial expansion from Empangeni. Could accommodate a mix of industrial, service industrial and commercial.

- North western portion of area should at least allow a mix of land use introducing some higher density residential.
- Areas to west of Felixton potential for value adding and higher density residential.
- Areas to north and east of Felixton likely for residential expansion
- Areas south of Felixton to link with existing industrial activities and employment opportunities.

In the context of the map attached at overleaf, the following calculations have been made:

POTENTIAL USE	TOTAL AREA WITH NO RESTRICTIONS (Ha)	TOTAL AREA WITH MINOR CONSTRAINTS (Ha)	DEVELOPABLE AREA (Ha)	TOTAL AREA (Ha)
HIGH VISIBILITY/ACCESS CONSTRAINTS	0.00	628.86	628.86	856.2
INDUSTRIAL/SERVICE INDUSTRIAL/COMMERCIAL		523.63		640.1
MIXED USE/VALUE ADDING		459.53		575.3
VALUE ADDING		562.06		805.4
FELIXTON	N/A	N/A	N/A	105.3
TOTAL	0.00	2174.08	628.86	2982.6

4.3 Potential Expansion Area C

Potential Expansion Area C	
Identification Criteria	<ul style="list-style-type: none"> ○ Areas with limited environmental conservation and environmental linkages zones. ○ Areas with minimal geotechnical constraints. ○ Slopes less than 25%. ○ Area is natural extension of Empangeni in a northerly direction. Has potential for infill development from Empangeni toward Richards Bay along access route (John Ross Highway). ○ Portions on the east on the area have very high visibility along the N2 and John Ross Highway but very limited accessibility. ○ Access to the western portions of the site is good with the Old Main Road passing the area towards its intersection with the N2. ○ Area can be serviced with water infrastructure via the existing main between the source at Nsezi and Empangeni. ○ The provision of sanitation is likely to be less problematic than Area A.
Area Characteristics	<ul style="list-style-type: none"> ○ Total area: 521.91Ha ○ Developable Area: 425.68Ha ○ Area with minor constraints: 425.68Ha ○ Area with mineral (prospecting) rights: 96.23Ha
Potential Development Constraints	<ul style="list-style-type: none"> ○ Land in private ownership. ○ Higher potential agricultural land. ○ Cost of land potentially high due to existing commercial agricultural activity. ○ Existing mineral (prospecting) rights over the area.
Area Potential	<ul style="list-style-type: none"> ○ Proximity to Empangeni industrial (service industrial) area creates opportunity for value adding and range of potential mixed uses. Very good access supports proposed land uses. <p>In the context of the map attached at overleaf, the following calculations have been made:</p>

Revision of Umhlathuze Spatial Development Framework

POTENTIAL USES	TOTAL AREA WITH NO RESTRICTIONS (Ha)	TOTAL AREA WITH MINOR CONSTRAINTS (Ha)	DEVELOPABLE AREA (Ha)	TOTAL AREA (Ha)
HIGH VISIBILITY/ACCESS CONSTRAINTS	0.00	249.04	249.04	321.4
MIXED USE/LIMITED COMMERCIAL/VALUE ADDING	0.00	176.64	176.64	200.4
TOTAL	0.00	425.68	425.68	521.9

4.4 Potential Expansion Area D

Potential Expansion Area D	
Identification Criteria	<ul style="list-style-type: none"> ○ Areas with limited environmental conservation and environmental linkages zones. ○ Areas with minimal geotechnical constraints. ○ Slopes less than 25%. ○ Area is natural extension of Empangeni in a north easterly direction. ○ Portions on the north and eastern border of the area very good visibility but access constraints given its location. ○ Good access off the Old Main Road.
Area Characteristics	<ul style="list-style-type: none"> ○ Total area: 1756.10Ha ○ Developable Area: 495.81Ha ○ Area with minor constraints: 495.81Ha ○ Area subject to (prospecting) rights: 1032.39Ha
Potential Development Constraints	<ul style="list-style-type: none"> ○ Land in private ownership. ○ Higher potential agricultural land. ○ Cost of land potentially high due to existing commercial agricultural activity. ○ Existing mineral (prospecting) rights over the north eastern portion of the area.
Area Potential	<ul style="list-style-type: none"> ○ Area has good access to main roads. ○ Service provision problems can be overcome. ○ Higher density residential development directly to the west of the Old Main Road and medium to higher cost residential development towards the eastern border of the area. <p>In the context of the map attached at overleaf, the following calculations have been made:</p>

(EXCLUDING MINERAL RIGHTS FROM CALCULATIONS)				
POTENTIAL USES	TOTAL AREA WITH NO RESTRICTIONS (Ha)	TOTAL AREA WITH MINOR CONSTRAINTS (Ha)	DEVELOPABLE AREA (Ha)	TOTAL AREA (Ha)
HIGH VISIBILITY/ACCESS CONSTRAINTS	0.00	324.73	324.73	331.29
LONG TERM RESIDENTIAL	0.00	352.22	352.22	405.76
HIGHER DENSITY RESIDENTIAL	0.00	248.35	248.35	266.57
RESIDENTIAL PRESSURE	0.00	602.91	602.91	752.49
TOTAL	0.00	1528.20	1528.20	1756.10
(INCLUDING MINERAL RIGHTS IN CALCULATIONS)				
POTENTIAL USES	TOTAL AREA WITH NO RESTRICTIONS (Ha)	TOTAL AREA WITH MINOR CONSTRAINTS (Ha)	DEVELOPABLE AREA (Ha)	TOTAL AREA (Ha)
HIGH VISIBILITY/ACCESS CONSTRAINTS	0.00	0.00	0.00	331.29
LONG TERM RESIDENTIAL	0.00	35.39	35.39	405.76
HIGHER DENSITY RESIDENTIAL	0.00	135.29	135.29	266.57
RESIDENTIAL PRESSURE	0.00	325.13	325.13	752.49
TOTAL	0.00	495.81	495.81	1756.10

4.5 Potential Expansion Area E

Potential Expansion Area E	
Identification Criteria	<ul style="list-style-type: none"> ○ Areas with limited environmental conservation and environmental linkages zones. ○ Areas with minimal geotechnical constraints. ○ Slopes less than 25%. ○ Area is natural extension of Empangeni in a north easterly direction. ○ Access to the site is available for first phases. Future development of the area will require provision of additional access.
Area Characteristics	<ul style="list-style-type: none"> ○ Total area: 1431.83Ha ○ Developable Area: 1486.10Ha ○ Area with minor constraints: 1394.26Ha ○ Area with no restrictions: 91.84Ha
Potential Development Constraints	<ul style="list-style-type: none"> ○ Land in private ownership. ○ Higher potential agricultural land. ○ Serviceability of area to be confirmed.
Area Potential	<ul style="list-style-type: none"> ○ Most southern portion of the area most suitable for mixed use type of development given its border on both commercial and residential areas. ○ In the medium term, likely that value adding as well as a range of residential uses could be accommodated. ○ In the long term, residential development in the more northern portions of the areas. <p>In the context of the map attached at overleaf, the following calculations have been made:</p>

Revision of Umhlathuze Spatial Development Framework

POTENTIAL USES	TOTAL AREA WITH NO RESTRICTIONS (Ha)	TOTAL AREA WITH MINOR CONSTRAINTS (Ha)	DEVELOPABLE AREA (Ha)	TOTAL AREA (Ha)
MIXED USE	21.76	153.30	175.05	217.80
VALUE ADDING	70.09	234.03	304.11	356.37
RESIDENTIAL MIX	0.00	701.87	701.87	387.92
LONG TERM RESIDENTIAL	0.00	305.06	305.06	469.75
TOTAL	91.84	1394.26	1486.10	1431.83

NB: MINERAL RIGHTS INCLUDED IN CALCULATIONS

4.6 Potential Expansion Area F

Potential Expansion Area F	
Identification Criteria	<ul style="list-style-type: none"> ○ Areas with limited environmental conservation and environmental linkages zones. ○ Areas with minimal geotechnical constraints. ○ Slopes less than 25%. ○ Area is natural extension of Richards Bay in a north easterly direction. ○ Are development pressures for expansion from Birdswood, Mandlazini and Veld-en-Vlei. ○ Area beneath ridge area where expansion is constraint. ○ Area can be serviced with water and sanitation services.
Area Characteristics	<ul style="list-style-type: none"> ○ Total area: 2344.18Ha ○ Developable Area: 1580.77Ha ○ Area with minor constraints: 1580.77Ha
Potential Development Constraints	<ul style="list-style-type: none"> ○ Land is in state ownership but long terms leases have been entered into to use the land for commercial agricultural purposes. ○ Area located in zone that may potentially be threatened by odours and health risks associated with air quality problems. ○ No major access routes to area. Access to area from residential roads.
Area Potential	<ul style="list-style-type: none"> ○ Area has potential for residential expansion from Birdswood, Veld-en-vlei as well as Mandlazini. ○ Appropriate levels of community and commercial facilities will have to be provided. ○ Eastern portion of the area could accommodate value adding and a higher density residential development. ○ Proximity of area to RBM could contribute to the development of the area for not solely residential purposes as an economic hub already exists (although isolated) in the area. ○ Area could gain access (although poorly developed and maintained) via the Mbonambi Local Municipality to the N2. <p>In the context of the map attached at overleaf, the following calculations have been made:</p>

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POTENTIAL USE	TOTAL AREA WITH NO RESTRICTIONS (Ha)	TOTAL AREA WITH MINOR CONSTRAINTS (Ha)	DEVELOPABLE AREA (Ha)	TOTAL AREA (Ha)
VALUE ADDING	0.00	812.39	812.39	1237.77
RESIDENTIAL		768.38	768.38	1106.41
TOTAL	0.00	1580.77	1580.77	2344.18

5. CONCLUSION

The expansion areas discussed on the previous pages have a combined developable area in the region of 4893Ha (land restrained by mineral/prospecting rights has not been included). A vast area is identified by this SDF for future development. It should be noted that the total area will not be earmarked for residential development. Should 75% of the expansion areas be used for residential purposes, a developable area of 3669Ha is likely to be available. The calculations at the end of section 3 allude to the fact that an additional 3535Ha (at a development density of 30 units per Ha) may required for residential purposes should the municipal population increase by 10% per annum.

At overleaf the following two maps are attached:

- Environmental Considerations that has been produced by the culmination of all environmental factors impacting on the future development of the municipality and their relation to the proposed expansion areas.
- Spatial Development Framework considering the environmental considerations referred to above against the backdrop of proposed developments and opportunity areas.

In lieu of the above, the City of Umhlathuze has to take a strategic position about their future role and status in Northern KwaZulu-Natal as well as provincially and nationally. Issues such as inevitable population increase, the need for more (than the already existing) regional facilities, proposed Port expansion coupled with economic growth and development will have to inform the strategic direction that the City of Umhlathuze pursues.

This Spatial Framework Plan has been prepared considering a number of opportunities and constraints culminating in a challenging series of decisions that will be required by the City of Umhlathuze to respond to definite (existing and proposed) needs as well as opportunities. The Spatial Framework Plan relates to the IDP and the IDP (budget and projects) should respond to the Spatial Framework Plan.