



2016

[TUGELA MOUTH LOCAL AREA PLAN: FINAL]

[COMPOSITE REPORT]

[MANDENI PLANNING AND DEVELOPMENT UNIT]

PREPARED FOR:



MANDENI LOCAL MUNICIPALITY

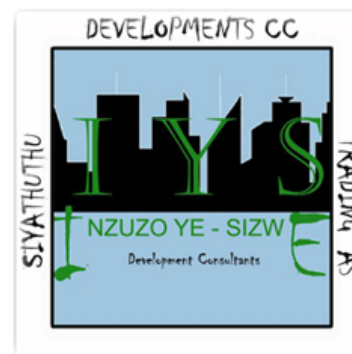
2 Kingfisher Road
Mandeni
4490

Tel : 032 - 456 8200

Fax : 032 - 456 2504

Website: <http://www.mandeni.gov.za>

PREPARED BY:



52 Langenhoven Road
Naperville, Pietermaritzburg
3201

CONTACT PERSON: MXOLISI NDLOVU

[Contact : 033 345 2529]

[Cell : 082 093 7304]

[Fax : 086 212 1701]

[E-mail : mxolisi@inzuzoyesizwe.co.za]

[Website : www.inzuzoyesizwe.co.za]

TABLE OF CONTENT

1. INTRODUCTION.....	1
1.1 TUGELA MOUTH.....	1
1.2 APPROACH AND METHODOLOGY	6
1.2.1 DATA COLLECTION AND ANALYSIS	7
1.2.2 STAKEHOLDER ENGAGEMENT	8
1.2.3 DATA COLLECTION METHODS	8
2. PLANNING AND DEVELOPMENT CONTEXT	9
2.1 PROVINCIAL POLICY AND LEGISLATIVE CONTEXT	9
2.2 DISTRICT POLICY CONTEXT	14
2.3 LOCAL POLICY CONTEXT	16
2.4 SIZE AND STRUCTURE OF THE POPULATION.....	18
2.5 EMPLOYMENT BY INDUSTRY AND INCOME PROFILE.....	18
2.6 SUMMARY	21
3. REGIONAL CONTEXT.....	22
3.1 ACCESS AND LOCATION.....	22
3.2 ACCESS AND CONNECTIVITY	24
3.3 TUGELA MOUTH HISTORICAL ACCOUNT.....	25
3.4 TUGELA MOUTH WITHIN MANDENI MUNICIPALITY.....	25
3.5 ROLE OF TUGELA MOUTH IN THE REGIONAL CONTEXT	27
3.6 IMPLICATIONS	29
4. STRATEGIC ASSESSMENT OF TUGELA MOUTH.....	30
4.1 BUILT FORM.....	30

4.1.1	ARCHITECTURAL STYLES	30
4.1.2	SENSE OF PLACE	31
4.2	HERITAGE BUILT-FORM	31
4.2.1	PROTECTED BUILDINGS	31
4.2.2	HERITAGE BUILDINGS AND SITES	31
4.2.3	STREETSCAPES AND LANDSCAPES IN THE AREA	32
4.3	QUALITY OF BUILT ENVIRONMENT	33
4.3.1	DERELICT BUILDINGS THAT REQUIRE UPGRADING	33
4.3.2	ABANDONED UNMAINTAINED STRUCTURES	33
4.3.3	BUILDINGS THAT ENCROACH ON THE ROAD RESERVE	33
4.3.4	ANY ILLEGAL BUILDING	34
4.3.5	SECOND ECONOMY: INFORMAL SECTOR AND STREET TRADING	34
4.4	SPATIAL	35
4.4.1	STRUCTURE OF TUGELA MOUTH TOWN	35
4.4.2	MOVEMENT SYSTEMS	36
4.4.3	MOVEMENT PATTERN	38
4.4.4	LAND USE PATTERN	39
4.4.5	ZONING	43
4.4.6	DEVELOPMENT INITIATIVES AND APPLICATIONS	43
4.4.7	CAPITAL INVESTMENT PROJECTS WITHIN TUGELA MOUTH	47
4.5	SUSTAINABLE HUMAN SETTLEMENTS	47
4.5.1	HOUSING	48
4.6	COMMUNITY FACILITIES	49
4.6.1	SPORT & RECREATIONAL FACILITIES	49
4.6.2	HEALTH FACILITIES	49
4.6.3	EDUCATIONAL FACILITIES	49
4.6.4	PUBLIC FACILITIES	49
4.6.5	PUBLIC SAFETY	50
4.7	LAND LEGAL	52
4.7.1	LAND OWNERSHIP	52
4.7.2	LAND TENURE ISSUES	52

4.8 THE LOCAL ECONOMY	53
4.8.1 SIZE AND STRUCTURE OF THE ECONOMY	53
4.8.2 ECONOMIC SECTORS	54
4.9 ENVIRONMENT ASSESSMENT	56
4.9.1 HYDROLOGY AND PROXIMITY TO DRAINAGE LINES.....	56
4.9.2 TOPOGRAPHY.....	58
4.9.3 GEOLOGY AND SOILS	59
4.9.4 AGRICULTURAL POTENTIAL	60
4.9.5 CLIMATE AND RAINFALL	61
4.9.6 FATAL ENVIRONMENTAL LIMITATIONS.....	62
4.9.7 LAND COVER	63
4.9.8 GREEN ECONOMY	63
4.10 INSTITUTIONAL.....	65
4.11 INFRASTRUCTURE ASSESSMENT	65
4.11.1 WATER STORAGE, NETWORK AND TREATMENT	65
4.11.2 SEWER NETWORK AND TREATMENT	68
4.11.3 ELECTRICITY SUB-STATION AND NETWORK	69
4.11.4 REFUSE REMOVAL AND LANDFILL SITE.....	70
4.12 TRANSPORTATION.....	70
4.12.1 ROADS AND INTERSECTIONS	70
4.12.2 PEDESTRIANS	72
4.12.3 PARKING.....	72
4.12.4 PUBLIC TRANSPORT	72
4.13 REGULATION OF EXTRA-HEAVY DUTY TRUCK LOADS	73
4.14 POWERS AND FUNCTIONS FOR THE TUGELA MOUTH ROADS	73
5. KEY ISSUES AND INFLUENCES	74
6. TUGELA MOUTH STRATEGIC FRAMEWORK	76
6.1 TUGELA MOUTH SPATIAL VISION.....	76

6.2 DEVELOPMENT OBJECTIVES.....	76
6.2.1 REGIONAL DEVELOPMENT OBJECTIVES.....	76
6.2.2 LOCAL DEVELOPMENT OBJECTIVES	76
6.2.3 DEVELOPMENT OBJECTIVES	77
6.2.4 STRATEGIC DEVELOPMENT OBJECTIVES.....	77
6.2.5 DEVELOPMENT PRINCIPLES	77
7. STRATEGIC AREAS FOR INTERVENTION	79
7.1 SPATIAL AND FUNCTIONAL INTEGRATION.....	79
7.1.1 TUGELA MOUTH RESTRUCTURING: INTERFACE AND INFILL DEVELOPMENT	79
7.1.2 DEVELOPING AN EFFICIENT CIRCULATION AND MOVEMENT	84
7.1.3 GATEWAYS AND ENTRANCE POINTS	86
7.2 PROPER URBAN MANAGEMENT	89
7.2.1 PUBLIC REALM UPGRADE	89
7.2.2 ENFORCEMENT OF BY-LAWS	90
7.2.3 VISUAL STREETSCAPE CHARACTER	91
7.2.4 LEGIBILITY AND LANDMARKS	93
7.2.5 SIGNAGE.....	94
7.2.6 HERITAGE BUILDINGS (ICONIC PUBLIC PLACES)	96
7.2.7 INTEGRATED OPEN SPACE SYSTEM	96
7.2.8 PEDESTRIAN WALKWAYS.....	98
7.2.9 ENVIRONMENTAL MANAGEMENT PROGRAM	98
7.3 IMPROVED QUALITY OF LIFE AND ENVIRONMENT	99
7.3.1 IMPROVED ACCESS TO PUBLIC FACILITIES AND AMENITIES	99
7.3.2 PUBLIC SAFETY	99
7.3.3 SAFETY AND SECURITY/ CRIME PREVENTION.....	99
7.4 ROADS AND STORMWATER INFRASTRUCTURE	101
7.4.1 UPGRADING AND MAINTENANCE OF ROADS.....	101
7.4.2 STORM WATER MANAGEMENT.....	101
7.5 BULK WATER INFRASTRUCTURE	101

7.5.1	GENERAL CHALLENGES	101
7.5.2	ESTIMATED WATER DEMAND.....	102
7.5.3	PROPOSED SOLUTION.....	102
7.6	BULK SANITATION INFRASTRUCTURE	103
7.6.1	GENERAL CHALLENGES	103
7.6.2	ESTIMATED WASTE WATER DESIGN FLOW	103
7.6.3	PROPOSED SOLUTION.....	103
7.7	BULK ELECTRICITY INFRASTRUCTURE	105
7.8	PARKING	106
8.	TUGELA MOUTH ECONOMIC DEVELOPMENT STRATEGY	108
8.1	ECONOMIC STRATEGIC OBJECTIVE	108
8.2	TUGELA MOUTH ECONOMIC BUSINESS SURVEY	108
8.3	TOURISM DEVELOPMENT	110
8.3.1	OBJECTIVES	110
8.3.2	DEVELOPMENT STRATEGY	110
8.4	AGRICULTURE DEVELOPMENT	111
8.4.1	FOOD GARDENS	111
8.4.2	PROTECTION OF AGRICULTURAL LAND	111
8.4.3	LIVESTOCK MANAGEMENT	112
8.4.4	TUNNEL FARMING	112
8.4.5	SMALL SUGARCANE SCHEMES.....	113
8.4.6	CONCLUSION.....	113
8.5	SERVICES SECTOR	114
8.5.1	OBJECTIVES	114
8.5.2	DEVELOPMENT STRATEGY	114
8.6	SUPPORTING OF EXISTING ENTREPRENEUR BASE	114
8.6.1	OBJECTIVES	114
8.6.2	DEVELOPMENT STRATEGY	114
8.7	FOCUS ON BRINGING NEW BUSINESSES.....	115

8.7.1	FOCUSING ON START-UPS	115
8.8	URBAN PLANNING SCHEME	115
8.9	ECONOMIC INFRASTRUCTURE	116
8.10	LED FUNCTION.....	116
8.10.1	INCENTIVES	116
8.10.2	TRAINING	116
8.10.3	LICENSES	117
8.10.4	BUSINESS RECOGNITION AND LIASON	117
9.	URBAN DESIGN GUIDELINES AND FRAMEWORK	118
10.	CONSOLIDATED SPATIAL FRAMEWORK	122
11.	PROGRAMME OF ACTION.....	123
11.1	SCHEDULE OF CATALYSTIC PROJECTS	123
11.2	IMPLEMENTATION PROGRAM AND ACTION PLAN.....	132
12.	QUICK WIN PROJECTS	136
13.	KEY ELEMENTS OF A PROJECT CYCLE.....	137
13.1	PROJECT PLANNING DESIGN PHASE.....	137
13.2	FEASIBILITY STUDY.....	138
13.3	PROJECT BUSINESS PLAN	138
13.4	DESIGN PHASE	139
13.5	PROCUREMENT PROCESSES AND DOCUMENTATION.....	139
13.6	CONSTRUCTION.....	139
13.7	COMMUNITY PARTICIPATION, AWARENESS AND FACILITATION	139
13.8	ENSURING SUSTAINABLE SERVICE PROVISION	140
14.	MONITORING AND EVALUATION FRAMEWORK.....	141

15. CULUMATIVE IMPACT OF THE PROPOSAL ON THE ENVIRONMENT.....	149
16. INSTITUTIONAL ARRANGEMENTS.....	154

1. INTRODUCTION

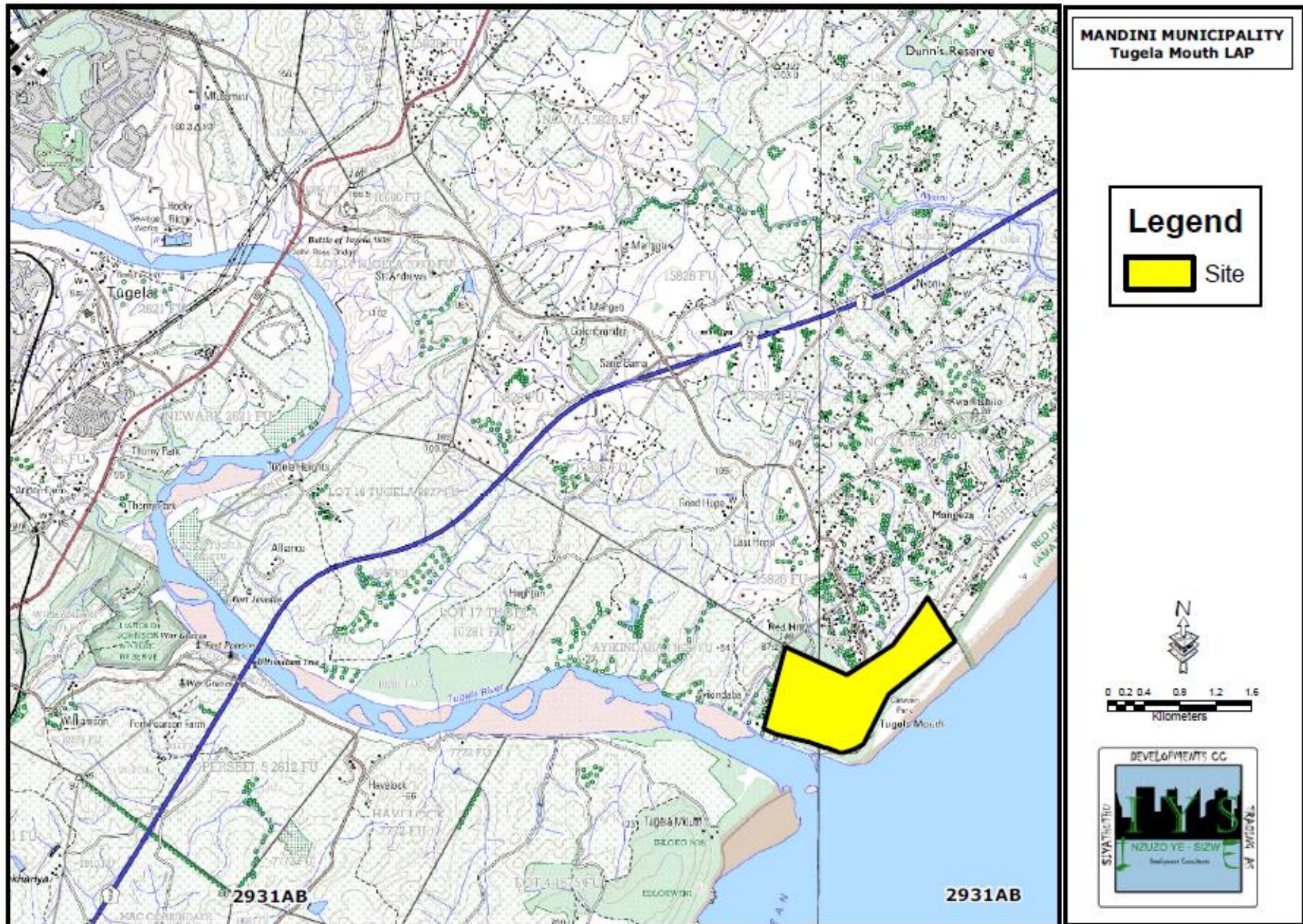
1.1 TUGELA MOUTH

Tugela Mouth is located on the coastal strip of Mandeni Local Municipality. It is approximately 15km from the town of Mandeni and accessible via Mandeni Mouth Road. This road also link the area with R102 and N2 via the on and off ramps. It is bounded by UThukela River which adjoins the Indian Ocean and it comprises of three settlements typologies which are a formal coastal settlement, farmlands and rural settlements on tribal land as well as a protected area (Red hill Nature Reserve). Some of these settlements have not benefitted from 'formal' spatial planning and this poses serious challenges for an efficient delivery of services.

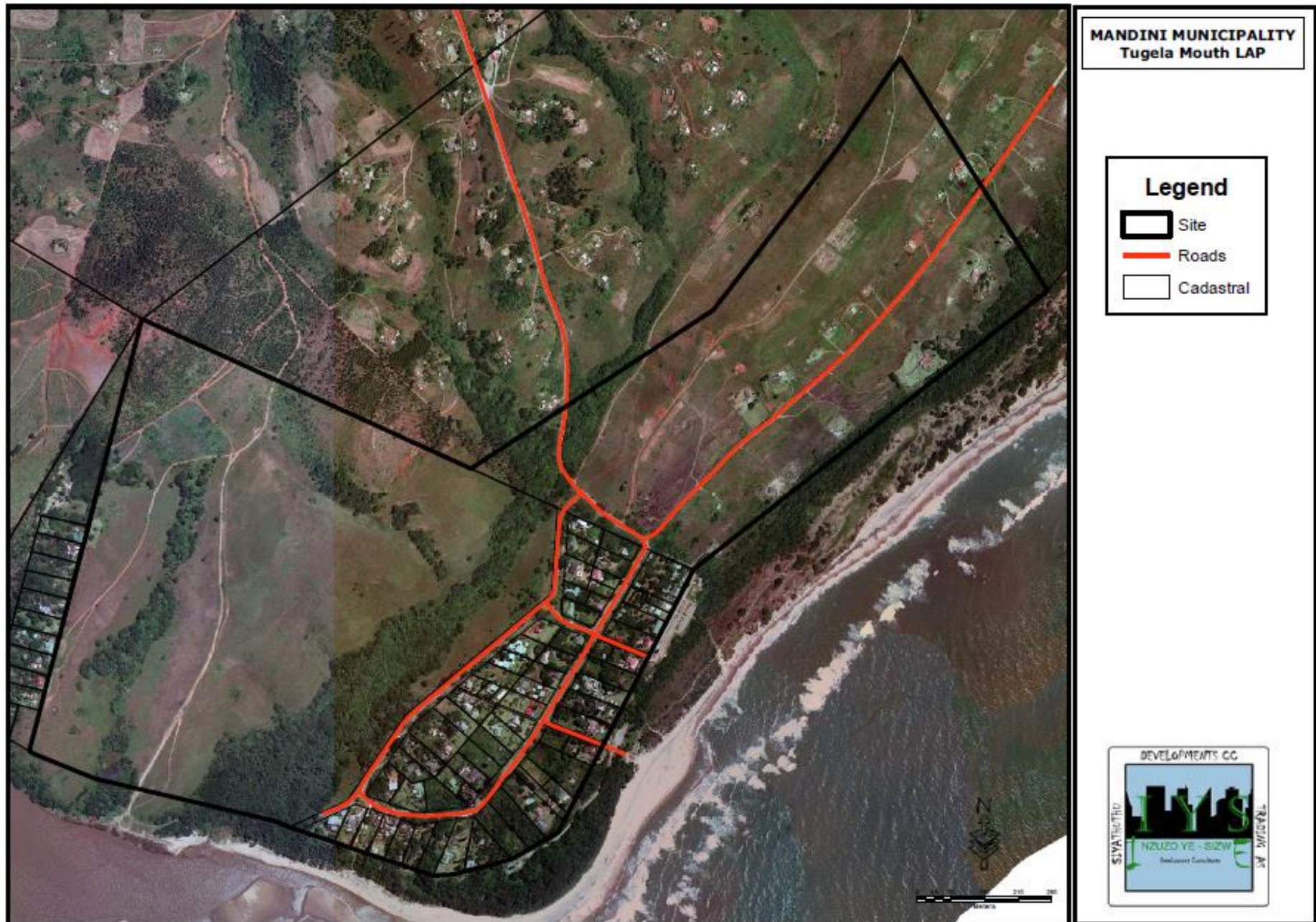
They are scattered in an unsystematic manner with limited linkages between the settlements to be achieved by means of social facilities and access roads. There is a heavy dependence on welfare grants ("survival capital") and external in-flows of remittances from urban centres or commercial farms. The key challenge is therefore to transform Tugela Mouth into sustainable human settlements with basic services, social infrastructure and economic development opportunities. The municipality has prioritized the development of a Comprehensive Plan or a Local Area Plan (LAP) which will serve as a service delivery vehicle for creating enabling environment which will attain meaningful development within Tugela Mouth. The

comprehensive plan will inform interventions by both the public and private sector in order to facilitate economic growth and all spheres of development (social, spatial, economic and regeneration). It is this type of understanding that will assist with the municipality towards the processes of wall-to-wall Scheme for the entire municipal area without generalization of information. The proposed Comprehensive Plan for Tugela Mouth should be located within the context of a broader development vision of Mandeni Municipality as outlined in the Integrated Development Plan (IDP) and the associated sector plans, such as the Spatial Development Framework (SDF). It is thus the intention of the Mandeni Municipality to compile a Local Area Plan in order to achieve the following:

-  Orderly and harmonious development;
-  Effective management of growth and development in Tugela Mouth;
-  Improving the aesthetic character of the area;
-  Improved quality of infrastructure services in area;
-  Improved economic development; and
-  Maintained and enhanced environmental character of town.









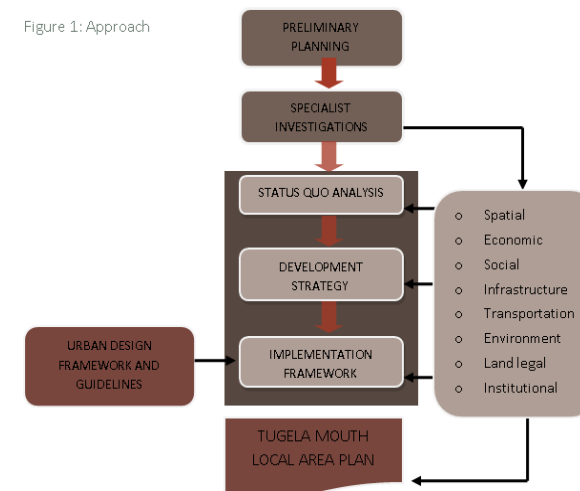
The proposed LAP will enhance the performance of the area and contribute to meeting the development needs of those who work, live and/or use the area. This should occur within the context of a broader development vision of Mandeni Municipality as outlined in the IDP and the associated sector plans (Spatial Development Framework & Local Economic Development Plans). In particular, it must advance the strategic objectives of the emerging spatial development vision and contribute to the transformation, renewal and regeneration of this core social and economic node of the municipality.

1.2 APPROACH AND METHODOLOGY

Our approach is outcomes based and the project is envisaged to be carried out in phases outlined in Figure 1. The key areas of focus within the project will be the following:

-  Spatial Planning and Land use analysis
-  Agricultural Analysis
-  Local Economic Development Analysis
-  Environmental Management
-  Housing Needs and Models
-  Urban design & implementation plan

-  Community needs and public sector facilities
-  Service infrastructure needs and analysis
-  Traffic and Transportation Analysis
-  Sector demand and supply analysis



The desktop literature review will entail the collection, review and assessment of existing data, and implications for the project. Data collection and analysis will include the following:

-  Desk-top Literature and Data Review.
-  Specialist/technical investigations.
-  Spatial Data Analysis Using GIS.

The project is unfolding in three sequential phases as follows (refer to Figure 1) with stakeholder engagement and project coordination being transversal concerns. Some of the activities will overlap or be undertaken at the same time. The phases are as follows:

1.2.1 DATA COLLECTION AND ANALYSIS

1.2.1.1 DESK-TOP LITERATURE AND DATA REVIEW

The primary aim of literature review is to draw clear implications from a range of development and spatial planning and policy guidelines. Existing information, which is available, such as plans, research projects and policy documents, will be collected, reviewed and assessed and implications for the project will be drawn from these documents from various perspectives. These generally fall within the following body of literature:

-  National spatial and economic development policies;
-  Spatial planning policies that establish a set of norms and standards that should be applied in order to attain sustainable and integrated development;
-  Provincial development imperatives and their implications;
-  Integrated development plans and Spatial Development Frameworks for both iLembe District and Mandeni Municipality.
-  Land use management and their associated tools.

-  Economic data such as Global Insight, Quantec data and Statistics SA data.

-  Any other relevant documentation.

1.2.1.2 SPECIALIST/ TECHNICAL INVESTIGATIONS

The team is committed to making an optimal use of existing data and to avoid re-inventing the wheel. The following methods will be used to collect, analyse and generate data:

-  Secondary information relating to the area, community and the project;
-  Structured interviews with stakeholders and role-players;
-  Maps and aerial photographs;
-  Geographic information systems (GIS).

The various members of the project team will undertake technical investigations in their individual field of study. This will include the following:

-  Spatial analysis, which includes spatial form, land use, zoning and land use management system, etc.;
-  Land legal investigation, which includes updating of cadastral data, land ownership pattern etc.;

-  Infrastructure/ services assessment, focussing on the availability of bulk services for future expansion;
-  Economic analysis, focussing on the role and performance of the town and economic activities within the town; and
-  Transportation assessment, focussing on pedestrian and vehicular movement.

1.2.1.3 SPATIAL DATA ANALYSIS USING GIS

Geographic Information Systems (GIS) will be used to overlay information and indicate existing situations. GIS will also be useful in terms of capturing and analysing data. Different data sets will be used to create maps.

1.2.2 STAKEHOLDER ENGAGEMENT

Stakeholder consultation and engagement will be sustained throughout the course of the project, and will include the following:

-  Stakeholder interviews and Focused sessions;
-  Stakeholder workshops; and
-  Community participation.

1.2.3 DATA COLLECTION METHODS

Stakeholders will be identified in terms of potential role and contribution towards the achievement of the objectives of the

project. Appropriate engagement strategies would be adopted to suite the unique requirements of different stakeholders.

1.2.3.1 FOCUSED SESSIONS

Focused sessions will be used to undertake in-depth issue/interest based engagement. Focused groups will be used when dealing with different business units within the municipality, government departments and well- defined interests groups operating within the project area.

1.2.3.2 STAKEHOLDER WORKSHOPS

At least two stakeholder workshops will be undertaken during the course of the project. Participants will be identified to ensure that all relevant interest groups are represented.

1.2.3.3 COMMUNITY PARTICIPATION

Community participation will be achieved through the distribution of leaflets throughout the area, informing community members about the project and inviting them to participate in the project by means of making submissions. The leaflets will indicate the contact details and outline the aims and objectives of the project.

2. PLANNING AND DEVELOPMENT CONTEXT

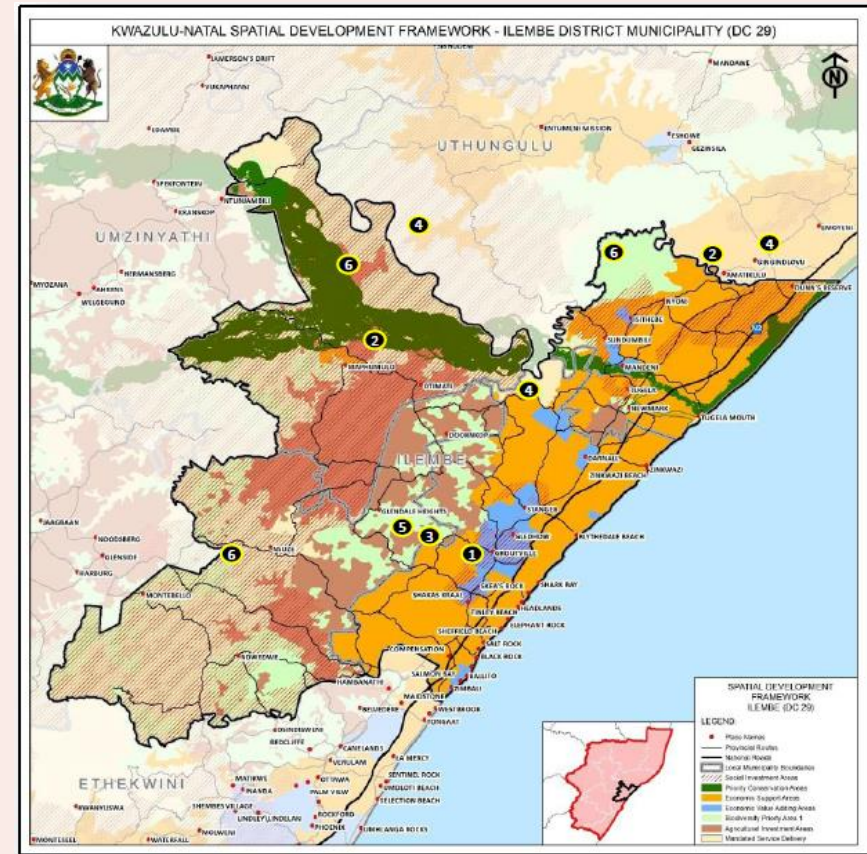
2.1 PROVINCIAL POLICY AND LEGISLATIVE CONTEXT

POLICY / PLAN	SUMMARY	IMPLICATIONS
Provincial Growth and Development Strategy (PGDS)	The PGDS provides a long term vision for KZN, presenting the situational overview along with the strategic analysis of the province. This strategy focuses on sustainable growth and development through addressing social, economic, environmental, infrastructural, governance and spatial issues. The strategy is built on seven strategic goals (job creation, human resource development, human and community development, environmental sustainability, strategic infrastructure, governance and policy and spatial equity) along with thirty objectives to achieving this.	The proposed Tugela Mouth LAP needs to take into consideration the seven strategic goals of the PGDS ensuring that all planning and proposed developments of the area stimulates job creation, promotes human resource development and human and community development, promote environmental sustainability while enhancing and /or creating strategic infrastructure, promote governance and policy and last but not least promote spatial equality within the area.

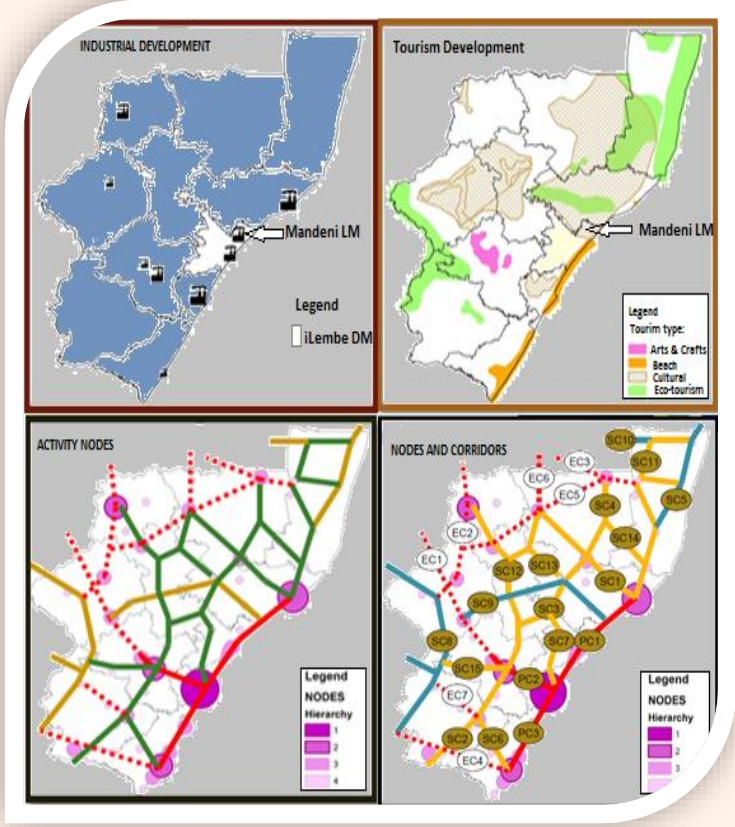


Tugela Mouth is one of the key tourism assets within the province of KwaZulu-Natal as such it should fulfil the strategic goals of the KwaZulu-Natal PGDS. Particularly the strategic goals 1, 4 and 7 which aim at job creation, strategic infrastructure development and spatial equity.

POLICY /PLAN	SUMMARY	IMPLICATIONS
Provincial Spatial Economic Development Strategy (PSEDS)	This strategy identifies specific focus areas (nodes and corridors) within the province with the intention of guiding government spending and investment on social and economic development programmes. Furthermore, the strategy recognizes the agriculture, tourism, manufacturing and service sectors as the four key drivers of the KZN economy. The focus areas of the strategy are then mapped out showing the areas of highest existing and future development potential for each of the four key economic drivers of the economy. The resultant of this is seventeen priority corridors including three primary corridors and fourteen secondary corridors.	Figure (insert) identifies and maps out areas with highest existing and future potential. Tugela Mouth falls within primary corridor 1 (PC1) the eThekweni/ Umhlathuze Corridor which is intended to promote movement of goods, people and services between the largest ports in Africa. The area is also identified by the strategy as having potential for tourism including cultural and beach tourism. The proposed LAP will need to take the Strategy into account (to promote integration at all levels of planning) so as to take advantage of the strategic location of this area to promote and develop the areas major potential sectors.



Tugela Mouth is identified by the KwaZulu-Natal Spatial Development Framework as the priority conservation area 1. Conservation Corridors are not suggested as absolute “no-go” areas, but rather highlighted as areas of environmental significance to the sustainable development of the entire province. Where economic opportunity (such as tourism development).

POLICY/ PLAN	SUMMARY	IMPLICATIONS	
Provincial Spatial Development Framework (SDF)	In order to achieve the goals and objectives of the PGDS, the provincial SDF has been developed to spatially express the PGDS and provide spatial context to the proposed strategic interventions. It further provides principles to guide the province in dealing with socio-economic issues manifested spatially; provide mapping guidance for future spatial development and prioritizes investment and development initiative. Overall this strategy guides municipal IDP's, SDF's and other municipal framework plans.	Figure (insert) presents the provincial spatial development framework components with reference to iLembe district. The components for the Tugela area include two priority intervention areas namely Priority Intervention Area 1 and 3 and two Spatial Planning Categories that is a priority conservation area and an area of economic support. In terms of intended land use the area under the proposed conservation corridor that is the area along the Tugela River Mouth and beach were identified as combining existing environmentally protected areas as well as conservation corridors proposed by Ezemvelo KZN Wildlife and would therefore be recognized as environmental areas of significance that require sustainable developments.	 The area is also identified as an area of economic support as it seen as having good economic potential in more than one of the province's key economic sectors. The proposed LAP will need to use the provincial SDF to guide to prioritize development and promote sustainable and inclusive development within the area.

POLICY/ PLAN	SUMMARY	IMPLICATIONS
National Estuarine Management Protocol	The Estuarine Management Protocol provides a guide for the management of estuaries' through the development and implementation of individual Estuarine Management Plans (EMPs). The Protocol has an objective of achieving effective integrated management of estuaries through amongst other things conserving, managing, and enhancing sustainable economic and social use without compromising the ecological integrity of and functioning of estuarine ecosystems; maintaining and/or restoring the ecological integrity of South African estuaries by ensuring that the ecological interactions between adjacent estuaries, between estuaries and their catchments, and between estuaries and other ecosystems are maintained; to minimise the potential detrimental impacts of predicted climate change through a precautionary approach to development in and around estuaries and with regard to the utilization of estuarine habitat and resources. The protocol provides a set of standards and guidelines for the management of these estuaries and defines how management responsibility should be carried out by organs of state and others.	The proposed LAP will need to take into consideration the standards and guidelines provide by this protocol to help guide development initiatives proposed in close proximity to estuaries. Should there be such initiatives proposed consultation with the municipality and other relevant departments will be necessary.

POLICY/ PLAN	SUMMARY	IMPLICATIONS
KZN Planning And Development Act (PDA)	The PDA directs and regulates planning and development in the province, furthermore it ensures that all development decisions now occur at municipal level. This act applies to the province as a whole and is inclusive of Ingonyama Trust Land. The act deals with the adoption, replacement and amendment of schemes; subdivision and consolidation of land; consent in terms of schemes; development of land outside schemes; the phasing or cancellation of approved layout plans for the subdivision or development of land; the alteration, suspension and deletion of restrictions relating to land; the permanent closure of municipal roads or public place; enforcement measures; compensation; and establishment of the KwaZulu-Natal Planning and Development Appeal Tribunal.	All planning and development in the province is subject to the PDA and as the Act needs to be used as a guide for any developments proposed by the LAP. Mandeni Local Municipality currently does not have a wall to wall scheme and as such utilises a town planning scheme. In terms of the Mandeni town planning scheme the proposed area under review currently falls outside of the scheme, however, the municipality is in the process of extending the scheme to cover the areas that have been left out. This in turn will help guide developments proposed in the area.

2.2 DISTRICT POLICY CONTEXT

POLICY/ PLAN	SUMMARY	IMPLICATIONS
iLembe Integrated Development Plan (IDP)	iLembe district municipality has adopted an IDP which it uses to plan future developments within the district. This plan will also help promote coordination between all government spheres (local, provincial and national) to speed up service delivery and help attract funding.	Tugela Mouth area falls under iLembe district and as such the proposed LAP will need to consider the districts IDP goals and objectives. Therefore the proposed LAP will need to propose developments that will assist the district in realizing this objectives and goals set out by the IDP.

POLICY/PLAN	SUMMARY	IMPLICATIONS
iLembe Spatial Development Framework (SDF)	The district's SDF purposes to spatially guide the form and location of future developments within the district to help manage and efficiently use the districts scarce land resources, speed up service delivery and attract funding amongst other thing. The district SDF thus provides a tool to guide spatial planning and development that promotes coordination and alignment amongst the local municipalities of the district.	The district has a vision of achieving sustainable development through the promotion of economic development, social development, environmental and physical development and good governance. This vision is key not only to the district but to the study area, therefore the LAP will need to ensure that it this vision is realized. The SDF further identifies the study area as secondary node.

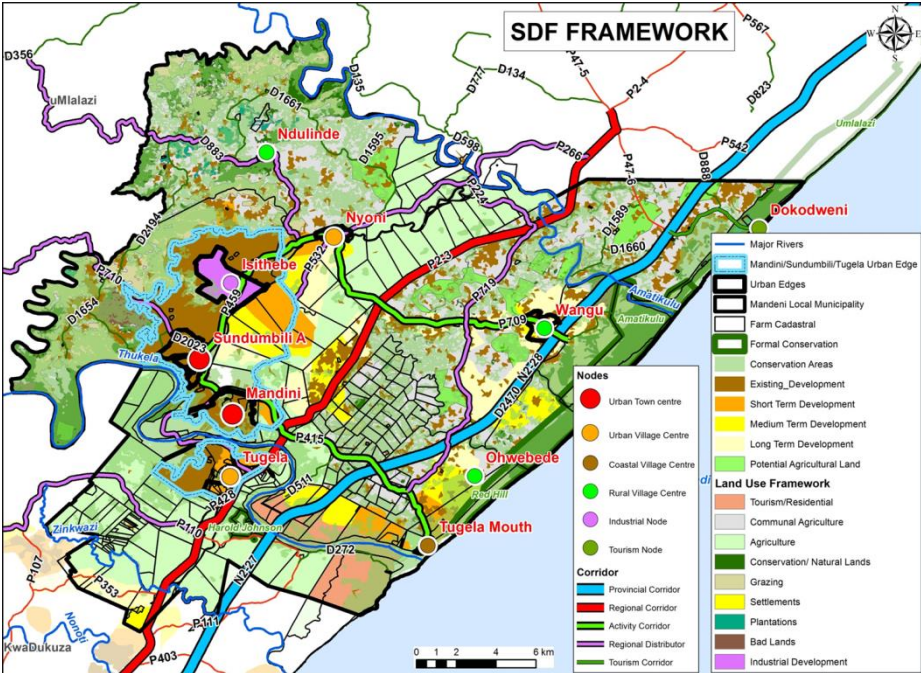
POLICY/PLAN	SUMMARY	IMPLICATIONS
I-Lembe Environmental Management Framework (EMF)	ILembe district municipality has developed an EMF with the purpose of protecting the environmentally sensitive or critical areas of the district, furthermore the framework acts as a guide to assist planners, developers and other relevant decision-makers in terms of environmental management and sustainable use of the districts natural resources.	The EMF contains biophysical information of the district along with socio-economic information, spatial planning and agriculture and cultural heritage resources of the district which will be used to guide the LAP in-terms of suitable land use(s) within the study area to ensure sustainable land use.

POLICY /PLAN	SUMMARY	IMPLICATIONS
I-Lembe Bio-resource Plan (BSP)	The iLembe BSP provides maps and descriptions that detail the biophysical characteristic of the district and as such it informs municipal planning with regards to land use and biodiversity management. Furthermore this plan provides guidelines for land use and management to help preserve and protect the areas of critical biodiversity.	All planning and development proposals will need to consult the Bio-resource Sector Plan map to determine the biodiversity conservation status of land which is under application for development or land use change which in this case Tugela Mouth. The plan provides guidelines to help guide land use based on compatible with regards to the biodiversity status of the land. This plan provides biodiversity planning at a district level and as such all local municipal development planning will require alignment with regards to any land use change applications, ensuring that areas that are viewed as critical for biodiversity or ecosystem maintenance within the BSP need to be appropriately buffered from development and land use change impacts. Any proposed developments deemed to have land use change impacts will require consultation with Ezemvelo KZN Wildlife, Environmental Affairs and the Dept of Water Affairs. Best practice land management to be put in place.

2.3 LOCAL POLICY CONTEXT

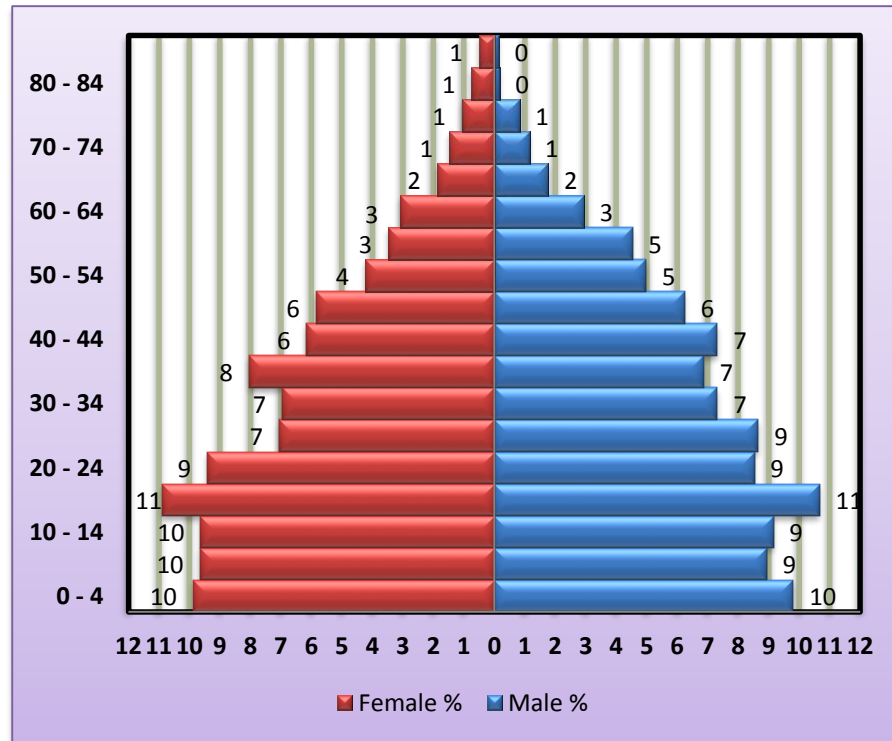
POLICY/PLAN	SUMMARY	IMPLICATIONS
MANDENI INTEGRATED DEVELOPMENT PLAN (IDP)	Mandeni local municipality has adopted an IDP which will be used by the municipality to plan future developments within the local area. This plan will also help promote coordination between all government spheres (local, provincial and national), speed up service delivery and help attract funding.	LAP must provide a greater level of area specific development for the study area but the ultimate development goals must translate or respond to the long-term goals of the municipal IDP.

POLICY/PLAN	SUMMARY	IMPLICATIONS
Mandeni Local Economic Development (LED) Strategy	Mandeni local municipality has developed an LED strategy which is founded on the overall vision of the municipal IDP, this strategy identifies problems in the municipality and there after prioritizes development projects to address these problems including promoting socio-economic development, alleviating poverty and improving the quality of life within the local municipality.	The LED strategy identifies the study area as an area of tourism priority. Therefore the local area plan will look towards promoting development initiatives that promote the areas tourism potential.

POLICY /PLAN	SUMMARY	IMPLICATIONS	
Mandeni Spatial Development Framework (SDF)	The SDF covers strategies for spatial rebuilding of the municipality and direction of future growth within the municipality. The SDF identifies three strategic thrusts (a) ASGiSA (b) Sharing Growth and Development Strategies and (c) Environmental Sustainability Strategies. Furthermore the SDF lists four intended future land uses for Mandeni local area including conservation areas, agricultural areas, urban infill and residential areas. These four land uses are identified and followed with management strategies and public interventions.	The draft SDF has identified a system of nodes and corridors which generally includes the existing and proposed economic growth points. Tugela Mouth is recognized as a coastal service centre lying along the activity corridor and is identified as one of the spatial focus areas towards 2020. The SDF proposes amongst other things clustering higher level social services and identifies this area as an area for tourism intervention. Therefore the local area plan will look towards promoting development initiatives that promote the area tourism potential amongst other things.	 Tugela Mouth is considered as a coastal village particularly due to the fact that the nodal area has evolve as a very small settlement. The area of Tugela Mouth is characterized with remarkable natural beauty. It is however underdeveloped as a tourists attraction. Even though there are few tourism hospitality outlets that have developed by taken advantage of the natural beauty of the existing Estuary. The existing beach with fishing spots and picnic sites make the area attracting for tourism purposes. The area has potential for further development in terms of new tourism products as well as strengthening the existing products.

2.4 SIZE AND STRUCTURE OF THE POPULATION

Figure 2: Ward 3 Population Distribution in 2011



Ward 3 in Mandeni Local Municipality where the study area is located had a total population of 8163 in the year 2011 (Stats SA, 2011). This is a slight increase from 8 015 in the census year 2001. The population by gender dynamics favours the female population such that approximately 51 percent of the total ward 3 population is

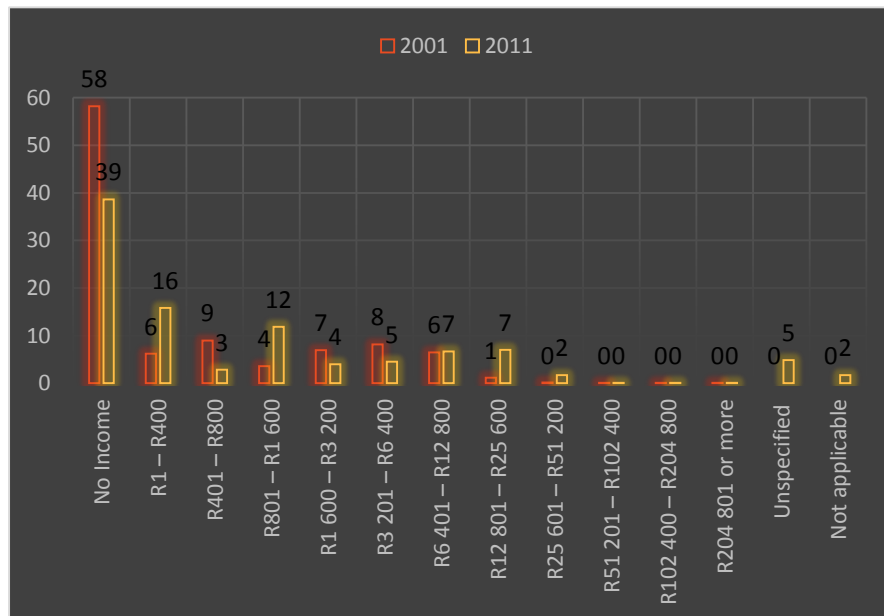
female. However in the census year 2001 the population was dominated by males accounting for 50.4 percent. Figure 2 below shows the population distribution for ward 3 by age in the census year 2011. The population groups in general contain the age group 0-14 years, 15-64 years, 65 years and over representing minors, the working age and the old age population respectively. The population appears to be shifted towards the working age group (15-64) accounting for about 66 percent of the population followed by the minors age group (0-14) at 29 percent and the old age group (65+) at 5 percent. Overall the female population dominates all the age groups. The population age structure is key to this ward as the findings suggests that the population is concentrated towards the working age and the young thus investments will need to be towards growing the economy and education.

2.5 EMPLOYMENT BY INDUSTRY AND INCOME PROFILE

Figure 3 above depicts the monthly individual income of ward 3 recorded in the years 2001 and 2011. Approximately 58 percent of the population were recorded as having no income in 2001, however in 2011 this number dropped to 39 percent suggesting a decrease in poverty by 19 percent. Nonetheless 39 percent of the population is still living in poverty with no income source. An additional 19 percent of the populations within the study area live with an income that is less than R800 per month, implying that these individuals are mainly dependent on municipal grants and the municipality's indigent

support to survive. The slightly higher income earners receiving a monthly individual income of R801 and above per month are estimated at 37 percent of the population. Though the majority of the individuals within this group are income earners (56 percent), this income is relatively low and as such dependence on government support still exists. Overall the population can be grouped into three classes namely the no income, low income and middle income earners.

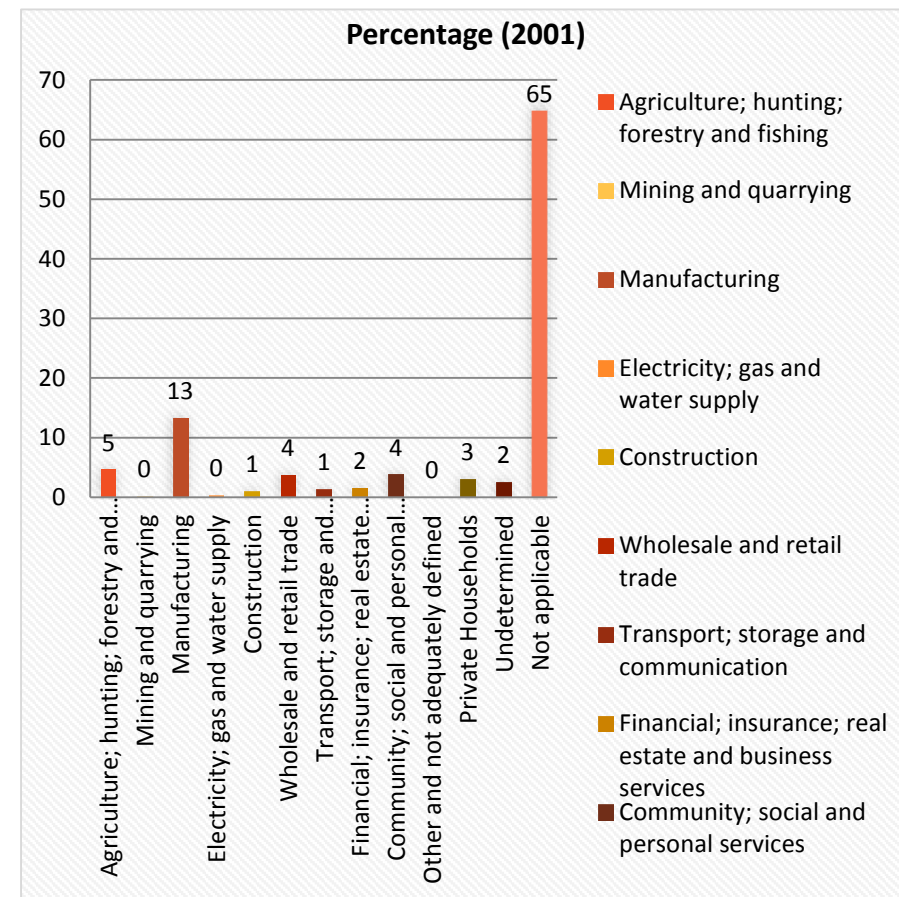
Figure 3: Ward 3 Monthly Individual Income in 2001 and 2011



With reference to figure 4 below, the main sectors of employment that employ the majority of the working population in ward 3 are

manufacturing (13%), agriculture (5%), wholesale/ retail (4%), community services (4%), private households (3%), real estate/ finance or business (2%), transportation and storage (1%), construction (1%).

Figure 4: Ward 3 Employment by Industry in 2001





2.6 SUMMARY

The KwaZulu Natal PGDS, PSEDs, SDF and PDA together form a core or guide for the proposed Tugela Mouth LAP in terms of promoting the goals, objectives and principles of these strategies/plans. The proposed Tugela Mouth Local Area Plan needs to take into considerations the aforementioned plans/strategies by promoting the goals and objectives set out by these strategies/plans in the study area at a more intensified level. It must provide a greater level of area specific development for the study area but the ultimate development goals must translate to the long-term goals of the Mandeni local IDP. The use of spatial planning concepts such as nodes and corridors should be considered. This will form the basis for prioritizing development in specific areas.

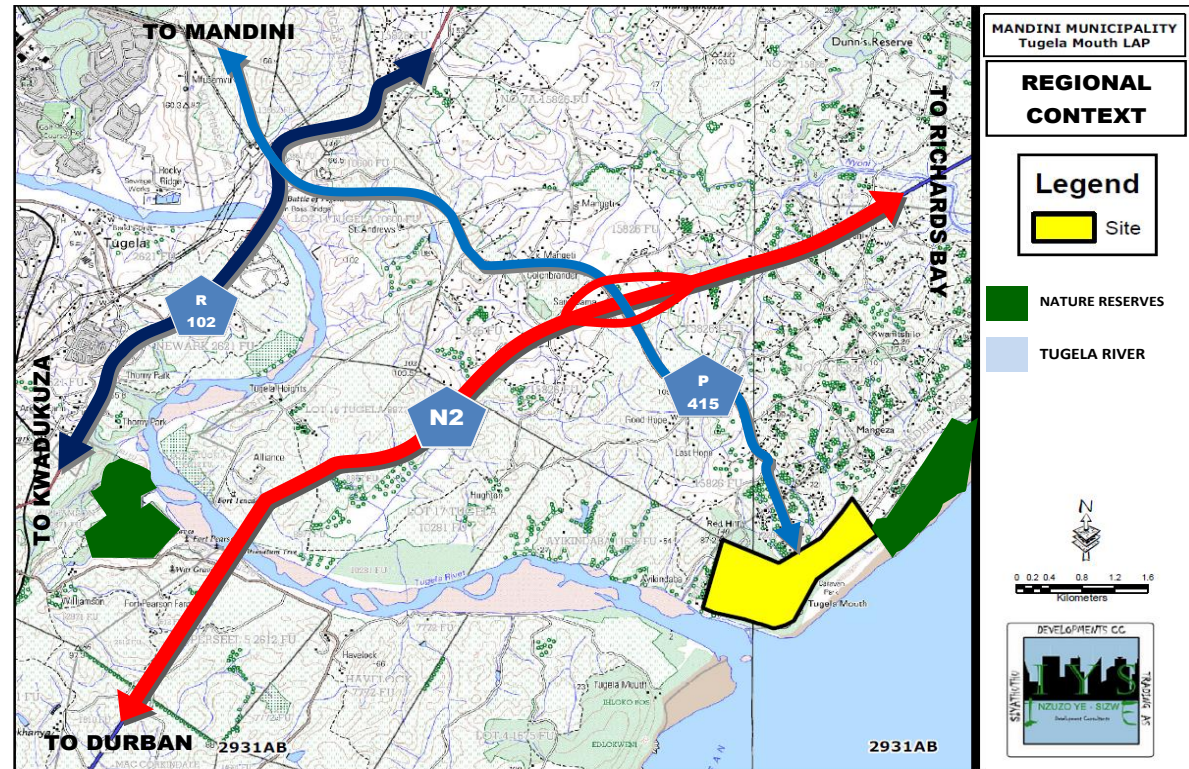
The population structure appears to be shifted towards the working age group (15-64) accounting for about 66 percent of the population followed by the minors age group (0-14) at 29 percent and the old age group (65+) at 5 percent. Overall the female population dominates all the age groups. The population age structure is key to this ward as the findings suggests that the population is concentrated towards the working age and the young thus investments will need to be towards growing the economy (initiatives that promote sustainable job creation) and education (i.e. schools).

The majority of the individuals within this group are income earners (56 %), however this income is relatively low and as such dependence on government support still exists. The main sectors of employment that employ the majority of the working population in ward 3 are manufacturing, agriculture, wholesale/ retail and community services at 13 %, 5%, 4% and 4% respectively. Overall the proposed Tugela Mouth LAP with reference to the aforementioned provincial, district and local municipal policies or plans will consider all aspects relating to transport planning, housing, land reform, environmental planning, infrastructure and land use planning in order to align and achieve the goals and objectives set out by this plans. This plan will assist the municipality by providing direction for decisions relating to infrastructure investment and development spending and will ensure that investment will be focused in areas where greatest potential exists for sustainable development.

3. REGIONAL CONTEXT

Development planning in Tugela is directed and influenced by various policy and legislative documents. These directives include the national development imperatives, provincial directives and local priorities. Given the areas situation as a mixture of rural and urban coastal settlement clusters these national development imperatives include the National Development Plan, ISRDP and South Africa's Industrial Policy Action Plan. At the provincial level, the key directive in terms of development is the PSEDs and KwaZulu-Natal ISRDP. At a local level Ilembe District and Mandeni Local Municipality have prepared the IDP and associated SDF which should be aligned with both the national and provincial directives. In terms of the SDF the P415 activity corridor is characterized as a mixed use development corridor distributing traffic in various areas and linking different land uses. It also acts as a connecting point with regional routes such as R102 and N2. At the same time these local plans must express the development needs of the local communities.

3.1 ACCESS AND LOCATION



The P415 is identified as a main municipal corridor crossing over N2 and linking the coast and the hinterland. It runs from east-west linking the Tugela Mouth Service Centre and Mandeni/ Sundumbili Primary Node. The corridor runs cut the primary node in a northern direction along the MR459 and passing ISithebe towards Nyoni and Amatikulu.

Tugela Mouth is a small, tranquil coastal village on the KZN North Coast, situated on the northern shores of the uThukela River mouth (hence the name), approximately an hour's drive from Durban. Surrounded by gently undulating hills, the ocean and river, the views are quite breath-taking. Tugela Mouth settlement is located a 100km from Durban and is located along the coast to the north of Tugela River mouth (hence the name). It is from Durban: Take the N2 North Coast Toll road from Durban approx. 90 km. Go over the

Tugela River Bridge and approx. 3 km past the bridge take the Mandeni/ Tugela Mouth off ramp. Go through off ramp tollgate, turn right, going over the N2 freeway. Reaching a dirt road, it is approx. 4 km till you reach Tugela Mouth Town. The Tugela Mouth is 35km north of Stanger, 50km north of Ballito, 80km south of Empangeni, 100km south of Richards Bay and a 100 km's north of Durban which is just a one hour driving distance. Development Corridors are demarcated as roads of importance at Municipal or Local level that:

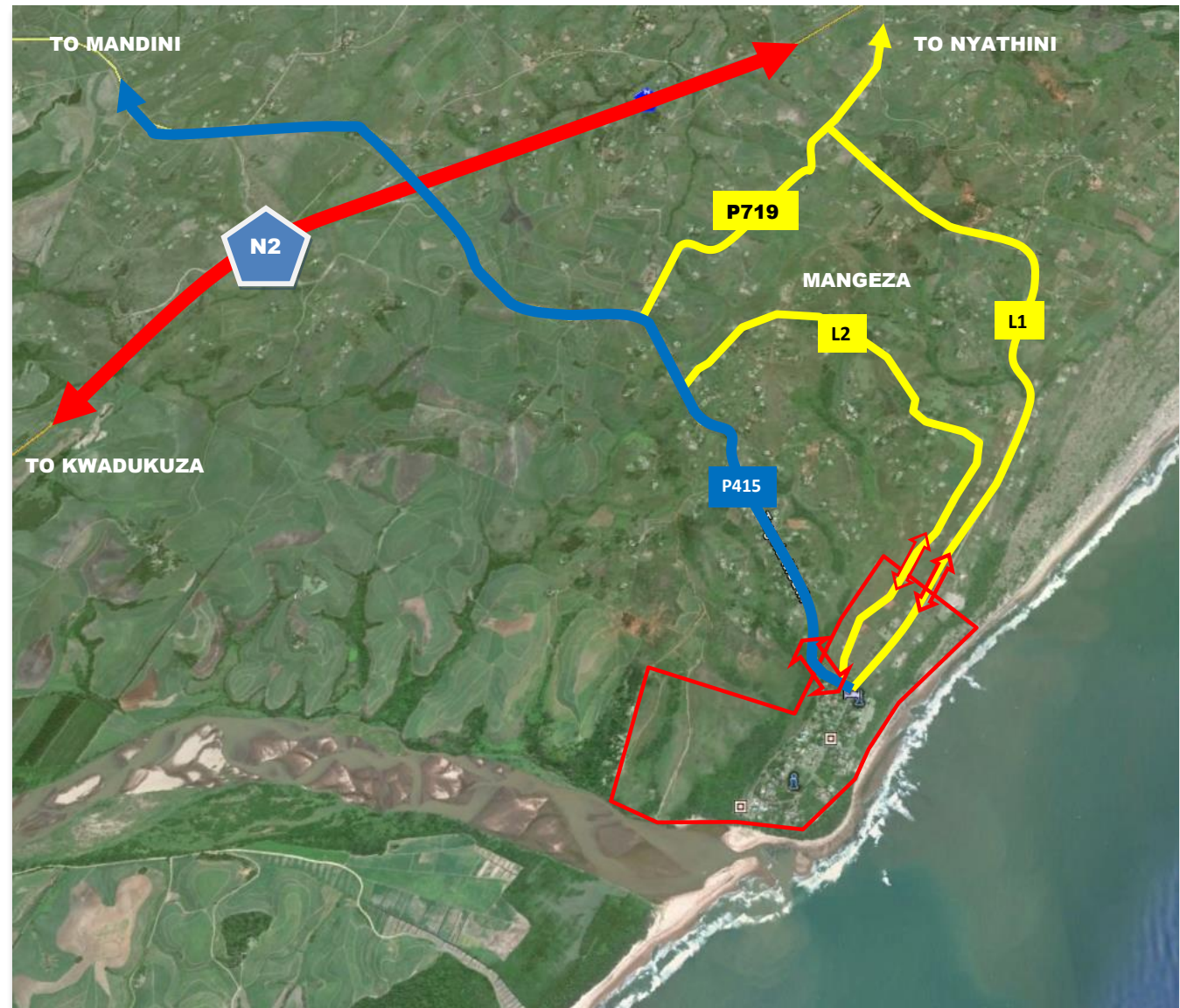
-  Enable movement of people and goods to and from an area;
-  Link places in the Municipal area to other places of importance (i.e. markets, places of work or social/economic opportunity);
-  Generate a focus for activity.

TYPES OF CORRIDORS		
TYPE	AREA/ DESCRIPTION OF LOCALITY	FUNCTION
PRIMARY PROVINCIAL CORRIDOR	The Provincial Spatial Economic Development Strategy has identified the N2 route between UMhlathuze and eThekweni as a primary provincial corridor.	These routes carry passing traffic and provide access between local areas in Mandeni and centres further on.
REGIONAL DEVELOPMENT CORRIDOR	The R102, which runs parallel to the N2 serves as regional development corridor within municipalities along this route.	
ACTIVITY CORRIDOR	The P415 is identified as a municipal wide activity corridor crossing over the N2, linking the coast and the hinterland; it runs from east-west linking the Tugela Mouth Service Centre and Mandeni/ Sundumbili Primary Node. From the primary node the activity corridor diverge from the P415 in a northern direction along the MR459, passing isiThebe towards Nyoni and Amatikulu.	Linking areas of development potential to Movement corridors and Mandeni

3.2 ACCESS AND CONNECTIVITY

The roads that facilitate access and connectivity within to and from Tugela Mouth area as follows:

-  Provincial Routes (P415) – The Tugela Mouth service centre is accessible via the P415 which is a gravel road in need of upgrade to black-top that provides direct access to Tugela Mouth settlement to the north and is identified as a main municipal corridor crossing over N2 and linking this coastal settlement and the hinterland. It runs in an east-westerly direction linking the Tugela Mouth Service Centre and Mandeni/ Sundumbili Primary Node. The corridor runs cut the primary node in a northern direction along the MR459 and passing iSithebe towards Nyoni and Amatikulu.



-  Local Access Road 1 – It is a gravel road which provides egress and access from Lobotes road in a north-westerly direction along the Mangeza settlements towards the P719 which also runs in a north-westerly direction from the P415 to the northern areas such as Nyathini to the west and Amatikulu to the east, thus providing an alternative access and egress to and from the Tugela Mouth area.
-  Local Access Road 2 – It is another dirt/ gravel road emanating from the P415 and runs parallel to the District road 1 and continues westward and then back south towards to P415, thus providing another alternative route to and from Tugela Mouth.
-  The Local access roads are currently not in an acceptable standard to function as viable alternative routes to access or egress the area.

3.3 TUGELA MOUTH HISTORICAL ACCOUNT

Situated on the KwaZulu-Natal North Coast, the small village of Tugela Mouth lies on the Northern banks of the mighty Tugela River. Rich in history, the Tugela River was a natural border between Zululand and Natal and it is here that the Zulu chief Dingane beat the British in the Battle of Tugela. This is a popular backpacker's destination for offshore, river and deep sea angling. Vasco Da Gama arrived here in December 1497, and because the fishing in the region was so good he

named a certain part of the coastline Ponta da Pescaria (Fishing Point). Aside from fishing, Tugela also offers a variety of activities and attractions including bird watching, an indigenous forest, hiking trails, water sports and host of historical and cultural attractions such as a Zulu Cultural Museum, and Fort Pearson and Fort Tenedos. The most notable event here is the Tugela Raft Race.

3.4 TUGELA MOUTH WITHIN MANDENI MUNICIPALITY

Tugela Mouth Coastal Village is administratively within Mandeni Municipal Ward 3; however the area is 20km away from the main urban centre (Mandeni) of the municipality. In fact it is part of the tourism



economy of MLM. Tugela Mouth because of its locality in relation to the river mouth estuary and the Indian Ocean is a unique tourism spot in Mandeni Municipality as evidenced by the tourism activities observable at the Tugela Mouth Area. Over the years, the Tugela Mouth area has attracted a number of Tourism related activities as it offers one of the best angling spot on the KwaZulu-Natal coast and

regular venue for club competitions. There are above average catches throughout the year for both, river shore and deep sea angling.

Fishing outings and deeps sea charters are also offered. Tugela Mouth is also the home of the rare Lobotes fish and is well known to anglers interested in doing battle with large sharks. It also offers bird watching, turtle watching, rafting and canoeing, prawn farm and historical sites. Annual Tugela raft race is also another draw card for the area. Over years the Private sector has spearheaded tourism development in the Tugela Mouth area through the development of tourism products such as accommodation, caravan parks etc.; however the Government has stigmatized the tourism leisure economy by not heeding the call to provide acceptable level of bulk infrastructure and services in Tugela Mouth and this has undermined the efforts undertaken by the private sector.

The areas main access road i.e. P415 is still gravel and requires a high level of maintenance and upgrade to a tar black-top. Water infrastructure is still lagging behind as the area obtains its water supply from localized boreholes which also has maintenance issues which limits reliable and quality water supply. Sanitation is not in an acceptable standard as septic tanks are still in use, which could have detrimental effects on the water table and the quality of water supply given the close proximity to the beach. In view of the above, it is

deemed prudent to assert that the Municipality needs to provide water-borne sewerage infrastructure, upgrade the road network to an acceptable DoT standards. To address the challenges aforementioned and to maximize on the opportunities within the area the IDP specifically highlights the following strategic thrusts and all development must achieve or contribute to the following:

-  Promoting development and investment that contribute to the regeneration and renewal of the Tugela Mouth coastal settlement. The Municipality has commissioned the preparation of the Local Area Plan.
-  Ensuring improved Land use Management system (wall to wall scheme)
-  Promoting and facilitating development and investment along the coast in a harmonized and sustainable manner – environmentally, economically and socially with specific reference to the Siyaya Development Framework Plan.
-  Promoting investment within Tugela Mouth.
-  Provision of Bulk infrastructure.
-  Upgrading of the Main access routes i.e. P415.

The Siyaya Coastal Framework is another planning tool used by the Municipality to control development around its coastal areas by putting conditions which address environmental issues along the coastal areas especially along the Tugela Mouth.

3.5 ROLE OF TUGELA MOUTH IN THE REGIONAL CONTEXT

Tugela Mouth offers the unique combination of civilization balance with nature. Surrounded by coastal bush of KwaZulu-Natal and boasting with Tugela Mouth Resort as being voted one of South Africa's top 100 resorts by Caravan and Camping readers. Situated on the KwaZulu-Natal North Coast, approximately 4km off the N2 national highway, the small village of Tugela Mouth lies on the Northern banks of the mighty Tugela River. The area is rich in history, with the first European visitor to the place being the Portuguese explorer Vasco Da Gama in December 1497. The fishing in the region was so good that he named a certain part of the coastline Ponta da Pescaria (Fishing Point).

Today Tugela Mouth is still a popular destination for both offshore, river and deep sea angling, and regularly hosts a number of major fishing tournaments throughout the year. The area provides fishermen with an excellent variety of species amongst which the most frequently caught are Salmon/Kob, Garrick and Lobotes. The

region is also known as one of the best areas on the KwaZulu-Natal North Coast for shark fishing with massive specimens of Zambezi (bull) sharks, great white, dusky, ragged tooth, hammer head, tiger sharks, black-spot sharks, milk sharks and sand sharks being landed.

Aside from fishing in Tugela Mouth visitors are provided with a variety of interesting and entertaining activities and attractions which include excellent bird watching, an indigenous forest, hiking trails, water sports and a massive variety of historical and cultural attractions such as a Zulu Cultural Museum, and Fort Pearson and Fort Tenedos, built by the British in 1879 during the Anglo-Zulu War. Also extremely popular among visitors to Thukela Mouth is the well-known Prawn Shack at Amatikulu. Local events in the area include the annual Tugela Raft Race.

The P451 is identified as the municipal activity corridor, which crosses over the N2 linking the coast and hinterland. It also links the Tugela Mouth service centre and Mandeni/ Sundumbili primary node. The major issue that faces the management of estuarine ecosystems within the iLembe District is the conflict between wide spread agricultural and urban development pressure and the protection of the natural environment. Therefore the main issues affecting estuaries are as follows:

-  Agriculture
-  Human Settlement and Urban Development
-  Encroachment into estuary systems and wetlands
-  Discharges into Estuarine Systems
-  Stormwater Run-off
-  Water Abstraction/Impoundments
-  Mining (sand and stone mining activities)
-  Siltation
-  Faecal and chemical contamination
-  Weir construction and others

In managing the estuaries in South Africa, National Estuarine Management Protocol has been promulgated by the Department of Environmental Affairs in compliance with the National Environmental Management: Integrated Coastal Management Act, 2008. In line with the protocol two Estuarine Management Plans are being finalized within the District that is Tugela Mouth Estuarine Management and Zinkwazi Plan.

The EMF contains a number of zones that will assist in managing development within the iLembe District. These include:

-  Terrestrial Biodiversity Management Zone
-  Rural Support Zone
-  Commercial Agriculture Zone
-  Stewardship Zone
-  Coastal Management Zone
-  Urban Settlement Zone
-  Industrial Activity Zone
-  Infrastructure Zone

Tugela Mount plays an enormous role in term of tourism related activities in the region as it well known for being well endowed with self-catering accommodation, chalets, fishing, caravan resorts backpackers, holidays resort etc. Ilembe Regional Spatial Plan also advocates for Tourism/Recreational Nodes and Access to the Beach Areas which entails:

-  Strategically located Recreational nodes are to be encouraged along the sea front;

-  These recreational areas will also be induced to locate to face the estuary and river frontages of the Coastal clusters;
 -  Public access will be between the residential clusters and not through the neighborhoods;
 -  Densification will be maintained and encouraged along the sea and river frontages;
 -  Furthermore, iLembe EMF: Coastal Management Status Quo Report highlighted Specific issues which purports that the beach at Tugela Mouth is identified as a critical development opportunity, as it is the only portion of the coastline where development can be located on the edge of the beach area; and
 -  Tugela Mouth forms part of a linear coastal system wherein a series of towns are associated with this system.
-  **Tourism Development Products:** Given the areas locality in relation to the Tugela River mouth estuary and the ocean interface, a set of carefully formulated Design Guidelines will act as a guide for new construction within the Waterfront Areas. The guidelines will establish a foundation of good urban design in this unique waterfront setting. They are imperative, as they will ensure new infill is designed to be an integral part of the continued success of the immediate area and larger community.

3.6 IMPLICATIONS

-  **The Ocean:** The coastal system and beach are prime assets and the basis of the town. We should respect the uniqueness of this particular beach interface.
-  **The River:** As a natural and historic asset. The approach should be to integrate the river as a living part of the coastal settlement.

4. STRATEGIC ASSESSMENT OF TUGELA MOUTH

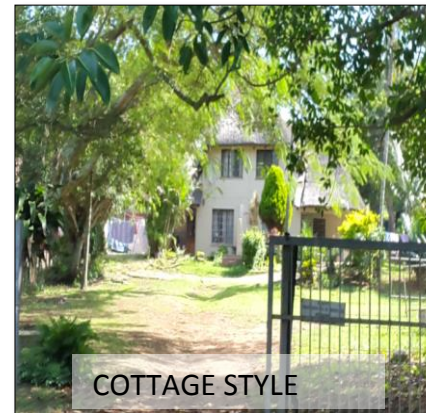
4.1 BUILT FORM

4.1.1 ARCHITECTURAL STYLES

Tugela Mouth is a mixture of urban and rural which breaks the similarities in terms of architectural styles and built form. The urban part of Tugela Mouth reflects architectural styles that are modern and reflect architectural creativity. These urban architectural styles are:

- 🖼️ Origami Light Style (Japan Art Expression);
- 🖼️ Art Nouveau (Graphic art applied on buildings);
- 🖼️ Federation Style;
- 🖼️ Cottage;
- 🖼️ Swiss Chalet; and
- 🖼️ Bali Architecture.

In rural context the older methods of building structure are prevalent which does not boost with ambitious and creative architectural styles. The rural architectural styles are:



COTTAGE STYLE



ORIGAMI LIGHT STYLE



FEDERATION STYLE



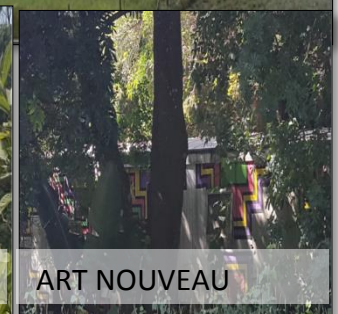
TUSCAN STYLE



SWISS CHALET STYLE



VERNACULAR MUD BRICK



ART NOUVEAU

 Vernacular Mud Brick Houses; and

 Vernacular Mud Rondavels;

The only notable style in the rural context is Tuscan Architecture (Watered Down).

4.1.2 SENSE OF PLACE

Tugela Mouth area offers two distinctive feelings in terms of sense of place because it is divided into urban and rural. The rural part gives you the sense that you are away from urban amenities because of the surroundings there are limited leisure and recreational facilities to be enjoyed. Even though area is in close proximity to the ocean, has not taken advantage of this locality.



The urbanised area in Tugela Mouth which is very close to the ocean gives a sense of peace and a breath of fresh air due to the sea breeze and the area isn't as busy as you'd hope for a major tourism destination a lot can be



done to enhance the appearance of the place.

4.2 HERITAGE BUILT-FORM

4.2.1 PROTECTED BUILDINGS

The new lighthouse tower was originally commissioned in November 1972. It was re-built and painted in 2005. The lamp was added on top of the column. Unfortunately the tower is closed to the public; however it is operational but not manned. Initially the purpose of the lighthouse was to illuminate the way for sailors but because of the advancement of technology it is no longer a necessity. It is important to keep it in good condition for future generations to learn about its place in the history of Tugela Mouth and it must be protected from vandalism.



4.2.2 HERITAGE BUILDINGS AND SITES

Heritage buildings and sites carry information and ideas about life, shared customs, traditions and memories passed on from generations to generations. Heritage is made up of the practices and traditions that are passed on from generations to generations. Heritage is also about what has been passed on from the family, community and place

where people have been raised. Heritage is formed by those things or expressions that show the creativity of people, these can be special monuments, like a building, sculpture, painting, a cave dwelling or anything important because of its history, artistic or scientific value. The styles of building also form part of our cultural heritage because of their architecture, where they are built or what they were used for.

As far as our observation goes there were no heritage buildings and sites we could locate at Tugela Mouth however confirmation of our observation needs to be verified with the necessary knowledgeable people.

4.2.3 STREETSCAPES AND LANDSCAPES IN THE AREA

The streetscape of Tugela Mouth is a reflection of an urban and rural character. The rural part represents the streetscape with poor condition that is visible with gravel dusty roads, no streetlights and no sidewalks. However such condition is not unique in the rural context.



The roads in the Tugela Mouth formal village are in a satisfactory condition this is due to the fact that this area is considered to be a major tourist attraction in Mandeni furthermore the area is located close to the coast which has major implications in terms of the overall

appearance of the place. Although in an urban component the Tugela Mouth formal village does show a lot of improvement in comparison to the rural area in terms of tar road, speed humps, signage however improvement is still necessary in terms of sidewalks and street lighting which should cover the whole streetscape.

It is noticeable that Tugela Mouth is a clean area this is because there isn't a single place that has congested economic activities happening in one area which normally promotes littering and other filthy habits that are practiced by people. The Tugela Mouth formal village is located close to the coast has two parks that aren't far apart from one another these parks cater for people going to the beach in terms of parking, ablution facilities, sitting areas and the parks are monitored by security so as to ensure safety at all times. The parks are unfortunately not in the best of conditions which is really disappointing for a major tourism area which therefore means the parks need to be maintained in order to further improve the overall appearance of the coast in Tugela Mouth.



The landscape of Tugela Mouth is a beautiful scene to observe, the landscape provides many natural beauties that can't be witnessed in any other surrounding town. The natural slope that resides in Tugela Mouth although gradual contributes to its beauty and opens possibilities to structures that can improve the overall appeal of the area.

4.3 QUALITY OF BUILT ENVIRONMENT

4.3.1 DERELICT BUILDINGS THAT REQUIRE UPGRADING

There are quite a number of structures that require an upgrade to their design and architectural appeal and these structures fall within the frame work that makes Tugela Mouth to look not appealing to the eye. Many of these structures are unmaintained and were constructed with almost no ascetic appeal in mind.



Structures that require upgrading so as to improve the overall appearance of Tugela Mouth are located in the rural area, they must be upgraded in the sense that they must be built in a more appealing modernized way and the mud houses must be abolished especially the ones that have been abandoned all together. Overall the

residential areas are well maintained by the owners with a few exceptions of course.

4.3.2 ABANDONED UNMAINTAINED STRUCTURES



The abandoned and unmaintained structures that are visible are the ones in the rural area in Tugela Mouth, these structures are either completely abandoned or they are temporarily abandoned by the owners till they have the financial capacity to complete building the structures.

4.3.3 BUILDINGS THAT ENCROACH ON THE ROAD RESERVE



Tugela Mouth residential area poses no threat to the road reserve and seems to be enforced by the local authority. If there should be

structures that could be encroaching on this reserve and could pose a threat to possible future development of the area. These suspected structures need to be surveyed and steps need to be implemented to rectify these encroachments.

4.3.4 ANY ILLEGAL BUILDING

Illegal buildings refer to the structures that were built without Council approval. The municipal building inspectors are required by the law to scrutinise the plans to determine if all the major and essential requirements, laws and regulations have been complied with. It is essential that a copy of the title deeds, a zoning certificate and a completed application form must at all times accompany the building plans and must be submitted to the local municipality that is by law required to issue permits if a building plan is approved. As far as our observations goes there were no illegal buildings that were noticed during site visits however should there be any illegal buildings in Tugela Mouth, then procedures should be followed in order to assess their level of compliance prior to these being legalized.

4.3.5 SECOND ECONOMY: INFORMAL SECTOR AND STREET TRADING

The second economy (commonly known as informal sector) would mainly be a 'survivalist' type of economic activity within Tugela Mouth. It would also serve to be a supplementary and complementary role within a portfolio of other activities. The

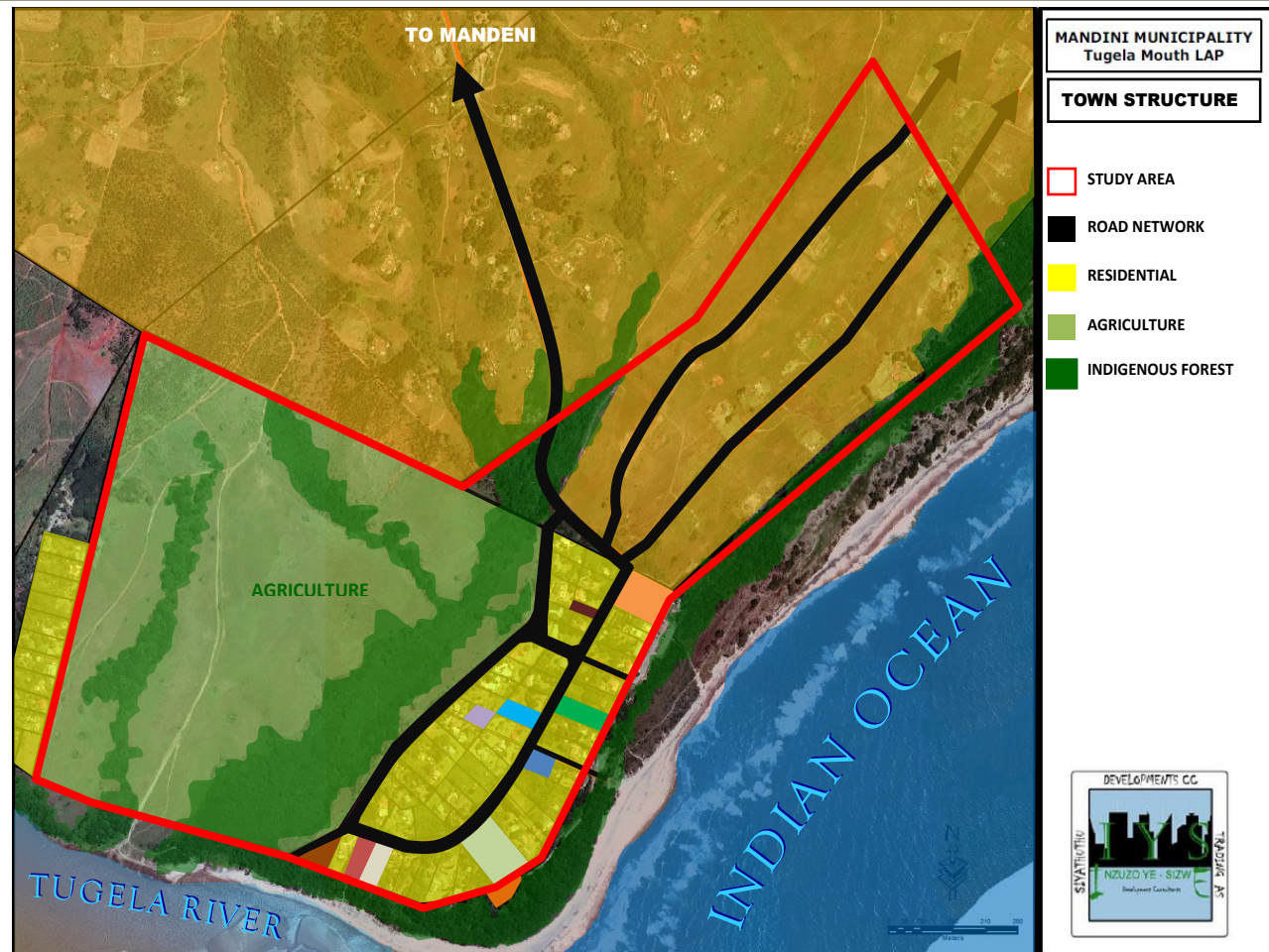
characteristics of a second economy in some cases involve a single person or a single household engaged in a wide range of activities that supplement and complement and feed off each other. Street Vendors are mainly the primary indicators of an active second economy in a particular area they usually conduct their business of the day by participating in what is known as informal trading which is normally done along the road way and in front of formal businesses creating an unwelcomed visual interface whilst there is inefficient utilisation of existing trading stalls. More often than not informal traders resort to using their make-shift camping tents and tables in the middle of the sidewalks and intersections thereby causing obstruction to pedestrian flow and movement. As far as it goes with the second economy in Tugela Mouth it is fortunately non-existent at all because as mentioned before the Tugela Mouth area basically doesn't have an area where you would find many economic activities congested in one area.

4.4 SPATIAL

4.4.1 STRUCTURE OF TUGELA MOUTH TOWN

Urban spatial structure is the arrangement of urban public space. The way that urban public space is arranged affects many aspects of how towns function and has implications for accessibility, environmental sustainability, safety, social equity, social capital, cultural creativity and economics. The Tugela Mouth settlement is located at the north bank of UThukela river mouth and exhibits the following structuring elements:

- Tugela River Corridor – this natural river runs in a west-east direction from the Drakensberg Mountains and culminating at the Indian Ocean thus bounding the south of the Tugela mouth settlement. The Tugela river estuary played a key role in the establishment of the settlement as it presented numerous terrestrial-marine activities as well as tourism related activities.

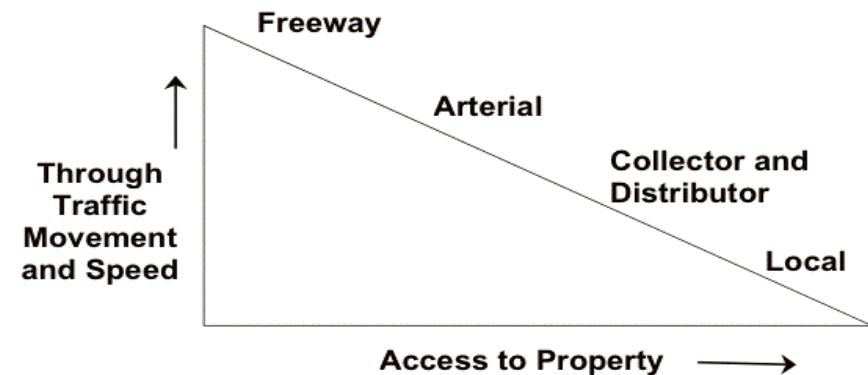


Aside from fishing, Tugela also offers a variety of activities and attractions including bird watching, an indigenous forest, hiking trails, water sports and host of historical and cultural attractions.

- ☛ Provincial Routes (P415) – The Tugela Mouth service centre is accessible via the P415 which is identified as a main municipal corridor crossing over N2 and linking this coastal settlement and the hinterland. It runs in an east-westerly direction linking the Tugela Mouth Service Centre and Mandeni/ Sundumbili Primary Node. The corridor runs cut the primary node in a northern direction along the MR459 and passing ISithebe towards Nyoni and Amatikulu.
- ☛ Residential - On the north bank are gum plantations and the settlement of the “Tugela Mouth”, comprising 40-50 houses, with a camping site on the edge of the estuary. On the south bank is a smaller settlement of fishermen’s shacks (+/- 10 in number).
- ☛ Agricultural - The estuary is surrounded by flat alluvial land or rolling hills, all used or the cultivation of sugar cane. About 15% of the Thukela catchment was under agriculture, comprising mainly subsistence farming, temporary commercial dry land agriculture, temporary commercial irrigated agriculture, and commercial forestry. Some sugar cane and improved grasslands are also present.

- ☛ Indian Ocean as a soft edge – natural steep high lying areas with lush vegetation exists within the eastern side of the study area which acts as a physical bearer for the expansion settlements towards the Indian Ocean.

4.4.2 MOVEMENT SYSTEMS



Roads are classified as follows; municipality has a full responsibility for the access roads; D-roads for the District Municipality and the T-Roads for the Province). This gives rise to more challenges like limited accessibility to various localities within the Municipality.

- ☛ Primary Distributor Route: P415 can be considered to be the primary high order route that exists within the study area. It connects the area with the small adjacent towns. This route ascribed to the norms and principles of KwaZulu-Natal Department of Transport. The P415 is identified as the municipal

activity corridor, which cross over the N2 linking the coast and hinterland. It also links the Tugela Mouth service centre and Mandeni/Sundumbili primary node.

The Local Access roads can be classified as link roads which run parallel from P415 in a north-westerly direction within the Mangeza settlements to the north of Tugela Mouth. They appear to be serving a singular purpose which is that of the “Community Access Roads” and can be considered as the second order roads with minimum design requirements. All these routes emanate from the provincial routes but serves slightly different purposes. Most of these are access roads to settlements while some act as the access roads to some of the farms within the study area.

Labotes Road can be classified as collector access road within Tugela Mouth as it provides mobility and access and the minor access lanes providing access to the beach emanate from this road. Its further significance in the context of Tugela mouth is the location of all the tourism related activities which invariably attract pedestrian and vehicular traffic.

Pedestrian paths are also a key element in the movement system in the context of Tugela Mouth as they provide direct access to the beach and the river mouth for vehicular access is prohibited of apparent reasons.



4.4.3 MOVEMENT PATTERN

There are two main categories of movement patterns that exist within the study area. These are internal and external movement pattern. Internal movement refers to the movement of people within the study for the purpose of accessing services and economic activities. External movement refers to the movement of people of outside of the study area in order to obtain goods and services and opportunities that are not found within ward 3.

4.4.3.1 INTERNAL MOVEMENTS

An analysis of the study area reveals that due to the lack of social and commercial activities in the area which could be ascribed to the minimal number of households which would not justify provision of same, the level of internal movement is very minimal as there is no point of destination except the caravan park, river mouth estuary or the beach. Other forms of internal movement could be attributed to the following:

-  Schedule public gatherings – this movement involves members of the public (i.e. Tugela Mouth Ratepayer) who commute to the community hall (i.e. Labotes lodge) when there are schedule public meetings or events. This movement also mainly exists within the settlement areas since the facility is located in the area and the majority of the population resides within the area.

-  Mobility towards shops – this involves the movement of population from different parts of the settlement to purchase convenient goods.

-  Mobility towards the beach parks – involves movement of the locals to the picnic and braai area for relaxation and fishing spots on Indian Ocean etc.

4.4.3.2 EXTERNAL MOVEMENTS

In view of the lack of Government services and community facilities such as schools, libraries, crèches etc. one can deduce that a massive exodus of external movement takes place in this area towards the Major Urban centres such as Mandeni and Stanger in KwaDukuza which could also be motivated by the following:

-  Employment –the employment opportunities normally arises within the urban areas due to the agglomeration of economic activities within these areas. The active labour force has to commute to the neighbouring urban centres which include Mandeni CBD, Stanger in KwaDukuza for employment purposes.
-  Commercial and Personal services – the lack of commercial services within the study area implies that the entire population has to travel to the CBD for routine monthly and ad-hoc purchases. These purchases would include the monthly groceries for each household while clothing and furniture may be purchased

after a number of months and years. The local population also travels to the CBD for entertainment and personal services purposes since it is developed with a range of leisure outlets.

-  Social services – the non-availability of social services within the project area also compounds the dependency on the Primary node of Mandeni. These include the hospital, tertiary education facilities (FET Colleges) and government offices (i.e. municipality). The population that resides within the study area has to commute to the urban areas to access these facilities.

4.4.4 LAND USE PATTERN

Tugela Mouth Land uses are typically urban mixed uses with acceptable levels of infrastructural and service development and a minimal provision of social facilities and services to support the resident population. It does however possess a number of tourism related activities, particularly along Labotes road such the Tugela Mouth Resort located to the north-eastern quadrant of the area, a caravan park in the centre as well as the Agape beach house which overlooks the river mouth to the south of the area.

4.4.4.1 URBAN RESIDENTIAL

A number of 19th century housing typology and architectural style and design are evident in the Tugela Mouth Village. The



dominant land uses in Tugela Mouth is residential in nature, consisting mainly of formal residential areas. Middle to higher Income Housing occurs in the town itself, since this was the first residential development in area.



SYNOPSIS

Key use/Activities	The predominant land use is residential interspersed by a number of religious tourism accommodation (Resort, Chalets etc.).
Existing Character	The area is typical of areas which have fallen into decay. It's a relatively quiet neighbourhood with minimal pedestrian activity.
Built Form attributes	The area is characterised by one-site-one unit houses which are in general good physical condition but poorly maintained and require revitalisation.
Buildings and Space Relationship	No Clear definition of streets and buildings are setback creating a negative street response edge which offers an inhospitable sense of place
Public environment	The area exhibits a general responsiveness in terms of verge maintenance and underutilised open spaces

SYNOPSIS

General Observations /issues

- ☛ The area is generally very quiet with an almost non-existence of pedestrian traffic/movement;
- ☛ No pedestrian sidewalks are provided particularly on the main Lobotes road where main tourism activities are located;
- ☛ Roads are wide enough to facilitate urban design and street paving and strategic points; and
- ☛ The general state of the residential areas is that of an up-market state most houses are general maintained and are generally priced at R1.5million.

scale of dwellings is mixed and there is a range of site coverage across the residential precinct.

4.4.4.3 TOURISM DEVELOPMENT



4.4.4.2 RURAL RESIDENTIAL

The north-eastern portions of the study area lies in Mangeza linear sparsely populated rural residential development. However, over the years an array of different styles has emerged which reflect many new architectural styles, design as well as individual innovation and therefore lacks uniformity as number of 19th century housing typologies and architectural styles and design are evident in the study area. The area has predominantly large lots with expansive landscaped areas surrounding dwellings. The bulk and



Tourism related activities are interspersed throughout the urban residential component particularly along the Labotes main road as depicted in the land use map hereunder. The land use information for

the Tugela Mouth study area is based on a land use study that was conducted on the 24th of April 2015.

4.4.4.4 THE AGRICULTURAL LAND



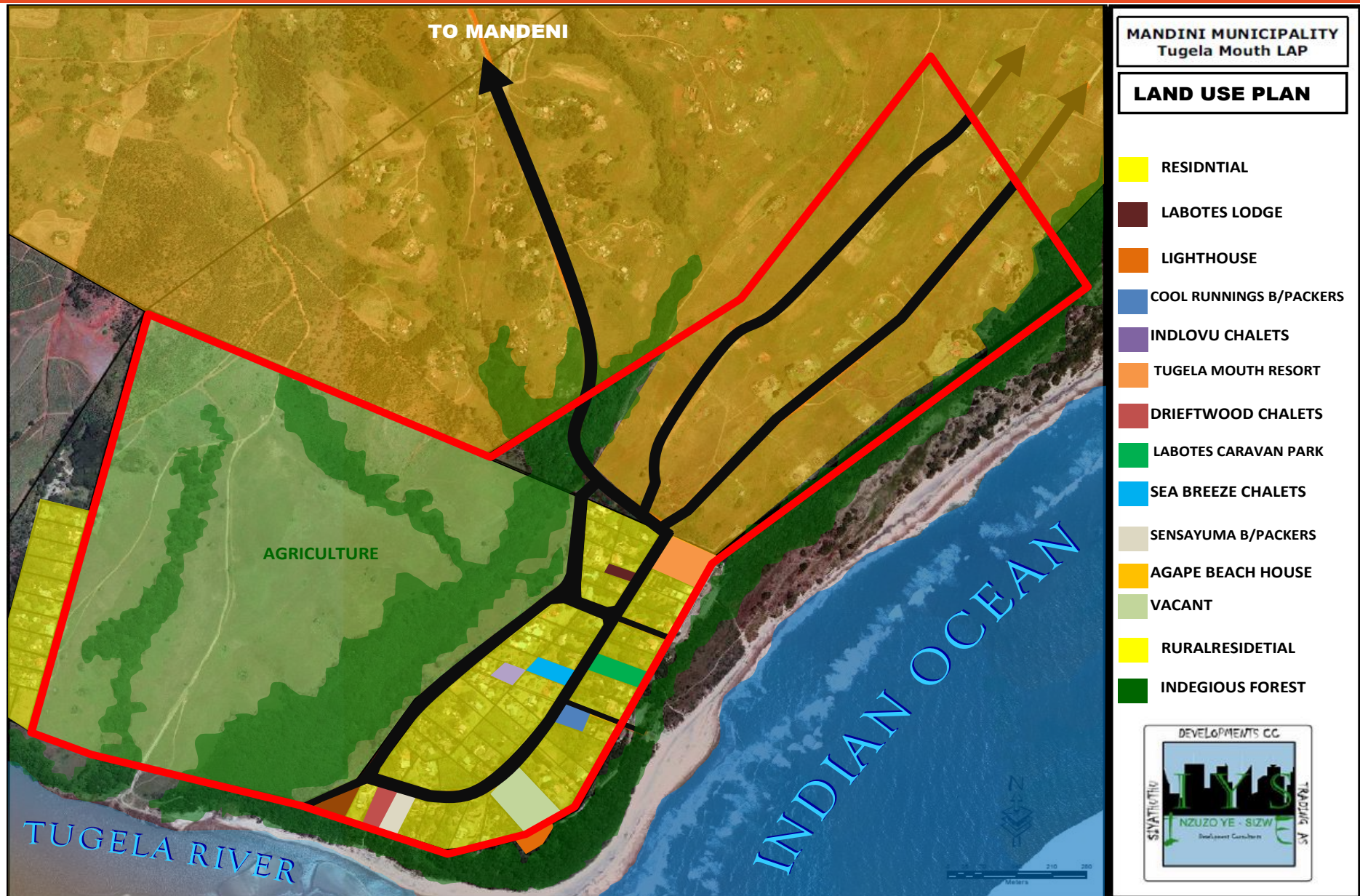
The dominant land use within the study area and is subject to the provision of the Chapter of 4 of Planning and Development Act, 2008 (Act No. 6 of 2008) which addresses processes and procedures to be followed for land which falls outside of a scheme. Once a scheme is adopted covering the entire area of municipal jurisdiction, Chapter 4 will no longer be relevant. In terms of land use, the vast majority of this land between the settlements does not appear to be productively used for Agriculture. Instead it has just remained vacant with natural grasslands. It appears as if most agricultural activities are carried out in the form of smallholdings whereby the owners embark on small scale crop cultivation and livestock breeding.

4.4.4.5 VACANT LAND

The area reflects a low intensity of land use; this is clear in the number of vacant prime land, which has been lying vacant for years. The

Tugela Mouth study area contains several parcels that have not yet been developed. Even though the land costs may be higher in the central area of Tugela Mouth urban component, new developments could be designed and built without concern over rehabilitation or demolition of existing structures. Vacant and abandoned land not only proves to be an aesthetic eyesore on the state of the neighbourhood but also implies a social stigma on the health of the community. Properties that are neglected or abandoned imply declining interest in the willingness on part of the residents to invest in the neighbourhood and are symptomatic of decreasing market demand. The land use survey revealed that a staggering 49 hectares lie vacant. These properties will have to be developed in terms of their zoning and strategic locality in relation to the areas local area plan.

LAND USE TABLE				
TOTAL AREA	149.63 HECTARES			
LAND USES WITH TUGELA VILLAGE	NUMBER OF ERVEN	PERCENTAGE (%)	AREA (Ha)	PERCENTAGE (%)
Residential	55	80.88	18.05	12.06
Business (Tourism)	9	13.23	3.05	2.03
Vacant	2	2.94	1.09	0.72
AGRICULTURE	1	1.47	72.37	48.36
RURAL RESIDENTIAL	1	1.47	49.91	33.35
TOTAL	68	100	144.47	100

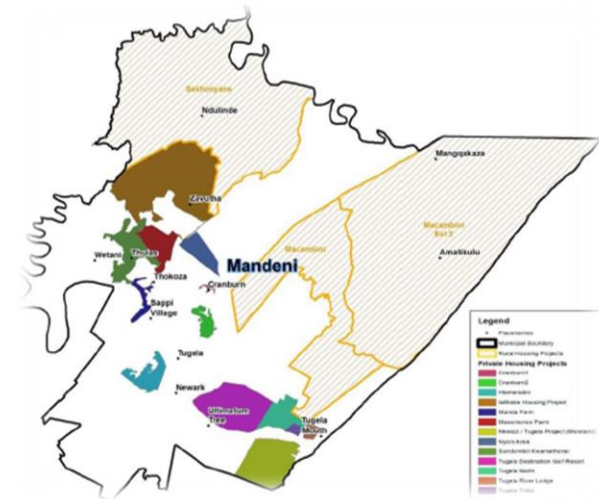


4.4.5 ZONING

During the Inception meeting the project team was advised that the Land Use Management Scheme is in course of preparation. In terms of Chapter 2 of the PDA, which requires that each municipality needs to prepare a scheme or schemes which extend over its entire area of jurisdiction over time. In this instance, the municipal scheme will begin to address a number of the difficulties experienced with land use management within the Tugela Mouth area. It will also ensure that land use practices are managed and coordinated and are in line with the municipality's Integrated Development Plan.

4.4.6 DEVELOPMENT INITIATIVES AND APPLICATIONS

The housing projects depicted on the plan herein only depict projects headed by the Mandeni housing Department and the Provincial Department of Human Settlements. To ensure that all developments are considered, the image below (extracted from the IDP) depicts the other housing projects being proposed, that needs consideration in terms of infrastructure provision.



Tugela River North boast with an 18 hole golf course resort time share complex with 460 units with an environmental corridor, a lake resort hotel, boma restaurant with river views, boutique resort suites, 50 sports suites, 100 residential (1000m²), 1000m² sites Luxury residential (3000m² sites), cultural village and Business park chapel sports lodge, organic farming, 504 residential sites, wellness centre, Mini Gym medical Centre Health care boutique , crèche & children's entertainment area, Medical centre and sports fields. Planning Permission Granted for Tugela Tides Development Through hard work and the input of numerous consultants, the Tugela Tides is in the final stages of gaining Municipality approval for the development of 460 houses on the rolling hill of this land. The comprehensive landscape plan is intended to accentuate the experience for both visitor and resident,

consolidate the existing landscape qualities and improve habitat for people, flora and fauna as well as develop facilities to world-class standards. Landscape planting is also intended to showcase local and regional species, thereby strengthening the local and regional identity of the Tugela River and KwaZulu Natal.

4.4.6.1 LANDSCAPE INTERVENTIONS

The land consists of two gentle hills which present perfect placement to maximize the views and sense of security within the development. The valleys are suited to enhancing ecological development and habitat with a natural dam at the centre. Landscape features such as the views to the river and sea have been optimised to maximise the appeal of each residential unit.

Landscape Features - A bold and clearly identifiable entrance to the development is proposed. This would create a clear identity for the development and assist in orientating visitors. Landscape features would serve to enhance the experiential quality and ensure orientation through the site. Proposed features are positioned at road intersections. These

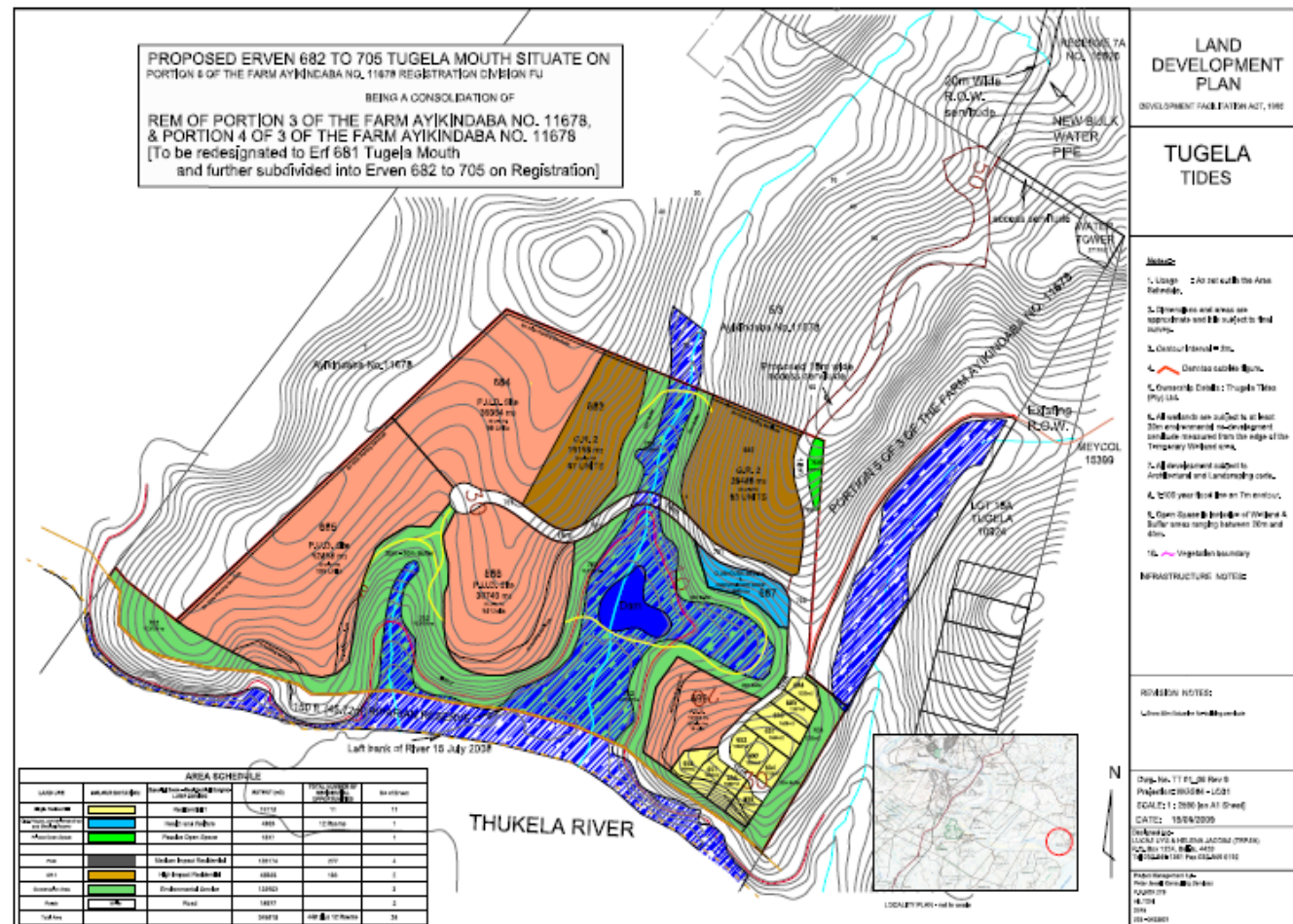


could be water bodies or land-forms and planting. Tugela River Lodge is being developed as a wilderness sanctuary to ensure that the area maintains its astounding beauty and sense of place.

4.4.6.2 THUKELA RIVER GUEST HOUSE

This location has the appeal of being a potential beach destination and could be considered with linkages northwards up to Amatikulu Nature Reserve. That said, the current development footprint, together with its location at the mouth of the Thukela River, is considered as being limiting for further tourism development that would provide meaningful opportunity for visitor number growth.

However, it is considered viable for the strategy to address upgrading of the Thukela Mouth tourism product generally, in order to boost the tourism economy. This would start with addressing the poor water quality of the Thukela River, which is seen as a serious threat the development of tourism at



this location. Should this be adequately addressed then activities such as fishing, paddling, bird watching and swimming become more feasible and safe.

In acknowledgement of the lack of significant opportunities for a beachfront resort type development at Thukela Mouth, It is therefore proposed that an area just north of the village be identified and released for the development of this tourism facility, with functional linkages to the African Beach Village, the new town/village centre and the other development proposed along the Thukela River. The Guest House could take the form of an offering for weddings and conferencing venue with a health spa. This would diversify the tourism product offering in the MLM and if this and other developments along the Thukela River were to become successful it would catalyse and add sustainability to Mandeni's local economy.



4.4.7 CAPITAL INVESTMENT PROJECTS WITHIN TUGELA MOUTH

Private sector investments have been minimal within Tugela Mouth for the past five years. This is evident from the development applications which the municipality has approved. The table hereunder tabulated some of the capital investment initiatives within/around Tugela Mouth project area:

WARD NO.	PROJECT DESCRIPTION	PROJECT STAGE	MTEF (2014/2017)		
			2014/2015	2015/2016	2016/2017
3, 4 and 10	Lower Thukela Bulk Water Supply Scheme	Tender	R10 000 000	R 10 000 000	R 13 700 000
3	Refurbish 11KV overhead	Tender	R200 000	R1 000 000	
3	Road Upgrade of P415	Proposal			R 65 000 000
3	Housing projects (Land Claim)		R300 000		
TOTAL			R 10 500 000.	R 11 000 000	R 78 700 000

4.5 SUSTAINABLE HUMAN SETTLEMENTS

The study area is highly accessible by P415 which links the study area to the surrounding town of Mandeni which is about 20km in the west.

The study area functions as a peripheral of Mandeni economy. The study area also functions as a residential area to the wider economy of Mandeni Local Municipality. The rural settlements located north of the Tugela Mouth urban village were historically neglected from social and economic development by the government of the past regime. However, the birth of a new political dispensation attempts were made to redress the socio economic backlog with some of the social facilities (especially schools). However the economic potential of these areas has never been fully explored and cultivated.

As a consequence of the remote spatial locality and rural predominance, Tugela Mouth area did not benefit from sustainable development in the past. The area did not attract private sector investment and this caused it to remain largely undeveloped as a result the local population had to travel long distance to access services. The following are some of the planning implications that should be considered in order to ensure that the area is able to respond effectively to sustainable development:-

 **Structuring Development** – This entails creating a development structure which is based on the existing conditions of the area and which makes best usage of its opportunities. The framework should also locate various development components in close relationship to each other and in locations easiest accessible, while reducing pressures on areas which are unsuitable for development and which should be protected from an environmental point of view. The framework will take the existing

land uses into account and have thus made provision for sites for future development of a similar use to be located in the same area;

 In order to create sustainable human settlements within the study area the Municipality in partnership with the Department of Human Settlements will need to embark on three strategic interventions. This can be undertaken in a phased approach which the first phase will be to upgrade the existing settlements. The existing settlements will need to be prioritized based on density; and

 The second phase will be to expand the existing settlement in line with the population growth and demand for future housing. The last phase will be to consolidate the settlements. It will be crucial to ensure that within this phased approach a mixture of housing products is introduced and land is unlocked for housing development purposes.

With specific regards to the Tugela Mouth urban settlement, population and household density does not provide enough thresholds to prudently justify the notion of creating a sustainable human settlement as espoused by the department human settlements.

4.5.1 HOUSING

Sustainable human settlement also implies promote an integrated residential development within the context of the study area. This ensures that the residential character of the area is not characterized as monotonous and sterile. The key is to introduce diversity in terms of housing products. This can be proposed within the main settlement areas as follows:

-  Explore the feasibility of partnership arrangements with the land owners in respect of medium density housing and gap housing;
-  Prioritize land suitable for housing development (different products) and engage the National Housing Agency;
-  Facilitate acquisition/ securing of land for housing development purposes;
-  Undertake site feasibility assessment including specialist's investigations (i.e. environmental, geo-tech, engineering etc.);
-  Promote site and service schemes using a public private partnership (PPP) model; and
-  Facilitate development of a mixed/ integrated residential land use area and a sustainable human settlement.

4.6 COMMUNITY FACILITIES

The non-existence of community facilities are not deemed a backlog. The rationale for this assertion is based on guidelines for – Huma Settlement Planning and Designs – compiled under the auspices of the Department of Housing – by CSIR Building and construction Technology.

4.6.1 SPORT & RECREATIONAL FACILITIES



Given the isolated nature and spatial locality of the settlement no sports facilities area provided, however the recreational facilities in the form of camping areas and picnic facilities are located in the beachfront area for locals and visitors.

4.6.2 HEALTH FACILITIES

The convenience and availability of health facilities is critically significant, because it has a direct influence on the health status of the area. There is no health facility (clinic) located in the immediate

vicinity of the area. Hospitals are located in Stanger and existing clinics and mobile clinic stops are associated with local service nodes. The Stanger hospital serves a relatively large Health District servicing the Mandeni Municipality, this implies long travel distances for the people.

4.6.3 EDUCATIONAL FACILITIES

The provision of educational facilities in Tugela Mouth is not deemed prudent given an estimated Area of 0.59 km² with a meagre estimated Population of 210 (358.48 per km²) and 68 Households (138.27 per km²) according to statistics South Africa.

4.6.4 PUBLIC FACILITIES

4.6.4.1 LIBRARIES

The Mandeni Municipality is serviced with 1 Main Library situated on the same premises as the Municipal Offices, at 2 Kingfisher Road, Mandeni.

4.6.4.2 EMERGENCY SERVICES

The Municipality is serviced with only one Emergency Medical Retrieval Facility (EMRS) situated within Sundumbili. Although the urban areas are serviced within a 5km Radius, the larger part of the House Holds is situated in excess of 10km from the facility.

4.6.4.3 COMMUNITY HALLS

There is no community hall within the study area with the exception of a privately owned Labotes hall which is mainly used by the Tugela Mouth ratepayers association to hold meetings such as IDP forum meeting etc.

4.6.5 PUBLIC SAFETY

The existing police stations Sundumbili and Nyoni have large areas to service and access to remote areas is arduous. Remote rural and traditional areas of the three Tribal Authorities are particularly difficult to service in this regard. The SAPS indicate they would provide police services to these areas from satellite stations in the appropriate localities. From these satellites they would facilitate community policing efforts in the area to build security. They would train and recruit community police reservists of different designations i.e. active reservists who would undertake a determined number of hours service per month on a regular basis or reservists who would be called upon in times of need. Mandeni Municipality is serviced by three police stations and two satellite stations. The main Police offices are situated at

-  Mandeni SAPS Sundumbili;
-  Nyoni; and
-  Newark.

The service radius of a police station is 20km. Apart from the extremities of the municipality, with areas such as Tugela Mouth, the northern areas of Ward 6 and the eastern periphery of wards 4 and 5, the whole of the municipality is serviced within a traveling distance of 20 km. Please refer to Map Police Stations attached herein for a depiction of the localities of the Police Stations.

In view of the above given the tourism nature of the area, a concerted need therefore exists to adopt a crime prevention strategy that is preventative and inclusive. The aim of this crime prevention strategy is aligned to the aspirations of the National Development Plan (2012) which are to:

-  Strengthen programmes aimed at curbing violence against the vulnerable with focus on women, children and the elderly,
-  Strengthen partnership between civil society, business and criminal justice system at local level (Business against Crime and the Community Policing Forums), and
-  Establish educational programmes on Safety for Children;
-  These goals can be implemented through initiating the following action plans:
-  Effective policing and crime prevention (Tugela Ratepayers Association);

 Targeted social crime prevention; and

 Environmental design.

A need exists to involve the community in the fight against crime by introducing changes in community policing, including expanding its role to deal with all matters in the system including policing and parole boards.

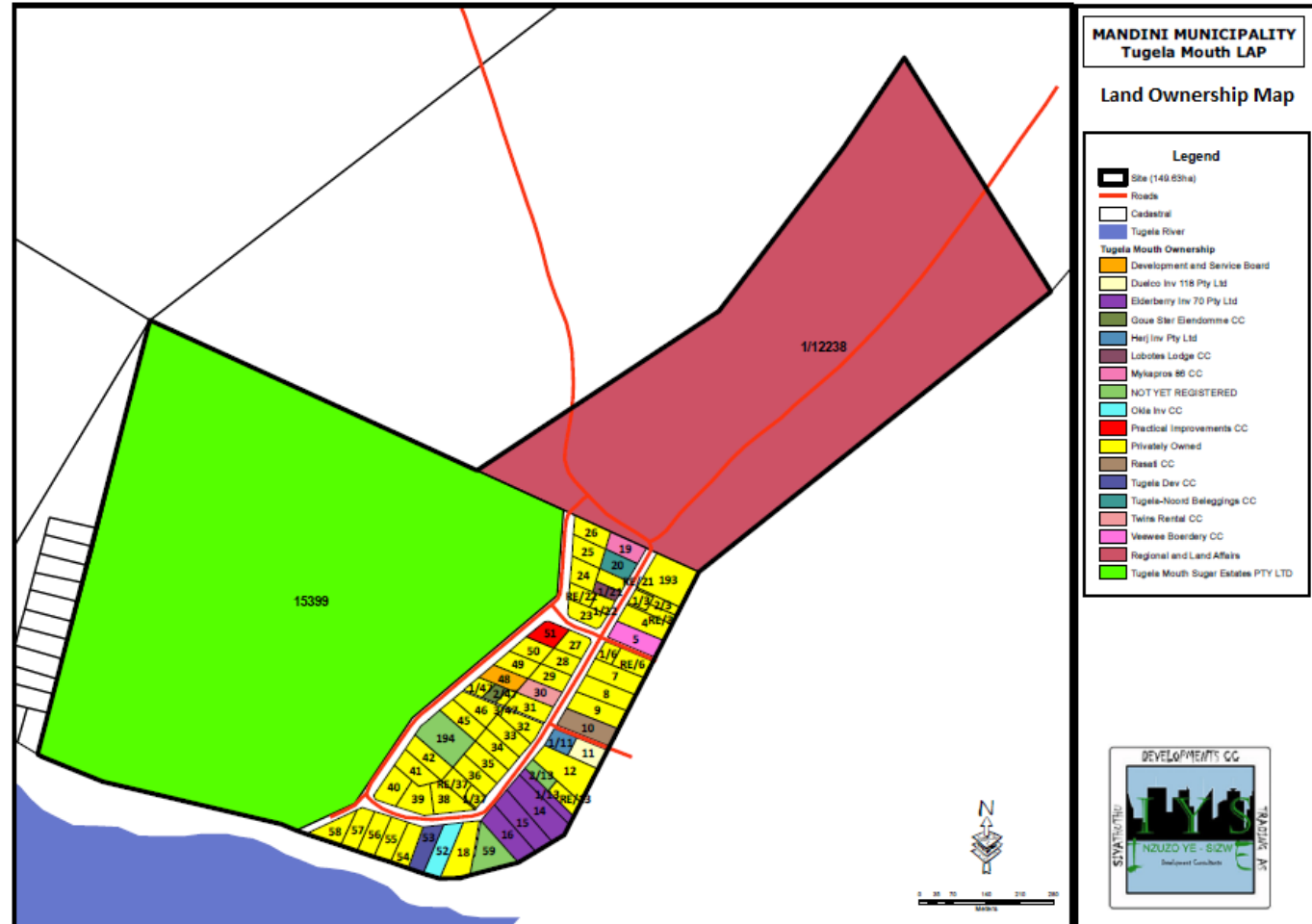
4.7 LAND LEGAL

4.7.1 LAND OWNERSHIP

The type of land ownership present within the study area includes broadly private land (99.7 ha) and Ingonyama Trust Land (49.93 ha). However the largest share of land owned is private as depicted in the land ownership map above, this private land can be broken down into two such that there is residential privately owned land (including both residential and business purpose land-27.33 ha) and privately owned agricultural land (Tugela Mouth Sugar Estate-72.37ha).

4.7.2 LAND TENURE ISSUES

The study area presently does not have any formal land tenure issues such that there are currently no registered land claims, however there have are a few speculations with reference to the vacant private land depicted in map above that the land might be in the process of being claimed.



4.8 THE LOCAL ECONOMY

4.8.1 SIZE AND STRUCTURE OF THE ECONOMY

The size and structure of the economy of Tugela Mouth is primarily centred on tourism with the area accounting for 70% of all accommodation facilities in Mandeni which is rather shocking that there are currently no substantially developed service centres in the area. Tourism has the ability to influence a number of other economic sectors including finance, trade and transportation within the local economy.

It also has an inherent potential to project a positive image about the area being visited and its special features and characteristics experienced. Lastly it has high capacity to create jobs for both urban and rural areas, whilst also earning the local economy much needed foreign exchange, as far as international tourism perspective is concerned. Since the size and structure of the economy of Tugela Mouth is centred around one sector which is tourism the local municipality must be committed to developing its character as an area of scenic beauty and an area that offers strong developmental opportunities which will enhance its visual and aesthetic appeal.

This will promote investor confidence therefore attracting more developments within Tugela Mouth so as to tap into all the economic potential and opportunities that are being used below its economic potential. Currently Tugela Mouth has low levels of economic activity

to grow the size and structure of the area there is a need for major private sector investment so as to promote the development of commercial economic activities. These developments will create viable strategies to stimulate economic growth and facilitate private sector investment in the area.

Tugela Mouth should capitalise on the tourist attractions that the place has to offer, the beaches, estuaries, natural resources, historical sites and the wild life. These tourist attractions should provide an opportunity for the area to be developed into a major tourism node. Tugela Mouth has a potential for development opportunities for ecotourism and recreational activities due to the relatively pristine nature of the coastal area.

To become a significant contributor to the economy of Mandeni, the district and the province, Tugela Mouth through the IDP must be seen as an area that has a potential for growing tourism and remain strongly committed to develop its character as an area that has the potential for economic development. The Tugela Mouth Area is set to benefit from the domestic fixed investment that is being channelled into real estate and business service sectors because with tourism being undoubtedly the strongest along the coast a lot of emphasis is being made towards the development of coastal residential estates and resorts.

4.8.2 ECONOMIC SECTORS

4.8.2.1 AGRICULTURE

Tugela Mouth is characterised by scattered subsistence and commercial agriculture focused primarily on sugarcane although there are indigenous natural forests and small scale livestock activities that exists unfortunately the agricultural sector in the area hasn't fully realised its full potential economically primarily because the land isn't effectively being used



for agricultural purposes. Sugar cane being the dominant agricultural activity in the area has over the years seen a decline in total production if this trend continuous it will result in agricultural land with good potential in the area being used for other developments more specifically residential developments.

Livestock farming is carried out to a very small scale and has currently not been explored to its full potential. Other agricultural

opportunities that include vegetable farming and niche market products can also be looked into further. However it should be noted that although Tugela Mouth has some agricultural activities currently active Mandeni as a whole hasn't gained the recognition of being recognised as a sound contributor to the provincial economy in terms of agriculture.

4.8.2.2 TOURISM



Image: Fishing in Tugela Mouth

Tourism is identified as one of the strategic economic sectors in South Africa. It has the ability to influence a number of other economic sectors including finance, trade and transportation within the local economy. It also has an inherent potential to project a positive image about the area being visited and its special features and characteristics experienced. Lastly, it has high capacity to create jobs

for both urban and rural areas, whilst also earning the country much needed foreign exchange, as far as international tourism perspective is concerned.

Tugela Mouth area which is situated on the KwaZulu Natal North Coast approximately 4km off the N2 has a comparative advantage in tourism which is not surprising because the area accounts for 70% of the accommodation available in Mandeni. The tourism sector is also growing consistently because the area offers cultural, heritage, beach and nature based tourism, the area benefits highly from the breath taking coastline, Warm Ocean and the rear sub-tropical climate. The Tugela River is the largest river in KwaZulu Natal and was the historical border between Zululand and Natal and a number of historical events associated with the river have left a rich legacy of major historical and cultural sites.

The Tugela Mouth area remains a very popular destination for both offshore, river and deep sea angling and has hosted a number of major fishing tournaments because the area provides fishing



enthusiasts with a variety of species such as the Salmon/Kobe, Garrick and Labotes. Shark fishing is also very popular in the area because of the massive specimens of Zambezi Bull Sharks, Great White Sharks, Dusky, Ragged Tooth, Hammer Head, Tiger Sharks, Blackspot Sharks, Milk sharks and Sand Sharks. The area also provides alternative activities besides fishing like bird watching; they can explore the indigenous forest, there hiking trails, water sports and a massive variety of historical and cultural attractions. There is an abundance of tourism development opportunities that can be explored by the municipality in the area and those that are already attracting tourists in the area can be enhanced so as to further improve the appearance of the area. These are the areas that have a potential for tourism development:

-  Heritage Tourism
-  Beach Tourism
-  Eco – Tourism
-  Leisure
-  Cultural Tourism

Tugela Mouth tourism is set to benefit from the domestic fixed investment that is being channelled into real estate and coastal resorts.

4.8.2.3 ILLEGAL MINING

The prevalent mining activity within Tugela Mouth is sand mining. There are several illegal sand mining sites in existence in the area but there are applications that have been regarding the formalisation of sand mining, the municipality must organise a workshop for the Law Enforcement unit in order to deal with the illegal sand mining and the local municipality should consider documenting these sites in the future in order to introduce some control measures.



4.8.2.4 SERVICES SECTOR

Tugela Mouth has been recognised as a coastal village centre for those areas located along the coast as such this implies that the area provides basic services for the settlements along the coast. Tugela Mouth makes GVA contributions to the services sector through the transport sector more specifically public transport, electricity and water, real estate, insurance, finance, social and personal services, catering and accommodation. This further implies that land use within this area is typically urban mixed used with acceptable levels

of infrastructural and service development and a minimal provision of social facilities and services to support the resident populations. With the booming estate and resort setting developments that are due to happen in the area these developments will provide opportunities for the Tugela Mouth area to be recognised as one of the major urban centres in the municipality which will grow the services centre.



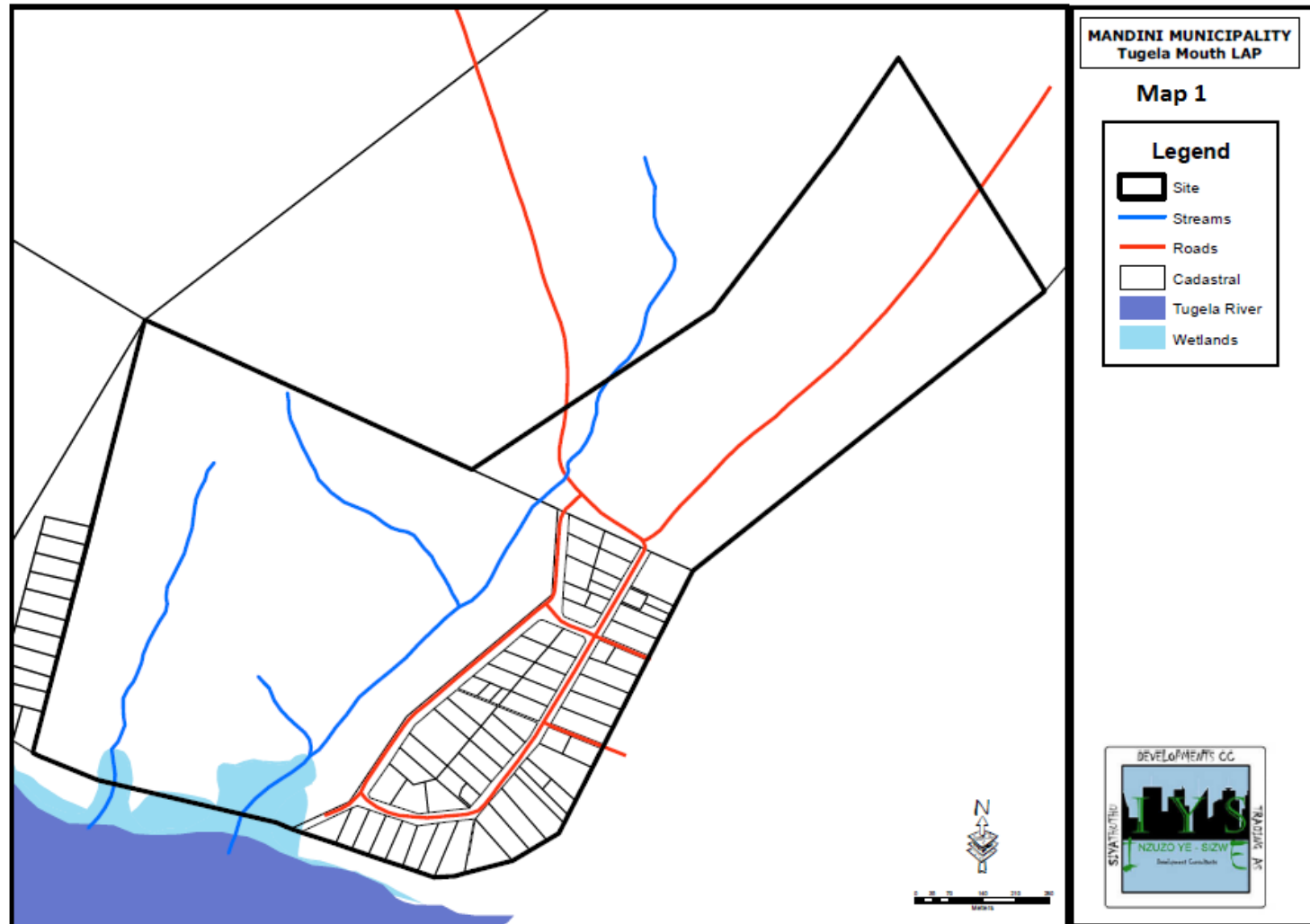
4.9 ENVIRONMENT ASSESSMENT

This section gives a brief assessment of the study areas environment with the intention of providing a general synopsis of the environmental characteristics of the study area and make recommendations that will guide the proposed local area plan.

4.9.1 HYDROLOGY AND PROXIMITY TO DRAINAGE LINES

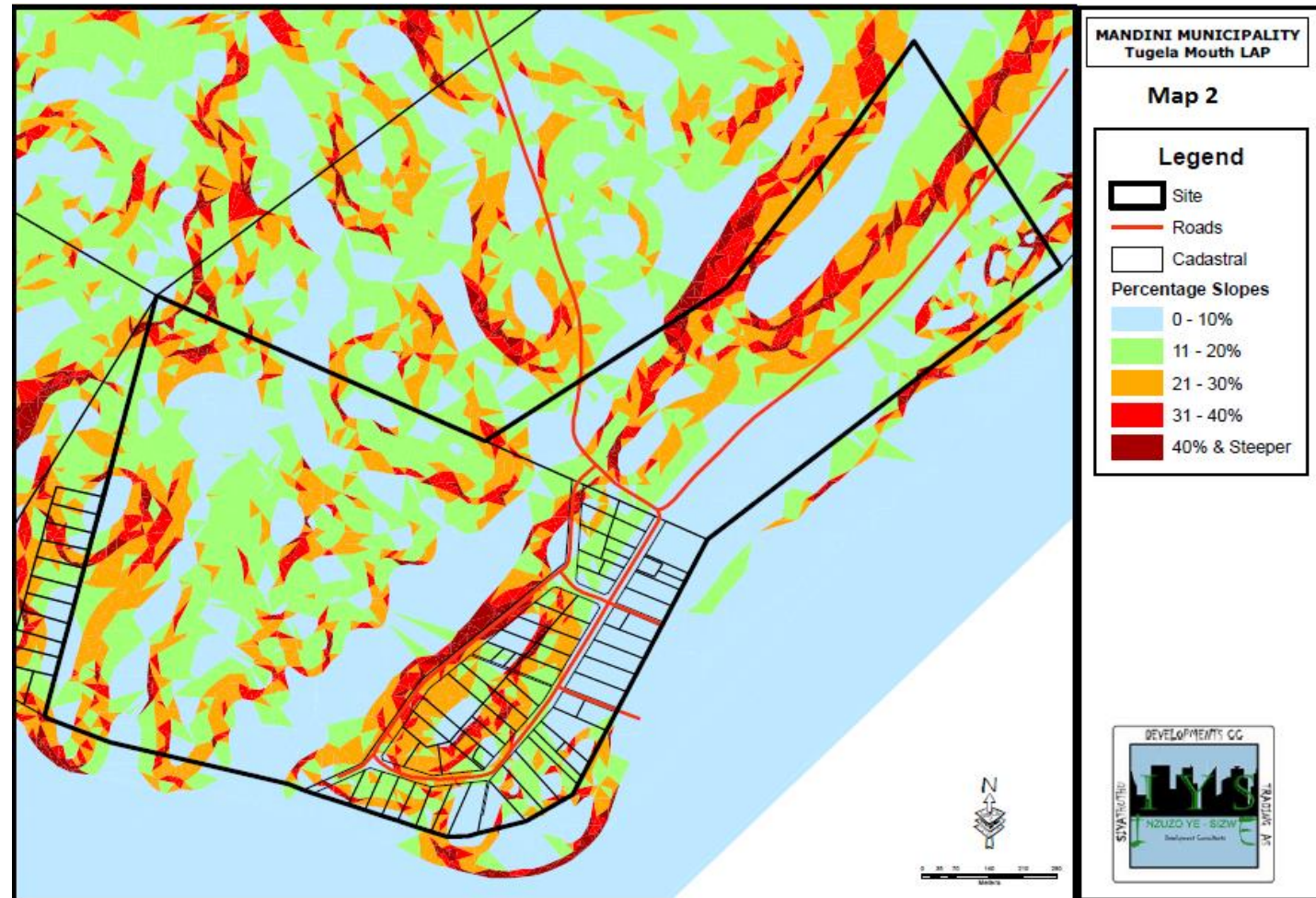
The study area has KwaZulu Natal's largest river (Tugela River) flowing alongside it and is located where the river and Indian ocean meet (Tugela Mouth), the area also has wetlands as depicted by map 1 above. The estuary (River Mouth) is surrounded by flat alluvial land or rolling hills, all used for the cultivation of sugar cane within the study area.

These wetlands are essential in that they carry out hydrological functions including maintaining river water quality and flood attenuation. The areas in close vicinity to the Tugela River create potential for interest amongst tourist and as such having developments long this area can be anticipated, however the LAP will propose initiatives that will look towards promoting sustainable development that does not pose a threat towards the conservation of the riverine area. Broadly this can be achieved through the creation of a buffer that will consider proposed developments to be at least 30m away from river banks.



4.9.2 TOPOGRAPHY

As depicted from the topography Map (Map 2) above, the study area has a fairly gentle slope ranging from 0 to 40% with 40% and above considered steep. The built up area in the south western part ranges from 0 to 10% which is flat whilst the majority of the area is fairly gentle with slopes ranging from 11% to 30%. The western part of the area has favourable slopes for development with flat to gentle terrain in that particular area. The north eastern part of the study area has predominantly flat to gentle slopes ranging from 0 to 30%. Topography is important to take into consideration when planning development initiatives in that it will be the determining factor of whether



infrastructure provision will be suitable or not as steep slopes tend to be very expensive to develop. However, the slopes contained in the north eastern part of the study area are particularly favourable for future development of the area where growth envisaged towards.

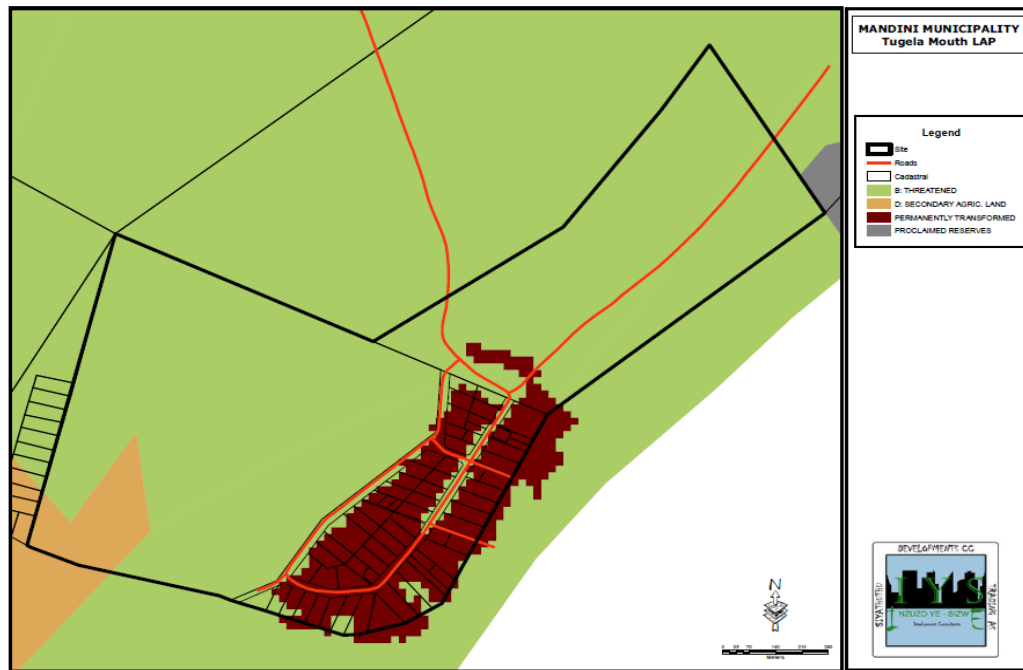
4.9.3 GEOLOGY AND SOILS

The geological formation within the study area is the Natal Group Arenite as depicted in the map (Map 3) below. The land type soil pattern within the study area is the Ab (red, dystrophic and/or mesotrophic) with yellow soils occupying less than 10% of the area whereas dystrophic and/or mesotrophic soils occupy a larger area than high base status red-yellow apedal soils. Natal Group Arenite is a sedimentary geological formations found in Karoo Basin region of Southern Africa. It is carbon-rich sedimentary deposit; owing to the high vegetation content of the original sediment i.e. in some instances this type of geological formation contains mineral occurrences for coal mining. This type of soil geology is not known for any construction challenges. However any development that should take place must take into cognisance of a detailed geotechnical investigation.



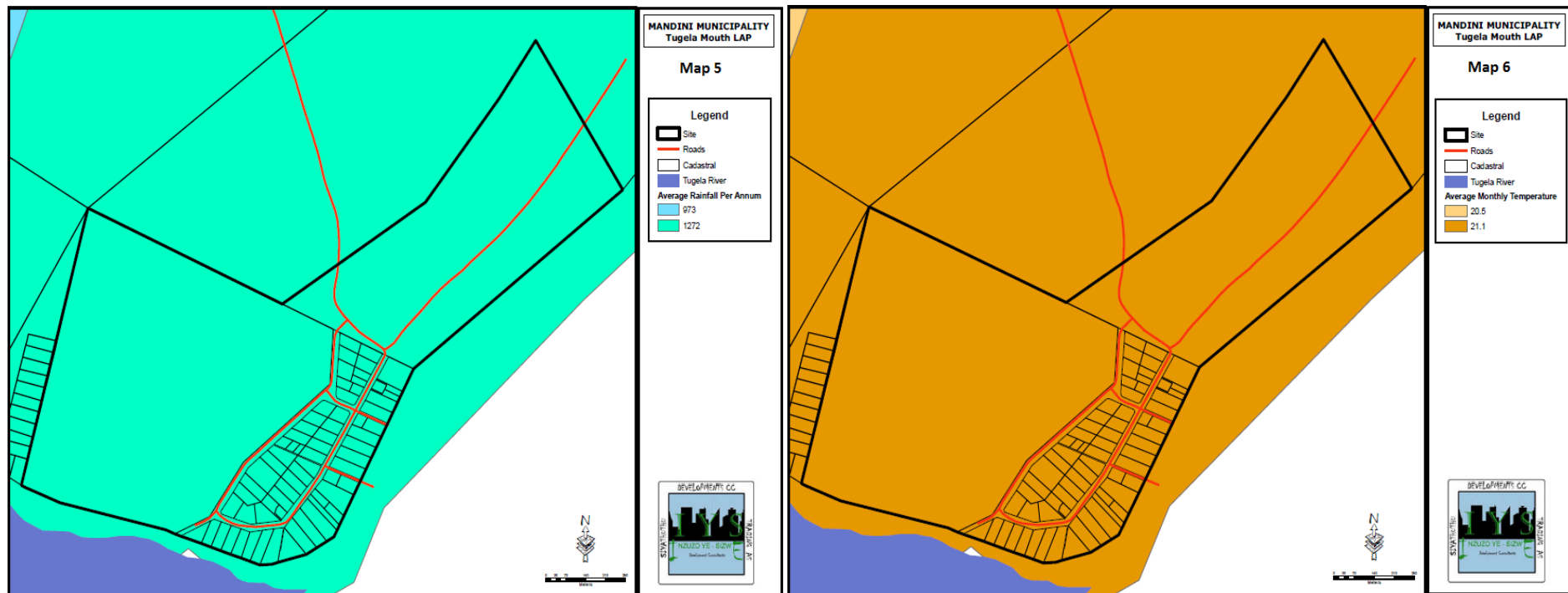
4.9.4 AGRICULTURAL POTENTIAL

Although, the SDF classifies the study area as having category B agricultural potential which is viewed as threatened agricultural land. These categories have been directly linked to the municipality's topographic character and the amount of rainfall that is prevalent within the area. The study area is relatively flat or gentle sloped and as such it is considered as having high agricultural potential as opposed to the other areas within the local municipality. Map 4 (insert) is a provincial bio resource map that also identifies the areas as broadly having very high agricultural potential. However it has not taken topography and the already existing built up settlements into consideration.



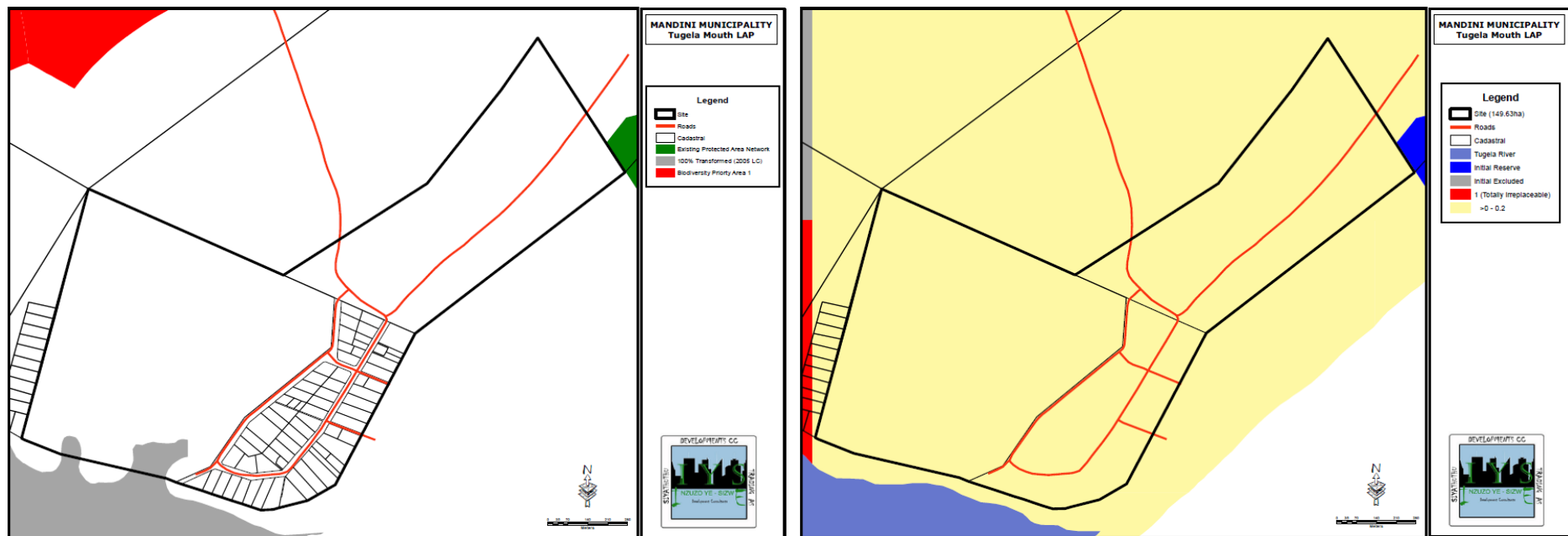
Map (left insert), indicate a recently prepared study by the Department of Agriculture which has taken into account of additional issues that affect agricultural development such as the main settlement area which has permanently transformed the land from agricultural activities as such it is of no value for agricultural reservation. However other areas still remain agriculturally important. The implications of this is that the developments proposed will need to take into consideration the agricultural potential of this land and propose developments that will not further threaten this land but rather conserve and promote it.

4.9.5 CLIMATE AND RAINFALL



Tugela Mouth has favourable climatic conditions throughout the year which makes the area to be pleasant as a destination. The study area falls under the summer rainfall region of South Africa with an average mean annual rainfall of 1272 mm (Map 5), making it one of the well watered area in terms of rainfall in the municipality. The study area is relatively warm having a relatively warm winter and a mean annual temperature of 21.1 degrees Celsius as depicted in Map 6 below. The combination of good rainfall and warm temperature makes the study area ideal for a wider range of agricultural production. This temperature is also good enough for leisure tourism which is the characteristics of the area. There are no known sever climatic conditions such as drought and floods. However, precautionary measures should be considered in the event whereby the natural disasters may emerge in the near future. These disasters may include flood risks when UThukela River overflow or veld fires during the summer seasons when the coastal vegetation has dried up.

4.9.6 FATAL ENVIRONMENTAL LIMITATIONS

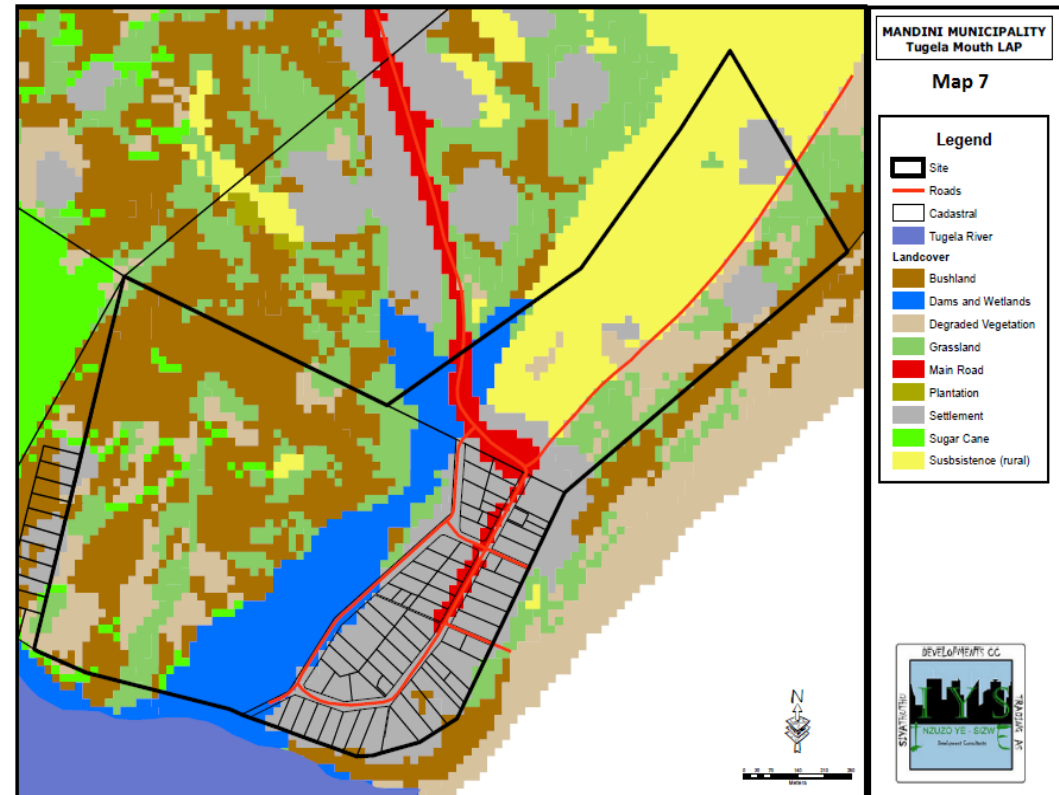


The study area comprises of UThukela Estuary which involves one of the largest rivers in the province and its catchment area was a former designated Water Management Area. According to the SDF, major issues for this estuarine system are excessive siltation and poor water quality as a result of the cumulative catchment impacts such as run-off from agricultural irrigation; organic pollution, mining and urban settlement with poor sanitation resulting in faecal contamination. In general, it is particularly important from a conservation perspective due to its large size, the rarity of this estuarine type and the biodiversity which it supports, specifically birds (Turpie and Clark 2007). Harrison et al (2000) classified the fish community health and aesthetics as moderate, and water quality as good despite significant anthropogenic impacts (Royal HaskoningDHV, 2013). An intermediate ecological reserve determination has been completed for the UThukela Estuary and it has been classified as a Category C system, i.e. moderately modified (DWA, 2004). It is considered critically endangered because it has lost much of its original natural habitat, such that ecosystem functioning has collapsed and species associated with the ecosystem have been lost or are likely to be lost (Van Niekerk and Turpie, 2011). Erf 15399 has also been identified as a very sensitive due to the amount of swamp forest vegetation.

4.9.7 LAND COVER

In terms of land cover the study area has a formal settlement, subsistence land, bushland dams and wetlands, grassland and bits of scattered sugarcane plantations and patches of degraded vegetation spread out across the area. Bushlands, settlements and subsistence land dominate this area and issues of sensitive vegetation are non-existent as the majority of vegetation located in this area is already degraded (Map 7). This implies that most of the developments proposed will not be limited by sensitive vegetation.

The study area as seen in map 8 below has the KwaZulu Natal coastal belt grassland vegetation. This vegetation falls under the Indian Ocean Coastal Belt Biome, one of the two biomes present in the municipality and considered vulnerable. The different land uses in the study area has affected the vegetation in the area, such the development of settlements, holiday resorts and sugarcane plantations have contributed towards the degradation of this vegetation.



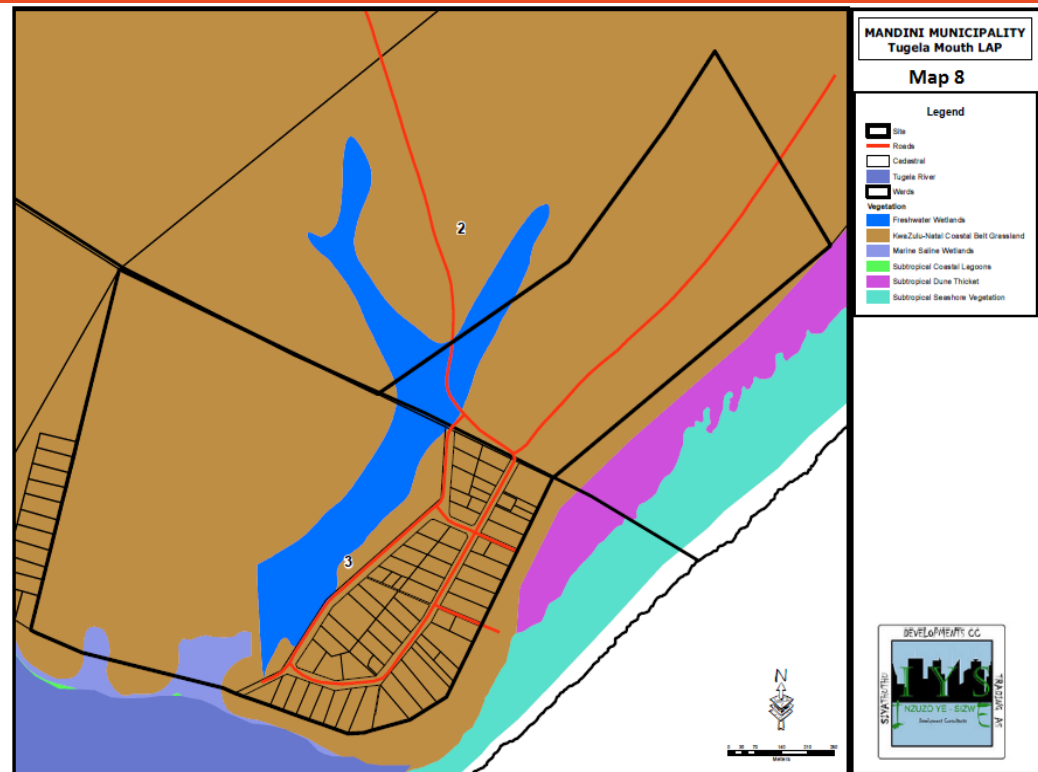
4.9.8 GREEN ECONOMY

The department of environmental affairs defines green economy as a “system of economic activities related to the production, distribution and consumption of goods and services that result in improved human well-being over the long term, while not exposing future generations to significant environmental risks or ecological scarcities”. The study area at present does not contribute towards greening the economy, below is the list of things that would contribute towards green economy including (but not limited to):

-  Solar panels- this contributes by providing solar power for heating and lighting e.g. solar geysers, solar street lights, solar air conditioners and much more.
-  Sustainable waste management practices- which includes finding ways to avoid waste e.g. going paperless, recycling and more.
-  Water management- through water harvesting which involves the gathering of rainwater for recycle on-site, rather than allowing it to run off.
-  Promoting ecological agriculture- which involves the use of organic matter.

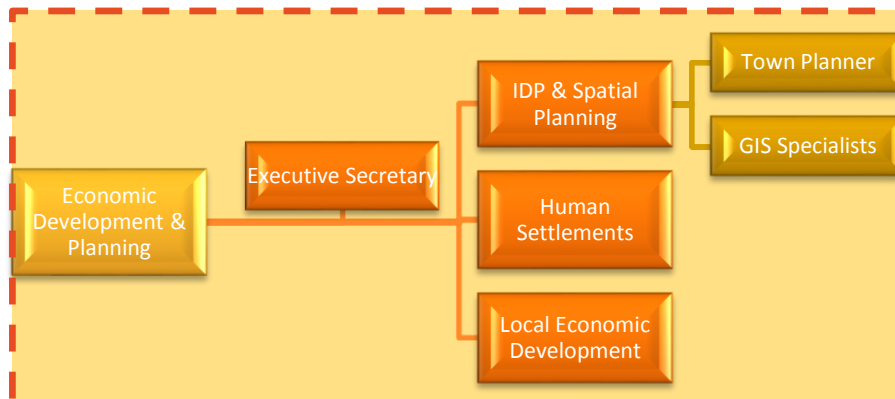
The proposed local area plan will promote initiative that move towards greening the economy including the promotion of using “green buildings” and “green infrastructure” for the proposed development initiatives. Below is the list of green economy initiatives that the LAP will take to consideration:

-  Encourage sustainable agriculture through the promotion of ecological agriculture (use of organic fertilizer) to the subsistence farmers around the study area.
-  Promote the initiative of going paperless and recycling (glass, paper etc.) in the hospitality industries within the study area and the initiative of “working for” (e.g. working for the environment) within the community.



4.10 INSTITUTIONAL

The organisational structure of Mandeni provides for five departments, managed by the Section 56 Managers/ Directors who report to the Municipal Manager. Each department has a departmental head (Section 56 Managers/ Director) with different business units organised under them. The Directors also have subordinate managers responsible for each specific function of the business units.



The Director responsible Economic Development and Planning is a custodian for this project. The specific business unit that is responsible for this project is IDP, Spatial and Statutory Planning responsible for the provision of spatial planning and development services. The main objectives of this unit are as follows:

- Processing of development applications;

- The development of the Integrated Development Plan; and

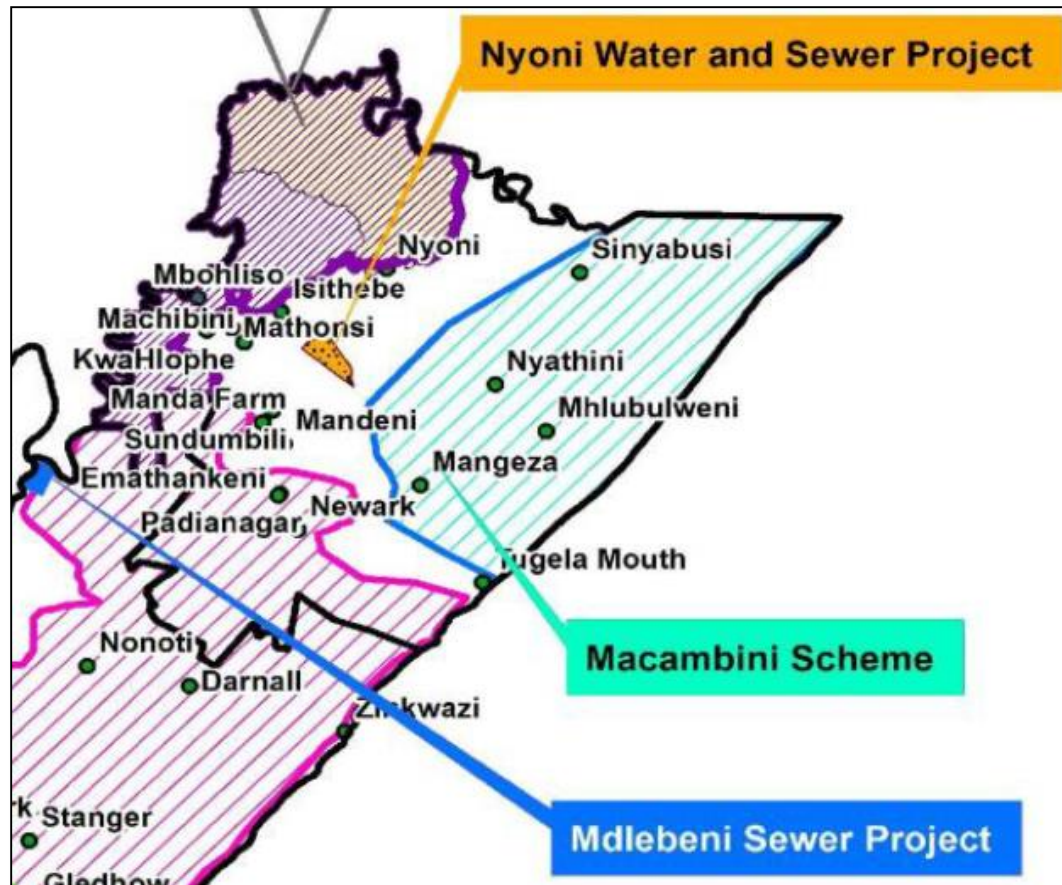
- The provision of GIS administration services.

4.11 INFRASTRUCTURE ASSESSMENT

4.11.1 WATER STORAGE, NETWORK AND TREATMENT

Tugela Mouth is one of the areas within Mandeni that lacks advanced bulk water infrastructure with sufficient capacity to accommodate future development. The area is supplied by a borehole scheme, where water is pumped into storage and then distributed to the residents. The borehole scheme supplying Tugela Mouth has operational problems with reports of polluted water. There are plans address these challenges through Macambini Sub-Regional Water Supply Scheme. The scheme is intended to provide portable water supply at a basic level of service to the community that is currently being served through boreholes that are equipped with hand pumps and some springs that are within the area.

The scheme will also augment the current supply from the Mlalazi Water Scheme that is under UThungulu District Municipality who act as a bulk water provider to iLembe DM. During dry seasons, UThungulu DM is unable to meet iLembe DM's demand and this often results in shortage of water to the community of Macambini.

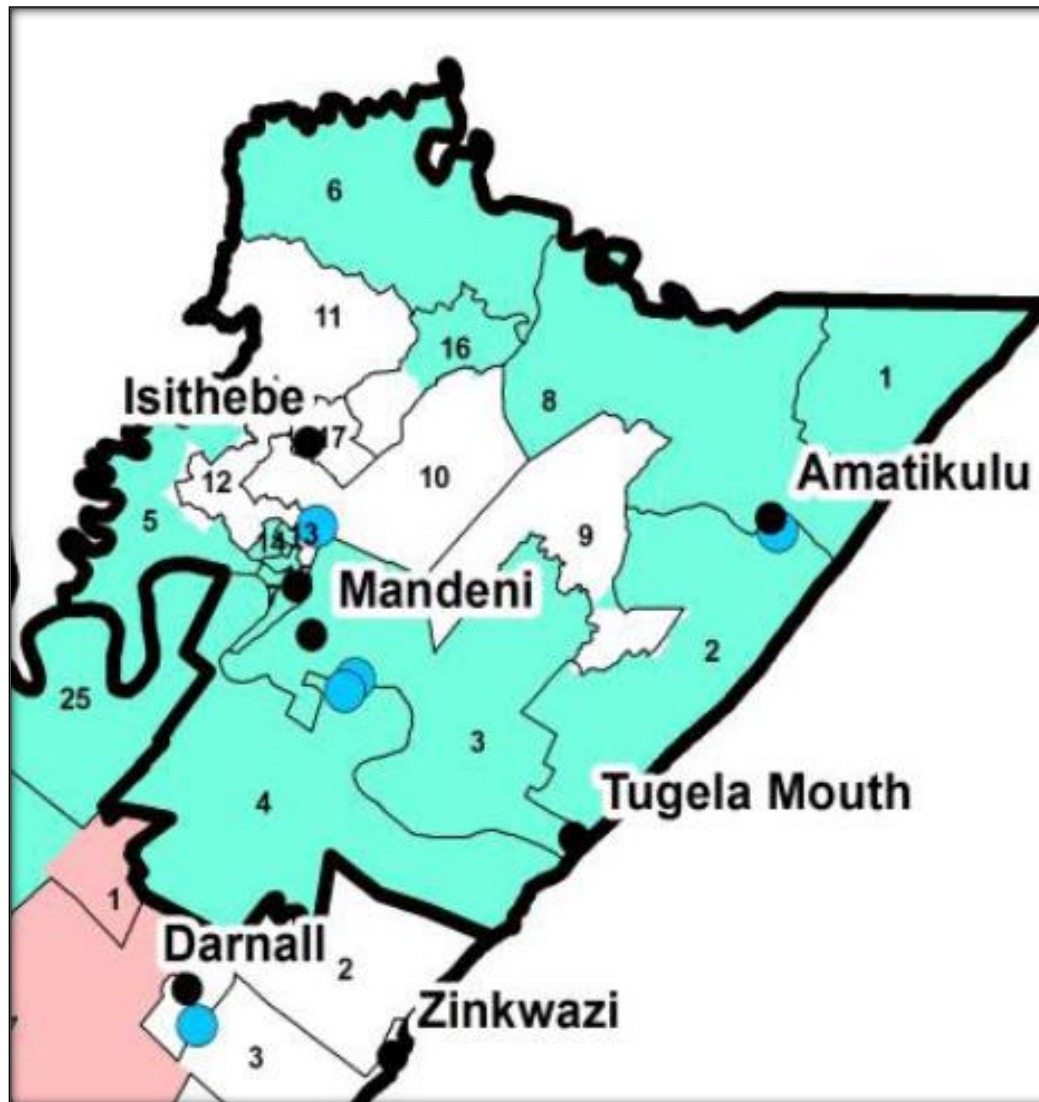


Source: 2014/15 Ilembe Integrated Development Plan.
Image taken during the site visit on 24 April 2015

The source of water is the Sundumbili Water Works, which is situated on the northern banks of the Thukela River and is being upgraded from 27M/l/d to 40M/l/d in order to increase the capacity of water works. The project also includes the bulk distribution aspects of the water supply scheme, the designs of which are now under way, to enable the effective distribution of the water. This bulk infrastructure includes the construction a 10Mℓ reservoir, a 5km-long 600mm nominal diameter bulk gravity main, the upgrade of a pump- station and rising main and the construction of a 5 Mℓ reservoir at Rocky Ridge, in Mandeni, from where the bulk distribution to the future supply areas will be undertaken.



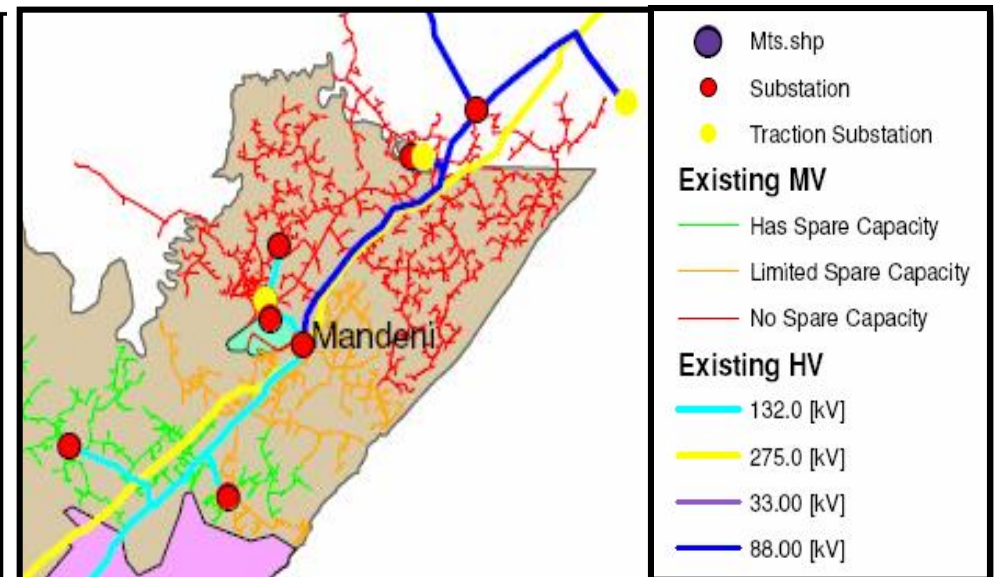
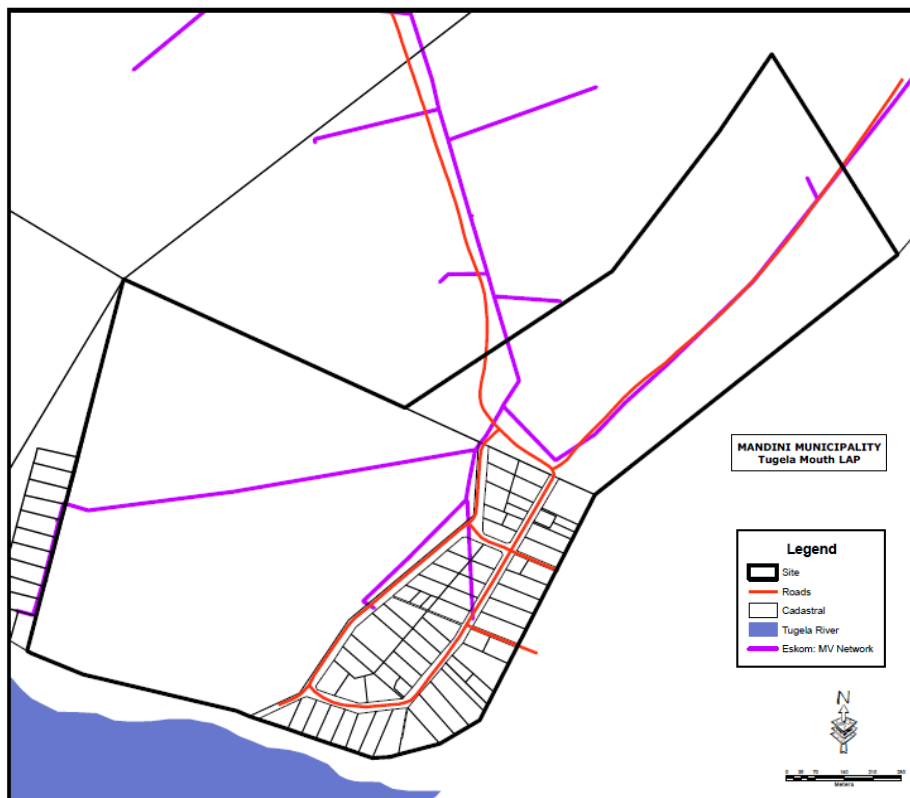
4.11.2 SEWER NETWORK AND TREATMENT



The availability of bulk water infrastructure is also a challenge within Tugela Mouth. The area does not appear to be connected to bulk waterborne sewerage network. The area is dependent on rudimentary services such as the septic tanks. The surrounding rural areas use pit latrines. The prospect to connect the area to the network are bleak given the fact that Sundumbili/ Isithebe (12,0MI/d), and Mandeni wastewater treatment plant (1,2 MI/d) operates over capacity and cannot accommodate further growth.



4.11.3 ELECTRICITY SUB-STATION AND NETWORK



According to the Ilembe Electricity Services Development Plan (ESDP), the MV lines that supplies the area of Tugela Mouth has limited spare capacity for future development. Tugela Mouth does not have a substation, but there are MV lines that originate from a substation in Mandeni. Bulk supply is obtainable from Eskom at the Mandeni 132kV substation and no constraints have been noted. The total current load for Mandeni is 2.8MVA although the NMD is set at 2.5MVA. An application for an increase in NMD to 3.5MVA has been submitted to Eskom. The Mandeni networks are generally very old and in poor condition.



4.11.4 REFUSE REMOVAL AND LANDFILL SITE



Mandeni Municipality is the responsible authority to construct and maintain landfill sites as well as to collect all waste and dispose it at the landfill sites. The municipality has a waste management roster in-place which is being used to collect waste within the town as well as other urban areas. Refuse removal and management is however a challenge within Mandeni, all the landfill facilities within the Mandeni area has reached their capacity. The privately owned and operated KwaDukuza Landfill has been specifically developed as a regional landfill site that would also provide for the airspace needs of the Mandeni area. The Municipality has contracted two waste service providers, one for day to day collection and removal of refuse. The municipality needs to undertake a feasibility study to investigate a new landfill disposal site that meets the requirements

as stipulated by Department of Water Affairs (DWA). It would be a good idea if the latter can be provided with the recycling facilities.

4.12 TRANSPORTATION

4.12.1 ROADS AND INTERSECTIONS

4.12.1.1 PROVINCIAL (P415) ROUTE



P415 (also known as Tugela Mouth Road) is the main access route to the site. It commences from Mandeni Town in a good condition as a single blacktop carriageway with paved shoulders. However, once it passes the N2 overpass bridge (next to the Tollgate), the road changes into gravel for approximately 7km until it reaches Tugela

Mouth Settlement. The gravel is normally in a bad condition and it would be ideal if this road could be upgraded into Alphot in the near future.

4.12.1.2 INTERNAL ROADS: ROAD SURFACE QUALITY



There are a number of local access roads that are found within the settlement. These are Panorama Avenue, Labotes Road and Mimosa Road. These are blacktop tar roads that are in a fair condition. The only intervention that may be necessary is resealing of these roads within the next five years or so. The surrounding rural parts of the area however only have gravel roads.

4.12.1.3 INTERSECTIONS

The following intersections are considered as the critical intersections that needs attention:

 P415 and Local Access Road – this intersection is an entry point to the study area. It involves a gravel and a start of tar road which becomes the street of the Tugela Mouth Settlement. This intersection needs to be upgraded in terms of geometric design (i.e. particularly widening) and signage.

 Labotes Road and Panorama Avenue – this involves the main streets within the settlements. Due to the existence of a shop while the intersection also directs traffic to the beach park, this intersection might generate lot traffic in the near future. This



will imply a need to widen that intersection in order to adequately resource it to manage the proper flow of traffic. Panorama Avenue would need to be widened and re-designed in order to allow a better flow of traffic.

 Mimosa Road and Labotes Road – This intersection appears to be well resourced than the previously discussed. It involves two conduit access roads within the settlement area.

4.12.2 PEDESTRIANS



The area does not boost with pedestrian infrastructure in the form of sidewalks along major roads. However there are tracks that have been developed along the coastal beach parks which are intended to accommodate the pedestrians. Lack of investment towards pedestrian infrastructure implies that the usage and walkability comfort of this area is compromised which not an ideal situation is given its tourism character. However, this does



not imply that each and every road should have a sidewalk. A strategic approach will be layout such infrastructure in accordance with tourism facilities and attractions so that these could be the localised hiking trails.

4.12.3 PARKING



There are few designated areas for public parking which have been designed and developed within the parks and at the end of

Mimos Road. The other roads are not designed for on-street parking which implies that the motorists have to park on-site. However, given the residential character of the area and the fact that car ownership is low within this area, this does not appear to be posing any kind of challenge or traffic related conflict.

4.12.4 PUBLIC TRANSPORT

During a site visits undertaken in March 2015, there public transport operators that were noted to be servicing the area in terms of transporting the community from Mandeni Town to various rural settlements around the area. However the area is found to be lacking some of the basic



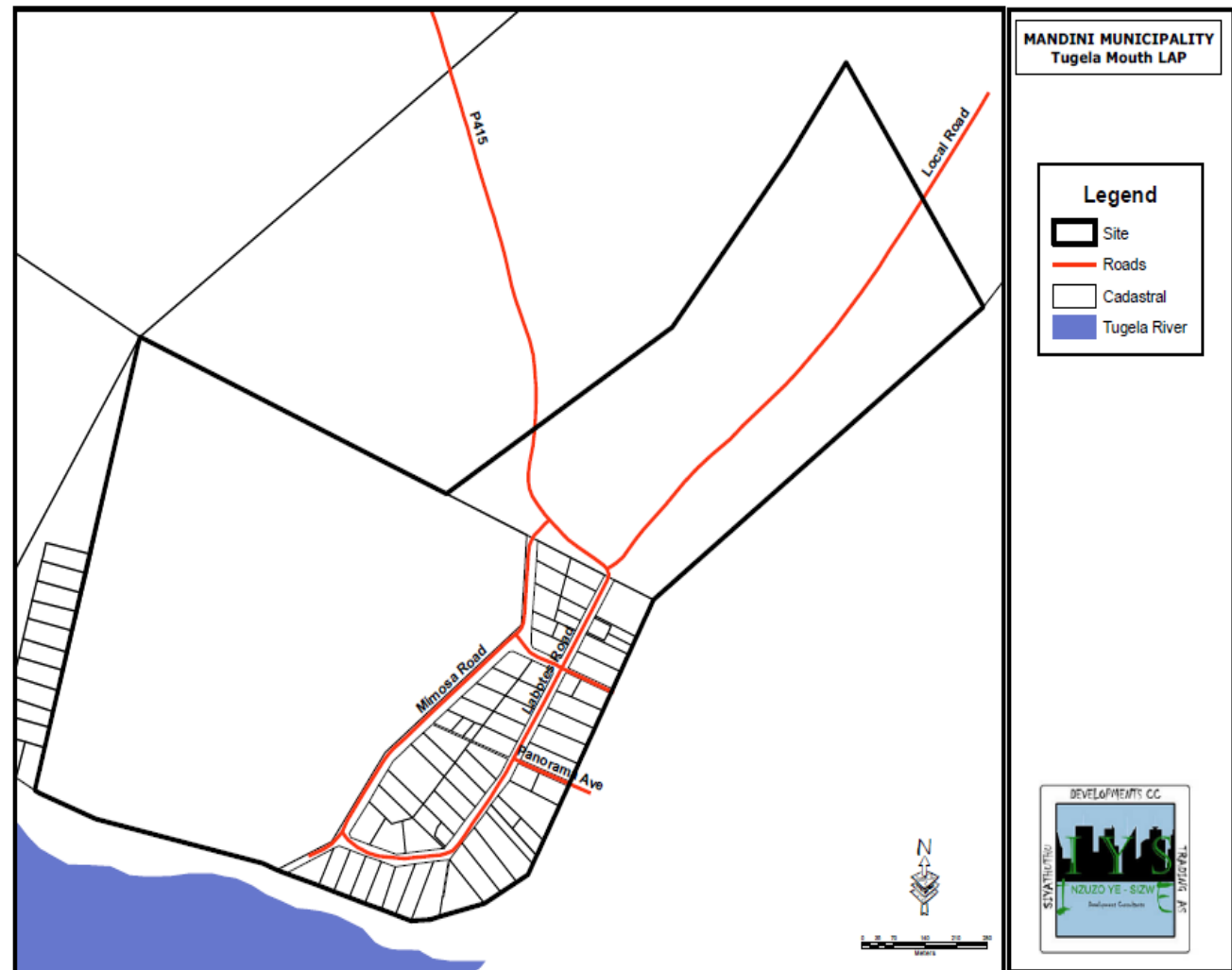
public transport facilities which includes taxi drop off/ collection points and the main public transport route used by taxis is gravel.

4.13 REGULATION OF EXTRA-HEAVY DUTY TRUCK LOADS

The area does not appear to be frequented by the extra heavy duty trucks. This is probably due to the fact that the area is isolated from the main mobility routes. The non-existence of these trucks is encouraged since the carrying capacity of the local roads will be compromised.

4.14 POWERS AND FUNCTIONS FOR THE TUGELA MOUTH ROADS

At this stage P415 is known to be under the authority of the KwaZulu-Natal Department of Transport. The other streets and local access roads serve a municipal function and are presumed to be belonging to Mandeni Local Municipality.



5. KEY ISSUES AND INFLUENCES

The key issues and influences can be summarized as follows:

- Located within an eco-tourism region as acknowledged by various policies and legislations.
- Tugela Mouth is one of the key tourism assets within the province of KwaZulu-Natal as such it should fulfil the strategic goals of the KwaZulu-Natal PGDS. Particularly the strategic goals 1, 4 and 7 which aim at job creation, strategic infrastructure development and spatial equity.
- Tugela Mouth is identified by the KwaZulu-Natal Spatial Development Framework as the priority conservation area 1. Conservation Corridors are not suggested as absolute “no-go” areas, but rather highlighted as areas of environmental significance to the sustainable development of the entire province. Where economic opportunity (such as tourism development).
- The area is also identified as an area of economic support as it seen as having good economic potential in more than one of the province’s key economic sectors. The proposed LAP will need to use the provincial SDF to guide to prioritize development and promote sustainable and inclusive development within the area.
- Mandeni Local Municipality currently does not have a wall to wall scheme and as such utilizes a town planning scheme. In terms of the Mandeni town planning scheme the proposed area under review currently falls outside of the scheme, however, the municipality is in the process of extending the scheme to cover the areas that have been left out. This in turn will help guide developments proposed in the area.
- Tugela Mouth area falls under iLembe district and as such the proposed LAP will need to consider the districts IDP goals and objectives. Therefore the proposed LAP will need to propose developments that will assist the district in realizing this objectives and goals set out by the IDP.
- The district has a vision of achieving sustainable development through the promotion of economic development, social development, environmental and physical development and good governance. This vision is key not only to the district but to the study area, therefore the LAP will need to ensure that it this vision is realized. The SDF further identifies the study are as secondary node.
- Tugela Mouth is considered as a coastal village particularly due to the fact that the nodal area has evolved as a very small settlement. The area of Tugela Mouth is characterized with remarkable natural beauty. It is however underdeveloped as a tourists attraction. Even

though there are few tourism hospitality outlets that have developed by taken advantage of the natural beauty of the existing Estuary. The existing beach with fishing spots and picnic sites make the area attracting for tourism purposes. The area has potential for further development in terms of new tourism products as well as strengthening the existing products.

- ☛ Part of Ward 3 which boasts with a total population of 8163 people (Stats SA, 2011). The population appears to be shifted towards the working age group (15-64) accounting for about 66 percent of the population followed by the minors age group (0-14) at 29 percent and the old age group (65+) at 5 percent.
- ☛ The number of no income earners dropped from 58% in 2001 to 39% in 2011 suggesting a decrease in poverty by 19 percent.
- ☛ The area is accessible at regional and local level. However the quality of the access road infrastructure tend to stigmatize further development prospects that the area may enjoy.
- ☛ The area is renowned for its history and as a fishing spot with rare ocean fishes.
- ☛ Comprises of an array of architectural styles which may not be complimentary to the built form as a result may come across as a chaotic in its appearance. The built urban morphology may need to be re-defined for the area.

- ☛ Synergies between streetscape and landscape needs to be explored as there appears to be a mismatch between these two physical built environment aspects.
- ☛ Spatial planning principles and sustainable human settlements criterion are difficult to find relevance on the scope and magnitude of this particular area since it is an isolated small urban village with a very small threshold and population catchment to be serviced on its own by basic public facilities.
- ☛ Driven by the tourism economy due to the attractions and tourism products that have developed over the years. Illegal sand mining is a concern for the environment of the area.
- ☛ Sensitive environment needs to be safeguarded against irresponsible and reckless development.
- ☛ Lack of capacity of the bulk infrastructure is a concern; however the plans that are being made by the infrastructure delivery agencies are pleasing.
- ☛ Lack of maintenance in terms of the existing public facilities is worrying.

6. TUGELA MOUTH STRATEGIC FRAMEWORK

6.1 TUGELA MOUTH SPATIAL VISION

The Vision for Tugela Mouth is to create:

-  A seaside resort and tourism destination which is people friendly, walkable and safe, with a provincial sense of place and urbanity.
-  An 'urban village'-like environment in which residents and holiday makers feel equally at home.
-  A unique place that embraces the life, activities and events of holiday makers as well as accommodating and protecting the needs of the local community in a balanced and well-managed environment.

6.2 DEVELOPMENT OBJECTIVES

The following objectives have been identified to drive development at a regional and local level and achieve the vision

6.2.1 REGIONAL DEVELOPMENT OBJECTIVES

-  To consolidate and enhance the riverfront and beachfront amenity of Tugela Mouth as a regional facility.
-  To reinforce and enhance Tugela Mouths' role as a main tourism, holiday and recreation destination (domestic, international and business).
-  To improve linkages with the greater Mandeni and ILembe region.

-  To reinforce the human scale, urban village character of Tugela Mouth and extend and enhance the outdoor public realm amenities.
-  To contribute to the overall socio-economic development of the region.
-  To build community, strengthen relationships and promote locally based partnerships.

6.2.2 LOCAL DEVELOPMENT OBJECTIVES

-  Consolidate the node into a safe, welcoming and accessible tourism and residential environment.
-  Improve connectivity at the sub-regional level and in relation to other beaches and resorts.
-  Create a pedestrian-friendly, attractive, open and human scale seaside resort.
-  Enhance and protect natural attributes: the diversity of the beach front from fishing, walking relaxation and contemplation.
-  Achieve a balance between the natural and built environments.
-  Develop a uniqueness of place – genius loci – by reinforcing the sense of place, improving legibility and defining character.
-  Enhance the accommodation, camping and fishing niche market.
-  Maximise the coastal setting and elevated panoramic views and protect specific views and vistas.
-  Develop an interconnected and accessible public open system (hard and soft).

-  Improve back of beach facilities including parking for day visitors and space for special events.

6.2.3 DEVELOPMENT OBJECTIVES

-  Develop a uniqueness of place – genius loci – by reinforcing the sense of place, improving legibility and defining character.
-  Enhance the accommodation, camping and fishing niche market.
-  Maximise the coastal setting and elevated panoramic views and protect specific views and vistas.
-  Develop an interconnected and accessible public open system (hard and soft).
-  Improve back of beach facilities including parking for day visitors and space for special events.
-  To promote and facilitate economic development and private sector investment.
-  To enhance the quality of the environment and protect sensitive areas and promotion of agricultural development.

The desired outcome is that this intervention will allow for harmonious and optimal development of the concerned settlements within the area of study.

6.2.4 STRATEGIC DEVELOPMENT OBJECTIVES

The development objectives for the Tugela Mouth Development Area are set out hereunder as follows:

-  To create a quality public environment and facilities through the implementation of appropriate urban design measures.

-  To facilitate the spatial integration of Tugela Mouth settlement area, which currently consists of various separate components.
-  To provide adequate infrastructure services that will facilitate and support future development.
-  To establish an efficient access and movement network that will create functional linkages to the surrounding residential areas of Tugela Mouth.

6.2.5 DEVELOPMENT PRINCIPLES

-  Sustainable development, i.e. ensuring that the envisaged development is sustainable both in terms of environmental, social, economic and institutional aspects.
-  Establishment of structure, i.e. creating a development structure which facilitates the integration of the various functions of local and wider contextual development, contributing at the same time to place-making, legibility, development certainty and efficiency.

Unique character, acknowledging and building on the existing uniqueness of the area and its community and reinforcing existing qualities, contributing to identity and variety, including the identification of unique investment opportunities.
-  Implementation orientated planning, i.e. focusing planning on implement ability and delivery, identifying realistic, practical and implementable projects, establishing associated budgets and linkages to potential funding sources, including the provision of guidance for the management of the development and activities required by the municipality.

-  Participatory planning, i.e. establishing a planning methodology and process whose outcome reflects both the needs and aspirations of the community, and the municipality, and the realities within which such development takes place, ensuring ownership of the plan and the development by the community.
-  Creating a sense of place - a settlement that evokes a sense of belonging, a sense of uniqueness, a sense of identity, a settlement with a legible urban structure, and quality urban spaces and places.
-  Ensuring Accessibility - a settlement where the road layout and the location of facilities are concerned with matching the circulation needs of end-user communities and ensuring that levels of access are maximised for the greatest number of people.
-  Creating Opportunity - a settlement with high levels of unemployment should be concerned with maximising the economic opportunities that are inherent in large agglomerations of people, by creating the necessary spatial pre-conditions for viable commercial enterprises.
-  Ensuring Efficiency - an area that utilise land efficiently, provide services efficiently and recognises the functional relationships between the different spatial elements of the settlement.

7. STRATEGIC AREAS FOR INTERVENTION

7.1 SPATIAL AND FUNCTIONAL INTEGRATION

Spatial and functional integration refers to an integrated and sustainable way of land use planning for the future growth and development of Tugela Mouth. It includes the effective spatial arrangement of land uses that will facilitate integration between different areas in Tugela Mouth, the determination of the direction of growth in Tugela Mouth and the provision of effective measures to deal with spatial and urban design issues. Spatial measures that need to be implemented and addressed in Tugela Mouth.

7.1.1 TUGELA MOUTH RESTRUCTURING: INTERFACE AND INFILL DEVELOPMENT

7.1.1.1 INFILL DEVELOPMENT

Infill development is new construction on scattered vacant or underutilized lots in the established neighbourhoods and business districts of your community. These infill sites are typically located closer to the centre of your community and are already served by public infrastructure, such as roads, water and sewer lines. Infill development has many benefits but it may not happen on its own, without some intervention by your local government. By instituting an infill development program, your local government can encourage more infill development while, at the same time, guiding this development so that it enhances the quality of life in established neighbourhoods of

your community. An effective infill development program will include the following elements:

Figure 1: Example of Infill Development



-  Identification of areas of the community where infill development is desired.
-  Guidelines for the types of infill development that are appropriate for each of these areas. These guidelines will typically regulate the density, size, and architectural design of new infill development.
-  Incentives to developers for building new infill projects.
-  Improvements to public facilities and services to support infill development.
-  Changes in existing regulations to support infill development.

You may choose to prioritize the infill parcels according to develop to its ability and their importance for achieving your community objectives. Evaluation measures might include:

-  Size of parcel
-  Configuration of parcel
-  Size, condition, quality, and value of existing structures
-  Character of the neighbourhood
-  Dynamics of real estate market
-  Capacity and condition of infrastructure
-  Surrounding amenities and support services

HOW TO DO IT: Involve stakeholders. Identify stakeholders and form a task group or steering committee that is capable of representing the various points of view in the community and working together toward a common agenda. The stakeholders may include:

-  Local government representatives
-  neighbourhood organizations
-  Property owners
-  Realtors
-  home builders and commercial developers



Bankers

Educate these stakeholders about the benefits of infill development for your community. Invite them to raise their concerns about infill development. This may help establish what types of infill development are acceptable, and suggest guidelines for different situations. Identify infill priority areas. Involve the stakeholder group in identifying priority areas for infill development in your community. Do these areas have access to adequate infrastructure and services? Consult with realtors and developers to assess the real estate market for new infill development in these areas. What types of development would be feasible and what would be the most appropriate density and selling prices? Carry out an infill parcel inventory in priority areas. Create an inventory of the vacant and underutilized property in the priority infill areas identified above. Perform a windshield survey of these areas, looking for:



Vacant lots and land areas (even if not currently accessible by paved streets).



Underutilized properties, identified by comparing the current use with surrounding properties and what could be supported by infrastructure and location.



Poorly maintained properties that might be redeveloped.



Condition of public facilities, including street, sidewalk, and drainage problems that may need to be addressed in order to promote infill development in the area.

- Existing neighbourhood patterns of landscaping, tree canopy, and architectural features that may be factored into guidelines for compatibility of new infill development.

Research possible development limitations for each infill parcel and add this to your inventory. These may include: current zoning, soils, floodplain, wetlands, topography, and accessibility (roads). Also research the age, condition, and residual capacity of public facilities serving each parcel, including water, sewer, parks, sidewalks, and public transportation, streets, and storm water drainage.

TYPES OF INFILL DEVELOPMENT: Alternative forms of infill development include:

- Developing one or more new residences on an undeveloped or underutilized site within an existing, established neighbourhood
- Redeveloping an existing neighbourhood
- Subdividing an existing lot into two or more building lots and adding houses on the newly created lots
- Demolishing an existing home on a lot and building a larger home incorporating an additional residential unit ("tear downs")

BENEFITS OF INFILL DEVELOPMENT

- The principal benefits of infill development include:
- Making better use of urban land supplies while reducing consumption of forest and agricultural land
- Increasing access of people to jobs, and jobs to labour force

- Reducing the time, money, energy, and air pollution associated with commuting and other use of single occupant automobiles
- Strengthening real estate markets and property values, and renewing older neighbourhoods and housing stock
- Making better use of existing infrastructure and lowering costs of public services such as: transit, sidewalks, water and sewer, and public safety (police, fire, ambulance)
- Replacing brownfields and abandoned areas with functioning assets
- adding to socioeconomic diversity

7.1.1.2 RIVERMOUTH INTERFACE

Figure 2: Access across Dune



Latent potential exists along the river interface where in time redevelopment along this edge would extend the waterfront presence of the Tugela Mouth

area. Development along this interface needs to respond to the particular context in creating a unique 'Riverfront' quality. Develop river access in clearly identified, but limited locations, to provide human access to the river in a manner that will reduce indiscriminate intrusion into the riparian edge

7.1.1.3 THE BEACH INTERFACE



Sea walk provide a diversity of opportunities to experience the water along the sea walk. The sea walk is envisioned to provide a safe enjoyable pedestrian experience along the waterfront edge and to interconnect all of the activities that occur there. Consider creating areas where the water can be experienced from the sea walk and, if feasible, from the shore. Kayak or small craft launch zones should be considered at appropriate locations.

The design of development should complement natural coastal values of the area. Scale and building mass should not dominate dunal environment. The use of native dunal vegetation species in public and private land directly adjacent is recommended. Fences adjacent to the dunal area are to be In the context of Tugela Mouth, there is a clear divide between urban and rural (agricultural land), which puts development pressure on the areas referred to as the interface zones.

Proper management of this urban/rural divide is essential in order to provide a gradual change in land use from urban to rural. Curtailing sprawl and defining an urban edge in Tugela Mouth would contribute to a more effective management of this urban/rural divide. Interface zones can be introduced that surrounds the coastal village and provide for land uses where the municipality would allow only certain types of development that is acceptable in these zones. Predominantly transparent (avoid hard and solid fences to beach) and maximum 1-2 metres high.

TUGELA MOUTH: PROPOSED SEASIDE DEVELOPMENT CONCEPT



7.1.1.4 RIVERFRONT INTERFACE

Figure 3: Water access way



Latent potential exists along the river interface where in time redevelopment along this edge would extend the waterfront presence of the Tugela Mouth area. Development along this interface needs to respond to the particular context in creating a unique 'Riverfront' quality. Develop river access in clearly identified, but limited locations, to provide human access to the river in a manner that will reduce indiscriminate intrusion into the riparian edge.

7.1.1.5 URBAN-RURAL INTERFACE

A land use management measure available to manage urban growth, is an urban edge. As such, an urban edge can be described as a demarcated line around an urban area that direct and control the outer limits of development. An urban edge thus establishes limits beyond which urban development should not occur and facilitate the protection of environmental and agricultural land.

7.1.2 DEVELOPING AN EFFICIENT CIRCULATION AND MOVEMENT

Improved access and connectivity is one of the key focus areas that have potential to facilitate integrated and sustainable development in Tugela Mouth. Tugela Mouth is highly accessible from the N2. This N2 National route connects Durban and Richards bay in a north-south direction, while P415 emanates 4 Km from the N2 providing direct access in a west-east direction to the study area. P415 is in a poor gravel condition in as far as the road surface is concerned thus renders a hazardous driving experience and

therefore proper maintenance is crucial.

-  It enables movement of people and goods to and from an area;
-  Link places in the Municipal area to other places of importance (i.e. markets, places of work or social/economic opportunity); and generate a focus for activity.

At a local level, the Local area roads link Tugela Mouth to the surrounding settlements to the north. These routes are dirt and gravel but act an important role in terms of traffic circulation within the area. The lowest order of movement pattern is internal dirt gravel roads the majority of which are in a poor condition as they are incised by erosion. These roads provide direct access to houses, properties and are clearly linked to the road system. A need exists to maintain and upgrade these on the regular basis.

PRINCIPLES FOR SUSTAINABLE WATERFRONT DEVELOPMENT:

Waterfronts are one of the most valuable resources for Tugela Mouth – being limited, precious and non-renewable assets. To secure long-term growth of the resource, it is important for waterfront areas to be used strategically to maintain their economic value and enhance their specific features or image. For this reason, 10 principles are recommended in order to secure in achieving waterfront redevelopment projects as are presented in Table below:

Principles for sustainable waterfront development

Nine principles for a sustainable waterfront development

-  Secure the quality of water and the environment.
-  Waterfronts are part of the existing urban fabric.
-  The historic identity gives character.
-  Mixed-use is a priority.
-  Public access is a prerequisite.
-  Planning in public-private partnerships speeds the process.
-  Public participation is an element of sustainability. Waterfronts are long term projects.
-  Revitalisation is an ongoing process.
-  Waterfronts profit from international networking.

STATEMENT FOR RIVERFONT DEVELOPMENT GUIDELINES: Guidelines for riverfront development are designed mainly to control development in front of water areas, particularly close to river areas.

NO	STATEMENT	NO	STATEMENT
1	Environmental Impact Assessment (EIA) is compulsory.	10	Continuous river rehabilitation.
2	Environment protection and awareness.	11	River reserve beautification.
3	Maintenance and rehabilitation costs are shared between stakeholders.	12	Upgrading and maintaining the sewage system.
4	Use environmentally friendly materials in construction.	13	Restrict certain type of development.
5	Provide flood mitigation (e.g. by planting more trees).	14	Integrate both modern and heritage aspects into development.
6	Protection of natural resources (water and environment).	15	Encourage economic activities
7	Provision of sufficient public facilities and amenities (such as pedestrian paths,	16	Sharing waterfront benefits (such as views, financial rewards, etc.) among stakeholders (e.g. community, government, developer).

NO	STATEMENT	NO	STATEMENT
	landscaping, access ways, recreation areas, etc.)		
8	Personal security is maintained by means of policing, surveillance cameras, etc.	17	Continuously educate public about environmental concerns.
9	Upgrading and maintaining established settlements along the waterfront area.	18	Provide regulations and policies that mitigate market speculation for waterfront properties.

7.1.3 GATEWAYS AND ENTRANCE POINTS

Focal points can be used to distinguish a gateway (entry/exit points) into an area by emphasizing arrival points. The provision of a unique gateway landmark will improve legibility and the identity of Tugela Mouth upon entering the town via the P415. Gateway landmarks can give the area a character and the design could have an African theme and link to the area and culture of Tugela Mouth. In some instances, advertising billboards can be used as a gateway and to market products in the precinct. In Tugela Mouth, there is a general lack of a sense of arrival and signage upon entering the area. The P415 runs straight to the town, with no clear focus on attention being drawn to the area itself and what it offers.

BEFORE: CURRENT SITUATION



Tourists may easily pass through without noticing entrances to Tugela Mouth or being attracted to enter the area itself. Visible welcome signage are proposed for Labotes Road via P415, L1 and L2 Roads via P719. The ratepayers association of the area has also indicated a need for visible signage to be made along N2 since this is a very key routes which is used by the tourists. Engagements between SANRAL and Mandeni Local Municipality will be considered as important since the ratepayers association has made attempt to engage SANRAL alone and the efforts did not accumulate any success. The standard requirements that are set by SANRAL will need to be adhered to at all times.

Figure 5: Proposed Gateway Features



7.2 PROPER URBAN MANAGEMENT

7.2.1 PUBLIC REALM UPGRADE

Tugela Mouth town does not create an overall aesthetically pleasing environment, save the beauty of the coastal countryside in which it is located. The main road in town, namely (Labotes Road) need attention in terms of urban design and landscaping measures. The implementation of urban design measures within Tugela Mouth will ensure the creation of appropriate environments for residents, visitors, investors and development opportunities. It contributes to the creation of an attractive and functional urban and public environment and aims to connect buildings and their surroundings to the spatial planning of the area and the physical expressions of social, economic, environmental and institutional development.

Landscaping is another fundamental element in urban design and includes a range of aspects, such as open spaces, street furniture, lighting, pedestrian walkways and parks. The implementation of urban design and landscaping measures will thus result in the creation of a sustainable, integrated and functional area. Public realm upgrade generally refers to the creation of an aesthetically pleasing, attractive and functional urban environment. Ultimately, it aims at creating a 'walkable' town, with a safe, clean and green public environment in a good state of repair. Streets should also be connected to appropriate and interesting public open spaces and or iconic public places. Measures to facilitate the achievement of the above include a range of urban design measures that can be implemented in Tugela Mouth town as follows:

-  New paving along Labotes Road and the provision of proper pedestrian walkways.
-  The planting of street trees along Labotes Road.
-  Proper management of street.
-  Provision and maintenance of clean public amenities.
-  The replacement of existing lighting and the provision of new lighting suited for a pedestrian environment, as well as focus lighting. Appropriate energy-efficient lighting technologies must be investigated and applied.
-  The provision of proper and ample lighting at night is important, as well as focuses lighting, which can accentuate certain buildings/areas.
-  The ongoing monitoring of visual clutter.

A set of urban design guidelines/ principles are attached to this report as section 3, which can be implemented in the wider context of Tugela Mouth

7.2.2 ENFORCEMENT OF BY-LAWS

Local government gets its power to pass by-laws through a law of the National or Provincial Government, which specifies what things the town or city may regulate through bylaws. Common bylaws include vehicle parking and stopping regulations, animal control, building and construction, licensing, noise, zoning and business regulation, and management of public recreation areas.

The system of development management will only be as effective as its ability to enforce the agreed upon rules. This is a principal sanction of spatial planning. Great strides have been taken in bringing much unauthorised activity under the control of democratic government in the interests of more sustainable development

and a better quality of life, since unauthorised development is still widespread in much of Mandeni. Needless to say, the objective of integrated spatial development will be difficult to achieve with any significant measure of unauthorised development.

Developers may be prepared to “undermine the system”, but the medium-term consequences will undermine investment activity because of the additional risk and uncertainty created. Major investors will support effective enforcement activity if the rules are consistently applied on the basis of transparent policies and procedures. The first task in relation to enforcement is to ensure that strategies, plans and regulations are not too proscriptive, that they are “joined-up” across sectors, and that they are communicated in a clear, concise manner to citizens and investors.

Second, firm action must be taken on unauthorized development. For example, this may require the demolition of buildings erected without appropriate approval. This type of action will likely involve national and regional governments and must include effective safeguarding measures to ensure that any action taken is both legitimate and proportionate. Third, government must ensure that large unauthorized developments are evaluated thoroughly by the constraints of the spatial planning system. In some countries this is called “re-urbanization”. It is a task of retrospectively reviewing development in an effort to integrate sectoral interests in a coordinated process of upgrading and service provision, so that these areas meet a higher standard of sustainable development. It must be made clear that although this process is a valuable tool, it does not necessarily ensure that such developments will meet such standards. The illegal sand mining should also be included in the by-laws wherein a clear

cause of action that will be taken against anyone who contravenes the law and should be prosecuted. Furthermore given the environmental sensitivity of the area environmental by-laws should also be well articulated a clear cause of action in contravention thereof.

character of Labotes road. Diversity in character and style of built form is encourages without detracting from the “user friendly” street environment. Streetscapes elements are encouraged, e.g. Vegetation to unify street edge, transparent fencing.

7.2.3 VISUAL STREETSCAPE CHARACTER

The visual streetscape generally refers to the visual and functional or decorative elements of a street. It includes the road, adjoining buildings, street furniture, trees, advertising signs and open spaces that combined, form the street's character. In the context of Tugela Mouth town, the streetscape vistas generally lack character and require attention. Measures should be implemented to make the streetscape more appealing and attractive. Reference to this is made in the upgrade of the public realm section. Solid fences, lack of visible private landscaped areas and street vegetation have a negative impact on the

Figure 6: Current state not desired

EXISTING CONDITIONS

The residential street in the illustration above is common in neighborhoods with low traffic volumes. Here, the configuration of the street network has formed a street segment that functions naturally as a space for children to play and residents to use the road as a gathering place.

Figure 7: Desired State

RECOMMENDATIONS

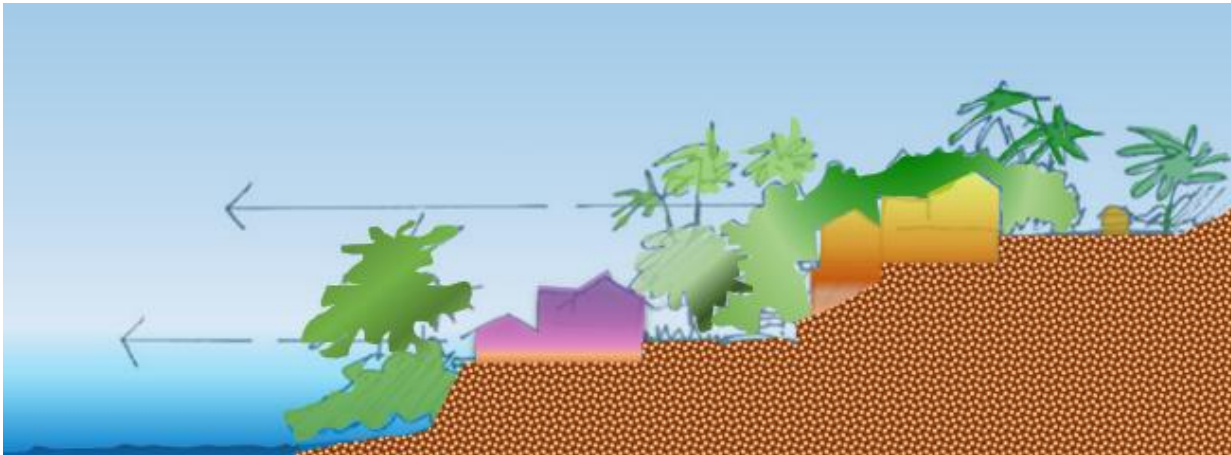
Textured or pervious pavements that are flush with the curb reinforce the pedestrian-priority nature of the street. Special pavements, especially unit pavers, may be subject to additional maintenance costs and should be selected based on regional climate and long-term durability. Drainage channels should be provided either at the centre of the street or along the flush curb, depending on underground utilities and other existing conditions.

Street furniture, including bollards, planters, trees, can help define a shared space, subtly delineating the travelled way from the pedestrian-only space.

Associated coastal plantings such as palm trees

7.2.4 LEGIBILITY AND LANDMARKS

Figure 8: Views Cross Section



It is important to consider the appropriate landmark that can be used to create an appearance (vistas) which is attractive to the tourism market en-route to the River Mouth Estuary in the south of Tugela Mouth. Landmarks like fountains and public art are the attractive scenes that can contribute to a more identifiable neighbourhood character. The building (Light House) can also be used as visual landmark to enhance the sense of place and direction. The location of the additional landmark should be highly visible from the P415 route and must be considered. It is Important to the community to maintain views and access to the water, and to provide a pedestrian-friendly environment. Therefore, views from the public way to significant natural and cultural resources should be maintained when feasible. Site improvements should be planned to enhance such views. These view opportunities should be identified for all major site developments before the onset of the project.

-  Maintain view corridors from key vantage points to the lighthouse, ocean and the river estuary and other significant natural and cultural resources.
-  Assess the site at the outset of the project to identify view opportunities to significant natural and cultural resources.
-  For example, to maintain a significant view corridor through the property, position a building to one side of a site.
-  On larger lots consider clustering buildings to frame views to the water.

Landmarks: The Lighthouse tower is the most significant, historical and memorable landmark representing this seaside resort. Its presence and visibility from the sea and central arrival area needs to be protected and conserved by declaring it a historical monument.

7.2.5 SIGNAGE

Signage is a powerful, exciting way of letting people know what tourism products can be found in a place. If done successfully it will send a clear message on 'who we are'; 'where we are' and 'what we stand for'. This will give possible customers a better idea of what is available for them. If we design, use and managed our tourism signage well it will be an effective silent, sales-media which could attract attention, give customers information, lead them to the right product, start and sometimes even conclude a 'sale'.

Well-designed, uniform signage can be a tourist attraction by itself. It provides a clue to the special character a tourist might expect to find in an area and can create a sense of place and identity which, if controlled, also helps people in an area work together towards a common goal. Tourism road signs, which you may want to put up along a freeway or main road, are controlled by National and Provincial authorities. It is a long and detailed process and usually needs the help of a specialist.



For road signage you should contact, in the following order:

Contact Telephone Your Municipality's Engineering or temporary advertising department for signage on a road in an urban area See list of useful contacts 2. Regional Engineer: KZN Department of Transport, PMB for permission for signage on a provincial or district road 033 342 9191 3. Regional Manager, South African Roads Agency, PMB, for permission for signage on a national road 033-392 8100 4. Director of Traffic and Transportation, Durban 031-300 2335 5. Department of Transport, the Minister's Office, PMB. 033 355-8600. THE PROCESS Permission for your signage must be obtained from the different authorities. To do this follow all the steps below:

Step 1: Contact your local Municipality, KZN Department of Transport or National Roads Agency depending on the type of road affected. Contact details are at the end of this brochure. The best times to contact engineers is before 8.30 and after 15.00.

Step 2: Collect together: *Full contact details and identification of the applicant, property owner and agent, if you are using one *Exact construction details of the sign including the materials used, height shape, size, fixing, building, weight, clearance above ground and certificate of stability from an engineer *exact sign-writing details such as lettering type, size, colour, message *a drawing of the sign *a sketch showing the exact sign location, all roads, distances and any other objects *a photograph of the site and of other signs which

are similar *a site plan *a layout plan with all details *a maintenance plan, indemnity and public liability cover may be required *application forms or a letter to the Local Municipality

Step 3: Make an appointment with the relevant section of the Municipality to submit your application and discuss details.

Step 4: Wait for a decision on your application. With local Municipalities, this should take about a month. With National or Provincial Authorities, this could take up to a year or more.

Step 5: Once you receive permission, make your sign exactly to the agreed specifications.

Step 6: Once construction is complete, contact the relevant official to inform them that you are ready to put up the sign, and follow their directions.

Step 7. Keep the sign well maintained.

PAYMENT OF FEES Most authorities charge a fee when you submit your application. This fee depends on the authority and on the type of signage you are applying for. You will need to pay all the costs for the manufacture, erection and maintenance of individual and advertising signs, but might only have to pay part of the costs for road signage.

7.2.6 HERITAGE BUILDINGS (ICONIC PUBLIC PLACES)

The iconic light house could be considered a heritage building/ sites in the context of Tugela Mouth because of its historical significance. This building must be declared and preserved, in accordance with the requirements of National Heritage Resources Act No. 25 of 1999. This building must be preserved and have the potential to contribute to tourism development as well as legibility in coastal village. A proper register of all heritage buildings should be developed.

REMEMBER: To apply for signage you need to have: *All relevant forms filled in and signed *the relevant fee *Copies of signage drawings with site plans and all details * the appropriate visuals indicating the details of the sign.

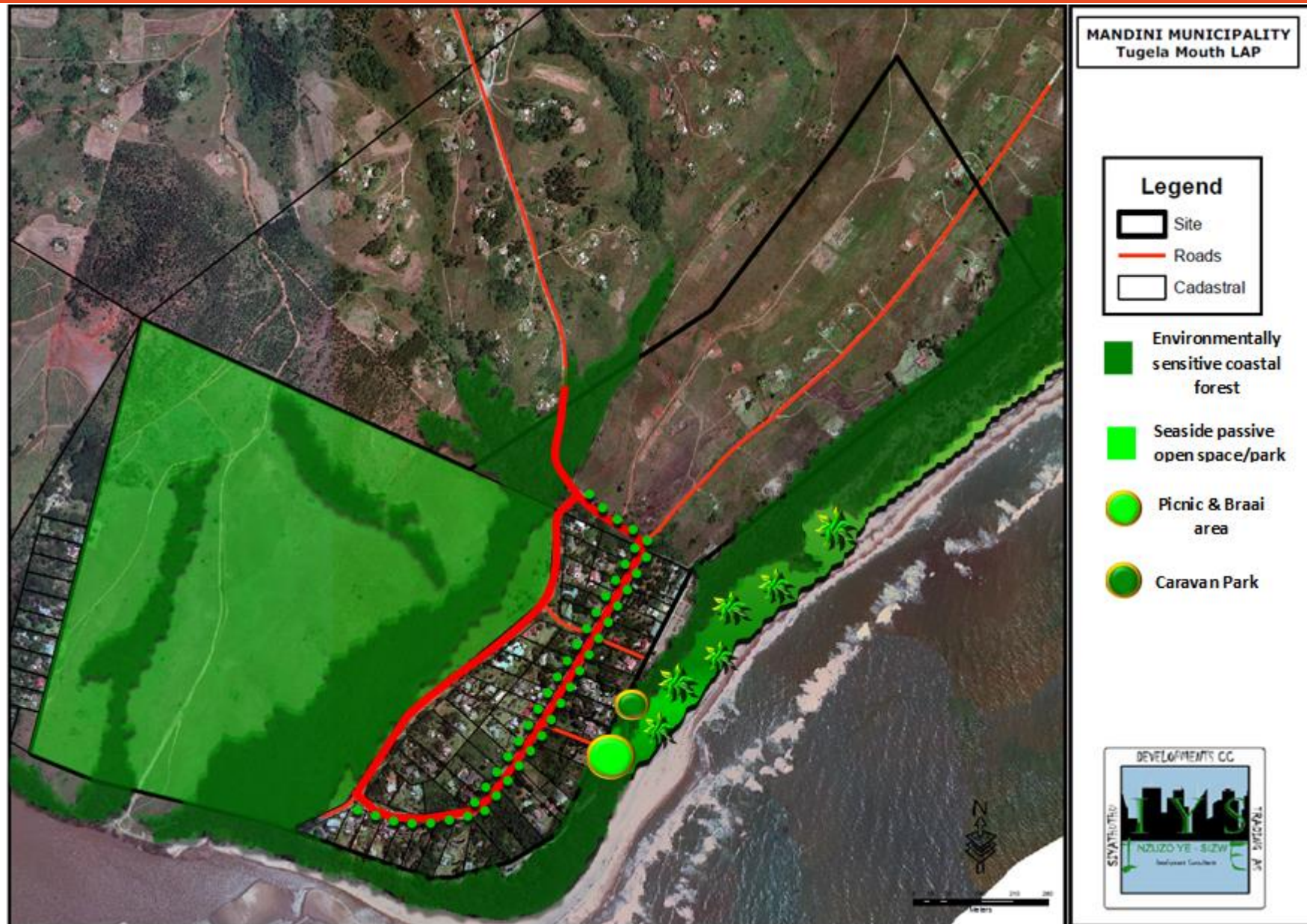
7.2.7 INTEGRATED OPEN SPACE SYSTEM

Open spaces fulfil quite a few functions including conservation, environmental management, visual character and areas for active and passive open space. The establishment of an integrated open space system provides the opportunity of creating a diverse range of open space settings and functions as a guide for all future management and uses of open spaces and natural areas. The integration of open spaces through linkages is a critical component and facilitates ease of access and management.

The public space referred to in this document is the seafront and riverfront and all its associated parks, gardens and green spaces together with the Promenade and the beaches. Tugela seafront promenade is the largest area of open space and is a wonderful asset used by thousands of people every year. These spaces are freely accessible and play a vital role in the social and economic life of Tugela Mouth residents and visitors.

<i>Open Space Areas</i>	
▶ Open space is linked ▶ Carpark integrated within landscape ▶ Vegetation is native coastal in character ▶ Built form is simple in design and colour ▶ Informal park design with style appropriate to beach character ▶ Vegetated and shady landscapes	▶ Linkages through open space are poor – separated from adjacent residential areas ▶ Vegetation is not reflective of a coastal character ▶ Planting is minimal – not supportive of park use ▶ Carparking is not integrated into park area ▶ Design does not encourage varied use

They provide great opportunities for informal activities and relaxation; walking, picnics and Barbeques, meeting friends and enjoying the views and being outside. They can be quiet and relaxing and busy and vibrant. Groups and avenues of tree planting provide structure to several roads, paths, and green spaces. The trees give height in a flat landscape, they soften building lines and provide shelter from the wind and welcome shade in the summer.



7.2.8 PEDESTRIAN WALKWAYS

Pedestrian movement is considered important to the successful functionality of the area. The focus shall be placed on the reduction of vehicular and pedestrian conflict. The main road in particular lacks pedestrian walkways within the development area while the majority of the population walk on foot and this situation therefore compromise pedestrian convenience, comfort and safety. The aim is to design a new movement system that would stitch the precinct with a safe amenable pedestrian environment. Sidewalk facilities and design is a critical aspect in the creation of an amenable pedestrian environment especially within main routes of the area and the proposed internal roads within the precinct.

All sidewalks should be wide enough to allow for easy movement of pedestrians. The pedestrian environment should be designed to stimulate and enhance the

experience along the street and the sea walk. It should portray a unified system by creating a sense of visual continuity while also celebrating a series of experiences along the way. The sidewalks have a positive impact in responding to the needs and expectations of motorised and non – motorised members of the community since it is designed and equipped for comfort and safety of all pedestrians, drivers, joggers, patrons and sightseers.

7.2.9 ENVIRONMENTAL MANAGEMENT PROGRAM

In order to protect the environmentally sensitive areas, an environmental management program can be implemented.

 Demarcate all streams and watercourses running within and around Tugela Mouth, in order to control future development within this zone. The prohibiting of all future development within this area should be

subject to the Environmental Impact Assessment (EIA'S);

-  Demarcate the natural land that is vacant or unused for the provision of parks, gardens or corridor linkages between open areas;
-  Adequate vegetation cover should be maintained and unnecessary vegetation removals should be prevented;
-  Identify and protect wetlands/watercourses as the drainage of the wetlands will result in increased velocity of runoff and consequent soil erosion
-  Control surface runoff through the development of appropriate
-  Introduce measures to control water quality and prevention of pollution of water sources and air quality.
-  Existing mature trees and other vegetation on site should be retained whenever feasible.
-  Promote the use of indigenous species

7.3 IMPROVED QUALITY OF LIFE AND ENVIRONMENT

7.3.1 IMPROVED ACCESS TO PUBLIC FACILITIES AND AMENITIES

Tugela Mouth has two formal public parking and picnic facilities in the north behind the Tugela Mouth resort and Caravan Park and south eastern areas of Tugela Mouth. In order to improve amenities in Tugela Mouth, the following is suggested:

- 📌 Provision of formal play parks/lots, especially in the eastern areas.
- 📌 Provision of additional recreational facilities e.g. swimming pool, tennis courts etc. The construction of such a facility will promote the participation of sport by the youth and will facilitate social interaction amongst community members.

7.3.2 PUBLIC SAFETY

Traffic calming measures that need to be introduced in Tugela Mouth, especially the busiest area in Main road, are:

- 📌 Speed controls and pedestrian safe crossing areas that can accommodate pedestrian traffic.
- 📌 Pedestrian walkways along the length of Labotes Road and Mimosa road will also contribute to the establishment of a linkage between the residential area and the beach and improve

pedestrian safety by keeping them out of the street and on the pavement.

7.3.3 SAFETY AND SECURITY/ CRIME PREVENTION

Safety and security is another issue that should be addressed in Tugela Mouth. An area perceived as a safe and secure area to live, work and do business in an area that will attract investment. Safety and security usually go hand in hand with crime prevention, which requires certain strategies or intervention for the attainment thereof. The following are initiatives that can be introduced in the area to improve safety and security:

- 📌 Surveillance Technology: Closed circuit television cameras (CCTV) in the Tugela Mouth area can add significantly to the ability of law enforcement agencies to combat crime. It also strengthens the public's perception of safety and security.
- 📌 Introduce Streetlights and Mast Lights on all the streets in the area as well as along the pedestrian sidewalks.





-  Introduce neighbourhood watch programmes, where residents patrol their neighbourhoods and look out for each other.
-  Businesses need to unite against crime and see that they install appropriate internal security measures to curtail shoplifting and burglaries.
-  A Safe Town Initiative (e.g. in Pietermaritzburg) that makes use of an SMS service that tips off the authorities on criminal activity could be introduced. The system uses cell phone technology pioneered by Core talk and can be launched under a partnership between the Municipality, Businesses, South African Police Services, the National Prosecuting Authority, and the Community Policing Forum.

7.4 ROADS AND STORMWATER INFRASTRUCTURE

The provision and maintenance of infrastructure is essential in a coastal tourism village like Tugela Mouth, since adequate infrastructure will create an environment conducive for business establishment, confidence and growth and the attraction of new developments to the area. As such, it is very important to address infrastructure upgrading and maintenance issues on a regular basis. Although the road infrastructure within the village requires minimal intervention, the other aspect of infrastructure particularly sewerage and water is great concern especially the bulk. The

following interventions are suggested in order to address infrastructure issues that were identified in Tugela Mouth.

7.4.1 UPGRADING AND MAINTENANCE OF ROADS

Roads are in a very poor condition and extremely damaged. The extent of the damage can be sighted as potholes, crocodile cracks, the loss of skid resistance of the surface, which are caused by the layer works failure. The municipality have accessed funding for the rehabilitation of 8,8km of road in town, but additional funding for the rehabilitation of the remaining 8,2km is still required.

7.4.2 STORM WATER MANAGEMENT

Upgrading and maintenance of storm water infrastructure such as kerbstones, and storm water drainage is necessary to handle surface runoff adequately.

7.5 BULK WATER INFRASTRUCTURE

7.5.1 GENERAL CHALLENGES

The following needs to be addressed in terms of water infrastructure in Tugela Mouth:

- Upgrading of the water supply source is necessary. The status quo assessment revealed that the current supply of water is inefficient, any development that might take place will necessitate the upgrading of the supply of water.
- The water infrastructure is old and need to be refurbished and upgraded to an acceptable standard. Problems experienced with regard to water provision/reticulation in Tugela Mouth, such as an air lock in the system, which results in water blockages and pressure problems, needs to be addressed by means of replacing old pipes and introducing pressure-reducing valves.

7.5.2 ESTIMATED WATER DEMAND

The water demand for the existing and anticipated future development can be calculated as follows:

ACTIVITY	No. of ERF	AREA (Ha)	Kl/100m ² / day or Kl/c/day	Capita Sub-Totals	Water Demand AADD (Kl/day)
Residential	55	18.05	0.13 Kl/c/day	0.52Kl/HH/ day	28.6 Kl/ day
Businesses	9	3.05	0.4 Kl/100m ² / day	305 Kl/Erf/ day	122 Kl/ day
Vacant	2	1.09	-	0 Kl/Erf/ day	0 Kl/ day
Agriculture	1	72.37	-	0 Kl/Erf/ day	0 Kl/ day
Imizi/ Rural	1 (22HH)	49.91	0.055 Kl/c/day	0.44 Kl/HH/ day	9.68 Kl/ day
TOTAL	68	144.47			160.28 Kl/ day

The water demand volumes per capita was taken from: Guidelines for Human Settlement Planning and Design (RED BOOK); and Guidelines for the Design and Construction of Water and Sanitation Systems: City of Tshwane.

From table above, the area of Tugela Mouth requires **160.28 Kl/ day**. Any new major development of a commercial nature (i.e. Filling Station, Fast Food Restaurant, Shopping Mall

and Parking grounds) can have a gross increase of **71.32kl/day** if the size of that development is up to 2ha.

7.5.3 PROPOSED SOLUTION

The long-term proposal by Ilembe District Municipality to extend the 13 Ml/ day Sundumbili Water Treatment Works to Tugela Mouth (and surrounding areas at a cost of R 17 000 000), will address the bulk water challenges as this will imply that the area is part served with a treatment work that has sufficient capacity (40Ml/day). Potential developers and the municipality will have to consider the following:

- Water will be generally available on a day-to-day basis; however break downs will still occur from time to time prior to the commissioning of Sundumbili WTW to cover Tugela Mouth.
- Potential developers must consider installing their own (48 hour) bulk

storage facilities for the interim period until such time that water supply from the Sundumbili water treatment works has been phased into the existing Tugela Mouth reticulation system.

 The quality of the treated water in Tugela Mouth is good and classified as fit for human consumption.

7.6 BULK SANITATION INFRASTRUCTURE

7.6.1 GENERAL CHALLENGES

The area is not connected to water borne sewerage system. The area is dependent on rudimentary services such as the septic tanks. The surrounding rural areas uses pit latrines. The sanitation challenges that exists include the fact that the sewerage system infrastructure is old and causes problems from time to time. Sewer line blockages, pump failures and pipe bursts need to be attended to, leakages and

overflows must also be addressed. The prospect to connect the area to the network are bleak given the fact that Sundumbili/ Isithebe (12,0ML/d), and Mandeni wastewater treatment plant (1,2ML/d) operates over capacity and cannot accommodate further growth.

7.6.2 ESTIMATED WASTE WATER DESIGN FLOW

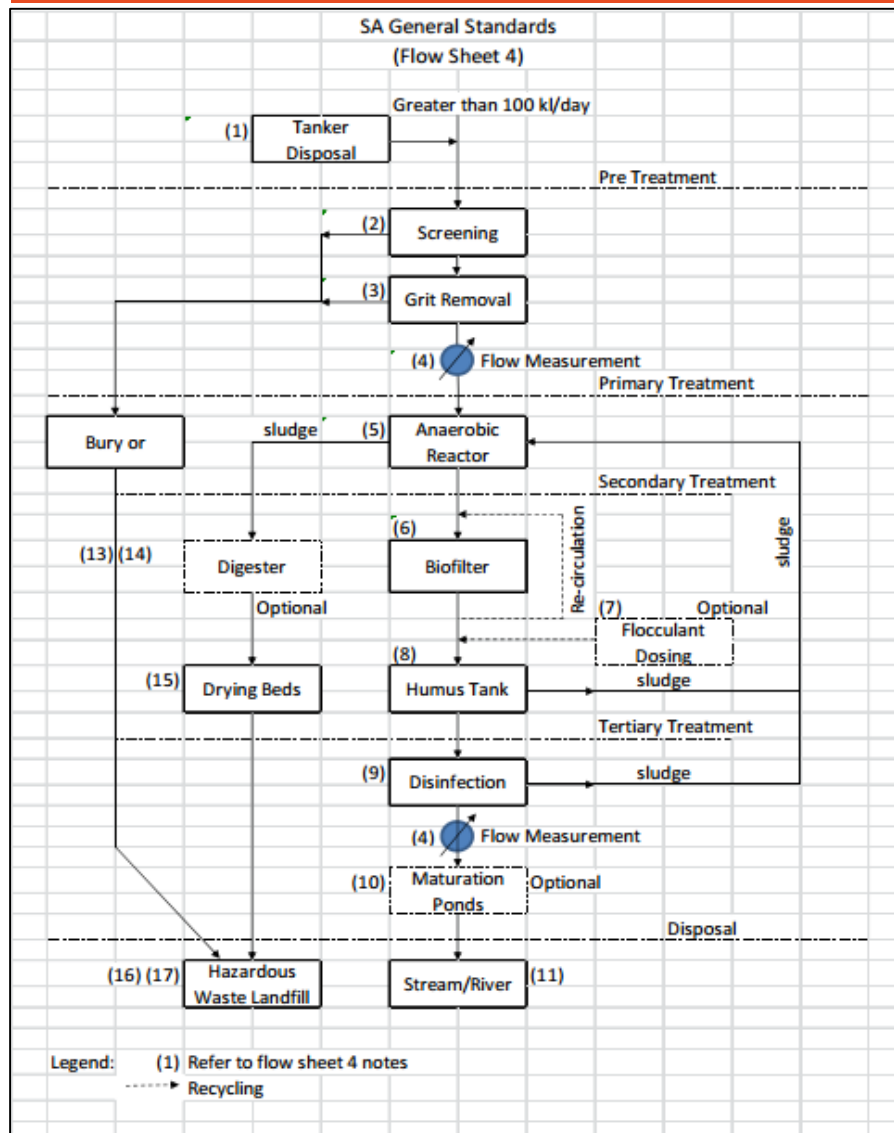
ACTIVITY	No. of ERF	AREA (Ha)	Kl/100m ² / day	Capita ST	Sewerage Flow (Kl/day)
Residential	55	18.05	0.5	180.5	90.25
Businesses	9	3.05	0.8	30.5	24.40
Vacant	2	1.09	0.0	-	-
Agriculture	1	72.37	0.0	-	-
Imizi/ Rural	1 (22HH)	49.91 (22ha)	0.5	220.0	110.00
TOTAL	68	144.47			224.65

The waste water design volumes per capita was taken from: Waterborne Sanitation Design Guide; Guidelines for Human Settlement Planning and Design (RED BOOK) and Guidelines for the Design and Construction of Water and Sanitation Systems: City of Tshwane.

From the waste water design flow calculations, the peak sewage flow will be **224.65 kl/day**. Any new major development of a commercial nature (i.e. Filling Station, Fast Food Restaurant, Shopping Mall and Parking grounds) can have a gross increase of **67.40kl/day** if the size of that development is up to 2ha.

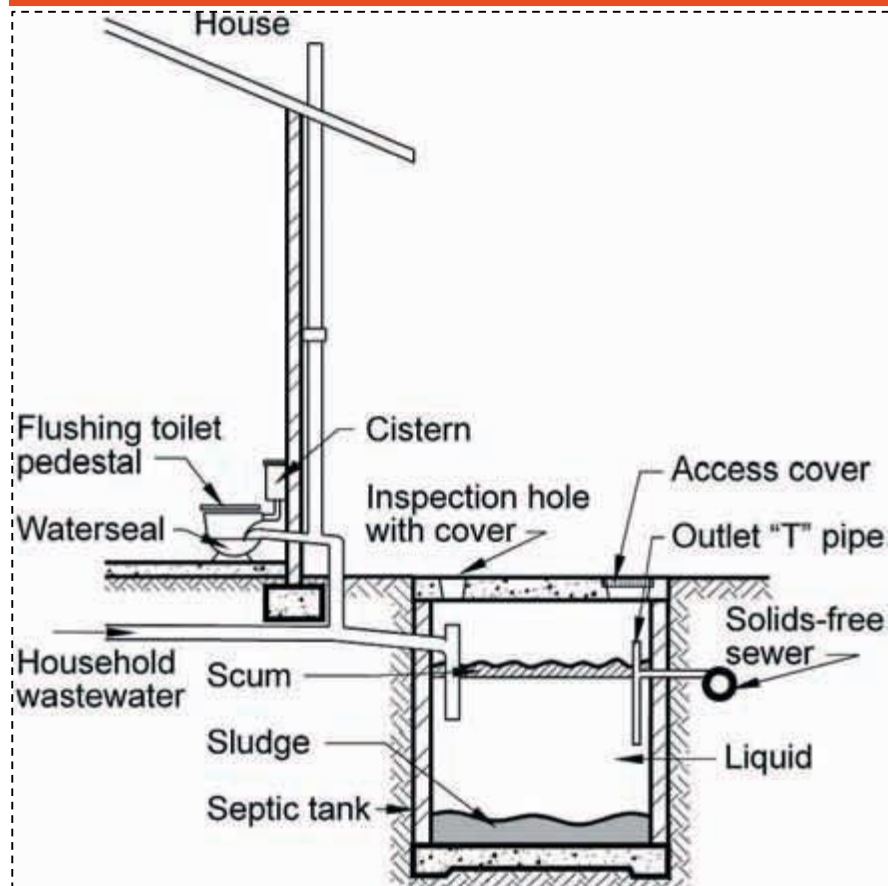
7.6.3 PROPOSED SOLUTION

The amicable sanitation solution would be to invest in connecting the area to the 1.2 ML/d WWTW which is located in Mandeni. This WWTW will need to be upgrade in terms of capacity, a Sewage pumpstation and Sewer reticulation network for the entire area and surroundings will need to be provided as per the Guidelines for the design as follows:



- Sludge drying beds shall be located not less than 300m from the nearest residential developments.
- The drying bed area provided shall not be less than 0, 15 m² / capita.
- The sludge depth per application shall not be more than 150 mm.
- The Consultant shall design the beds for the necessary rotation and drying time taking the climatic conditions of the specific site into consideration.
- Disposal of Treated Effluent into Water Courses and Rivers shall comply in all respects with the requirements of the DWA as stipulated in Government Gazette 9225, Notice No 399 of 1984 for the specific catchment area and river.

It is however unlikely that this will take place in the near future. Based on the above, any new development in the project area would have to limit its sewerage system to septic tanks. However, the settled sewerage system septic tanks will be a better option than conventional septic tanks. In settled sewerage systems, also known as solids-free systems or Septic Tank Effluent Drainage (STED), the solid portion of excreta (grit, grease and organic solids) is retained on site in an interceptor tank (septic tank), while the liquid portion of the waste is drained from the site in a small-diameter sewer. Such sewers do not carry solids, and have very few manholes. Tolerances for excavation and pipe laying may be greater than for conventional sewers, allowing lesser skilled labour to be used.



Although the liquid portion of the waste must be treated in a sewage works, the biological design capacity of the works can be greatly reduced because partial treatment of the sewage will take place in the retention tank on the site. The tank will also result in a much lower peak factor in the design of both the reticulation and the

treatment works. The retention tank should be inspected regularly and emptied periodically, to prevent sludge overflowing from the tank and entering the sewer. This system is an easy upgrading route from septic tanks with soakaways, conservancy tanks, and other on-site systems, as they can be connected to a settled-sewage system with very little modification. Tipping-tray pedestals and water saving devices can also be used in settled-sewage schemes without fear of causing blockage resulting from the reduced quantity of water flowing in the sewers.

7.7 BULK ELECTRICITY INFRASTRUCTURE

Eskom supplies electricity in Tugela Mouth and they are also responsible for maintenance, while the municipality is responsible for the redistribution of electricity within Tugela Mouth. The capacity of the Tugela Mouth substation must be upgraded to accommodate any new development. The substation is currently infirm and there is very little spare capacity. However, there is a new Sub-station, which is supposed to be built in the next 2-3 years. These transformers will re-load Tugela Mouth. Eskom has to be consulted prior to any new proposed development, in order for them to calculate additional supply and based on the network study. They will then propose solutions.

7.8 PARKING

Locating parking along the waterfront is encouraged. However, when it must occur, it shall be screened. Use a combination of native trees and shrubs to create a landscape buffer. Consider designing the lot to function both as a parking lot and festival space for community events.

-  Parking should be located on-site to the interior of the lot, when feasible.
-  Buffer parking areas from view of public ways, adjacent properties, view corridors and the waterfront with landscaping.
-  Locating parking along the waterfront is encouraged; however, when it must occur, it shall be screened. Use a combination of native trees and shrubs to create a landscape buffer.
-  Consider designing the lot to function both as a parking lot and festival space for community events.

Figure 12: Current Parking



Figure 13: Desired Public Facilities Improvement



8. TUGELA MOUTH ECONOMIC DEVELOPMENT STRATEGY

8.1 ECONOMIC STRATEGIC OBJECTIVE

The economic strategic objectives of Tugela Mouth will focus on the need of a local economy that will expand tourism through developing tourism products and enhancing the ones that already exist, developing agriculture where there are opportunities for development and developing the services sector in order to attract inward investment from business and commercial enterprises. Key economic strategies that Tugela Mouth can put in place:

-  Develop the infrastructure of Tugela Mouth to make it attractive for businesses to operate.
-  Invest in creating an environment that promotes economic growth and better living conditions.
-  Promote tourism which is currently one of the biggest growing industries in South Africa.
-  Develop and enhance local tourist sites and facilities.
-  Improve security and ensure that all residents are welcoming of tourists.
-  Encourage birdwatching in Tugela Mouth.

-  Marketing the Tugela Mouth tourism potential to local and international businesses.
-  Develop service centres that provide assistance and information to businesses that want to start operations in the area.
-  Develop a marketing strategy for Labotes fish and other unique fish species that exist in Tugela Mouth to attract fish enthusiasts and tourists into the area.
-  Improve linkages with the 1st economy commercial agriculture to develop the 2nd economy subsistence agriculture.
-  Develop a services sector that is able to fully support and promote tourism and agriculture development.

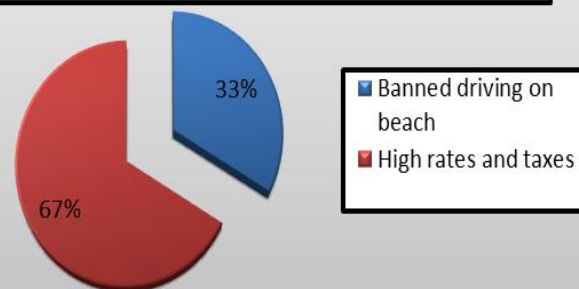
8.2 TUGELA MOUTH ECONOMIC BUSINESS SURVEY

A business survey was carried out within the area. The result of this survey can be summarized as follows:

-  All business surveyed indicated that they employ less than 10 employees which implies that these are micro enterprises;
-  Most (67%) of the businesses indicated that the laws which are a hindrances to their survival are the high property rate and taxes;

- Most (67%) of the businesses are run by the owners on a day to day basis due to the size (relatively small);
- The developmental obstacles that are considered to be a challenge for the running of the business are roads, economy, signage, beach maintenance, water & sewer infrastructure and depleted population of Labotes Fish on the Indian Ocean.

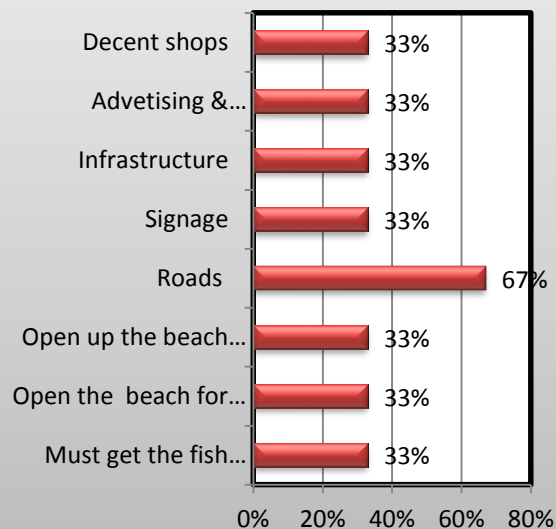
Regulation considered as hinderances to local business



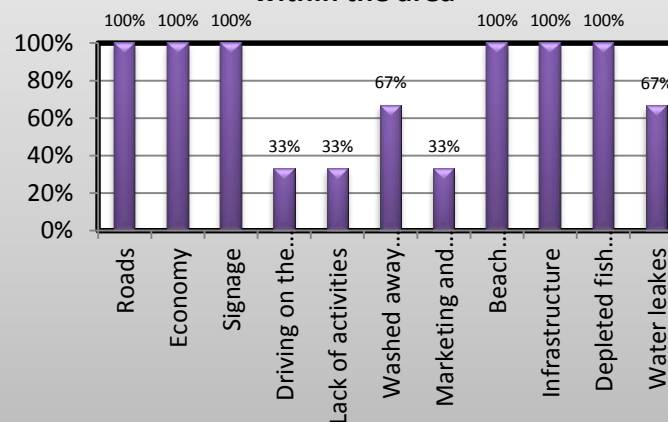
The number of employees currently employed by each business



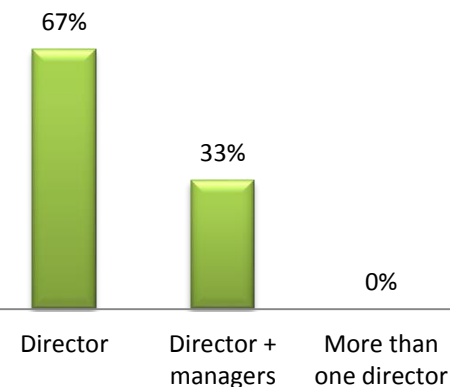
List of suggestions regarding the Tugela Mouth strategy



List of obstacles identified as hinderances to the success of the local businesses within the area



Percentage of upper-management involved in the day-to-day running of the business



8.3 TOURISM DEVELOPMENT

8.3.1 OBJECTIVES

-  To ensure awareness of the tourism opportunities available at Tugela Mouth.
-  To fully unlock the tourism potential in Tugela Mouth.
-  To grow the number of visitors and the duration of their stay.
-  To make Tugela Mouth a destination of choice for tourists.
-  To ensure that there is transformation of the sector and to grow niche tourism capacity.
-  To promote tourism expansion activities through incentives.
-  To promote development of tourism infrastructure and services.
-  To enhance the potential of existing enterprises to create jobs and contribute to economic development.
-  To create a tourism friendly image for Tugela Mouth.
-  Rationalize and strengthen organizational and institutional structures to ensure a common vision, synergy, creativity and leverage.
-  Lowering the costs of doing business for entrepreneurs or making existing businesses more profitable.

8.3.2 DEVELOPMENT STRATEGY

-  Invest in nature based tourism (birdwatching) by introducing the birdwatching tower in viewing spots where there is vast population of birds.
-  To introduce bylaws that would prohibit brawling, illegal sand mining and all activities that would compromise the Lobotes Fish Population within Tugela Mouth.
-  Maximize the use of existing and introduce new tourism products (UThukela River Canoeing). The boats should not be allowed in the estuary narrows and there should be clearly indicated spots that are demarcated with 'No Entry' signs.
-  Develop a tourism investment guide for potential investors.
-  Introduce training workshops for tourism product owners and employees.
-  Invest in Tugela Mouth scenic tourism (which is regarded as the secondary focus area for tourism in KwaZulu-Natal).
-  Develop an effective tourism campaign for promotion and communication to send the appropriate messages based on the branding and positioning of Tugela Mouth to its key target markets.
-  Improve Signage to Tugela Mouth.

8.4 AGRICULTURE DEVELOPMENT

The study area comprises of commercial sugarcane plantations, scattered subsistence crop and sugarcane farming along with extensive livestock farming practices. In the analysis the area was found to be an area which falls within the summer rainfall region with an annual average rainfall of 1272mm and a mean average annual temperature of 21.1 degrees Celsius making it ideal for a variety of agricultural production. However so this advantage has to been utilised to its full potential such that vast tract of agricultural land is left vacant and not used for productive agricultural production whilst the land that is utilised for agricultural production especially in the tribal area is not practiced in a sustainable manner.

Aside from commercial sugarcane production the major agricultural production is at a subsistence level with the majority of the households producing small scale cropping and livestock breeding. However small still has the potential to play an important role in eliminating food insecurity, reducing poverty and improving rural livelihoods. However these farmers within the area face a number of challenges including

-  limited access to financial markets for both inputs and outputs affecting actual production;
-  limited or poor infrastructure (such as roads); and

-  market facilities which make cost of production to be high and as such causing a disincentive for subsistence farmers to continue and to increase production.

The challenges above accompanied by climate change vulnerability have an adverse impact on meaningful and sustainable agricultural production. There are a number of sustainable ways at which sustainable agriculture can be pursued within the study area.

8.4.1 FOOD GARDENS

While the vast tracks of this land has been encroached by settlements an opportunity still exists to make use of few patches of the available agricultural land within the settlements in order to respond to food security initiatives. The study area has been identified as having high agricultural potential this then suggests that households within the area need to be encouraged to do home gardening in line with the campaign of one house one garden initiative by the provincial Department of Agriculture.

8.4.2 PROTECTION OF AGRICULTURAL LAND

The available large scale agricultural land will need to be protected from being encroached by settlements. This can be done through proper zoning of these land parcels to prevent loss of agricultural and production potential. Furthermore, rural authorities can play a

significant role towards achieving this such that they need to be involved (in their capacity as custodians of land) in relevant workshops or meetings to ensure that agricultural land is protected and only utilized for sustainable agricultural production.

8.4.3 LIVESTOCK MANAGEMENT

A substantial number of the population owns livestock but lacks proper and sustainable management leading to increased pressure on natural resources (land, water and biodiversity) and the ecosystem. Thus promoting sustainable livestock production/management among small scale farmers is beneficial including promoting rotational grazing which has both agricultural and environmental benefits. One of the benefits includes the reduction of possible soil erosion by providing a permanent vegetation cover that ensures that soil is never left exposed.

Furthermore sustainable livestock production involves balancing environmental health, economic profitability and social and economic equity. This can be achieved by ensuring that resources are readily available for this farmers including land and water availability; provision of veterinary services; access to agricultural infrastructure (i.e. fences); access to credit, accessibility of advisory bodies (i.e. extension services, NGO, etc.) and improving farmers skills. The provision of mentorship and training on business

development and/or farm management will also form part of promoting sustainable management.

8.4.4 TUNNEL FARMING

There are many advantages to using tunnel farming method of cultivating plants, such that, these plants are grown in plastic tunnels in a growth medium other than natural soil. The plants get a constant flow of nutrients as they are dissolved in the irrigated water system thus creating large and high quality crops. Hydroponic systems are costs effective in that they produce high quality crops, at larger yields and reduces the cost of dealing with soil borne diseases. Another form of this method fast gaining popularity is the utilization of Aquaponics this system is distinctively different to other systems as it is designed as a self-sustainable system with little to no waste products being released into the environment. Aquaponics are entirely organic; the process of Aquaponics is a natural interaction between fish and the plants.

Both the plants and the fish contribute to the cycle such that the fish provide the nutrients for the plants and the plants filter the water so that there is no build-up of toxins. Natural chemicals and the fish food are the only additives to the Aquaponics system. This is a closed system so the water does not get pumped back into the river or other water sources. This farming methods can be encouraged to small holder farmers looking to increase their production capacity without

having to increase their acreage. For this to happen provision of relevant infrastructure to support production and capacity building of these farmers will need to take place. Furthermore, promoting collaboration and knowledge sharing between small scale farmers and other agricultural organizations and extensive training through workshops and mentorships on sustainable farm management and sustainable environmental management will form the core for the success of these farmers.

8.4.5 SMALL SUGARCANE SCHEMES

Within the local municipality exists one of the Tongaat-Hullet sugarcane mills, the Amatikulu mill with the study area comprising of large tracts of commercial sugarcane and scattered small scale sugarcane within the tribal areas. The development of a sustainable sugar cane out-grower schemes will form key component towards promoting sustainable sugarcane production amongst small scale sugarcane growers. As such strategic partnerships involving government and the sugarcane industry participants is much warranted through the provision of agricultural inputs, infrastructure and production and financial support.

Furthermore, this provides a great platform for partnerships or collaboration between small-scale farmer groups (including formation of cooperatives) and also partnerships involving small-scale farmers and already established commercial farmers which

involves knowledge and information sharing, joint ventures between these farmers in marketing of their produce to assist in lowering transaction costs, speeding up spread of knowledge, information and innovation.

8.4.6 CONCLUSION

Given the agricultural production potential of the area, it is suggested that the municipality should facilitate establishment of intensive vegetable production schemes, livestock schemes and sugarcane out-grower schemes in selected parts of the study area. Particular focus should be made to areas where there are already established group gardens, small scale crop and sugarcane growers and livestock producers. The projects should seek to rationalize the activities of government departments involved in the support of community gardens. To further ensure sustainable agricultural production skills training programmes will be needed, as such, training should focus on individuals or groups identified as having great potential in terms of full beneficiations.

These trainings should include business and management skills training; bookkeeping and marketing skills training; and life skills training. Ensuring agricultural development will require promoting sustainable approaches to food production, enhancing agricultural productivity and farming incomes through infrastructure development, social development and reducing the environmental

impact on agricultural production. Therefore promoting partnership and knowledge sharing between the farmers, agricultural and non-agricultural organizations and government will ensure sustainable farm management and inclusive agricultural development.

8.5 SERVICES SECTOR

8.5.1 OBJECTIVES

-  Develop a competitive and effective service sector.
-  To adequately meet the community and social needs of Tugela Mouth residents.
-  To promote the community well-being by rendering effective and efficient municipal services into the area.
-  To promote a healthy environment by keeping the village and the beach clean.
-  To stimulate tourism safety by providing tour guides to the visitors and thus creating job opportunities.

8.5.2 DEVELOPMENT STRATEGY

-  Provide access to improved commercial facilities.
-  Laundry services -ironing only, full laundry, sewing and repairs.
-  Provide information and communication technology.
-  Setting technical and service standards & enforcing them.

-  Travel agencies and Tour guides.
-  Marketing services.
-  Booking services.
-  Developing pathways for tourism routes thus creating a need for tour guides.
-  To develop a private college.

8.6 SUPPORTING OF EXISTING ENTREPRENEUR BASE

8.6.1 OBJECTIVES

-  To enhance the potential of existing enterprises to create jobs and contribute to economic development.
-  To increase the number and the size of the existing entrepreneurs.
-  To recognize the contribution of existing entrepreneurs in the local economy.
-  To promote the expansion activities of existing entrepreneurs through incentives, support for training and development as well as promotion of infrastructure and services.

8.6.2 DEVELOPMENT STRATEGY

-  Undertake skills development needs survey to determine skills needs of existing businesses.

-  Provide support for activities of existing entrepreneurs through incentives, support for training and development.
-  Coordinate implementation of support facilities (incentive packages, support for training and development etc.).
-  Establish Mayoral Business Recognition Awards.
-  Training services.
-  Production and selling of crafts.
-  Interior decor - rugs, wall hangings, furniture, textiles, art.
-  Construction - collection of materials, thatching, building trades.
-  Develop Maintenance services - vehicles, plant and equipment.
-  Develop environmental services – gardening and bush clearing.
-  Develop tour operator services.

8.7 FOCUS ON BRINGING NEW BUSINESSES

8.7.1 FOCUSING ON START-UPS

Global experience has shown that the success rate of focusing on start-ups as a strategy for economic development yields at least 8% success rate. It is therefore suggested that at least 25% of resources should be put towards start-ups within the Tugela Mouth context. Given the reality that at least 90% of new enterprises fail within 18

months of being established and that South Africa is recognized as having a weak culture of entrepreneurship, it is important that general capacity is developed towards the promotion of new enterprises within Tugela Mouth to support the other two components identified above.

8.8 URBAN PLANNING SCHEME

Most of the current strategic documents in South Africa including the National Development Plan (NDP) and KwaZulu-Natal Growth and Development Strategy (PGDS) have identified the lack of convergence in urban planning and LED functions constraints towards effective promotion of investment in localities throughout South Africa. For the purposes of the Tugela Mouth Economic Development Strategy the following is proposed:

-  Urban Planning Scheme must be made a function of economic development (alignment of the planning requirements towards the objectives of economic development)
-  Designate specific zones for different land uses for which economic development is to be promoted
-  Development rights associated with these zones must be clearly specified and the process for planning approvals must be outlined

-  A strategic approach must be taken – areas where the development application process may be delayed must be identified upfront.

8.9 ECONOMIC INFRASTRUCTURE

One of the responsibilities of local municipalities in terms of the Constitution of the Republic of South Africa is the promotion of economic development. In fulfilling this role the Mandeni Municipality is required to create an environment enabling for business growth and development. Economic infrastructure is a crucial component of a business enabling environment and includes the properly maintained road networks, telecommunications, constant supply and competitively price electricity, Water and provide solid waste removal mechanisms, financial institutions and energy supply systems.

8.10 LED FUNCTION

8.10.1 INCENTIVES

Economic incentives play a crucial role in making economic development strategies to be effective by promoting activities to support investments that will positively influence investor perceptions of costs and benefits related to business in a particular

sector. Three major classes of incentives intended to encourage business investment are:

-  financial (e.g. grants and loans at beneficial rates);
-  fiscal (e.g. tax holidays or reduced tax rates) and
-  Other such as subsidised infrastructure or services, access to preferential markets, and regulatory allowances (e.g. exemptions from labour or environmental standards).

Incentives are seen as inducements by government to shift an investment decision towards a particular region, sector or project. It is the responsibility of the Mandeni Municipality to ensure that Tugela Mouth becomes a priority area for incentives that will encourage business activity in the area furthermore projecting Tugela Mouth as business friendly area to possible investors.

8.10.2 TRAINING

Training/ skills development is an important component of the economic development strategy of Tugela Mouth given the chronic shortage of skills in South Africa. This shortage of skills has been attributed to a decline in economic productivity. Improving accessibility to and quality of training and skills development is therefore a vital aspect to any economy development strategy with objectives relating to increasing productivity for the local economy

as a whole. The Mandeni municipality shall then be responsible for the coordination of the training programme to ensure that the following is achieved:

-  Common vision;
-  Leverage and synergy;
-  Training is impact driven (addresses the need rather than tick box mentality);
-  Contribute to the objectives of Business Retention and Expansion objectives;
-  Training and skills development is continuous; and
-  Training and skills development contribute to the strategic development objectives of the town and the municipality generally.

8.10.3 LICENSES

Licenses are a crucial element of the enabling environment local authorities are required to provide in terms of the Constitution of the Republic of South Africa. For the purposes of the Tugela Mouth Economic Development Strategy it is proposed that all the licenses which have a direct impact on business development must be housed in one office to provide a one stop service. It must be simple, transparent and easily available – within the website of Tugela Mouth.

8.10.4 BUSINESS RECOGNITION AND LIASON

Business recognition has often listed as one crucial ingredient for a healthy local economy characterized by a common vision between entrepreneurs who are responsible for innovation and actual wealth creation in the economy. In most instances there is a lack of a healthy relationship between these two crucial groups, the other group being the authorities who are responsible for providing a regulatory environment and relevant support mechanism. There are a number of considerable benefits from adopting a positive and a healthy relationship between local authorities and local business community.

For the purposes of this strategy, it is proposed that the Mandeni Council take a resolution to recognize entrepreneurs who are contributing towards the Municipality's development objectives of job creation and poverty alleviation. The Mandeni Municipality must create a Mayoral Business Recognition Award to achieve this objective. This would then provide a platform for the municipality to interact at a strategic level with the business community in a way that adds value to the already existing and highly successful Business Retention and Expansion Programme.

9. URBAN DESIGN GUIDELINES AND FRAMEWORK

The following are generic urban design guidelines that can be used by the municipality when implementing or evaluating a proposal or project.

Urban Design Guidelines

Signage

-  Street and information signs should be uniform to provide a unique character.
-  Signs should convey its information clearly and should be appropriately located.
-  Signs within the town and on the P415 should be improved.
-  Signage should be restrained and care should be taken not to disrupt coherence by over-sized and/or too bold signage.
-  Graphic simplicity and compatibility with the building architecture should constitute the basic principles for designing an effective and attractive system of signs.
-  The sign's components: size, location, materials, colour, lettering and illumination — can help both to create a positive identity for an individual business and to provide a unified image for the town.

Landscaping

-  Improving the look of the urban village e.g. planting of trees to deal with current landscape, dealing with water flowing on surfaces, litter, etc.
-  The landscaping of hard urban spaces must create acceptable living and working public environments. It must also contribute to the greening of the town as well as enhancing the town's image.
-  Landscaped areas should be multi-functional and should provide environmental, recreational and aesthetic benefits.
-  In parking areas, landscaping should be provided in a manner that ensures the provision of at least one tree for every two parking bays. This will ensure the provision of adequate shade as well as assisting with storm-water attenuation.
-  Landscaping should adhere to the following general minimum guidelines and principles:
 - Indigenous plants should be used wherever possible.
 - Within a distance of 2m from a watercourse or any other important ecological feature, at least 80% of plant species used for landscaping purposes should be indigenous.

Urban Design Guidelines

Streetscape

- No declared invader plants, as defined by the Conservation of Agricultural Resources Act of 1983, may be planted. Planting should be used to provide focal points, character, screening, softening and shade. Paved areas should be minimised, while planting opportunities must be maximised.
- Shrubs and trees should be placed in such a manner that they do not provide hiding places for criminal elements or create visual obstructions.
-  Ever green trees should be used to provide shade (particularly for parking areas and areas adjacent to garages), whilst deciduous trees should be used for seasonal change.
-  Where applicable, effective erosion control systems should be put-in-place to minimise the loss of top soil.
-  Appropriate irrigation measures aimed at reducing water consumption and the unnecessary wastage of water should be investigated and be applied.
-  Where hard urban spaces cannot be spatially defined by means of surrounding buildings, landscaping elements (e.g. trees), must provide the desired spatial definition.

Main Road (Labotes Road) forms the main activity street of the town and initiatives should therefore be implemented to make this road more attractive and appealing.

-  All spaces must allow for safe and convenient pedestrian movement and all other permissible pedestrian activities that normally take place in such spaces.
-  All activity streets, (with the exception of quiet residential streets that have negligible amounts of vehicular traffic and where the mixing of pedestrian and vehicular movement can pose no danger) must have a walkway on each side of at least the minimum size (i.e. 1.3 m wide). All walkways must be free of any obstacles to the movement of pedestrians (i.e. obstacles that reduce a walkway's width, cause inconvenience or pose a danger).
-  Vertical kerbs or bollards must be used to prevent vehicles from intruding onto pedestrian areas, unless there are specific, justifiable reasons for allowing vehicular access onto the pedestrian areas.
-  All pedestrian crossings must be clearly marked, paying particular attention to the requirements of disabled people.
-  Provision must be made for disabled people at crossings.
-  Promote pedestrianism as the essence of the movement system, supplemented by a co-ordinated and integrated public transport system.
-  Establish and reinforce streets as the “foundation of community life” and not only movement arteries for vehicles.

Urban Design Guidelines

Parking	 Create a strong image and streetscape in the town through the use of design elements such as similar trees, light poles, bollards, refuse bins, seating, paving and signage.
	 Add landmarks to the environment to create a sense of place — this could include a unique building, monument, public space etc.
Lighting	 Open parking areas should be appropriately landscaped.
	 The sharing of parking facilities may be considered to avoid duplication.
Street Furniture	 All pedestrian areas must be lit at night.
	 Lighting should also be used decoratively to highlight signage, landscaping elements and important buildings. The lighting of buildings and monuments can add to ambience. Hence, private developments should be encouraged to consider the usage of special façade lighting.
Street Furniture	 Appropriate energy-efficient lighting technologies must be investigated and applied.
	 The lighting of public urban spaces must not cause or contribute to light pollution. Furthermore, the following guidelines should be applied: • Flood lights or spot lights used to illuminate buildings or signs should be positioned as such that none of the light spills into adjacent properties or shines into the eyes of motorists or pedestrians. • Lights should not be allowed to shine higher than 0, 5 meter beneath the top of the building to prevent light pollution.
Street Furniture	 All streetscape elements must be designed and placed in a manner that enhances the desired character of the space and creates a unifying theme.
	 All streetscape elements should be of similar design and character.
Street Furniture	 Public transport stops should be clearly defined through lay-by, signage and lighting.
	 Visible and consistent directional and informational signage should provide essential information to the public. Furthermore, the following guidelines should be applied: • All-important signs (i.e. those that can assist people in finding their way or seeking help) must be visible at night. All signage should be uniform to provide a unique character. • Signs must not block the view of vehicles or the view from adjacent buildings, and must not be excessive in size and / or number.
Street Furniture	 All streetscape elements should be placed in a coordinated manner.

Urban Design Guidelines

Traffic Signs & Signals



Streetscape elements should be robust and be made of durable materials, i.e. they must be able to withstand frequent use, weathering and vandalism without loss of design quality.



The visibility pedestrian crossings must be ensured by means of adequate signage.



Traffic signs and signals must be carefully placed in a way that they do not cause or contribute to chaos and clutter.

TUGELA MOUTH: CONSOLIDATED LOCAL AREA PLAN



11. PROGRAMME OF ACTION

The purpose of this document is to provide a variety of interventions that have been proposed for the Tugela Mouth Area. This document is the final product of the fourth phase of the Tugela Mouth Local Area Plan. The first phase was the inception administrative stage of the project; this was followed by the second phase which generated various sector status quo studies undertaken by the Project Team which provided a comprehensive examination of key issues, problems, opportunities and constraints pertaining to the Study Area. These included an assessment of the Environment, Economy, Housing, Land Use, Transportation, Infrastructure, Social Needs and

Spatial Structure and Urban Form. The third phase culminated with a report that presented as a set of “strategic thrusts” that provided broad direction for the Tugela Mouth Local Area Plan and guide both public and private investment. The forth phase of the project involves the documentation of a Implementation Framework for the area that will build on the strategic thrusts document that will identify key interventions and further go into detail about those key interventions. The Implementation framework will set out the strategic direction for the purpose of the implementation phase so as to achieve the outputs and targets of the project.

11.1 SCHEDULE OF CATALYSTIC PROJECTS

The following table presents the programmes and projects for implementation. Please note that all project budgets need to be confirmed before implementation.

Table 1: Implementation projects

Project Description	Need/ Objectives	Preliminary Cost Estimate	Funding Sources	Responsibility
ENVIRONMENTAL MANAGEMENT				
Strategic Environmental Assessment (SEA) for River mouth interface, Beach Access	To promote sustainable coastal development in a manner that does not pose a detriment to the environment and users. This process will also need include	R 300 000.00	Mandeni Municipality	Mandeni Municipality

Project Description	Need/ Objectives	Preliminary Cost Estimate	Funding Sources	Responsibility
and Tugela Mouth Proposed Seaside Development	specialists' studies which are deemed necessary such as the geotechnical study and vegetation assessment.			
Promote Conservation and natural open space green system.	To encourage a system of botanical gardening, parks and green corridor linkages between open areas of Tugela Mouth. The built up areas should also be maintained with natural vegetation.	R 500 000.00	Dept. of Econ Dev, Tourism and Environmental Affairs (DEDTEA)	Mandeni Local Municipality (MLM) and DEDTEA
Alien Plant Control Programme	To remove all the alien plants within the wetlands and riparian zones.	R 1 000 000.00	DEDTEA	MLM and DEDTEA
Introduction of Environmental Bylaws	These Bylaws are intended to protect wetlands, prohibit brawling, illegal sand mining and all activities that would compromise the Lobotes Fish population within Tugela Mouth.	R 500 000.00	DEDTEA	MLM and DEDTEA
SUSTAINABLE LOCAL ECONOMIC DEVELOPMENT				
Develop a Birdwatching Tower	A birdwatching tower is necessary to make it easier to view the bird species that exist in Tugela Mouth without having to go on foot.	R 150 000.00	MLM	MLM
Create pathways for birdwatching enthusiasts	Creating pathways will make it easier for birdwatchers to walk around viewing birds.	R 1 000 000.00	MLM/ CoGTA	MLM

Project Description	Need/ Objectives	Preliminary Cost Estimate	Funding Sources	Responsibility
Feasibility Study for UThukela River Canoeing	To maximize the use of existing and introduce new tourism products (UThukela River Canoeing). The boats should not be allowed in the estuary narrows and there should be clearly indicated spots that are demarcated with 'No Entry' signs. Exploring the UThukela river by canoe will bring people closer to nature and will allow the experience of the waterways from a totally new angle.	R 250 000.00	MLM	MLM
Comprehensive Tourism Marketing Strategy for Tugela Mouth	To develop a tourism investment guide for potential investors. Introduce training workshops for tourism product owners and employees. Develop an effective tourism campaign for promotion and communication to send the appropriate messages based on the branding and positioning of Tugela Mouth to its key target markets. Improve Signage to Tugela Mouth.	R 200 000.00	MLM/ CoGTA	MLM
Develop Flea Market friendly shelters.	This will provide shopping convenience for small items and will promote small scale economic activity in the area.	R 1 500 000.00	MLM	MLM
Livestock Management	Livestock production involves balancing environmental health, economic profitability, social and economic equity. This can be achieved by ensuring that resources are readily available for these	R 5 000 000.00	MLM/ Department of Agriculture (DoA)	MLM

Project Description	Need/ Objectives	Preliminary Cost Estimate	Funding Sources	Responsibility
	farmers including land and water availability; provision of veterinary services; access to agricultural infrastructure (i.e. fences); access to credit, accessibility of advisory bodies (i.e. extension services, NGO, etc.) and improving farmer's skills.			
Tunnel Farming	To explore Tunnel Farming methods in some parts of the area. There are advantages for using hydroponic methods on cultivating plants such that the plants grow at a higher rate with high quality of nutrients.	R 2 000 000.00	DoA/ MLM	MLM
Food Gardens	To encourage each household within the study area to do home gardens in line with the provincial campaign of one house one garden.	R 50 000.00	DoA/ MLM	MLM
Small Sugarcane farming Scheme	Small Sugarcane farming scheme will provide a great platform for partnerships or collaboration between small-scale farmer groups (including formation of cooperatives) and also partnerships involving small scale farmers and already established commercial farmers which involves knowledge and information sharing, joint ventures between these farmers in marketing of their produce to assist in lowering transaction costs, speeding up spread of knowledge, information and innovation.	R 10 000.00	DoA/ MLM	MLM

Project Description	Need/ Objectives	Preliminary Cost Estimate	Funding Sources	Responsibility
Small-Scale Commercial/ Retail Development and Tourists Orientation Centre	To encourage private sector investment on developing a small-scale commercial centre that accommodate laundry services -ironing only, full laundry, sewing and repairs. Provide information and communication technology, setting technical and service standards & enforcing them, travel agencies, tour guides, marketing services, booking services and developing pathways for tourism routes thus creating a need for tour guides.	R 20 000 000.00	Private Sector	Private Sector
Develop a Private College	To explore the feasibility of the Private College within Tugela Mouth which will accommodate a boarding school. This facility will position the area as an attraction to the higher income earners which will have the trickle-down effect that will be beneficial for the tourism markets.	R 400 000 000.00	Private Sector	Private Sector
INFRASTRUCTURE DEVELOPMENT				
Tar the L1 and L2 excess Roads (9,7 km), upgrading and maintenance of Lobotes Road.	Roads are in a very poor condition and extremely damaged. The extent of the damage can be sighted as potholes, crocodile cracks, the loss of skid resistance of the surface, which are caused by the layer works failure.	R 33 950 000.00	DoT	DoT
Upgrading of stormwater (Pipe	Upgrading and maintenance of storm water infrastructure such as kerbstones, and storm	R 4 075 000.00	MLM	MLM

Project Description	Need/ Objectives	Preliminary Cost Estimate	Funding Sources	Responsibility
Culverts (600mm; Class 100D) management infrastructure (1km)	water drainage is necessary to handle surface runoff adequately.			
Upgrade to waterborne sewerage system to accommodate future developments.	The amicable sanitation solution would be to invest in connecting the area to the Mandeni WWTW and its subsequent capacity upgrade. This will further need a Sewage pumpstation and Sewer reticulation network for the entire area and surroundings.	R 8 840 166.00	Ilembe DM	Ilembe DM
Upgrade of bulk water infrastructure	The long-term proposal by Ilembe District Municipality to extend the 13MI/ day Sundumbili Water Treatment Works to Tugela Mouth (and surrounding areas at a cost of R17,000,000.00), will address the bulk water challenges as this will imply that the area is part served with a treatment work that has sufficient capacity (40MI/day).	R 17 000 000.00	Ilembe DM	Ilembe DM
URBAN RENEWAL AND PUBLIC REALM UPGRADE				
New paving along Lobotes Road and the provision of proper pedestrian Walkways.	This will make the area more attractive and user friendly for drivers as well as pedestrian, further to that it will ensure that they don't disturb each other in any way.	R 4 000 000.00	MLM/ CoGTA	MLM
Installation of Gateway Landmark	The provision of a unique gateway landmark will improve legibility and the identity of Tugela Mouth upon entering the town via the P415. Gateway landmarks can give the area a character	R 350 000.00	MLM/ CoGTA	MLM

Project Description	Need/ Objectives	Preliminary Cost Estimate	Funding Sources	Responsibility
	and the design could have an African theme and link to the area and culture of Tugela Mouth.			
Installation of Signage	Signage is a powerful, exciting way of letting people know what tourism products can be found in a place. Signage will give customers information, lead them to the right product. There should be tourism signage on the N2 on both sides when approaching the off ramp to Tugela Mouth. Signs within the town and on the P415 should be improved.	R 300 000.00	SANRAL/ COGTA/ MLM	SANRAL/ MLM
Boat Launching Area	A boat launching area is needed so as to control and monitor fishing activities. The boats should not be freely allowed in the estuary narrows and there should be clearly indicated spots that are demarcated with 'No Entry' signs.	R 1 500 000.00	Private Sector	Private Sector
Improved Parking & Picnic Areas	Better looking parking and picnic areas within Tugela Mouth will ensure the creation of an attractive and functional urban and public environment.	R 1 000 000.00	MLM	MLM
Development of Passive Open Space/ Park, Caravan Park and Maintenance of Environmentally Sensitive Coastal Forest		R 2 000 000.00	MLM	MLM
Replacement of existing lighting	The provision of new lighting that is best suited for a pedestrian environment, as well as focus lighting that is energy efficient is needed, lighting technologies must be investigated and applied on the Lobotes road and all other roads/pathways that will have people walking on them.	R 170 000.00	MLM	MLM

Project Description	Need/ Objectives	Preliminary Cost Estimate	Funding Sources	Responsibility
Retaining Wall	The beach sometimes comes to shore a bit too close to the residential houses and this poses a great threat and the retaining wall will counter this threat by keeping control of the beach.	R 1 200 000.00	MLM	MLM
Rivermouth Interface: Access Across Dunes	Latent potential exists along the river interface where in time redevelopment along this edge would extend the waterfront presence of the Tugela Mouth area. Development along this interface needs to respond to the particular context in creating a unique 'Riverfront' quality. Develop river access in clearly identified, but limited locations, to provide human access to the river in a manner that will reduce indiscriminate intrusion into the riparian edge	R 500 000.00	MLM	MLM
Riverfront Interface: Water access way		R 1 000 000.00	MLM	MLM
Detailed Feasibility Study for Proposed Seaside Development Plan	Investigate the physical and financial viability for this proposed development with all components including retaining wall, boat launch area, beachfront park, beach pedestrian walkways and improved picnic area.	R 350 000.00	MLM	MLM
Surveillance Technology: Closed Circuit Television Cameras (CCTV)	Closed Circuit Television Cameras (CCTV) in Tugela Mouth area can add significantly to the ability of law enforcement agencies to combat crime. It also strengthens the public's perception of safety and security.	R 80 000.00	MLM	MLM

Project Description	Need/ Objectives	Preliminary Cost Estimate	Funding Sources	Responsibility
SPATIAL PLANNING URBAN PLANNING SCHEME				
Finalisation of Tugela Mouth Scheme	Urban Planning Scheme must be made a function of economic development (alignment of the planning requirements towards the objectives of economic development). Designate specific zones for different land uses for which economic development is to be promoted. Development rights associated with these zones must be clearly specified and the process for planning approvals must be outlined. A strategic approach must be taken – areas where the development application process may be delayed must be identified upfront.	R 300 000.00	MLM	MLM
Views, Legibility and Landmarks Policy	Develop a policy document that will help to maintain view corridors from key vantage points to the lighthouse, ocean and the river estuary and other significant natural and cultural resources. Assess the site at the outset of the project to identify view opportunities to significant natural and cultural resources. For example, to maintain a significant view corridor through the property, position a building to one side of a site. On larger lots consider clustering buildings to frame views to the water.	R 100 000.00	MLM	MLM

11.2 IMPLEMENTATION PROGRAM AND ACTION PLAN

PROGRAMMES	PROJECTS	FINANCIAL YEARS					ESTIMATED BUDGET	SOURCES OF FUNDS	KEY STAKEHOLDERS
		2016	2017	2018	2019	2020			
ENVIRONMENTAL MANAGEMENT	Strategic Environmental Assessment						R 300 000.00	MLM	MLM
	Promote Conservation and natural open space green system						R 500 000.00	DEDTEA	MLM & DEDTEA
	Alien Plant Control Programme						R 1 000 000.00	DEDTEA	MLM and DEDTEA
	Introduction of Environmental Bylaws						R 500 000.00	DEDTEA	MLM and DEDTEA
SUSTAINABLE LOCAL ECONOMIC DEVELOPMENT	Develop a Birdwatching Tower						R 150 000.00	MLM	MLM
	Create pathways for birdwatching enthusiasts						R 1 000 000.00	MLM/ CoGTA	MLM
	Feasibility Study for UThukela River Canoeing						R 250 000.00	MLM	MLM
	Comprehensive Tourism Marketing Strategy for Tugela Mouth						R 200 000.00	MLM/ CoGTA	MLM
	Develop Flea Market friendly shelters.						R 1 500 000.00	MLM	MLM
	Livestock Management						R 5 000 000.00	MLM/ DoA	MLM
	Tunnel Farming						R 2 000 000.00	DoA/ MLM	MLM
	Food Gardens						R 50 000.00	DoA/ MLM	MLM

PROGRAMMES	PROJECTS	FINANCIAL YEARS					ESTIMATED BUDGET	SOURCES OF FUNDS	KEY STAKEHOLDERS
		2016	2017	2018	2019	2020			
	Small Sugarcane farming Scheme						R 10 000.00	DoA/ MLM	MLM
	Small-Scale Commercial/ Retail Development and Tourists Orientation Centre						R 20 000 000.00	Private Sector	Private Sector
	Develop a Private College						R 400 000 000.00	Private Sector	Private Sector
INFRASTRUCTURE DEVELOPMENT	Tar the L1 and L2 excess Roads (9, 7 km), upgrading and maintenance of Lobotes Road.						R 33 950 000.00	DoT	DoT
	Upgrading of stormwater (Pipe Culverts (600mm; Class 100D) management infrastructure (1km)						R 4 075 000.00	MLM	MLM
	Upgrade to waterborne sewerage system to accommodate future developments.						R 8 840 166.00	Ilembe DM	Ilembe DM
	Upgrade of bulk water infrastructure						R 17 000 000.00	Ilembe DM	Ilembe DM
URBAN RENEWAL AND PUBLIC REALM UPGRADE	New paving along Lobotes Road and the provision of proper pedestrian Walkways.						R 4 000 000.00	MLM/ CoGTA	MLM

PROGRAMMES	PROJECTS	FINANCIAL YEARS					ESTIMATED BUDGET	SOURCES OF FUNDS	KEY STAKEHOLDERS
		2016	2017	2018	2019	2020			
	Installation of Gateway Landmark						R 350 000.00	MLM/ CoGTA	MLM
	Installation of Signage						R 300 000.00	SANRAL/ COGTA/ MLM	SANRAL/ MLM
	Boat Launching Area						R 1 500 000.00	Private Sector	Private Sector
	Improved Parking & Picnic Areas						R 1 000 000.00	MLM	MLM
	Development of Passive Open Space/ Park, Caravan Park and Maintenance of Environmentally Sensitive Coastal Forest						R 2 000 000.00	MLM	MLM
	Replacement of existing lighting						R 170 000.00	MLM	MLM
	Retaining Wall						R 1 200 000.00	MLM	MLM
	Rivermouth Interface: Access Across Dunes						R 500 000.00	MLM	MLM
	Riverfront Interface: Water access way						R 1 000 000.00	MLM	MLM
	Detailed Feasibility Study for Proposed Seaside Development Plan						R 350 000.00	MLM	MLM
	Surveillance Technology: Closed Circuit Television Cameras (CCTV)						R 80 000.00	MLM	MLM

PROGRAMMES	PROJECTS	FINANCIAL YEARS					ESTIMATED BUDGET	SOURCES OF FUNDS	KEY STAKEHOLDERS
		2016	2017	2018	2019	2020			
SPATIAL PLANNING URBAN PLANNING SCHEME	Finalisation of Tugela Mouth Scheme						R 300 000.00	MLM	MLM
	Views, Legibility and Landmarks Policy						R 100 000.00	MLM	MLM

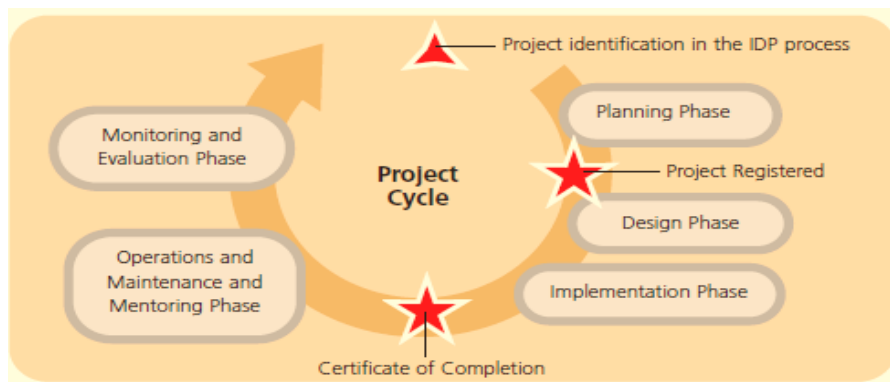
12. QUICK WIN PROJECTS

The following projects are suggested as quick win projects that can have an immediate effect and impact when implemented:

- Public Realm Upgrade - New paving along Lobotes Road and the provision of proper pedestrian Walkways, installation of Gateway Landmark, improved Parking & Picnic Areas, Surveillance Technology: Closed Circuit Television Cameras (CCTV), Replacement of existing lighting and installation of Signage. This would be done at a tune of R 7 900 000.00.
- Tar the L1 and L2 excess Roads (9,7km), upgrading and maintenance of Lobotes Road. This will be done at a cost of R33 950 000.00.
- Upgrade to waterborne sewerage system to accommodate future developments. This will be done at a cost of R8 840 166.00.

13. KEY ELEMENTS OF A PROJECT CYCLE

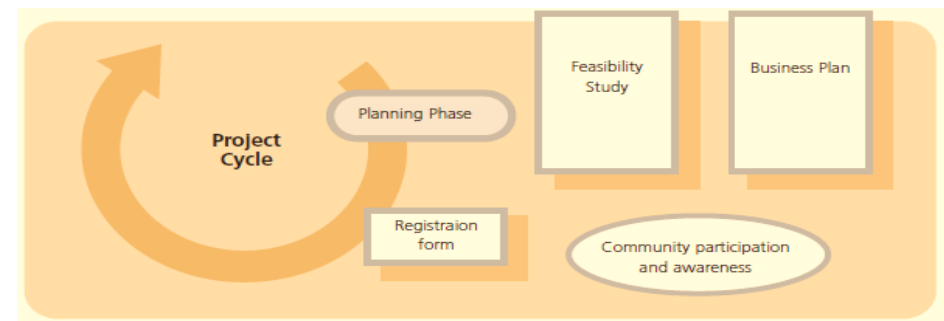
This section provides an overview of the project cycle. The purpose of this section is to provide an overall picture of the work that needs to be done through the different phases of the project cycle towards ensuring sustainable services. It also outlines some of the key performance indicators that should be achieved through the project cycle. To ensure effective implementation and management of capital projects, all projects should go through the following phases:



- Planning Phase
- Design Phase
- Implementation Phase (which includes construction plus project based capacity building)
- Operation and Maintenance and Mentorship Phase
- Monitoring and Evaluation Phase.

A key challenge throughout the project cycle is to ensure that the services provided by the infrastructure are sustainable following the completion of the project.

13.1 PROJECT PLANNING DESIGN PHASE



The purpose of the planning phase is to assess the feasibility of the project. The feasibility study informed by a pre-feasibility will form the basis for the preparation of a business plan for the project. The planning phase normally comprises two major outputs:

- Registration
- Community participation and awareness
- Feasibility Study
- Business Plan.

It is very important that community participation and good communication takes place during the planning phase because this is the phase where all the important decisions are made about the project.

13.2 FEASIBILITY STUDY

The purpose of the feasibility study is to assess the current situation (status quo) and identify the most appropriate solutions to provide sustainable services to the project area. For example, the feasibility study for a water supply project would need to assess the following:

- Existing water sources and the quality thereof
- Existing water balance (water abstracted and water returned to a water source)
- Existing water services infrastructure
- Existing service levels
- Socio-economic status quo (consumer profile, affordability)
- Sanitation, health and hygiene status quo and needs
- Water services provider arrangements (who is providing services in the area, is there a service provider for the project, etc.)
- Environmental factors
- Financial feasibility.

Following an assessment of all of the above components, the feasibility study needs to examine different options towards making

the most appropriate recommendations and decisions for the project in terms of:

- Technical option
- Level of service
- services provider option
- Financial arrangements; and
- Training and capacity building support to ensure sustainable services.

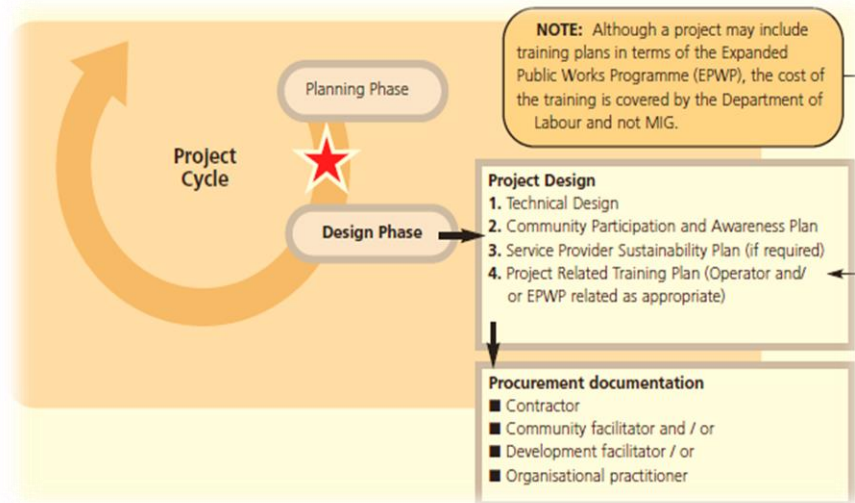
The Feasibility Study is the mechanism through which all the major decisions concerning the project are made. It is therefore critical that all key stakeholders participate in the Feasibility Study process, particularly the community that is to benefit from the project.

13.3 PROJECT BUSINESS PLAN

The Business Plan serves three purposes:

- a) It is the formal mechanism through which infrastructure projects should be approved by the Council
- b) It is a description of the project (based on the recommended best option from the Feasibility Study) including the type of infrastructure, the capital budget required, cash flow, outputs and targets and implementation
- c) It provides the information to register the project on the national MIG Information System (MIS).

13.4 DESIGN PHASE



The purpose of the design phase is to:

- Complete the design reports for the project
- Prepare the procurement documentation for the work to implement the project
- Appoint contractors and service providers as appropriate.

13.5 PROCUREMENT PROCESSES AND DOCUMENTATION

The schedule of quantities and procurement documentation is based on the final design for the project. Depending upon the needs of the

project, the procurement documentation will be for a building contractor and for community facilitation and communication support. The procurement documentation must state what criteria will be used to evaluate proposals and tenders, for example preferential procurement procedures, cost, past track record, and so on. The municipality must also endorse the procurement documentation. The procurement process should be undertaken according to the municipality's procurement policies and procedures.

13.6 CONSTRUCTION

Construction of the infrastructure commences during the implementation phase of the project. The engineer from the municipality or a consulting engineer (that represents the municipality) will supervise the work carried out by the contractor. However, the contractor is responsible for the quality and standards of the work done.

13.7 COMMUNITY PARTICIPATION, AWARENESS AND FACILITATION

During this phase it is important that there is community participation and awareness around the project, particularly in terms of how the project will provide long-term benefits to the community,

and the community's role in ensuring that the services are sustainable. Municipalities should decide how they want to ensure community participation in MIG projects. They may decide to establish participatory structures at project level or they may use Ward Committees or other existing structures. The role of the structure or 'community participation and awareness' (CPA) mechanism can be all or any of the following:

- Provide a link between the project implementation team and the community
- Act as a channel for meaningful community participation, communication and involvement throughout the project
- Recruit local labour by means of sub committees or work groups
- Advise and assist in the management of labour intensive aspects of project implementation
- Make recommendations to Ward Committees for the approval of implementation plans
- Participate in monitoring, evaluating and reporting throughout project implementation
- Oversee or undertake health and hygiene promotion, with support from community health workers or environmental health officers, as well as local health or sanitation committees.

It is also an important structure to ensure that the community's needs are represented in the implementation of the project. Community members are more likely to play an active role in the

long-term sustainability of the project if their needs have been properly addressed.

13.8 ENSURING SUSTAINABLE SERVICE PROVISION

There are a range of different service delivery mechanisms that a municipality can select to operate and maintain the infrastructure. The selection of service delivery mechanisms should ideally take place as part of the IDP planning process, rather than on a project by project basis. The capacity of the service provider is critical to the sustainability of the ongoing municipal services that are provided by a project. Where the service provider is the municipality, sustainability concerns should be raised with the relevant department / unit within the municipality and plans developed to address the challenges. If there are institutional or capacity constraints that will impact on the sustainability of the services, funds from the capacity building grant should be used to address these constraints. Some projects may require the infrastructure to be operated by a Community Based Organisation (CBO), for example infrastructure in remote rural areas. In such cases it may be necessary to establish a CBO to fulfil the service provider functions, for example to operate and maintain a water scheme. The CBO must be established before the project is completed so that it can fulfil the operations function.

14. MONITORING AND EVALUATION FRAMEWORK

Monitoring should take place throughout the implementation of the project cycle. Projects must be monitored against the key performance indicators so that it is easy to check whether the project is complying with all the MIG conditions. In addition it is important to monitor implementation of the project and the ongoing operation of the service to ensure sustainability. Some projects may be evaluated to learn lessons, identify best practice, and inform further policy development. In conclusion, the purpose of each phase of the project cycle is to ensure that projects are properly planned, properly implemented and properly operated and maintained so that they are sustainable.

Table 2: Monitoring and evaluation framework

KEY FOCUS AREA	PERFORMANCE INDICATOR	MEANS OF VERIFICATION	OUTCOME
ENVIRONMENTAL MANAGEMENT			
Strategic Environmental Assessment	○ Approved budget for the SEA ○ Terms of reference ○ Appointment of an Environmentalists	○ Approved SEA	○ Proposed developments can proceed.
Promote Conservation and natural open space green system	○ Approved budget for botanical gardens, parks and green corridor ○ Terms of reference ○ Appointment of a Service Provider ○ Decent parks and green gardens	○ Aesthetic Gardens ○ Positively performing Green Spaces and Parks	○ Sustainable environment
Alien Plant Control Programme	○ Approved budget for alien plant removal ○ Number of LED projects formed aiming at converting alien plants into products	○ No. of ha of alien plants removed per annum	○ Improved vegetation lifecycle

KEY FOCUS AREA	PERFORMANCE INDICATOR	MEANS OF VERIFICATION	OUTCOME
Introduction of Environmental Bylaws	○ Approved budget for review of by-laws ○ Terms of reference for review ○ Appointment of service provider for review ○ Approved by-law environmental programme	○ Reviewed by-laws Capacity development plan	○ Improved understanding of and regulation of land use and the control of undesirable land uses
SUSTAINABLE LOCAL ECONOMIC DEVELOPMENT			
Develop a Birdwatching Tower	○ Bird spot confirmation and tower site identification ○ Terms of reference ○ Appointment of a Service Provider ○ Construction of a birdwatching tower	○ Approved site ○ Approved plans ○ Constructed tower	○ Improved bird viewing spots ○ Growth in Avitourism
Create pathways for birdwatching enthusiasts	○ Pathway route identification ○ Terms of reference ○ Appointment of a Service Provider ○ Construction of a pathways	○ Approved route ○ Approved pathway plans ○ Constructed pathways	○ Improved bird viewing spots ○ Growth in Avitourism
Feasibility Study for UThukela River Canoeing	○ Formulation of the Terms of Reference and Concept Note ○ Appointment of a Service Provider ○ Preparation of a feasibility study	○ Completed feasibility study	○ Proposed developments can proceed.

KEY FOCUS AREA	PERFORMANCE INDICATOR	MEANS OF VERIFICATION	OUTCOME
Comprehensive Tourism Marketing Strategy for Tugela Mouth	- Formulation of the Terms of Reference - Appointment of a Service Provider - Preparation of a Comprehensive Tourism Marketing Strategy	Completed Marketing Strategy	Increased number of tourists.
Develop Flea Market friendly shelters.	- Feasibility study & business plan for Flea Market Facility - Site identification - Approved funding for informal trading facility - Approved designs - Registration of new and existing SMMEs and traders	- Approved building plans - Approved site - Constructed building	- Improved facilities and infrastructure for trading - Improved opportunities for SMME
Livestock Management	- Number of meetings with Department of Agriculture - Deployment of advisory services (extension officers) - Improved management of livestock - Commitment from DoA in terms of budget for fencing	- Recorded resolution of support from the Department - Fencing of grazing camps - Extension officers training community on grazing rotation	- Sustainable Land Care Programme - Reduced erosion and land degradation - Improved livestock lifecycle
Tunnel Farming	- Feasibility study & business plan for Tunnel Farming - Site identification - Approved funding for Tunnel Farming - Approved designs	- Approved plans - Approved site - Number of Tunnels Developed	- Improved facilities and infrastructure for agriculture - Improved opportunities for co-operatives

KEY FOCUS AREA	PERFORMANCE INDICATOR	MEANS OF VERIFICATION	OUTCOME
	Registration of new existing Co-operatives in order to benefit from this initiative.		
Food Gardens	- Feasibility study & business plan on food gardens - Site identification - Approved budget	- New food gardens - Household food security	- Food security - New economic opportunities for communities and improved health
Small Sugarcane farming Scheme	- Formulation of a concept document - Engagements with the established commercial farmers - Engagements with Tongatt Hullet and Illovo - Facilitation	- Number of engagements with commercial farmers - Signed mentorship agreements	Number of emerging sugar cane farmers would increase
Small-Scale Commercial/Retail Development and Tourists Orientation Centre	- Feasibility study & business plan - Site identification - Approved funding for tourists facility - Approved designs - Registration of new existing Co-operatives in order to benefit from this initiative.	- Approved plans - Approved site	- Improved access to tourists hospitality facilities - Improved opportunities for co-operatives
Develop a Private College	- Site identification - PDA Application with all studies and designs - Approved application	- Approved site - Approved plans	Improved access to institutions of higher learning.

KEY FOCUS AREA	PERFORMANCE INDICATOR	MEANS OF VERIFICATION	OUTCOME
INFRASTRUCTURE DEVELOPMENT			
Tar the L1 and L2 excess Roads (9,7 km), upgrading and maintenance of Lobotes Road.	○ Formulation of the Terms of Reference ○ Budgets allocated for road infrastructure projects ○ Appointment of a Service Provider ○ Construction	○ Engineering designs ○ Project completion certificates ○ Budget reconciliations	○ Improved quality of roads ○ Improved service delivery ○ Additional capacity to accommodate new developments
Upgrading of stormwater (Pipe Culverts (600mm; Class 100D) management infrastructure (1km)	○ Formulation of the Terms of Reference ○ Budgets allocated for stormwater infrastructure projects ○ Appointment of a Service Provider ○ Construction	○ Engineering designs ○ Project completion certificates ○ Budget reconciliations	○ Improved quality of stormwater ○ Improved service delivery ○ Additional capacity to accommodate new developments
Upgrade to waterborne sewerage system to accommodate future developments.	○ Formulation of the Terms of Reference ○ Budgets allocated for waterborne infrastructure project ○ Appointment of a Service Provider ○ Construction	○ Engineering designs ○ Project completion certificates ○ Budget reconciliations	○ Improved quality of sewerage ○ Improved service delivery ○ Additional capacity to accommodate new developments
Upgrade of bulk water infrastructure	○ Formulation of the Terms of Reference	○ Engineering designs ○ Project completion certificates	○ Improved access to water

KEY FOCUS AREA	PERFORMANCE INDICATOR	MEANS OF VERIFICATION	OUTCOME
	○ Budgets allocated for bulk water infrastructure project ○ Appointment of a Service Provider ○ Construction	○ Budget reconciliations	○ Improved service delivery ○ Additional capacity to accommodate new developments
URBAN RENEWAL AND PUBLIC REALM UPGRADE			
New paving along Lobotes Road and the provision of proper pedestrian Walkways.	○ Formulation of the Terms of Reference ○ Budgets allocation for the project ○ Appointment of a Service Provider ○ Construction	○ Engineering designs ○ Project completion certificates ○ Budget reconciliations	○ Aesthetic environment ○ Increased number of tourists
Installation of Gateway Landmark	○ Formulation of the Terms of Reference ○ Budgets allocation for the project ○ Appointment of a Service Provider ○ Construction	○ Designs completed ○ Project completion certificates ○ Budget reconciliations	○ Welcoming gestures environment ○ Increased number of tourists
Installation of Signage	○ Engage SANRAL ○ Application for erection of signage ○ Formulation of the Terms of Reference ○ Budgets allocation for the project ○ Appointment of a Service Provider ○ Construction	○ Minutes of meetings with SANRAL ○ Designs completed ○ Project completion certificates ○ Budget reconciliations	○ Improved orientation to get to the area ○ Increased number of tourists
Boat Launching Area	○ Feasibility study & concept document ○ Invitation of investors ○ Application to DEDTEA	○ Completed studies ○ Investor commitment ○ Approved application	○ Niche product introduced

KEY FOCUS AREA	PERFORMANCE INDICATOR	MEANS OF VERIFICATION	OUTCOME
	Project execution	Project launch	Increased number of tourists
Improved Parking & Picnic Areas	- Formulation of the Terms of Reference - Budgets allocation for the project - Appointment of a Service Provider - Construction	- Designs completed - Project completion certificates - Budget reconciliations	- Aesthetic environment - Increased number of tourists
Development of Passive Open Space/ Park, Caravan Park and Maintenance of Environmentally Sensitive Coastal Forest	- Formulation of the Terms of Reference - Budgets allocation for the project - Appointment of a Service Provider - Construction	- Designs completed - Project completion certificates - Budget reconciliations	- Aesthetic environment - Increased number of tourists
Replacement of existing lighting	- Formulation of the Terms of Reference - Budgets allocation for the project - Appointment of a Service Provider - Construction	- Designs completed - Project completion certificates - Budget reconciliations	- Aesthetic environment - Increased number of tourists
Retaining Wall	- Formulation of the Terms of Reference - Budgets allocation for the project - Appointment of a Service Provider - Construction	- Designs completed - Project completion certificates - Budget reconciliations	- Aesthetic environment - Increased number of tourists
Rivermouth Interface: Access Across Dunes	- Formulation of the Terms of Reference - Budgets allocation for the project - Appointment of a Service Provider - Construction	- Designs completed - Project completion certificates - Budget reconciliations	- Aesthetic environment - Increased number of tourists

KEY FOCUS AREA	PERFORMANCE INDICATOR	MEANS OF VERIFICATION	OUTCOME
Riverfront Interface: Water access way	- Formulation of the Terms of Reference - Budgets allocation for the project - Appointment of a Service Provider - Construction	- Designs completed - Project completion certificates - Budget reconciliations	- Aesthetic environment - Increased number of tourists
Detailed Feasibility Study for Proposed Seaside Development Plan	- Feasibility study & concept document - PDA application with all specialists studies - Invitation of investors - Project execution	- Completed studies - Investor commitment - Approved application - Project launch	- Niche product introduced - Increased number of tourists
Surveillance Technology: Closed Circuit Television Cameras (CCTV)	- Formulation of the Terms of Reference - Budgets allocation for the project - Appointment of a Service Provider - Construction	- Project completion certificates - Budget reconciliations	- Safe environment - Increased tourists safety
SPATIAL PLANNING URBAN PLANNING SCHEME			
Finalisation of Tugela Mouth Scheme	- Formulation of the Terms of Reference - Appointment of a Service Provider - Preparation of a Scheme	- Service Provider Appointed - Draft Scheme Clauses and Maps approved by council - Scheme promulgated	Orderly and Harmonious development
Views, Legibility and Landmarks Policy	- Formulation of the Terms of Reference - Appointment of a Service Provider - Preparation of a Scheme	- Service Provider Appointed - Draft policy approved by council	Appealing landscape and streetscape

15. CULUMATIVE IMPACT OF THE PROPOSAL ON THE ENVIRONMENT

PROPOSAL	GEOGRAPHIC RESOURCE STUDY AREA	CURRENT HEALTH AND HISTORICAL CONTEXT	IMPACTS		POTENTIAL MITIGATION ISSUES
			DIRECT	INDIRECT	
ENVIRONMENTAL MANAGEMENT					
Strategic Environmental Assessment	Entire Study Area	Environmental Mismanagement is evidenced from some of the illegal activities	Sustainable environmental decision making	Some development proposals may be declined	None
Promote Conservation and natural open space green system	Estuary, Wetlands, Parks, River Edges and Virgin land	Some parts of the area have remained pristine and undeveloped	Conservation worthy areas will remain protected	Ecosystem will be maintenance	None
Alien Plant Control Programme	Estuary, Wetlands, Parks, River Edges and Virgin land	The growth of alien plants over time is very threatening to wetlands & vegetation	Enhanced lifespan of vegetation & wetlands	Longevity of species and pristine environment	None
Introduction of Environmental Bylaws	Entire Study Area	Illegal activities such as sand winning compromises the environment	Rule of law ensures the environment is protected	Forced decrease in illegal activities	None
SUSTAINABLE LOCAL ECONOMIC DEVELOPMENT					
Develop a Birdwatching Tower	Ideal spot is to be determined	Area boosts with a variety of bird species.	Increased no. of bird enthusiasts will improve protection of these	Growth of the Avitourism economy	None
Create pathways for birdwatching enthusiasts	Birding path is to be determined				

PROPOSAL	GEOGRAPHIC RESOURCE STUDY AREA	CURRENT HEALTH AND HISTORICAL CONTEXT	IMPACTS		POTENTIAL MITIGATION ISSUES
			DIRECT	INDIRECT	
Feasibility Study for UThukela River Canoeing	Estuary, Wetlands and River	UThukela River is currently not utilized for any recreational purposes	May disturb the habitat and ecological integrity of the river	Loss of biodiversity	Proper EIA Environmental Management Plan
Comprehensive Tourism Marketing Strategy for Tugela Mouth	Entire Study Area	Area is not well marketed in terms of tourism	Increase number of tourists may put a strain on the areas	None	Environmental Management Plan done as part of EIA
Develop Flea Market friendly shelters.	Within Tugela Urban Village	The area does not have trading facilities	None	None	None
Livestock Management	Within Rural Villages	The current livestock management practices is destructive to the environment	Soil erosion will be minimized	Livestock will have a better lifespan	None
Tunnel Farming	Within Rural Villages	Agricultural activities have been limited to small-scale gardens that are subsistence and done voluntarily.	Sound small scale agricultural practice	Increased agricultural output	None
Food Gardens	Within Rural Villages				
Small Sugarcane farming Scheme	Within Rural Villages				
Small-Scale Commercial and Tourists Orientation Centre	Within Tugela Urban Village	The area has limited economic activities	Increased number of activities and people may disturb the natural environment	Environmental disturbance	EIA for new developments and Environmental Management Plan
Develop a Private College	Location still need to be determined	The area does not have education facilities of higher learning			

PROPOSAL	GEOGRAPHIC RESOURCE STUDY AREA	CURRENT HEALTH AND HISTORICAL CONTEXT	IMPACTS		POTENTIAL MITIGATION ISSUES
			DIRECT	INDIRECT	
INFRASTRUCTURE DEVELOPMENT					
Tar the L1 and L2 excess Roads (9,7km), upgrading and maintenance of Lobotes Road.	Existing Rural Gravel Roads	The roads are currently in a bad state which poses danger and a dusty environment	Cleaner environment	Increased driving speed which can expose the area to accidents	EIA
Upgrading of stormwater (Pipe Culverts (600mm; Class 100D) management infrastructure (1km)	The movement of the pipes is to be determined	The area does not have stormwater drainage infrastructure	Reduced flooding	Proper catchment management	None
Upgrade to waterborne sewerage system to accommodate future developments.	Location is still to be determined	The area currently uses septic tanks which may pose underground water pollution over a long term due to the density of the settlement	Reduced underground water pollution	Odour/ air pollution	EIA
Upgrade of bulk water infrastructure	Location is still to be determined	The area has a strained water supply	None	None	None
URBAN RENEWAL AND PUBLIC REALM UPGRADE					
New paving along Lobotes Road and the provision of proper pedestrian Walkways.	Lobotes Road	Lobotes Road is currently very basic and less attractive for the tourism environment	Aesthetic streetscape environment	Increased number of tourists	None

PROPOSAL	GEOGRAPHIC RESOURCE STUDY AREA	CURRENT HEALTH AND HISTORICAL CONTEXT	IMPACTS		POTENTIAL MITIGATION ISSUES
			DIRECT	INDIRECT	
Installation of Gateway Landmark	Entry Points of Tugela Mouth Village	The area does not have a welcoming atmosphere	Attractive and welcoming environment		
Installation of Signage	Entire Study Area	The area does not have sufficient signage to direct and orientate its users			
Boat Launching Area	UThukela River	UThukela River is not currently used for recreational facilities	Disturbance of river habitat	Destruction of river's ecological integrity	EIA Environmental Management Plan
Improved Parking & Picnic Areas	Existing Parks	The parks are not adequately maintained which compromise the appearance.	Aesthetic environment	Increased number of tourists	None
Development of Passive Open Space/ Park, Caravan Park and Maintenance of Environmentally Sensitive Coastal Forest	Estuary, Wetlands, Parks, River Edges and Virgin land.	The passive open spaces are not adequately maintained			
Replacement of existing lighting	Within Tugela Urban Village	Some of the streetlight are no longer in a working condition	Improved night visibility	None	None
Ocean Front Retaining Wall	Coastal Strip	The risk associated with sea rise are prevalent	Limited risks associated with excessive rise of ocean	None	Coastal Management Plan

PROPOSAL	GEOGRAPHIC RESOURCE STUDY AREA	CURRENT HEALTH AND HISTORICAL CONTEXT	IMPACTS		POTENTIAL MITIGATION ISSUES
			DIRECT	INDIRECT	
Rivermouth Interface: Access Across Dunes	UThukela River	Limited access to river and Estuary	Disturbance of river and it habitat	Destruction of river's ecological integrity	EIA Environmental Management Plan
Riverfront Interface: Water access way	UThukela River				
Detailed Feasibility Study for Proposed Seaside Development Plan	Coastal Area	The coastal area has limited diversity and adventure	Increased number of activities and people may disturb the natural environment	Loss of biodiversity	EIA Environmental Management Plan
Surveillance Technology: Closed Circuit Television Cameras (CCTV)	Within Tugela Urban Village	The area is physically isolated from safety and security facilities	Improved safety	Invasion of privacy	None
SPATIAL PLANNING URBAN PLANNING SCHEME					
Finalisation of Tugela Mouth Scheme	Entire Study Area	Lack of land use management and controls	Harmonious development	None	None
Views, Legibility and Landmarks Policy	Entire Study Area	Lack of norms and standards for enhancing the legibility characteristics, views and landmarks within the area	Protected landmarks, views and legibility	None	None

16. INSTITUTIONAL ARRANGEMENTS

There can be no doubt that integrated implementation of the Tugela Mouth Local Area Plan will require a collaborative partnership between community, private and public stakeholders in the area. Failure to effectively manage and co-ordinate development initiatives would result in economic potentials being lost and the envisaged benefits would not be realized. Accordingly, it is considered essential that an effective institutional arrangement be introduced to ensure ongoing implementation management and co-ordination.

It is envisaged that the project steering committee will become the “Tugela Mouth Implementation Committee” and should comprise the representatives of Government Departments, Local Municipality, Communities, private sector, funding agencies, parastatal organisations and so on. Ilembe District Municipality is ultimately responsible for local economic development and infrastructure provision in terms of the Integrated Development

Framework Plan and Spatial Development Framework. Various identified projects would be implemented in accordance with the spatial development framework plan. Institutional co-ordination is of great importance in an area-based planning approach. In order to derive maximum impact from public investment, planning and implementation must be targeted within a specific area. Therefore, it is essential to create partnerships with other essential implementing line functions in order to align priorities within the target area. The graphic below indicates this approach.

