UMKHOMAZI LOCAL AREA PLAN

ETHEKWINI MUNICIPALITY

UMKHOMAZI LOCAL AREA PLAN

RCR PROJECT TEAM  OCTOBER 2010
# UMKHOMAZI LOCAL AREA PLAN

## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  INTRODUCTION</td>
<td></td>
</tr>
<tr>
<td>1.1 BACKGROUND, PURPOSE AND OBJECTIVES</td>
<td>4</td>
</tr>
<tr>
<td>1.2 THE STUDY AREA</td>
<td>6</td>
</tr>
<tr>
<td>1.3 SOME UNIQUE LOCAL DEVELOPMENT ISSUES</td>
<td>7</td>
</tr>
<tr>
<td>1.4 PLANNING METHODOLOGY</td>
<td>8</td>
</tr>
<tr>
<td>1.5 PLANNING PROGRAMME</td>
<td>10</td>
</tr>
<tr>
<td>2  STATUS QUO SUMMARY</td>
<td>11</td>
</tr>
<tr>
<td>3  DEVELOPMENT VISION</td>
<td>14</td>
</tr>
<tr>
<td>4  SOME DEVELOPMENT PRINCIPLES</td>
<td>16</td>
</tr>
<tr>
<td>5  DEVELOPMENT CONCEPTS</td>
<td>22</td>
</tr>
<tr>
<td>5.1 PHYSICAL / SPATIAL STRUCTURING ELEMENTS</td>
<td>23</td>
</tr>
<tr>
<td>5.2 TRANSPORTATION APPROACHES</td>
<td>28</td>
</tr>
<tr>
<td>5.3 ENVIRONMENTAL APPROACHES</td>
<td>29</td>
</tr>
<tr>
<td>5.4 ECONOMIC CONCEPTS</td>
<td>30</td>
</tr>
<tr>
<td>6  A CONCEPTUAL FRAMEWORK</td>
<td>31</td>
</tr>
<tr>
<td>7  THE LOCAL AREA PLAN</td>
<td>37</td>
</tr>
<tr>
<td>7.1 EXISTING / SHORT TERM DEVELOPMENT</td>
<td>38</td>
</tr>
<tr>
<td>7.2 MEDIUM TERM DEVELOPMENT</td>
<td>43</td>
</tr>
<tr>
<td>7.3 LONG TERM DEVELOPMENT</td>
<td>46</td>
</tr>
<tr>
<td>7.4 URBAN DESIGN GUIDELINES</td>
<td>49</td>
</tr>
<tr>
<td>7.5 PUBLIC OPEN SPACE GUIDELINES</td>
<td>51</td>
</tr>
<tr>
<td>7.6 CRAIGIEBURN CENTRAL NODE</td>
<td>54</td>
</tr>
<tr>
<td>7.7 UMKOMAAS NODE</td>
<td>55</td>
</tr>
<tr>
<td>7.8 LAP VERSUS SSDP</td>
<td>60</td>
</tr>
<tr>
<td>7.9 IMPORTANT NOTES</td>
<td>61</td>
</tr>
<tr>
<td>8  NON-SPATIAL DEVELOPMENT FRAMEWORKS</td>
<td></td>
</tr>
<tr>
<td>8.1 ECONOMIC AND SOCIO-ECONOMIC FRAMEWORK</td>
<td>62</td>
</tr>
<tr>
<td>8.2 TRANSPORTATION / INFRASTRUCTURE FRAMEWORK</td>
<td>81</td>
</tr>
<tr>
<td>8.3 ENVIRONMENTAL DEVELOPMENT FRAMEWORK</td>
<td>103</td>
</tr>
<tr>
<td>8.4 LAND USE MANAGEMENT FRAMEWORK</td>
<td>129</td>
</tr>
<tr>
<td>9  IMPLEMENTATION FRAMEWORK</td>
<td></td>
</tr>
<tr>
<td>10 WAY FORWARD</td>
<td>139</td>
</tr>
<tr>
<td>11 WAY FORWARD</td>
<td>143</td>
</tr>
</tbody>
</table>
1.1 BACKGROUND, PURPOSE AND OBJECTIVES

The Ethekwini Municipality has appointed the RCR Project Team to compile a Local Area Plan for the Umkhomazi study area.

The Umkhomazi area represents the southern-most planning area of the municipality.

The Local Area Plan is intended to provide guidance for the future planning and development of the area.

While being informed by existing wider development frameworks, the LAP will re-evaluate issues on the basis of more detailed local understanding.

The planning team compiling this report consisted of the following components and members:

ETHEKWINI DEVELOPMENT PLANNING DEPARTMENT

HELENE EPSTEIN
ELIZABETH DUBBE LD
ZAKHI MAZIBUKO
KAJAL SINGH

CONSULTANTS’ TEAM MEMBERS

Planning, Urban Design, co-ordination: RCR COLLABORATIVE
Land Use Management: PROF. MIKE KAHN
Environment: GOLDER ASSOCIATES
Roads and Infrastructure: ILISO CONSULTING
Economic and Socio-economic: URBAN ECON
Mapping and GIS: GEODYNAMIC SYSTEMS

SOUTH SDP
In so doing the Local Area Plan will:

Establish a good understanding of the **existing development**, its background and reasoning, **opportunities** inherent in the area as well as **constraints and limitations**, 

Generate a **vision** for the study area and define the role of the area within its local and wider context, 

Establish a clear and understandable **development framework** for the area guiding both public and private involvement, 

Create **strategies** for the appropriate upgrading and integration of the study area, the creation of appropriate local economic development, the protection of the natural environment and its development integration, the protection of existing agricultural opportunities and potential diversification and benefitiation, the realisation of the tourism and recreational potential, 

Establish **development guidance** on the basis of realistic servicing opportunities, 

Provide appropriate **detail explorations** of development approaches suggested in the plan, 

Establish an **implementation and monitoring plan** for the realistic development of the various components of the area, 

Establish both broader and detailed planning and development intentions in close consultation with the various components of the municipality, communities and stakeholders. 

Ensure **skills transfer and assisting capacity building** primarily for members of the municipality, but also for the communities and stakeholders concerned. 

Link the intentions of the plan to **metropolitan land use management and control systems**.
1.2  THE STUDY AREA

The primary study area is the area of the Umkhomazi planning area, for which an appropriately detailed local area plan will be established. The following areas will be interrogated in addition in terms of their contextual influences:

The immediate surroundings consisting of the Umgababa and Illovu areas in the north, the Vulamehlo Municipality in the west and the Umdoni Municipality in the south,

The wider surrounding areas covered in particular by the South Spatial Development Plan in the north,

The wider context including the role of Umkhomazi within the Ethekwini Municipality and potential influences from the adjacent Ugu District,

In addition the local area plan will be established on the basis of a good understanding of the provincial and national context.
1.3 SOME UNIQUE LOCAL DEVELOPMENT ISSUES

The following provides an overview of some of the major development issues.

SOCIAL DEVELOPMENT ASPECTS, i.e. the need to achieve in the future better internal and external integration in terms of social and economic aspects,

RESIDENTIAL DEVELOPMENT, i.e. significant additional development potential, potential for a range of accommodation, need for better supporting services and activities, major land owners and developers have plans for substantial additional development in the study area,

AGRICULTURE, i.e. substantial areas of cane farming and forestry, potential for diversification and land use change in terms of creating more residential etc development,

COMMERCIAL, MANUFACTURING AND INDUSTRY, limited activities, additional residential development requiring additional activities, the development of additional economic activities appears to be a major priority,

TOURISM, potential for more significant activities both in terms of coastal as well as alternative inland activities, both potentially also linking into activities outside of the study area,

ENVIRONMENTAL, need for protection and rehabilitation, particularly in coastal strip and along major river valleys, the protection, rehabilitation and appropriate management of the relevant areas will contribute to the retention of the area's green and natural character,

LOCAL SERVICE NODE, Umkomaas has been identified in wider planning initiatives, such as the South Spatial Development Plan, as an activity node serving the study area and beyond in terms of higher order facilities and economic activities,

INFRASTRUCTURE, the service provision is at present limited, improved provision is in particular required in terms of sanitation as well as road infrastructure, this is in particular relevant considering the diverse plans for additional development.
1.4 PLANNING METHODOLOGY

The following provides an overview of the individual steps of the envisaged project methodology and process.

PROJECT INITIATION, i.e. agreeing with the client on relevant project details and establishing appropriate communication channels.

ESTABLISHMENT OF STAKEHOLDER AND STEERING COMMITTEES, i.e. ensuring on the one hand that the relevant components of Ethekwini Municipality form an integral part of the planning process by providing input and comments and being able to make informed decisions throughout the process, while on the other hand creating a forum for representatives of the study area and other organisations to influence the future development.

STATUS QUO ANALYSIS, i.e. describing and analysing the various aspects of the existing conditions and development covering both the wider context as well as the study area itself, including:

- Physical / spatial development
- Land-legal development aspects
- Economic and socio-economic development influences
- Transportation issues
- Infrastructure development
- Environmental conditions
- Institutional development influences, capacities, capabilities
- Existing plans and planning intentions
- Urban design and architectural development issues.

SUMMARY OF ISSUES AND INFLUENCES, i.e. summarising the major contextual and local development aspects having influenced the present development and which may also have an influence on the future of the area.

DEVELOPMENT VISION, i.e. creating both a visionary as well as a realistic picture of the potential future of the study area which provides a goal for the development process.

DEVELOPMENT CONCEPTS AND STRATEGIES, i.e. outlining the major concepts and strategies on which the framework and Local Area Plan is based, including both physical / spatial, economic, transportation, infrastructure and environmental aspects.

STAKEHOLDER AND STEERING COMMITTEE MEETINGS, i.e. presenting discussing and potentially agreeing on status quo analysis, development vision and concepts.

CONCEPTUAL DEVELOPMENT FRAMEWORK, i.e. being informed by the overall development vision and relating the various concepts to each other as well as to the realities of the study area.

THE LOCAL AREA PLAN

COMPONENTS OF THE LOCAL AREA PLAN, i.e. providing a greater detail description for each of the components outlined above, including a

- movement plan in terms of public transport, private vehicular movement, pedestrian movement, parking etc and its interrelation with economic issues, urban design, institutional issues etc,
- land use plan including the existing and envisaged land use of all areas within the study area and its potential implications,
- public space framework providing detailed information on the design and development of public spaces, including both passive and active spaces and streetscapes,
- urban form framework detailing potential design themes for identified areas, views and vistas, architectural features etc.

This is followed by as series of other than physical / spatial frameworks including:
UMKHOMAZI LOCAL AREA PLAN

Socio-economic development framework, i.e. providing a framework which is informed by the Local Area Plan, identifying specific economic and socio-economic issues and relevant actions to be taken.

Institutional development framework, i.e. providing a framework which is informed by the Local Area Plan, identifying specific institutional development issues and relevant actions to be taken.

Transportation and infrastructure framework, i.e. providing a framework which is informed by the Local Area Plan, identifying specific transportation and infrastructure issues and relevant actions to be taken.

Environmental development framework, i.e. providing a framework which is informed by the Local Area Plan, identifying specific environmental issues and relevant actions to be taken.

Stakeholder and steering committee meetings, i.e. presenting, discussing and potentially agreeing on the Local Area Plan and its supporting frameworks

Implementation framework, i.e. identifying strategies for the implementation of relevant components of the Local Area Plan and establishing potential development sequences and actions plans, including the establishment of relevant development programmes and projects.

Consolidated project documentation,

Skills transfer, i.e. creating opportunities throughout the project for the transfer of skills from all members of the professional team to members of the components of the municipality involved in the project. All team members are envisaged to be involved and details are expected to be finalised at the first steering committee meeting.

The following page provides the originally envisaged project programme. Issues beyond the influence of the project team have resulted in delays of several months.
UMKHOMAZI LOCAL AREA PLAN

1.5 PLANNING PROGRAMME

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>JUNE</th>
<th>JULY</th>
<th>AUGUST</th>
<th>SEPTEMBER</th>
<th>OCTOBER</th>
<th>NOVEMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROJECT INITIATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEERING COMMITTEE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STATUS QUO ANALYSIS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRECEDENT ANALYSIS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUMMARY OF ISSUES AND INFLUENCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEVELOPMENT VISION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEERING COMMITTEE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEVELOPMENT CONCEPTS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONCEPTUAL LOCAL AREA PLAN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEERING COMMITTEE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOCAL AREA PLAN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPECIFIC DEVELOPMENT FRAMEWORKS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DETAIL EXPLORATIONS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEERING COMMITTEE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMPLEMENTATION FRAMEWORK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MONITORING AND REVIEW FRAMEWORK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEERING COMMITTEE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONSOLIDATED REPORT AND PRESENTATIONS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MILESTONES

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>

FOR: ETHEKWINI MUNICIPALITY
BY: RCR COLLABORATIVE PROJECT TEAM

1 INTRODUCTION
2 STATUS QUO SUMMARY
SUMMARY DEVELOPMENT ISSUES + INFLUENCES

The following provides a summary of the major contextual and local issues likely to influence the future development of the study area.

• The existing **sensitive natural costal environment** needs to be appropriately managed and protected while existing and future development pressures / opportunities also need to be managed.

• The study area consists of **rolling to fragmented topography** containing numerous rivers and streams. Any future development needs to address environmental considerations adequately.

• Significant parts of the area should, for the foreseeable future, **maintain a low intensity rural character**, this is in particular applicable to the coastal strip and the western areas.

• There is an urgent need for **additional appropriate local economic development**.

• Any future additional development needs to be conditional to the provision of **improved physical and social services**.

• While agriculture is considered a “soft” land use, it is expected that substantial areas of **agricultural development will be maintained**, and the potential for diversification, intensification and local benefitiation should be considered.

• There is obviously a potential for **additional appropriate residential development**, and the number of development intentions appear to verify this. It may however be necessary to temper the enthusiasm of some developers in order to appropriately address the issues mentioned in this summary.

• Further development will require **improved internal and external access and linkage**.
Wider metropolitan planning initiatives suggest that the Umkomaas CBD should function as a Local Service Node for the Umkhomazi and adjacent areas. As a consequence, the Umkomaas CBD Renewal Framework was compiled in 2006. Because of its location, history and contents, this perspective suggests that the CBD will primarily function as a local centre of activity for Umkomaas and its existing and future surrounding residential areas as well as a tourism node.

The existing Craigieburn commercial and business node is suggested to be strengthened to appropriately function as the local activity node for the existing and envisaged future additional development. The central activity area should also be upgraded into a more functional and attractive centre.

Besides the agricultural activities in the area, tourism appears as one of the major economic development opportunities. While coastal tourism needs to be appropriately supported, taking into account the sensitive natural environment, more emphasis needs to also be put onto the inland tourism opportunities.

For details of the contextual and local status quo analysis refer to the separate Development Perspective report.
UMKHOMAZI LOCAL AREA PLAN

3 DEVELOPMENT VISION
COMPONENTS OF A DEVELOPMENT VISION

The following are suggested to be components of a potential development vision for the Umkhomazi area:

- Ensuring appropriate development co-ordination between the various actors and authorities,
- Ensuring that an appropriate level of the unique rural / peripheral and green character of the area is maintained,
- Ensuring that the provision of appropriate physical and social infrastructure forms the basis of any future development,
- Facilitating internal and external development integration,
- Facilitating the appropriate location of additional economic development including both commercial, business, tourism and diversified agricultural activities.
4 SOME DEVELOPMENT PRINCIPLES
SOME DEVELOPMENT PRINCIPLES

ESTABLISHING A DEVELOPMENT STRUCTURE, i.e. identifying basic structuring elements which provide development guidance, certainty, growth opportunities and flexibility, typical examples of structuring elements would include main streets and roads, topographic elements, rivers and streams, major amenities and facilities, areas of natural vegetation etc,

FACILITATING INTEGRATION, i.e. ensuring appropriate vertical and horizontal linkage of policies, intentions and development realities, integrating plans at various levels and for various detail subjects, integrating development components and integrating compatible and complementary land uses,

CREATING GENERATIVE SYSTEMS, i.e. encouraging the establishment of development which generates additional desired activities, variety and growth,

PROMOTING INCREMENTALISM, i.e. acknowledging development as a continuous process and facilitating an ongoing and planned development process,

CLUSTERING DEVELOPMENT, i.e. discouraging development sprawl, encouraging the clustering of compatible development and creating a hierarchy of nodal clusters,

HIERARCHY OF ACCESS ROUTES, i.e. utilising various levels of accessibility as guidance for the location of development components and considering THE STREET AS PUBLIC SPACE, i.e. moving away from looking at streets as mere movement corridors and facilitating the creation of pedestrian spaces, spaces for associated activities, the streetscape as space associated to civic activities and public amenities,

INTEGRATING THE NATURAL ENVIRONMENT, i.e. positively integrating the natural environment as important elements in the creation of human and sustainable development,

APPLYING URBAN DESIGN PRINCIPLES, i.e. basing renewal and urban development on design intentions such as permeability, legibility, appropriateness, uniqueness, adaptability and flexibility at all planning levels,

PROVIDING REALISTIC DEVELOPMENT GUIDANCE, i.e. ensuring that planning and design is based on physical and economic realities being able to be implemented,

INTEGRAL MUNICIPAL STRUCTURE AND STAKEHOLDER INVOLVEMENT i.e. ensuring that planning represents a co-operation between communities, relevant departments, municipal structures, investors, developers etc and the planners
UMKHOMAZI LOCAL AREA PLAN

PHYSICAL / SPATIAL DEVELOPMENT CONCEPTS

NODAL DEVELOPMENT CONCEPT

Primary Centre: 25 km radius serving large portions of the district and dependent on public transport for accessibility and accessed for weekly and monthly requirements.

Secondary Centre: 10 km radius serving several local communities accessible by public transport and providing for goods and services required on a weekly and monthly basis.

Tertiary Centre: 2 km radius serving local community and containing mobile services and catering for daily needs such as basic food, primary needs, local facilities etc.

CLUSTERING CONCEPT

Local settlement discreetly embedded within the rural landscape,

Secondary centres strategically located and shared between several local communities, these centres will over time become the nuclei around which further social and economic investment consolidates.

Provision of management frameworks and guidance ensuring that development is structured around such centres and maintains an appropriate connection between places.
NATURAL RESOURCE BASE AS PRIMARY ASSET

A fundamental starting point for the spatial framework should be acknowledging, protecting and enhancing the inherent qualities of the landscape.

Here the concern rests in managing the natural environment as a prime asset and resource base for the municipality.

Environmental sustainability, restoration and rehabilitation as a means to create an appropriate platform for sustainable development and in its own right as a meaningful part of development forms part of the approach.

ACCESS ROUTES AS INVESTMENT LINES

A primary concept that builds on the natural resource base is developing a wider development structure.

The notion of structure aims at establishing a clear framework which facilitates access, (access here refers not just to physical access but also access to a range of social and economic opportunities), and which creates a framework to direct public and private investment.

One of the main challenges in this regard is working within a context of scattered settlement. The concept in terms of creating structure is based on working with the resource base, existing settlement pattern and within these developing a lattice or network of opportunity.

A key informant here is the existing network of roads and accessways as the foundation of the framework.
INVESTMENT CENTRES BASED ON LOCAL PLACE

Extending the concept of an investment framework further, the next stage is based on establishing points within the system where investment should be made.

The concept proposes that where particular investment lines meet or in places with an established presence, these would become the ideal locations to serve as investment centres.

Based on the position of particular settlements and the different levels of investment lines, certain points within the system would serve as higher order investment centres whilst others would serve a more local function.

Whilst initially serving as investment centres primarily for public sector investment, renewed investment is likely to spark processes of private sector investment over time.

Together the investment lines and investment centres provide the basic investment framework and structure for future development.
ESTABLISHING A MANAGEMENT FRAMEWORK

Having established an investment framework, and being informed by the natural resource base, it is possible to identify an overall management framework to guide future development.

Such guidance should include the identification of primary land use zones including environmental conservation zones, agricultural zones, areas for residential settlement etc.
UMKHOMAZI LOCAL AREA PLAN

5 DEVELOPMENT CONCEPTS
The following section identifies the physical / spatial structuring components suggested to make up the basis of the conceptual framework. They include:

- the coast
- a movement structure and hierarchy
- natural structuring elements
- the various existing developments
- the already planned or intended developments.

This is followed by some conceptual approaches on transportation, environment, agriculture and economic development.

THE COAST

**ESSENTIAL CHARACTER COMPONENT**, i.e. while it may appear obvious that the existence of the coast is a significant issue influencing the development in the study area, it needs to be highlighted as a significant structuring element.

**SENSITIVE NATURAL ENVIRONMENT**, i.e. there appears to exist a broad agreement that the natural low intensity character of the study area should be maintained to the largest extent possible, this relates closely to protecting the natural resources of the area.

**DEVELOPMENT PRESSURES**, i.e. accommodating a reasonable level of the existing development pressures without significantly altering the character and amenity of the area.

**CREATION OF BALANCE**, i.e. promoting the creation of a balance between the desire to maintain the low-intensity natural character and apparent pressures for additional development.

5.1 PHYSICAL/SPATIAL STRUCTURING ELEMENTS
MOVEMENT STRUCTURE AND HIERARCHY

Movement, access and linkage is considered as one of the major structuring elements for development, it informs the location of development in terms of required need for visibility and accessibility.

**N2 AS REGIONAL AND NATIONAL CONNECTOR**, i.e. providing in the first hand longer distance internal and external linkage, providing access to development only via major collector roads.

**R102 REGIONAL NORTH-SOUTH LINKAGE ON THE COAST**, i.e. interlinking the various coastal developments and activities, its function as regional linkage should however be downplayed.

**P197 REGIONAL INLAND NORTH-SOUTH LINKAGE**, i.e. inland collector road requiring upgrading to improve accessibility to Craigieburn and adjacent developments.

**LINKAGES BETWEEN REGIONAL AND NATIONAL ROADS**, i.e. consisting at this point in time of the P78 linking the P197 and the R102 to the N2, potential upgrading of the R102 / N2 linkage and potential future additional linkage in the south.

**IMPROVED WESTERN LOCAL LINKAGES**, i.e. improving east-west and north-south linkage in the western parts of the study area.

**SOUTH COAST RAILWAY**, i.e. utilising the opportunities emanating from a railway line in close proximity of the beach. At present it appears that the facility is severely underutilised both in terms of passenger and goods traffic as well as its potential tourism attraction.
NATURAL STRUCTURING ELEMENTS

Natural landscape elements always form an essential development components, be they valleys, steep slopes or hill tops, they should require specific attention from both an environmental as well as urban design point of view.

THREE MAJOR RIVER SYSTEMS, i.e. the Umkhomazi, Amahlongwana and Amahlongwa Rivers and their major valley system represent an important local natural resource to be appropriately protected and managed,

NUMEROUS LOCAL TRIBUTARIES, i.e. forming part of the major river systems and representing an essential component of the unique landscape of the study area, to be adequately protected,

SERIES OF RIVER MOUTHS, LAGOONS, including the Umkhomazi, Amahlongwa and Amahlongwana rivers as well as smaller local streams and their termination into the sea, reflecting uniquely sensitive environments as well as opportunities,

FRAGMENTED AND DRAMATIC TOPOGRAPHY, i.e. reflecting the unique character of the study area which therefore needs to be treated appropriately,

MAINTAINING THE LANDSCAPE CHARACTER, as indicated above suggesting the maintenance of undeveloped and rehabilitated areas relating to all valleys, steep slopes, hill tops, the coastal strip and other relevant areas,

ENSURING APPROPRIATE STORMWATER MANAGEMENT, i.e. accommodating potential additional stormwater flows such as not to damage the existing natural environment,

UPGRADING THE NATURAL ENVIRONMENT, i.e. investigating existing damages and establishing processes for its rehabilitation, protection and management.

5.1 PHYSICAL/SPATIAL STRUCTURING ELEMENTS
EXISTING DEVELOPMENT

The existing development will need to be appropriately integrated into any future development and this will have a significant impact on the future of the areas. Where appropriate such development may however be upgraded and potentially be re-focused.

UMKOMAAS TOWN, i.e. upgrading as identified in the Urban Renewal Framework including the potential establishment of an alternative N2 / R102 linkage,

CRAIGIEBURN, i.e. developing the central parts in to the main centre of the study area, providing additional development both in terms of amenities as well as residential development etc, creating an attractive and functional public space,

NAIDOOVILLE, i.e. providing potential additional development,

ROSENEATH, HULL VALLEY ETC, i.e. providing potential additional development both in terms of residential, facilities and activities,

WIDENHAM, i.e. linking with potential future adjacent development, making better recreational usage of its beachfront location,

CLANSTHAL, i.e. linking with potential future adjacent developments and making better usage of its recreational opportunities,

SAICCOR, i.e. major industrial development with minor extension potential, monitoring potential environmental issues,

AMAHLONGWA, i.e. upgrading the existing traditional settlement area, integrating it into the wider area and identifying opportunities for the development of required amenities and local activities.
ALREADY INTENDED DEVELOPMENT

The following existing development intentions exist at various levels of the planning process which will have a significant impact on the future development of the study area. Where possible and appropriate modifications of the intentions may be appropriate.

FINNINGLEY ESTATE, i.e. major portions of the study area are in the ownership of Finningley, the existing proposals include some development adjacent to Clansthal as well as in the area between Craigieburn and Naidooville, the latter is envisaged to include both residential as well as industrial development,

CANONBRAE, i.e. major development proposal adjacent to Umkomaas of in the region of 1600 residential units of varying densities, including some commercial and facility development,

THE SHOALS, i.e. mostly lower density residential development adjacent to Clansthal,

AMAHLONGWA, i.e. upgrading of the existing traditional settlement in the south-west of the study area identified above,

ETHEKWINI HOUSING ACCOMMODATION, i.e. the municipality intends in the first hand to provide additional low income and affordable housing in the Craigieburn, Hull Valley and Roseneath areas, the location of low income housing in an area of very limited economic development and transportation is however of concern,

CROC FARM DEVELOPMENT, i.e. pre-conceptual intentions of providing some upmarket tourism amenity and related accommodation.
UMKHOMAZI LOCAL AREA PLAN

ROAD NETWORK

Upgrading of the P197 to create a better north-south linkage inland to support industrial and residential developments,

Upgrading of the P78 between the R102 and the P197 to increase capacity and to provide a better east-west linkage,

The possible future creation of a 2nd east-west linkage in the southern part of the study area to support future developments.

PUBLIC TRANSPORT

Creating a public transport hub in the Cragieburn area,

Upgrading of existing public transport facilities in the entire Umkhomazi study area,

Upgrading and creation of on-street passenger facilities for road based public transport users.

General upgrading of rail infrastructure which includes the upgrading of the two rail stations i.e. Umkomaas Rail Station and Clansthal Rail Station to support rail utilisation.

PEDESTRIANS

Upgrading pedestrian facilities on all roads, to include:

SIDEWALKS

STREET LIGHTING

5.2 TRANSPORTATION APPROACHES
ENVIRONMENT

The area is recognised for its natural beauty and biodiversity;

The protection, maintenance and rehabilitation of the unique environmental features the area provides is essential;

Priority should be given to protecting and improving access to these features when considering new developments.

AGRICULTURE

Extensive areas of sugarcane and timber production are found in the area;

Focus should be on maintaining some form of agriculture as part of the area's history and character;

Intensive commercial production opportunities should be investigated;

The development of small scale producers in the Crowder area in particular should be promoted.

5.3 ENVIRONMENTAL APPROACHES
The Umkhomazi study area is **not planned to be developed into a major growth area.**

Significant economic growth will however be initiated by **residential developments** - the residential development industry has been identified as being at the core of economic growth of area - however this is only sustainable with commercial and facility development. Residential development and growth of the area is not possible without relevant facility development.

Key Economic Sectors identified for Umkhomazi:

**Agri - Processing** to strengthen small scale agriculture in the western region of area. This would create value chains and increase employment and value added within catchment area.

**Light Tourism** along the coast, and further tourism development inland

**Light Industry** - growth of light and service industry, and also further **commercialisation** as the area begins to grow.

Umkhomazi is currently identified as being rural, but will gradually become **more urban**. The catchment area will not become heavily urban or heavily industrialised, nor will it remain rural.

The planned development of the area seeks to create **accessibility for marginalised areas** to business, resources, opportunities, markets and infrastructure. This is achieved through encouraging **development corridors** which are accessible to marginalised areas in the south and in the west, and in the long term in the north.

Accessibility is also achieved through development of **light (sustainable) nodes** throughout study area.

Access to, availability and **centralisation of social services** is established through an **appropriate hierarchy of activity nodes**.

**Integration and interaction of first and second economies** of Umkhomazi will therefore be encouraged.
6 A CONCEPTUAL FRAMEWORK
The following presents the proposed conceptual development framework for the Umkhomazi study area for the “medium term” period, i.e. in the region of 10 years. The Local Area Plan, being established in the following phase and consisting of a further more detailed development of the conceptual framework, is presented in three phases, i.e. the existing and short term (5 year horizon), the medium term (10 year horizon) and the long term (15 year horizon).

The following structuring elements have been identified:

**MOVEMENT CORRIDORS** and **ACTIVITY NODES** including the N2 as regional and national linkage, the R102 as coastal collector road, the P197 as major inland collector road, the P78 as east-west linkage between the N2, R102 and P197 with some re-alignment in the Umkomaas / Canonbrae area, appropriate upgrading of linkages to the rural, western part of the study area as well as its adequate linkage to the north and south, potential future additional linkage from the N2 to both the R102 and the P197 if and when development justifies this. The nodes consist of the existing developments developed further where this is appropriate, i.e. Umkomaas, Craigieburn, Amahlongwa, and to a lesser extent Widenham and Clansthal.

**LAND USE ELEMENTS** including existing residential development, additional residential development, existing and future commercial and industrial development, existing and future facilities and amenities, agriculture and small holdings and the environmental protection zone. The conceptual framework accommodates much of the already planned residential development.

**ENVIRONMENTAL ELEMENTS** including the coastal strip, the three major river valleys including the Umkhomazi, Amahlongwa and Amahlongwana Rivers, all tributaries, the existing Nature Reserve and the various conservancies. The conceptual framework also identifies prominent high points and hills which should remain undeveloped.

The following pages provide a closer view of the northern and southern halves of the area.
UMKHOMAZI LOCAL AREA PLAN

6 CONCEPTUAL FRAMEWORK
UMKHOMAZI LOCAL AREA PLAN

FOR: ETHEKWINI MUNICIPALITY
BY: RCR COLLABORATIVE PROJECT TEAM

6 CONCEPTUAL FRAMEWORK
UMKHOMAZI LOCAL AREA PLAN

DETAILED DESCRIPTION OF THE CONCEPTUAL FRAMEWORK MOVEMENT

The movement structure consists of the following elements:

- N2 as national and regional connector,
- R102 and P197 as the major north-south collector roads,
- the P78 as the only east-west collector road at present,
- the P529 linking the rural western part of the study area to Craigieburn,
- a series of local access roads.

The N2 provides high speed linkage to the remainder of Ethekwini in the north and Umdoni and the Ugu District in the south. It is understood that there are at present no particular problems associated with the N2 and that planning is progressing for a new N2 access north of Ilfracombe. The LAP suggests that ultimately, when the need arises, an additional access is provided in the south of the area (see next page).

The R102 coastal road and the P197 inland north-south linkage consist of provincial roads and have therefore limited access. It is suggested that, while the quality of the R102 needs to reflect its purpose of providing access to the variety of settlements and activities, its usage as a long distance linkage should be discouraged. The P197 on the other hand would ultimately require significant upgrading to facilitate and support more substantial inland development as well as the upgrading of the Craigieburn CBD as the major activity centre of the study area.

The link road from the N2 to both the R102 and P197 would need upgrading as development progresses. The LAP suggests that the N2 – R102 alignment through the town of Umkomas has very limited capacity and a new alignment should be considered. This alignment is based on the existing proposals for the Canonbrae development, potentially requiring some widening and linking into existing road alignments at Widenham.

The P529 linking Craigieburn to the rural western parts of the study area as well as the adjacent Vulamehlo Municipality in the west would, if the suggested development for tourism and recreation opportunities as well as further development in terms of low intensity diversified agricultural activities would take place, need an appropriate level of upgrading. This would also be relevant to its linkage to the north and south within the study area.

At the level of the LAP, local road systems are not be discussed further except suggesting that it appears important that existing and future developments should not consist of isolated pockets, but should be linked to each other to ensure adequate permeability and choice of movement.

The LAP suggests that the South Coast Railway is ultimately upgraded to appropriately fulfill its function as commuter, goods and tourist facility.

LAND USE

The conceptual framework identifies the following land uses: existing and future residential, commercial / business, industrial, agriculture, environmental protection zone, amenities and facilities.

While this framework differentiates between existing and future residential development, it is only the LAP which identifies different densities and development forms.

In the medium term the framework accommodates much of the already planned development in the coastal strip, including Canonbrae, The Shoals and some of the coastal Finningley intentions. No new development is supported east of the R103 and the railway line.

While small amounts of additional residential development may take place at Umkomaas, it is expected that some expansion will take place at Craigieburn including extensions of Naidooville by Finningley and the Crookes Brothers land. It is also expected that additional development will be provided by Ethekwini Housing in the Roseneath / Hull Valley area as well as the upgrading of the Amahlongwa traditional settlement.
UMKHOMAZI LOCAL
AREA PLAN

In terms of commercial development it is expected that some growth will occur at Umkomaas, this will however be largely confined to addressing demand around the taxi rank and station as well as that emanating from tourism. It is also expected that the traditional South African two CBDs will grow together. The major CBD, and therefore commercial development, is however expected to be located at Craigieburn. It is suggested that the existing development is cleaned up, made more efficient and more attractive and is allowed to expand as required within the present location. Smaller commercial developments are expected to develop along the P78 adjacent to the existing garage, at the entrance to the Canonbrae development and in the Amahlongwa settlement.

While there are very limited industrial development opportunities adjacent to the existing SAICCOR, Finingley Estate proposes new light / service industry development along the P78 adjacent to the commercial development indicated above.

In terms of support facilities and amenities the status quo analysis has revealed existing deficiencies and any additional residential development will obviously require also an additional number of facilities. The conceptual layout identifies the approximate location of such development without establishing specific types and numbers, A major health care facility, adequate tertiary and secondary education facilities, civic amenities as well as appropriate recreation facilities are expected to be located at Craigieburn. Additional local support facilities are expected to be located at the entrance to Canonbrae, at Naidooville, Hull Valley and Amahlongwa.

While the continued existence of agricultural production in the area is supported, it is expected that opportunities for greater diversification and intensification are investigated, as are potentials for more productive usage of the small holdings in the north-west of the study area. As a result of more productive agricultural development it may also be possible to integrate opportunities for the beneficiation of produce in the Umkhomazi area.

ENVIRONMENTAL ELEMENTS

The maintenance, rehabilitation and protection of the natural environment is one of the main aspects of retaining the rural landscape of the study area. Development concepts established in earlier sections of the framework have suggested that, while it must be expected that further development will take place in the study area, the characteristics of the most southern coastal part of the Ethekwini Municipality should remain in overall terms low intensity and green.

While the western part of the study area consists of rugged and fragmented topography, making any form of urban development unrealistic, the eastern and coastal areas consist largely of rolling countryside relatively easily accessible. Consequently there exists substantially more pressure for urban and suburban development.

The conceptual framework suggests however that the existing areas of natural coastline should be preserved and left undeveloped and that in the remainder of the eastern portion of the study area, development intentions should be tempered in order to retain a low intensity green character emanating from the multitude of local rivers and tributaries, existing nature reserves, conservancies and existing natural vegetation.

In many instances the conceptual framework suggests the extension of the natural protection zones beyond the D’Moss areas, including all river valleys, tributaries, areas of steep topography and prominent highpoints. It is suggested that these areas are linked to each other to create a continuous network of natural corridors. This should also include the preservation of topographic highpoint in the landscape contributing to the retention of a natural environment.

While the substantial areas of natural environment need to be appropriately protected and managed, they should be available for appropriate forms of recreation and low intensity tourism development. Walking and riding trails are expected to be established in the eastern and central parts of the study area, potentially emanating from coastal centres of recreation and tourism, and linking ultimately to appropriate establishments in the rugged and picturesque western portion of the Umkhomazi area.
7 THE LOCAL AREA PLAN
UMKHOMAZI LOCAL AREA PLAN

The Short Term Development (5 year period) is expected to include the following. Subsequent pages provide an indication of the additional facilities required and the potential number of sites generated.

• SOME DENSIFICATION OF THE EXISTING DEVELOPMENT
• CANONBRAE
• SHOALS
• MINOR FININGLEY DEVELOPMENT ON COAST
• UPGRADING OF ROADS AND INFRASTRUCTURE
• IMPROVED BEACH FRONT ACCESS
• FININGLEY CRAIGIEBURN COMMERCIAL
• FININGLEY Cragieburn INDUSTRIAL
• FININGLEY NAIDOOVILLE RESIDENTIAL
• CRAIGIEBURN NODE UPGRADING AND ADDITIONAL FACILITIES
• CRAIGIEBURN ADDITIONAL METRO HOUSING
• CRAIGIEBURN SUPPORT SMALL HOLDINGS
• AMAHLONGWA IN-SITU UPGRADING
• AMAHLONGWA ADDITIONAL FACILITIES
• CROWDER TOURISM SUPPORT
• NATURAL ENVIRONMENT PROTECTION

FOR: ETHEKWINI MUNICIPALITY
BY: RCR COLLABORATIVE PROJECT TEAM

LAP: EXISTING - SHORT TERM DEVELOPMENT
EXISTING AND ADDITIONAL SHORT TERM FACILITIES

PS  PRIMARY SCHOOL
SS  SECONDARY SCHOOL
TE  TERTIARY EDUCATION
LB  LIBRARY
CL  CLINIC
CHC  COMMUNITY HEALTH CENTRE
SP  SPORTSFIELD
MPH  MULTI PURPOSE HALL
CH  COMMUNITY HALL
PK  PARK
T  TAXI RANK
M  MARKET
MO  MUNICIPAL OFFICES
P  POLICE STATION
F  FIRE STATION

EXISTING AND ADDITIONAL SHORT TERM PUBLIC OPEN SPACE AREAS

PUBLIC OPEN SPACE AREA
FOR DETAILS SEE PAGE 51

LAP: EXISTING - SHORT TERM DEVELOPMENT
### Existing and Short Term Development 0 – 5 Years

NOT IN ORDER OF PRIORITY

<table>
<thead>
<tr>
<th>No</th>
<th>Location</th>
<th>Development Type</th>
<th>Density U/HA</th>
<th>Area / No Sites</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Umkomaas</td>
<td>Upgrading / Densification</td>
<td>50U/HA</td>
<td>200 – 220 Sites</td>
<td>Upgrading Urban Environment, 10% Residential Increase</td>
</tr>
<tr>
<td>2</td>
<td>Umkomaas</td>
<td>Aliwal Shoal Launch Site</td>
<td>NA</td>
<td>NA</td>
<td>Upgrading Launch Facility and Associated Activities</td>
</tr>
<tr>
<td>3</td>
<td>Umkomaas</td>
<td>Beach Front Upgrading</td>
<td>NA</td>
<td>NA</td>
<td>Upgrading as indicated</td>
</tr>
<tr>
<td>4</td>
<td>Umkomaas</td>
<td>Recreational Facilities</td>
<td>NA</td>
<td>NA</td>
<td>Add. Playing Fields Umkhomaazi Valley</td>
</tr>
<tr>
<td>5</td>
<td>Umkomaas</td>
<td>Residential Densification</td>
<td>50U/HA</td>
<td>400 – 440 Sites</td>
<td>10% Residential Increase</td>
</tr>
<tr>
<td>6</td>
<td>Widenham</td>
<td>Residential Densification</td>
<td>30U/HA</td>
<td>400 – 530 Sites</td>
<td>10% Residential Increase</td>
</tr>
<tr>
<td>7</td>
<td>Canobrae</td>
<td>New Residential Development</td>
<td>30-50U/HA</td>
<td>1600 Sites</td>
<td>New Linkage to Widenham and R102</td>
</tr>
<tr>
<td>8</td>
<td>Canobrae</td>
<td>New Local Facilities</td>
<td>NA</td>
<td>4.0HA</td>
<td>Primary School, Hall, Playing Areas</td>
</tr>
<tr>
<td>9</td>
<td>Canobrae</td>
<td>New Commercial Development</td>
<td>NA</td>
<td>6.0HA</td>
<td>Adjacent Existing Substation</td>
</tr>
<tr>
<td>10</td>
<td>Umkomaas</td>
<td>Additional Light Ind. / Business</td>
<td>NA</td>
<td>7.0HA</td>
<td>Adjacent Existing</td>
</tr>
<tr>
<td>11</td>
<td>Widenham</td>
<td>Beach Front Upgrading</td>
<td>NA</td>
<td>NA</td>
<td>Appropriate Access and Amenities</td>
</tr>
<tr>
<td>12</td>
<td>All Areas</td>
<td>Protection Natural Environment</td>
<td>NA</td>
<td>NA</td>
<td>Information, Protection, Management, Rehabilitation, Community Involvement</td>
</tr>
<tr>
<td>13</td>
<td>Clansthal</td>
<td>Beach Front Upgrading</td>
<td>NA</td>
<td>NA</td>
<td>Appropriate Access and Amenities</td>
</tr>
<tr>
<td>14</td>
<td>Coast</td>
<td>Upgrading of R102</td>
<td>NA</td>
<td>NA</td>
<td>Road Upgrading</td>
</tr>
<tr>
<td>15</td>
<td>The Shoals</td>
<td>New Residential Development</td>
<td>20-30U/HA</td>
<td>220 Sites</td>
<td>Linkage to Adjacent Developments</td>
</tr>
<tr>
<td>16</td>
<td>Clansthal</td>
<td>Residential Densification</td>
<td>30U/HA</td>
<td>130 – 150 Sites</td>
<td>10% Increase</td>
</tr>
<tr>
<td>17</td>
<td>Finingley on Coast</td>
<td>Initial Residential Development</td>
<td>20U/HA</td>
<td>7.0HA / 140 Sites</td>
<td>Estimate</td>
</tr>
<tr>
<td>18</td>
<td>Finingley Craigieburn</td>
<td>New Commercial Development</td>
<td>NA</td>
<td>4.0HA</td>
<td>Adjacent P78, Estimate</td>
</tr>
<tr>
<td>19</td>
<td>Finingley Craigieburn</td>
<td>New Residential Development</td>
<td>20U/HA</td>
<td>25HA / 450 Sites</td>
<td>Adjacent Naidooville, Estimate</td>
</tr>
</tbody>
</table>
## EXISTING AND SHORT TERM DEVELOPMENT 0 – 5 YEARS

### NOT IN ORDER OF PRIORITY

<table>
<thead>
<tr>
<th>NO</th>
<th>LOCATION</th>
<th>DEVELOPMENT TYPE</th>
<th>DENSITY U/HA</th>
<th>AREA / NO SITES</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>FININGLEY CRAIGIEBURN</td>
<td>NEW INDUSTRIAL DEVELOPMENT</td>
<td>NA</td>
<td>10HA</td>
<td>ADJACENT P78, ESTIMATE</td>
</tr>
<tr>
<td>21</td>
<td>CRAIGIEBURN</td>
<td>UPGRADING N2 LINK ROAD (P78)</td>
<td>NA</td>
<td>2.5KM</td>
<td>P78 UPGRADING</td>
</tr>
<tr>
<td>22</td>
<td>CRAIGIEBURN</td>
<td>UPGRADING CENTRAL NODE AREA</td>
<td>NA</td>
<td>1.0KM</td>
<td>MAIN STREET, PUBLIC SPACE, U.DESIGN</td>
</tr>
<tr>
<td>23</td>
<td>CRAIGIEBURN</td>
<td>ADDITIONAL FACILITIES / AMENITIES</td>
<td>NA</td>
<td>5.0HA</td>
<td>TERTIARY EDUCATION, RECREATION</td>
</tr>
<tr>
<td>24</td>
<td>CRAIGIEBURN</td>
<td>UPGRADING P197</td>
<td>NA</td>
<td>2.5KM</td>
<td>P197 UPGRADING</td>
</tr>
<tr>
<td>25</td>
<td>CRAIGIEBURN</td>
<td>NEW OFFICE / BUSINESS DEVELOPMENT</td>
<td>NA</td>
<td>3.0HA</td>
<td>ADJACENT P78</td>
</tr>
<tr>
<td>26</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>20U/HA</td>
<td>12.0HA, 200 SITES</td>
<td>INTERMEDIATE DENSITY</td>
</tr>
<tr>
<td>27</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>20U/HA</td>
<td>12.0HA, 200 SITES</td>
<td>INTERMEDIATE DENSITY</td>
</tr>
<tr>
<td>28</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>EXISTING</td>
<td>38.0HA</td>
<td>SMALL HOLDINGS</td>
</tr>
<tr>
<td>29</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>10U/HA</td>
<td>17.0HA, 150 SITES</td>
<td>LOW DENSITY</td>
</tr>
<tr>
<td>30</td>
<td>CRAIGIEBURN</td>
<td>EXISTING CEMETERY</td>
<td>NA</td>
<td>AS REQUIRED</td>
<td>POTENTIAL UPGRADING / EXTENSION</td>
</tr>
<tr>
<td>31</td>
<td>CRAIGIEBURN</td>
<td>ADDITIONAL LIGHT INDUSTRIAL / BUSIN.</td>
<td>NA</td>
<td>12.0HA</td>
<td>ADDITIONAL LIGHT INDUSTRIAL</td>
</tr>
<tr>
<td>32</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>20U/HA</td>
<td>20.0HA, 350 SITES</td>
<td>INTERMEDIATE DENSITY</td>
</tr>
<tr>
<td>33</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>30U/HA</td>
<td>40.0HA, 900 SITES</td>
<td>INTERMEDIATE DENSITY</td>
</tr>
<tr>
<td>34</td>
<td>CRAIGIEBURN</td>
<td>NEW HOSPITAL DEVELOPMENT</td>
<td>NA</td>
<td>6.0HA</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>35</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>20U/HA</td>
<td>20.0HA, 350 SITES</td>
<td>INTERMEDIATE DENSITY</td>
</tr>
<tr>
<td>36</td>
<td>CRAIGIEBURN / CROWDER</td>
<td>SUPPORT SMALL HOLDINGS DEV.</td>
<td>EXISTING</td>
<td>EXISTING</td>
<td>EXISTING AND POTENTIAL FUTURE</td>
</tr>
<tr>
<td>37</td>
<td>CRAIGIEBURN</td>
<td>UPGRAADING COLLECTOR ROAD</td>
<td>NA</td>
<td>2KM</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>38</td>
<td>AMAHLONGWA</td>
<td>INFORMAL SETTLEMENT UPGRADING</td>
<td>20U/HA</td>
<td>120HA, 2400 S.</td>
<td>SEE NOTE BELOW</td>
</tr>
</tbody>
</table>
### Existing and Short Term Development 0 – 5 Years

**NOT IN ORDER OF PRIORITY**

<table>
<thead>
<tr>
<th>NO</th>
<th>LOCATION</th>
<th>DEVELOPMENT TYPE</th>
<th>DENSITY U/HA</th>
<th>AREA / NO SITES</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>39</td>
<td>AMAHLONGWA</td>
<td>ADDITIONAL FACILITIES / AMENITIES</td>
<td>NA</td>
<td>5.0HA</td>
<td>LOCAL FACILITIES TO BE IDENTIFIED</td>
</tr>
<tr>
<td>40</td>
<td>CROWDER</td>
<td>SUPPORT TOURISM DEVELOPMENT</td>
<td>NA</td>
<td>NA</td>
<td>FACILITATION, SERVICES, ACCESS</td>
</tr>
<tr>
<td>41</td>
<td>UMKOMAAS</td>
<td>MEDIUM/HIGH DENSITY RESIDENTIAL</td>
<td>30U/HA</td>
<td>7.0HA, 200 DWELL</td>
<td>OPPOSITE CANONBRAE</td>
</tr>
<tr>
<td>42</td>
<td>CROOKES CRAIGIEBURN</td>
<td>INTERMEDIATE DENSITY RESIDENTIAL</td>
<td>20U/HA</td>
<td>29.0HA, 500 SITES</td>
<td>SOUTH EXTENSION NAIDOOVILLE</td>
</tr>
</tbody>
</table>

**Note: AMAHLONGWA In-Situ Upgrading**

The upgrading of the existing traditional settlement is based on an average site size of 500M², which is guided by existing densities and the normal ETHEKWINI housing approach. The ETHEKWINI Water and Sanitation Unit suggests that, since no waterborne sanitation will be available to the settlement upgrading, a minimum site size of 1000M² needs to be provided.

**Short Term Pot. 6000 Sites Incl Existing Development Excluding AMAHLONGWA and Existing Smallholdings AMAHLONGWA In-Situ Upgrading 2400 Sites (Estimate)**
The Medium Term Development (10 year period) is expected to include the following.

Subsequent pages provide an indication of the additional facilities required and the potential number of sites generated.

- CRAIGIEBURN SOME ADDITIONAL RESIDENTIAL
- SHOALS, SPA DEVELOPMENT
- FININGLEY COAST, ADDITIONAL RESIDENTIAL
- FININGLEY COAST, SOME LOCAL FACILITIES
- FININGLEY LODGE AND VILLAGE DEVELOPMENT
- CRAIGIEBURN ADDITIONAL METRO HOUSING
- CROWDER COLLECTOR ROAD UPGRADING
- CROWDER TOURISM SUPPORT
- SOME INTERFACE LIGHT INDUSTRIAL DEVELOPMENT
UMKHOMAZI LOCAL AREA PLAN

FOR: ETHEKWINI MUNICIPALITY
BY: RCR COLLABORATIVE PROJECT TEAM

LAP: MEDIUM TERM DEVELOPMENT

MEDUM TERM FACILITIES REQUIRED

PS PRIMARY SCHOOL
SS SECONDARY SCHOOL
TE TERTIARY EDUCATION
LB LIBRARY
C CLINIC
CHC COMMUNITY HEALTH CENTRE
SP SPORTSFIELD
MPH MULTI PURPOSE HALL
CH COMMUNITY HALL
PK PARK
T TAXI HANK
M MARKET
MO MUNICIPAL OFFICES
P POLICE STATION
F FIRE STATION

PUBLIC OPEN SPACE AREA
FOR DETAILS SEE PAGE 51

ADDITIONAL MEDIUM TERM FACILITIES

ADDITIONAL MEDIUM TERM PUBLIC OPEN SPACE AREAS
<table>
<thead>
<tr>
<th>NO</th>
<th>LOCATION</th>
<th>DEVELOPMENT TYPE</th>
<th>DENSITY U/HA</th>
<th>AREA / NO SITES</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>43</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>20U/HA</td>
<td>7.0HA, 130 SITES</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>44</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>20U/HA</td>
<td>10.0HA, 180 SITES</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>45</td>
<td>CROOKES NAIDOOVILLE</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>20U/HA</td>
<td>20.0HA, 350 SITES</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>46</td>
<td>THE SHOALS</td>
<td>SPA DEVELOPMENT</td>
<td>NA</td>
<td>3.0HA</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>47</td>
<td>FININGLEY COAST</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>30U/HA</td>
<td>8.0HA, 200 SITES</td>
<td>ADJACENT N2</td>
</tr>
<tr>
<td>48</td>
<td>FININGLEY COAST</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>10U/HA</td>
<td>20.0HA,180 SITES</td>
<td>SOUTH OF CLANSTHAL</td>
</tr>
<tr>
<td>49</td>
<td>FININGLEY COAST</td>
<td>NEW LOCAL FACILITIES / AMENITIES</td>
<td>NA</td>
<td>5.0HA</td>
<td>PS, HALL, SHOP, RECREATION</td>
</tr>
<tr>
<td>50</td>
<td>FININGLEY</td>
<td>LODGE DEVELOPMENT</td>
<td>10U/HA</td>
<td>2.0HA</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>51</td>
<td>FININGLEY</td>
<td>RESIDENTIAL VILLAGES</td>
<td>10U/HA</td>
<td>8.0HA / 70 SITES</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>52</td>
<td>CRAIGIEBURN</td>
<td>SAICCOR INTERFACE</td>
<td>NA</td>
<td>10.0 HA</td>
<td>LIGHT INDUSTRY / BUSINESS</td>
</tr>
<tr>
<td>53</td>
<td>CRAIGIEBURN</td>
<td>DENSIFICATION / INFILL</td>
<td>5U/HA</td>
<td>60.0HA, 200 SITES</td>
<td>EXISTING LARGE SITES</td>
</tr>
<tr>
<td>54</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>30U/HA</td>
<td>25.0HA, 600 SITES</td>
<td>WESTERN EXTENSION</td>
</tr>
<tr>
<td>55</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>20U/HA</td>
<td>40.0HA, 700 SITES</td>
<td>WESTERN EXTENSION</td>
</tr>
<tr>
<td>56</td>
<td>CROWDER</td>
<td>COLLECTOR ROAD UPGRAADING</td>
<td>NA</td>
<td>5KM</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>57</td>
<td>CROWDER</td>
<td>SUPPORT TOURISM ACCOMMODATION</td>
<td>NA</td>
<td>NA</td>
<td>FACILITATION, SERVICES, ACCESS</td>
</tr>
<tr>
<td>58</td>
<td>FININGLEY</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>10U/HA</td>
<td>60.0HA, 500 SITES</td>
<td>WEST OF N2</td>
</tr>
</tbody>
</table>

**POTENTIAL ADDITIONAL MEDIUM TERM RESIDENTIAL** 3000 SITES
The Long Term Development (beyond 10 year period) is expected to include the following. Subsequent pages provide an indication of the additional facilities required and the potential number of sites generated.

- CRAIGIEBURN ADDITIONAL RESIDENTIAL
- CRAIGIEBURN ADDITIONAL INDUSTRIAL
- CRAIGIEBURN ADDITIONAL AMENITIES
- FININGLEY COAST ADDITIONAL RESIDENTIAL
- COAST POTENTIAL TOURISM RESORT
- FININGLEY INLAND RESIDENTIAL
- AMAHLONGWA ADDITIONAL RESIDENTIAL
- CRAIGIEBURN POTENTIAL AIRFIELD
- P197 IMPROVED RIVER CROSSING
- POTENTIAL NEW N2 INTERCHANGE
UMKHOMAZI LOCAL AREA PLAN

FOR: ETHEKWINI MUNICIPALITY
BY: RCR COLLABORATIVE PROJECT TEAM

LAP: LONG TERM DEVELOPMENT

ADDITIONAL LONG TERM FACILITIES

LONG TERM FACILITIES REQUIRED
PS PRIMARY SCHOOL
SS SECONDARY SCHOOL
TE TERTIARY EDUCATION
LB LIBRARY
CL CLINIC
CHC COMMUNITY HEALTH CENTRE
SP SPORTSFIELD
MPH MULTI PURPOSE HALL
CH COMMUNITY HALL
PK PARK
T TAXI RANK
M MARKET
MO MUNICIPAL OFFICES
P POLICE STATION
F FIRE STATION
TH THUSONG CENTRE

PUBLIC OPEN SPACE AREA
FOR DETAILS SEE PAGE 51

ADDITIONAL LONG TERM PUBLIC OPEN SPACE AREAS
## UMKHOMAZI LOCAL AREA PLAN

### LONG TERM DEVELOPMENT BEYOND 10 YEARS

**NOT IN ORDER OF PRIORITY**

<table>
<thead>
<tr>
<th>NO</th>
<th>LOCATION</th>
<th>DEVELOPMENT TYPE</th>
<th>DENSITY U/HA</th>
<th>AREA / NO SITES</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>59</td>
<td>CRAIGIEBURN</td>
<td>UPGRADING P197 UMKHOMAZI BRIDGE</td>
<td>NA</td>
<td>NA</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>60</td>
<td>FININGLEY COAST</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>10U/HA</td>
<td>30.0HA, 250 SITES</td>
<td>SOUTH OF CLANSTHAL</td>
</tr>
<tr>
<td>61</td>
<td>COAST</td>
<td>TOURISM RESORT</td>
<td>NA</td>
<td>20.0HA</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>62</td>
<td>CRAIGIEBURN</td>
<td>ADDITIONAL INDUSTRIAL DEVELOPMENT</td>
<td>NA</td>
<td>20.0HA</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>63</td>
<td>CRAIGIEBURN</td>
<td>AIRSTRIP</td>
<td>NA</td>
<td>18.0HA</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>64</td>
<td>CRAIGIEBURN</td>
<td>ADDITIONAL COMMERCIAL / BUSINESS</td>
<td>NA</td>
<td>7.0HA</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>65</td>
<td>AMAHLONGWA</td>
<td>ADDITIONAL RESIDENTIAL</td>
<td>20U/HA</td>
<td>50.0HA, 800 SITES</td>
<td>SEE NOTE ON PAGE 42</td>
</tr>
<tr>
<td>66</td>
<td>AMAHLONGWA</td>
<td>ADDITIONAL RESIDENTIAL</td>
<td>10U/HA</td>
<td>40.0HA, 350 SITES</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>FININGLEY</td>
<td>NEW RESIDENTIAL</td>
<td>10U/HA</td>
<td>130.0HA, 1000 S.</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>68</td>
<td>FININGLEY</td>
<td>LINK ROAD TO P197</td>
<td>NA</td>
<td>5.0KM</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>69</td>
<td>N2</td>
<td>NEW N2 INTERCHANGE</td>
<td>NA</td>
<td>NA</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>70</td>
<td>FININGLEY COAST</td>
<td>NEW LINK ROAD N2 – R102</td>
<td>NA</td>
<td>2.0KM</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>71</td>
<td>FININGLEY</td>
<td>NEW RESID. VILLAGE DEVELOPMENT</td>
<td>10U/HA</td>
<td>15.0HA, 120 SITES</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>72</td>
<td>CROOKES COAST</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>10U/HA</td>
<td>18.0HA, 150 SITES</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
<tr>
<td>73</td>
<td>FININGLEY</td>
<td>LODGE DEVELOPMENT</td>
<td>NA</td>
<td>2.0HA</td>
<td>DET. TO BE ESTABLISHED</td>
</tr>
</tbody>
</table>

**POTENTIAL LONG TERM ADDITIONAL RESIDENTIAL 2670 SITES**

**POTENTIAL TOTAL 15 000 RESIDENTIAL (INCLUDING EXISTING)**
The following provides guidelines for the envisaged urban form development within the study area. The guidelines are expected to relate to future new development as well as the potential upgrading of existing development.

The LAP indicates topographic high points in presently undeveloped areas. In order to retain the unique character of the area, it is suggested that such prominent locations either remain undeveloped, receive substantive highly visible vegetation or outstanding buildings such as significant local facilities etc.

**ARCHITECTURAL TREATMENT**, the architectural treatment of new and potentially refurbished development in the Umkhomazi area is expected to relate to and express the green, coastal and low intensity character of the area. The approach in terms of building volume, features, colour, texture and roof shape should reflect this.

**CLIMATIC RESPONSE**, any new development should take account of the climatic context within which development takes place and consequently integrate into buildings provision for shade and other protection measures.

**LAND MARKS**, developments located in particular high visibility locations should in their architecture take account of this, at the same time public buildings and facilities should be clearly recognisable as such to contribute to legibility and structure.

**VIEWS AND VISTAS**, the study area provides for a range of internal and external views and vistas, these should be acknowledged and utilised in creating a unique built environment.

**HEIGHT**, it is suggested that a maximum of three storeys is allowed for in the central portions of the Craigieburn and Umkomaas nodes, while a
maximum of two storeys is accepted in peripheral locations.

**CORNER TREATMENT**, development on street corners should take account of the particular opportunities inherent in the location while at the same time creating a greater level of legibility.

**COLONNADE**, commercial and business development in particular in locations along the main street should provide for shade and protection in the form of colonnades.

**ARCADE**, the potential usage of arcades, i.e. covered internal shopping malls should be considered where the site depth allows for greater internal development.

**THE STREET AS PUBLIC SPACE**, while streets have the primary function as movement corridor, both in terms of vehicular and pedestrian movement, they constitute at the same time the major public space within built areas. In order to fulfill these functions, streets should on the one hand provide a safe and legible environment for both pedestrian and vehicular movement while on the other hand accommodate activities associated with such movement. This would typically include parking, market activities, seating, landscaping, lighting etc. Where streets face onto public buildings, the street should provide an appropriate environment.
7.5 PUBLIC OPEN SPACE GUIDELINES

The following provides an outline of the public open space components intended to form part of the envisaged development.

EXISTING AND SHORT TERM DEVELOPMENT

1. Sports fields and multi-purpose hall in area outside the natural protection zone
2. Formal park, picnic and play area around existing quarry and lake
3. Local play park at top of local valley to serve adjacent residential development
4. Upgrading of existing sports field in the Craigieburn Node
5. New substantial park forming the centre of the Craigieburn Node including seating, picnic and play areas, lighting etc
6. Local play park adjacent to community and multi-purpose hall
7. Local play park at top of local valley to serve surrounding residential development
8. Local play park at top of local valley to serve surrounding residential development
9. Local play park at top of local valley to serve surrounding residential development
10. Local play park at top of local valley to serve surrounding residential development
11. Nature trail with associated amenities covering Amahlongwana and Amahlongwa Rivers
12. Upgrading, protection and management of beach front area in accordance with Environmental Management Plan
MEDIUM TERM DEVELOPMENT

13 Local play park at top of local valley to serve surrounding residential development

14 Local play park at top of local valley to serve surrounding residential development including existing dams and amenities
LONG TERM DEVELOPMENT

15 Local play park at top of local valley to serve surrounding residential development

16 Local play park at top of local valley to serve surrounding residential development

7.5 PUBLIC OPEN SPACE GUIDELINES

LONG TERM PUBLIC OPEN SPACE COMPONENTS
The LAP suggests that the existing Craigieburn Node will in future form the major community centre serving the entire Umkhomazi area, as well as the rural areas in the immediate vicinity.

In accordance with the wider SDP, the LAP suggests that Umkomaas would realistically serve the coastal settlements as a local node as well as a centre for coastal tourism and recreation. Craigieburn on the other hand is centrally located, surrounded by growing development containing already a series of amenities and activities.

The LAP proposes the provision of additional areas for commercial / business / office and service industry development in the central parts of the existing node, attempting to create a greater depth of development where appropriate.

In addition the following facilities are suggested to be located in the area:

- a community health centre
- a tertiary education facility
- a central community park area
- a taxi rank
- a small area for market stalls.

It is also suggested that some effort be spent in the node in terms of upgrading the street spaces including appropriate pedestrian accommodation, paving, lighting, seating, landscaping etc. This should also include the appropriate upgrading of the local stream running through the area including the provision of small play parks etc adjacent to the area.

Within the wider context, the LAP suggests the upgrading of the P197 to better fulfill the function of a subregional north-south inland collector road as well as the future upgrading of the P78 and the link road to the west.
UMKHOMAZI LOCAL AREA PLAN

UMKOMAAS URBAN RENEWAL FRAMEWORK

The following provides an overview of the contents of the urban renewal framework for the town of Umkomaas which was established in 2006 for the then Economic Development Unit.

A HIERARCHY OF MAIN STREETS, i.e. creating a hierarchy of streets guiding traffic and land use, consisting of the link road from the N2, Barrow and Moodie Streets and running in an east-westerly direction and Patterson Street, Reynolds Street and Robinson Street running in a north-southerly direction, including traffic circles at the intersections of the main streets as indicated, a separate section provides details on the design of the envisaged upgrading,

INTEGRATING THE R102, i.e. turning the R102 between the diving launch site and the envisaged extension of Robinson Street into a local main street, providing two additional linkages between the R102 and the CBD, i.e. extending Barrow Street eastwards and Robinson Street southwards, if the present R102 is turned into a local street then this eliminates the necessity for the existing local beach road.

IMPROVING VEHICULAR AND PEDESTRIAN LINKAGES, i.e. in addition to the proposed linkages discussed above it is suggested that the existing road reserves in the west of the CBD are developed, that Winder Street is linked into the N2 link road, that an appropriate link road is established to the envisaged additional recreation areas on the northern boundary of the CBD, additional pedestrian linkages are suggested to include primarily improved access from the CBD to the beach and river front.
PUBLIC TRANSPORT FACILITIES AND ASSOCIATED AMENITIES, i.e. including the establishment of a formal taxi rank suggested to be located adjacent to Barrow Street and its proposed linkage to the present R102, and a market facility located adjacent to the taxi rank and extending into Harvey Street, potential taxi halts and potential beach-related market amenities need to be discussed with the relevant organisations.

ICON DEVELOPMENTS AND ADDITIONAL AMENITIES, i.e. utilising exceptional prominent locations for the establishment of significant developments which benefit from the high visibility in these locations. This is suggested to include two sites at the north-eastern corner of the CBD overlooking the river mouth and the beach and two potential sites at the western extremity of the CBD, elevated and backing onto the golf course. The possible development in the north-eastern corner should be combined with a terrace decking over the rail alignment to SAICCOR and providing pedestrian access to river and beach.

MIXED USE DEVELOPMENT, i.e. encouraging the establishment of mixed use development in the central and eastern parts of the CBD, such development intensification would create a range of opportunities and higher thresholds in this area and could typically include commercial ground floors, first floor offices and residential above, the latter would be important to maintain a 24-hour presence in the area.

HIGHER DENSITY DEVELOPMENT, i.e. promoting higher density development in the areas indicated when required, initially primarily located along the main streets indicated, maximum 3 – 4 floors.
BEACH AND RIVER FRONT ACTIVITIES, i.e. identifying and establishing a range of appropriate activities and providing relevant support amenities including parking, barbecue, picnic, shower, restrooms etc, typical activities could include swimming, fishing, surfing, jet ski, diving etc. this would also include the formalisation and upgrading of the diving launch site, trails and walkways on the southern and northern side of the river and pedestrian linkages to the additional recreational amenities suggested.

ADDITIONAL RECREATION ACTIVITIES, i.e. an area abutting the northern limit of the CBD, in proximity of the Umkhomazi River and a local tributary, appears to be suitable for additional recreational activities, this is suggested to require appropriate vehicular access and pedestrian linkage via the suggested river front trail, potential types of recreation will still have to be identified.

GOLF COURSE ESTATE, i.e. the potential of associating up market residential development to the existing golf course has been muted, but will still have to be discussed with the relevant organisations.
• NEW RECREATIONAL PRECINCT

Additional recreational facilities are suggested to be grouped into a precinct in the northern periphery of the CBD. Access is expected to be via the upgraded existing road as well as a walkway along the river edge and a pedestrian short-cut to the CBD. The precinct could accommodate both active and passive activities in providing a river edge amenity including restaurant, change room, barbecue, river edge park etc, while also accommodating a swimming pool, bowls, mini golf and similar outdoor amenities. The railway alignment to Saiccor would have to be accommodated appropriately.
The existing launch site for divers to the Aliwal Shoal is located on the northern bank of the Umkhomazi River. Being considered one of the premier diving sites, the area’s appropriate upgrading is essential.

It is suggested that the access to the site is moved further north to create a better sight distance from the bridge and curve of the R102. The traffic circle suggested to be located at this intersection, which is also envisaged to provide access to the area to the west of the railway, is proposed to demarcate the northern extent of the redevelopment of the R102 as a local main street.

The upgrading of the launch site needs to take place within the environmental sensitivities of the coastal dunes and is suggested to include:

- Formalising access and parking
- Developing appropriate site supervision facilities, change rooms etc, tuck shop, restaurant etc
- Creating small scale recreation facilities appropriately embedded in the existing vegetation.

A garage and market facilities could be accommodated on the western side of the traffic circle and the access emanating from the traffic circle could terminate in an area providing picnic amenities fronting the river.
In the hierarchy of plans guiding the development of the Ethekwini Municipality and its components, the Local Area Plan for Umkhomazi is informed by the higher order South Spatial Development Plan. The LAP in turn is expected to inform precinct plans for portions of the Umkhomazi area.

The SSDP, covering a significant area extending from the Umlazi River in the north to the southern boundary of the municipality, identifies the potential for additional development in the Umkhomazi area, primarily in the Craigieburn area and in the area between the R102 and the N2. It suggests at the same time the retention of a significant amount of agricultural development in the southern and south-western parts of the area, while the natural coast should be maintained in its present character. While Umkomaas is envisaged to represent a local and tourism and recreational node, the appropriate upgrading of the Craigieburn node as a local community service node is supported.

While the Umkhomazi LAP is informed by the intentions of the SSDP, it represents a more detailed plan for a smaller local area, and is therefore also guided by a greater level of local understanding than would be possible for a higher level plan.

The SSDP suggests an ultimate accommodation potential of in the region of 21 000 sites at an average density of 15 units/ha. The LAP suggests in its long term phasing the ultimate potential of accommodating 15 000 sites at an average density of 10 – 15 units/ha.

Although the average residential densities in the peripheral parts of the LAP are lower than what is envisaged in the SSDP, the area of potential future settlement extends further to the south between the N2 and the P197. Areas between the R102 and the N2 south of Widenham are on the other hand suggested to contain a lower level of future settlement.

Reasons for the envisaged development extending somewhat further to the south in the potential long term of the LAP than suggested in the SSDP (although at lower settlement densities) include the following:

- In-situ upgrading of the existing Amahlongwa settlement, its realistic extension and the desire to provide ultimately an improved alternative linkage to the N2 and the coast,
- Establishment of better integration of the various settlements in the area, pressures for long term development by the major land owners and the desire to maintain natural corridors throughout the area,
- Providing alternative future lower settlement densities on the periphery of the urban development as well as in close proximity of the unique natural environment of the Umkhomazi coastal strip.
COASTAL RISK ZONE

The Coastal Risk Zone is defined as the combination of the most inland edge of the 1m sea level rise line and the slope failure line associated with 1m sea level rise. This demarcates the Coastal Risk Zone from natural climate change impacts and provides a broad identification of the risk area. The coastal risk zone will be refined through a process of more detailed work through the Shoreline Management Plans which are a legal requirement for our coastline.

EIA AND OTHER LEGAL PROCESSES

Although the LAP may indicate land uses in particular areas, it must be noted that proposed activities and projects in sensitive areas will be subject to EIAs and due legal processes.

DEMOGRAPHIC ANALYSIS

It needs to be noted that ETA is currently completing a demographic study, population figures provided in this report, or population figures forming the basis of analyses, may therefore be subject to review.
8.1 SOCIO ECONOMIC SITUATIONAL ANALYSIS, VISION, CONCEPTS AND DEVELOPMENT FRAMEWORK

URBAN-ECON DEVELOPMENT ECONOMISTS PTY LTD
1. BACKGROUND AND CONTEXT

The following report encapsulates a socio-economic situational analysis, socio economic vision, economic development concepts, and socio economic framework which will guide the final eThekwini Metropolitan Municipal Local Area Plan for Umkhomazi. Umkhomazi is located between the Mkhomanzi River on its northern border, and the southern border of eThekwini Metropolitan Municipality on its southern border, occupying the majority of ward 99.
2 UMKHOMAZI OVERVIEW

The population of Umkhomazi is estimated at just under 19,000 in 2010. The population distribution of Umkhomazi is not uniform, across all its subplaces. The highest population is found in Craigieburn subplace, while the smallest population is found in Clansthal. (ETA is completing at present a demographic study which may influence population figures quoted here)

The figure below illustrates that the highest population density is found in Naidooville, at 2,181 people per km2. The lowest population densities are found in Umzinto NU (largely commercial agriculture at present), and Umkhomazi subplace. While Ezembeni (Census Combination of Amahlongwa and Crowder) appears to have the second highest population in Umkhomazi, it is a combination of two subplaces, which therefore have an average population of 8.5% of Umkhomazi’s total population, each.

Assessing the table below, Craigieburn and Naidooville are highly concentrated areas, both having the highest population (number), and the highest population densities.

8.1 SOCIO-ECONOMIC DEVELOPMENT FRAMEWORK
UMKHOMAZI LOCAL AREA PLAN

These two subplaces, forming the majority of the areas known as Roseneath, both have the highest recorded population growth rate in Umkhomazi[1], while Craigieburn has the highest recorded economy growth rate.

[1] Growth rate adapted from eThekwini Planning Unit population data, 2006

Notably, Umkhomazi subplace (previously Umkomaas) is declining, while its population is growing at a negative growth rate[1]. After Umzinto NU (largely commercial agriculture) it has the lowest population density of all Umkhomazi subplaces. This indicates a shift off Umkhomazi subplace to Craigieburn, as the primary node of Umkhomazi. This will be discussed in the following subsection.

[1] Growth rate adapted from eThekwini Planning Unit population data, 2006

The location, history, social and economic activity of Umkhomazi all have notable implications for planning of future activity in the local area.

Location

KZN’s primary business, economic and infrastructural node Durban is within easy access (between 20kms and 50 kms) to the north. For this reason there is a daily flow of upward commuting towards northward based employment and facilities.

Subplaces to the far south- i.e. Scottburgh, Pennington, Kelso, Elysium, are rapidly developing- particularly for the holiday home or second home market. There is therefore an established tourism influence to the south (and along the south) of the study area. There is also significant seasonal and weekend tourism commuting.

Due to the ‘transitionary’ location of the study area, development has been limited, as the study area has never been significantly addressed as an independent area or entity on its own. The proposed planned development is therefore the first of its kind in the study area.

Planning to guide development should therefore encourage a pull and centralization of social, economic and institutional activity within the study area, so as to discourage as far as feasible, leakages to other larger nodes.

Associated planning actions:

Identification of a naturally central and easily accessible focal point for main economic activity.

Identification of and site/ space reservation for facilities and infrastructure to encourage socio economic pull.

In reserving site space for major facilities, cognisance must be taken of available facilities within easy access in nodes north (e.g. Amanzimtoti) and south (e.g. Scottburgh), and therefore expected facilities usage rates if these same facilities are offered in Umkhomazi. This reduces the possibility of unsustainable and underutilised facilities, or ‘white elephants’.

History

With regards to historical shaping of Umkhomazi, the following three main historical influences provide guidance for planning.
The neglect of Craigieburn infrastructure due to historical rates boycotts in the 1980s, as well as the general historical shift of economic activity off Umkhomazi (to Durban) area have led to a backlog in infrastructure and facilities maintenance and an accumulated and eventual running down of the area (particularly Craigieburn/ Roseneath).

Coastal Tourism has significantly influenced the character, and economy of the area, and is in many ways synonymous with the heritage of Umkhomazi subplace. As a result, tourism is an economic strength of Umkhomazi. Despite this, it is concentrated narrowly along coastal diving, and requires strengthening of the system as a whole in order to be effectively leveraged for the whole area's economic development. Due to the historical focus on the coast, potential inland tourism opportunities (which would increase the economic impact of tourism on the whole area) have been largely unexplored.

The socio-economic dynamics of the area have largely been influenced by SAPPI-SAICCOR, with regards to employment creation and the socio-economic and demographic profile of residents. Due to its size, and because it is heavily industrial in nature, there is a resulting sensitivity toward levels of pollution in Umkhomazi industry. Planning for additional Umkhomazi economic activity should therefore strongly discourage heavy industry.

**Associated planning actions:**

Planning both for the provision of new facilities, but for the upgrading and revamping of existing facilities.
Planning for tourism routes inland, in order to relieve pressure off coast, and upgrading existing facilities along the coast.
Limiting or restricting heavy industry, and encouraging low emission or light industrial activity.

**Inter Sub place Socio Economic Dynamics**

Socio–economically, there are three broad area groupings- Umkhomazi subplace, Widenham, Saiccor and Clansthal- collectively mainly urban middle and partly upper income; Roseneath (Craigieburn, Mkomanzi Drift and Naidoville)- collectively urban lower and middle income; and Umzinto NU and Ezembeni (Amahlongwa and Crowder) lower income- agricultural peri urban and rural.

Due to previous apartheid planning, Umkhomazi’s sub place/spatial classifications have been directly related to their social and economic status, with limited interaction between the three main sub place groupings. Therefore, Amahlongwa and Crowder have had limited access to meaningful economic activity due to spatial positioning, and limited infrastructure to connect them.

With regard to schools, Craigieburn has been the service node for Amahlongwa and Crowder (as well as Umgababa, Umnini, Ilfracombe and Magabheni). Due to the large service area and facilities backlog, Craigieburn facilities and infrastructure are experiencing strain. Also due to previous planning, Craigieburn economic activity has been relatively spatially dispersed and not well coordinated.

Umkhomazi sub place has been distinguishably separated, and is a service node for Saiccor, Widenham, and Clansthal. Infrastructure of the whole study area is concentrated here.

The study area's economic activity nodes are Umkhomazi CBD and Craigieburn CBD. There is a need for more interaction within the nodes, and easier access to a central economic node from the more spatially isolated subplaces. This will encourage more meaningful and intergrated economic and social activity throughout the area.

**Associated planning actions:**

Identification of a naturally central and easily accessible node for main
and integrated economic activity.

Encouragement of infrastructure (e.g. roads) to connect Amahlongwa and Crowder to the main identified node.

Planning / reserving site space for main facilities in central node.

Inclusion of facilities for enabling environment for economic development (e.g. business and entrepreneurial support).

2.5 Economic Status Quo
From an economic perspective, the following main issues of direct significance to planning are most prominent:

Catering, accommodation, retail and wholesale trade is the second highest contributing sector to GVA (after manufacturing). While the contribution of this sector is quantified at less than half that of manufacturing, retail and tourism is key to the character and heritage of the area. In addition, the revenues of this industry are more directly felt by Umkhomazi residents than the revenues from manufacturing.

There is a notable decline in the growth rate of Umkhomazi’s significant sectors (excluding the agriculture and fishery sector which is analysed separate from this report).

The tourism sector is in need of support, upgrading of the Umkhomazi area, and targeted marketing; while the retail sector is in need of an injection in demand. The visible informal economy is concentrated around Umkhomazi CBD, as the market is centered around the taxi rank. Informal traders (mainly vendors) throughout Umkhomzi have pointed out that this sector is experiencing no real growth. A larger and more productive informal economy is concentrated in Craigieburn, mainly in the form of small enterprises engaging in light industrial activity.

Growth trends indicate a shift in growth from Umkomaas CBD to Craigieburn CBD. In addition, general market trends in Umkhomazi indicate a shift toward more low income daily expenditure.

Associated planning actions:

Establishment of Craigieburn as primary facilities and economic node.

Site reservation for centre in Craigieburn with business support provision, tourism information provision.

The associated planning actions listed throughout the situational analysis provide guidelines for planning interventions which will also guide future development.

The following development projects were identified:

Cannonbrae Housing Development, north west of Umkhomazi Town. The development has planned 1 600 housing units, which is expected to be developed in four phases. The development includes a commercial complex, with shopping facilities which will attract residential housing. While the development is due to begin within the next year, it is expected to continue over up to 20 years.

Finningley Estates, west of Clansthal, and west of Naidooville. The development has- which is planned for the short to medium term (5-10 years) two planned components, residential and industrial. The industrial component is scheduled for phases one and two of a total five phases.

The residential component of the project is expected to gain momentum after phase two of five phases. The development is
UMKHOMAZI LOCAL AREA PLAN

expected to proceed after the end of 2010. Estate plans include educational, institutional residential, place of worship, retirement, industrial, commercial, social, and leisure land uses.

The Proposed Shoals Tourism Development, on the southern coast, south of Cansthal. This proposed development is planned as a Spa treatment Centre. Planning is still in the conceptual phase, and there detailed information is not available.

Notably, the Umkhomazi area is set to experience relatively high increases in population (due to planned developments). It is also noted that there will be significant economic activity added to the area (the proposed Finningely Developments) - particularly light industry in the Umzinto NU area- just south of the existing Roseneath.

The earlier identified actions therefore provide an economic basis for plans to guide the above developments, and general future growth of the area.

3 ECONOMIC CONCEPTS

Integration of the Economy

The following section will assist with the planning of Umkhomazi by providing economic concepts on which Umkhomazi planning should be based.

The main socio-economic concept guiding the planning process is a desired social and economic integration of Umkhomazi’s distinctly separate economies/subplaces. The establishment of Craigieburn as a primary node is important because it is central, easily accessible and visible, and therefore has much potential to achieve an integrated economy.

An integrated economy is an economy which sees the meaningful interaction

of the first economy (first world societies successful in having access to/holding economic opportunities, suburban areas) with the second economy (largely poor, unemployed, locked in townships, rural and peri urban areas, limited access to economic opportunities, dependant on first economy for livelihood).

Through economic development, in the form of the creation of an enabling environment for access to businesses opportunities for the short term, and skills and infrastructure development for the long term; combined with social community development through social facilities provision, such as educational facilities, progress toward an integrated economy will be significant. The figure below illustrates the combination of social and economic development in achieving integrated development, as is needed in Umkhomazi.

8.1 SOCIO-ECONOMIC DEVELOPMENT FRAMEWORK

FOR: ETHEKWINI MUNICIPALITY
BY: RCR COLLABORATIVE PROJECT TEAM
3.2 Competitive and Comparative Advantages

Successful development is best achieved when taking cognisance of competitive and comparative advantages. While Umkhomazi has distinctly separated sub places, each sub place/ region has competitive advantages and will add unique economic elements to Umkhomazi.

There are 6 socio economic components to the enhancing of competitive and comparative advantages in Umkhomazi:

<table>
<thead>
<tr>
<th>ECONOMIC CONCEPT</th>
<th>AREA/ REGION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructural support to spatial advantages</td>
<td>Craigieburn</td>
</tr>
<tr>
<td>Enabling environment to support natural economic activity</td>
<td>Craigieburn</td>
</tr>
<tr>
<td>Urban agriculture in peri urban areas</td>
<td>Amahlongwa, Crowder</td>
</tr>
<tr>
<td>Identification of inland tourism to link to coastal tourism: route formation</td>
<td>Amahlongwa, Crowder</td>
</tr>
<tr>
<td>Strengthening of existing tourism system</td>
<td>Umkhomazi Sub Place, Saicoor, Widenham, Clansthal</td>
</tr>
<tr>
<td>Protection and restriction of development along coastal areas</td>
<td>Umkhomazi Sub Place, Saicoor, Widenham, Clansthal</td>
</tr>
</tbody>
</table>

Each concept in achieving integrated development is based on Umkhomazi sub place competitive advantages.

3.3 General Economic Concepts

Umkhomazi is currently identified as being rural, but will gradually become more urban. Significant economic growth throughout the area will be initiated by residential developments- the residential development industry is identified as being at the core of the economic growth of area- however this is only sustainable with commercial and facility development. Residential developments will inject the much required demand into Umkhomazi. Residential development and growth of area is not possible without facility development (e.g. schools, clinics).

While there is a significant increase in population growth and economic activity planned, Umkhomazi is not planned as being a major growth
area. It is anticipated as being distinctly quieter than the north node of Durban and the south node of Scottburgh. The catchment area will not become heavily urban or heavily industrialised, nor will it remain rural.

In following on competitive advantages, urban agriculture is required in Amahlongwa and Crowder to leverage on land availability. Light agri-processing is to strengthen small scale agriculture in western region of area. This creates value chains and increases employment and value added within catchment area.

However, this not expected to be of a large scale, and is elaborated on in the agricultural report.

Tourism exists along the coast, however it requires support in order to strengthen the tourism system as a whole. While diving along Umkhomazi’s coast is world acclaimed, successful and established, it is necessary for transport, accommodation, complimentary entertainment, and eating facilities to be upgraded so as to avoid tourism expenditure leakages to other close economies.

In the long term, eco tourism attractions (hiking, trails) are required inland in order to increase geographic and spatial spread of economic opportunities, and reduce the pressure on the coast.

Light industry is required in order to provide economic activity to support the population by employment opportunities, and skills development.

Planned development of the area seeks to create accessibility for marginalised areas to business, resources, opportunities, markets and infrastructure. This is achieved through encouraging development corridors which are accessible to marginalised areas in the south and in the west, and in the long term in the north. Importantly, roads play a crucial role in

integrating the marginalised subplaces to subplaces of established economic activity. Upgrading of the P-197 will assist in linking Amahlongwa to Craigieburn, which, as explained earlier is the natural and growing hub of economic activity. The P-197 will also link Amahlongwa to the planned Finningley development, which includes light industry, and therefore employment opportunities. In the long run, a road between Crowder and Craigiburn, as the natural hub of economic activity is required in order to integrate these subplaces.

Accessibility is also achieved through development of light (sustainable) nodes throughout study area.

Access to and availability and centralisation of social services is established through Craigieburn, the primary socio economic node of Umkhomazi.

Integration of and interaction between first and second economies of Umkhomazi will therefore be encouraged.

4 DEVELOPMENT OF A VISION

The socio-economic vision of Umkhomazi is summarized as:

“ACHIEVING INTEGRATED SUSTAINABLE SOCIAL AND ECONOMIC GROWTH, AND UPGRAISING OF UMKHOMAZI, WHILE MAINTAINING ITS UNIQUE TOWN-LIKE CHARACTER”

The following components are necessary elements of the vision:

Unlike neighbouring nodes, a relatively medium to low density Leisure Tourism and Residence along coast Retirement Development Potential
UMKHOMAZI LOCAL AREA PLAN

Hiking and rock cave eco tourism opportunities inland
Identifying tourism value chains, through world class accommodation and restaurants, and the linking on coastal and inland tourism products to form a tourism route
Development of Light industry throughout study area, thereby encouraging internal employment.
Upgrading of Local Facilities and Services throughout study area
Upgrading living status- especially more inland areas
Retain expenditure leakage to other towns by upgrading retail services on offer
Bridging gap of first and second economy dynamic between Umkomaas and Amanzimtoti / Scottburgh
Developing of aesthetic and beauty of area- increasing pull and desirability
Developing the quality of the town- like character, and conservation potential

5ECONOMIC FRAMEWORK

The economic framework provides the structure/ standards within which the planning will be conducted. The socio economic framework takes the form of planning standards, which provide numbers of required facilities. The following facilities are adapted from the Guidelines for Planning of Facilities in KZN, 2008 and the CSIR proposed Metro Planning Standards, 2010, and the Planning Guidelines for Retail Facilities in KZN, 2010. It is noted that the following guidelines are indicative, and provide a framework, and are therefore flexible.

The following social facilities are to be considered for Umkhomazi. Not all facilities will be applicable, in particular, regional and district hospital facilities.

<table>
<thead>
<tr>
<th>EDUCATIONAL FACILITIES</th>
<th>CONSIDERATIONS/ COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIMARY SCHOOLS</td>
<td>A standard of 3 000- 4 000 pupils per school is applied, depending on income profiles of each sub place.</td>
</tr>
<tr>
<td>SECONDARY SCHOOLS</td>
<td>A standard of 6 000-10 000 pupils per school is applied, depending on income profiles of each sub place.</td>
</tr>
<tr>
<td>CRECHES/ PRE SCHOOLS</td>
<td>Two identified preschools with qualified preschool educators/teachers in Umkomaas/ Craigieburn. The rest are Day Care Centres (i.e. with unqualified teachers). One for every 5 000 people.</td>
</tr>
<tr>
<td>TERTIARY INSTITUTIONS</td>
<td>Minimum population of 150 000 required according to standards. However at least one college / training facility is recommended for Umkhomazi.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HEALTH CENTRES</th>
<th>CONSIDERATIONS/ COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOBILE CLINIC</td>
<td>ANYTHING LESS THAN 5 000, for a dispersed population</td>
</tr>
<tr>
<td>SMALL HEALTH STATION</td>
<td>Only applicable to populations under 5 000. A site may be reserved in Amahlongwa which would later develop into a clinic. Would serve Umdoni Amahlongwa population as well.</td>
</tr>
<tr>
<td>DISTRICT HOSPITAL</td>
<td>IDEALLY 1 HOSPITAL PER DISTRICT OR PER METRO</td>
</tr>
<tr>
<td>REGIONAL HOSPITAL</td>
<td>PER DEMARCATION AS DESCRIBED BY NATIONAL DOH</td>
</tr>
<tr>
<td>TERIARY FACILITIES HOSPITAL</td>
<td>AS REQUIRED AT A NATIONAL LEVEL</td>
</tr>
<tr>
<td>STATIONARY SMALL CLINIC</td>
<td>There are two clinics already- one in Craigieburn, one in Umkomaas, as well as a surgery in Craigieburn. A bigger clinic (health centre) will be required in long run. Threshold- between 5 000 – 70 000 people.</td>
</tr>
<tr>
<td>COMMUNITY HEALTH CENTRE</td>
<td>One for threshold of between 30 000- 120 000 people. Midway facility between hospital and clinic.</td>
</tr>
</tbody>
</table>
# UMKHOMAZI LOCAL AREA PLAN

**REGIONAL HOSPITAL**

One in Scottburgh (GJ Crookes) and one in Amanzimtoti (Kingsway) - therefore population is serviced already.

**SOCIAL FACILITIES**

**CONSIDERATIONS/ COMMENTS**

- CEMETERIES
  - Added up estimated grave size for children (2.37m²) and adults (5.33m²), multiplied by annual mortality rates for both children and adults, and multiplied by 30 years (i.e. cemetery size calculated for 30 years use).

- COMMUNITY FACILITY SITES
  - Used when it is difficult to forecast a future population in an area but important to reserve land, i.e. - land reserved "in case".

- COMMUNITY HALLS
  - One per 15 000 - 30 000 people.

**PUBLIC SERVICE AND CIVIC FACILITIES**

**CONSIDERATIONS/ COMMENTS**

- FIRE STATION
  - One per 30 000 people, with response time of between 8 – 23 minutes throughout Umkhomazi. 8 minutes for high risk extensive commercial CBD area (Craigieburn) to 23 minutes for low risk rural/relatively remote area (Crowder). Using this standard, will need another one soon.

- MUNICIPAL OFFICES AND CIVIC CENTRES
  - One per local municipal area. One municipal office and one civic centre already identified.

- POLICE STATION
  - One per 25 000 to 60 000 people. One at present in Umkomaas.

- POSTAL OFFICES AND POSTAL COLLECTION POINTS
  - Area well serviced with regards to boxes, although not in areas of new residential developments (Finningley). 10 Post boxes at present, but only one office. May require one other office (- in "one stop shop" - preferably providing full range of services. Containers not proved successful. Standard is one postal collection point per 10 000- 11 000 people.

**SPORTS COMPLEXES**

**CONSIDERATIONS/ COMMENTS**

- COMMUNITY FACILITY
  - A community level multipurpose sports facility which can be used for formal and informal events. E.g. sports centre. One per 5 000 – 30 000 people.

- LOCAL/ NEIGHBOURHOOD SPORTS FACILITY AND/ GROUNDS
  - Especially in lower income communities where sports facilities in schools are limited- aim for 1 per 3 schools. Otherwise standard is one per 7 700 – 15 000. In Umkhomazi at present (and in short run), need is more for upgrading and maintenance of existing local grounds.

**OPEN SPACES**

**CONSIDERATIONS/ COMMENTS**

- NEIGHBOURHOOD PARK
  - Park standards to be qualified. Preferably one park per neighbourhood and one major park to serve Umkhomazi. This includes play lots/ playgrounds.

- MAJOR PARK
  - Park standards to be qualified. Preferably one park per neighbourhood and one major multipurpose park to serve Umkhomazi. This includes play lots/ playgrounds.
The following economic facilities are to be considered for Umkhomazi. The main additional necessary shopping facility for Umkhomazi is a community centre, while others were not considered to be feasible, or applicable:

<table>
<thead>
<tr>
<th>SHOPPING FACILITY / USE</th>
<th>FACILITY LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Convenience/ Small free standing convenience centre</td>
<td>Serves part of a suburb. On/ near collector intersection. Linked to other local facilities. Between 7 000 (high income) - 40 000 (low income) population.</td>
</tr>
<tr>
<td>Neighbourhood Centre</td>
<td>Centrally located for a group of suburbs. On or near collector or arterial. Cannonbrae local convenience centre. Between 18 500 (high income) - 135 000 (low income) population.</td>
</tr>
<tr>
<td>Community Centre</td>
<td>Strategically located to serve a suburban community. Only if in interceptory location. On/near arterials and freeways. Finningley Shopping facilities. 41 000 (high income) - 295 000 (low income) population. Suitable for Craigieburn (Finningley development) in the medium to long term. To serve Craigieburn, Mkomanzi Drift, Naidooville, Crowder, Amahlongwa. Also suitable for planned Cannonbrae shopping development in the long term. To serve Umzinto NU (future Finningley), Clansthal, Umkhomazi sub place, Widenham, and Saiccor.</td>
</tr>
<tr>
<td>Small regional / Large Community Centre</td>
<td>83 000 (high income) - 600 000 (low income). Major suburban arterial road, linking to a national road.</td>
</tr>
</tbody>
</table>

6 IMPLEMENTATION FRAMEWORK

The implementation framework takes cognisance of the estimated short, medium and long term population of Umkhomazi, and assigns implementable socio economic facilities.

The populations below are estimated using existing populations, growth rates from eThekwini Planning Department, as well as numbers estimated for future planned residential developments, as recorded earlier.

While at present, Umkhomzi’s population is estimated at just under 19 000, in the short term it is estimated at just over 34 000, in the medium term it is estimated at just over 45 000, and in the long term, it is estimated at just over 58 000 people.

<table>
<thead>
<tr>
<th>BROAD AREA</th>
<th>SHORT TERM POPULATION 2015</th>
<th>MEDIUM TERM POPULATION 20210</th>
<th>LONG TERM POPULATION 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>UMKOMAAS*</td>
<td>8 989</td>
<td>8 944</td>
<td>8 900</td>
</tr>
<tr>
<td>CLANSTHAL</td>
<td>1 211</td>
<td>2 262</td>
<td>3 501</td>
</tr>
<tr>
<td>CRAIGIE BURN **</td>
<td>17 259</td>
<td>21 048</td>
<td>24 454</td>
</tr>
<tr>
<td>UMZINTO NU</td>
<td>1 908</td>
<td>8 581</td>
<td>13 048</td>
</tr>
<tr>
<td>AMAHLONGWA</td>
<td>2 237</td>
<td>2 636</td>
<td>6 305</td>
</tr>
<tr>
<td>CROWDER</td>
<td>1 491</td>
<td>1 757</td>
<td>2 070</td>
</tr>
<tr>
<td>TOTAL</td>
<td>33 096</td>
<td>45 228</td>
<td>58 279</td>
</tr>
</tbody>
</table>
### UMKHOMAZI LOCAL AREA PLAN

#### EDUCATIONAL FACILITIES

<table>
<thead>
<tr>
<th>FACILITIES</th>
<th>EXISTING</th>
<th>NUMBER ADDITIONAL REQUIRED SHORT TERM (pop est. 33 096)</th>
<th>NUMBER ADDITIONAL REQUIRED MEDIUM TERM (pop est. 45 228)</th>
<th>NUMBER ADDITIONAL REQUIRED LONG TERM (pop est. 58 279)</th>
<th>CONSIDERATIONS/ COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIMARY SCHOOLS</td>
<td>4</td>
<td>9</td>
<td>0</td>
<td>2</td>
<td>A standard of 3 000-4 000 pupils per school is applied, depending on income profiles of each sub place.</td>
</tr>
<tr>
<td>SECONDARY SCHOOLS</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>A standard of 6 000-10 000 pupils per school is applied, depending on income profiles of each sub place.</td>
</tr>
<tr>
<td>CRECHES/ PRESCHOOLS</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>Two identified preschools with qualified preschool educators/teachers in Umkomaas/Craigieburn. The rest are Day Care Centres (i.e. with unqualified teachers). One for every 5 000 people.</td>
</tr>
<tr>
<td>TERTIARY INSTITUTIONS</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>Minimum population of 150 000 required according to standards. However at least one college / training facility is recommended for Umkhomazi.</td>
</tr>
</tbody>
</table>

### 8.1 SOCIO-ECONOMIC DEVELOPMENT FRAMEWORK
### UMKHOMAZI LOCAL AREA PLAN

#### Health Centres

<table>
<thead>
<tr>
<th>HEALTH CENTRES</th>
<th>EXISTING</th>
<th>NUMBER ADDITIONAL REQUIRED SHORT TERM (pop est. 33,096)</th>
<th>NUMBER ADDITIONAL REQUIRED MEDIUM TERM (pop est. 45,228)</th>
<th>NUMBER ADDITIONAL REQUIRED LONG TERM (pop est. 58,279)</th>
<th>CONSIDERATIONS/COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMALL HEALTH STATION</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>Only applicable to populations under 5,000. A site may be reserved in Amahlongwa which would later develop into a clinic. Would serve Umdoni Amahlongwa population as well.</td>
</tr>
<tr>
<td>STATIONARY SMALL CLINIC</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>There are two clinics already - one in Craigieburn, one in Umkomaas, as well as a surgery in Craigieburn. A bigger clinic (health centre) will be required in long run. Threshold - between 5,000 – 70,000 people.</td>
</tr>
<tr>
<td>COMMUNITY HEALTH CENTRE</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>One for threshold of between 30,000 - 120,000 people. Midway facility between hospital and clinic.</td>
</tr>
<tr>
<td>REGIONAL HOSPITAL</td>
<td>0</td>
<td>PER DEMARCATION AS DESCRIBED BY NATIONAL DOH</td>
<td>PER DEMARCATION AS DESCRIBED BY NATIONAL DOH</td>
<td>PER DEMARCATION AS DESCRIBED BY NATIONAL DOH</td>
<td>One in Scottburgh (GJ Crookes) and one in Amanzimtoti (Kingsway) - therefore population is serviced already.</td>
</tr>
</tbody>
</table>

---

**8.1 SOCIO-ECONOMIC DEVELOPMENT FRAMEWORK**
## UMKHOMAZI LOCAL AREA PLAN

### SOCIAL FACILITIES

<table>
<thead>
<tr>
<th></th>
<th>EXISTING</th>
<th>NUMBER ADDITIONAL REQUIRED SHORT TERM</th>
<th>NUMBER ADDITIONAL REQUIRED MEDIUM TERM</th>
<th>NUMBER ADDITIONAL REQUIRED LONG TERM</th>
<th>CONSIDERATIONS/ COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEMETARIES</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>33 700 m² or 3.7 Ha. Added up estimated grave size for children (2.37 m²) and adults (5.33 m²), multiplied by annual mortality rates for both children and adults, and multiplied by 30 years-(i.e. cemetery size calculated for 30 years use)</td>
</tr>
<tr>
<td>COMMUNITY FACILITY SITES</td>
<td>-</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>Used when it is difficult to forecast a future population in an area but important to reserve land, i.e. - land reserved &quot;in case&quot;. Reserved site to be allocated to any community facility, at the discretion of the municipality. One per 5 000 people.</td>
</tr>
<tr>
<td>COMMUNITY HALLS</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>One per 15 000-30 000 people.</td>
</tr>
</tbody>
</table>

### CONSIDERATIONS

- Grave site 3, 7 Ha to service Umkhomazi from 2015 to approximately 2045, assuming existing mortality rates.

### 8.1 SOCIO-ECONOMIC DEVELOPMENT FRAMEWORK
The national standard is one per local municipality by 2014, with a minimum of 6 government facilities per site (e.g. Home Affairs, Dept of Welfare). Already being part of eThekwini, Umkhomazi could have a sub Centre/ “One Stop Shop”- including business support centre, pension collection point- within Craigieburn.

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Standard Per</th>
<th>Demand in Umkhomazi</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>THUSONG SERVICE CENTRE/ MULTIPURPOSE SERVICE CENTRE</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>LIBRARIES</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>ORPHANAGES/ CHILDREN’S HOMES</strong></td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>PENSION AND OTHER WELFARE PAYOUT POINTS</strong></td>
<td>-</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>OLD AGE HOMES</strong></td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>WORSHIP SITES</strong></td>
<td>-</td>
<td>13</td>
<td>5</td>
</tr>
</tbody>
</table>

- 1 worship site per 5 000 people. Population is currently sufficiently serviced. Therefore need for site calculated on increase in population.
- Standard is one per 50 000 people. However in Umkhomazi, demand is higher for retirement flats/ complexes - (rather) than old age homes.
- One per 50 000 to 200 000 people.
- One per 35 000, or threshold of between 5 000 to 50 000 people.
- There are no national standards- demand driven. Demand in Amahlongwa in the medium and long run. May also be incorporated into “one stop shop”/ service centre.
# UMKHOMAZI LOCAL AREA PLAN

## Public Service and Civic Facilities

<table>
<thead>
<tr>
<th>Public Service and Civic Facilities</th>
<th>Existing</th>
<th>Number Additional Required Short Term (pop est. 33 096)</th>
<th>Number Additional Required Medium Term (pop est. 45 228)</th>
<th>Number Additional Required Long Term (pop est. 58 279)</th>
<th>Considerations/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Station</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>One per 30 000 people, with response time of between 8 – 23 minutes throughout Umkhomazi. 8 minutes for high risk extensive commercial CBD area (Craigieburn) to 23 minutes for low risk rural/relatively remote area (Crowder). Using this standard, will need another one soon.</td>
</tr>
<tr>
<td>Municipal Offices and Civic Centres</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>One per local municipal area. One municipal office and one civic centre already identified.</td>
</tr>
<tr>
<td>Police Station</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>One per 25 000 to 60 000 people. One at present in Umkomaas.</td>
</tr>
<tr>
<td>Postal Offices and Postal Collection Points</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>Area well serviced with regards to boxes, although not in areas of new residential developments (Finningley). 10 Post boxes at present, but only one office. May require one other office (- in &quot;one stop shop&quot; - preferably providing full range of services. Containers not proved successful. Standard is one postal collection point per 10 000- 11 000 people.</td>
</tr>
</tbody>
</table>
## Umkhomazi Local Area Plan

**Sports Complexes**

<table>
<thead>
<tr>
<th></th>
<th>Existing</th>
<th>Number Additional Required Short Term (pop est. 33 096)</th>
<th>Number Additional Required Medium Term (pop est. 45 228)</th>
<th>Number Additional Required Long Term (pop est. 58 279)</th>
<th>Considerations/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Facility</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>A community level multipurpose sports facility which can be used for formal and informal events. E.g. sports centre. One per 5 000 – 30 000 people.</td>
</tr>
<tr>
<td>Local/Neighbourhood Sports Facility and Grounds</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>Especially in lower income communities where sports facilities in schools are limited - aim for 1 per 3 schools. Otherwise standard is one per 7 700 – 15 000. In Umkhomazi at present (and in short run), need is more for upgrading and maintenance of existing local grounds.</td>
</tr>
</tbody>
</table>

### 8.1 Socio-Economic Development Framework
### OPEN SPACES

<table>
<thead>
<tr>
<th></th>
<th>EXISTING</th>
<th>NUMBER ADDITIONAL REQUIRED SHORT TERM (pop est. 33 096)</th>
<th>NUMBER ADDITIONAL REQUIRED MEDIUM TERM (pop est. 45 228)</th>
<th>NUMBER ADDITIONAL REQUIRED LONG TERM (pop est. 58 279)</th>
<th>CONSIDERATIONS/COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NEIGHBOURHOOD PARK</strong></td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>Park standards to be qualified. Preferably one park per neighbourhood and one major park to serve Umkhomazi. This includes play lots/playgrounds.</td>
</tr>
<tr>
<td><strong>MAJOR PARK</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>Park standards to be qualified. Preferably one park per neighbourhood and one major multipurpose park to serve Umkhomazi. This includes play lots/playgrounds.</td>
</tr>
</tbody>
</table>

### SHOPPING FACILITIES

<table>
<thead>
<tr>
<th></th>
<th>EXISTING</th>
<th>NUMBER ADDITIONAL REQUIRED SHORT TERM (pop est. 33 096)</th>
<th>NUMBER ADDITIONAL REQUIRED MEDIUM TERM (pop est. 45 228)</th>
<th>NUMBER ADDITIONAL REQUIRED LONG TERM (pop est. 58 279)</th>
<th>CONSIDERATIONS/COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COMMUNITY CENTRE</strong></td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>Strategically located to serve a suburban community. Only if in interceptory location. On/near arterials and freeways. Finningley Shopping facilities. 41 000 (high income) - 295 000 (low income) population. Suitable for Craigieburn (Finningley development) in the medium to long term to serve Craigieburn, Mkomanzi Drift, Naidoville, Crowder, Amahlongwa. Also suitable for planned Cannonbrae shopping development in the long term. To serve Umzinto NU (future Finningley), Clansthal, Umkhomazi sub place, Widenham, and Saiccor.</td>
</tr>
</tbody>
</table>

In total, the central facilities will be focused on Craigieburn as Umkhomazi’s primary node. Facilities which encourage Umkhomzi’ integration include a Community Shopping Centre, a One Stop Shop Centre, and a Community Health Centre.
8.2 TRANSPORTATION AND INFRASTRUCTURE DEVELOPMENT FRAMEWORK

ILISO CONSULTING
1. Introduction

The status quo report done previously provides the basis for the contents of this document. The draft transportation plan has been established taking into consideration certain objectives. These objectives include:

- Promotion of Public Transport (PT) usage
- Increase Connectivity / Capacity
- Increase Safety

Based on these objectives, a transportation framework has been developed, which have been divided into short, medium and long term projects. The transportation framework is supplemented by an assessment that has been done on the existing road network, which assesses the existing road network’s capacity for the short, medium and long term.

2. Short Term

The short term has been categorized whereby there is an immediate need for implementation. These projects include capacity improvements, safety improvements and the improvement of public transport infrastructure.

2.1 Capacity Improvements

Capacity improvements would entail upgrading of road infrastructure (cosmetic), alleviation of bottle necks and the general increase of capacity on the road network.
2.1.1 R102
The R102 runs along the coast and links the South Coast with Durban. In order to increase vehicle capacity in the Umkhomazi study area, a few plans have been determined which would support this. One such plan is the upgrade of the R102, to re-establish the coastal north-south linkage. At present, this road is currently being upgraded after it was damaged due to flooding.

2.1.2 P78
The main east-west linkage is the P78, and this road runs from the N2 to the P197 as well as from the N2 to the R102. This road is currently heavily utilized and the road itself is in need of maintenance (pothole alleviation etc.). Although operating within capacity, the upgrade of this road would create a better east-west linkage as well as increased safety. The upgrade would entail resurfacing. Upgrade of this road would be between the R102 and the P197.

2.1.3 P197
The P197 runs in the north-south direction, and links Umzinto in the south to areas in the north, including Craigieburn. Maintenance of the P197 to create a better north-south linkage inland, which would also support future industrial and residential developments. Upgrade of this road, which entails resurfacing, would be from the northern and southern boundary of the study area.

2.2 Public Transport Improvements
There is a fairly high patronage of public transport within the study area. In support of this, improvements to and upgrading of public transport infrastructure is needed due to the lack of public transport facilities.

2.2.1 Public Transport Hub - Craigieburn
The Craigieburn area has been identified as the area in which a public transport hub should be created (See Figure 2). This is due to the high level of public transport activity that is currently being experienced in this area. The hub would serve as a central node, from which all the road based public transport will operate providing connections to the various locations in and around the study area. The hub would include all the facilities i.e. taxi/bus loading areas, waiting areas, taxi/bus parking etc.

2.2.2 Public Transport Facilities
Throughout the study area, drop-off/pick-up points for road based public transport users are at a minimum, and the few that do exist are in a deteriorated condition. Therefore the upgrading and creation of on-street passenger facilities for road based public transport is necessary. This would include lay-byes, bus/taxi stops etc. The location of the facilities would be along the main public transport routes i.e. Along P78 and P197 (See Figure 2).
2.3 Safety Improvements

In order to reduce the pedestrian accident rate which accounts for almost 50 percent of fatalities, investment in pedestrian infrastructure will need to be implemented. At present, there is a lack of pedestrian facilities on all the major roads within the study area which could attribute to the high pedestrian/vehicle accident rate.

2.3.1 Sidewalks

At present the main roads of the P78 and P197 have limited sidewalks, yet the pedestrian traffic along these roads are high. Therefore investment into pedestrian safety will involve the rehabilitation and creation of sidewalks along the busy routes of the P78 and P197.
3. Medium Term

Medium term projects are those projects that will be implemented whereby a need may arise for capacity improvements, after the implementation of certain developments within the area.

3.1 Capacity Improvements

3.1.1 Collector Roads

The collector roads also form an important link to the main roads, and hence these roads should not be excluded from the development plans. In lieu of this, two such collector roads have been identified that will require maintenance in the future based on future developments in the area that could see an increase in vehicular traffic. The two collector roads are:

- Collector road that links Roseneath to Craigieburn (P197)
- Collector road in the Crowder area

Upgrades to these roads will include resurfacing at certain locations depending on the need, as well as implementation of pedestrian facilities.

4. Long Term

Long term projects will be implemented to support future developments that have been planned for the Umkhomazi study area. The long term projects are interrelated to the future developments in the area, and will only go ahead if the future developments are implemented. These transport projects primarily involve capacity improvements.

4.1 Capacity Improvements

4.1.1 2nd East-West Linkage

The current east-west linkage (P78) may come under increased pressure in the future due to future developments (Section 6), and hence a creation of a second east-west road may become viable (the road network’s capacity assessment highlights the need for a 2nd east-west link road). In addition, the creation of this east-west link would support developments which would occur in the vicinity of this new road. This new east-west link would tie into the N2 via a new interchange.

4.1.2 N2 Interchange

At present, the main access into the Umkhomazi study area is by means of the Umkomaas Interchange. In order to increase accessibility to the study area, a new N2 interchange (south of the existing interchange) may become feasible. This new interchange would tie into the new east-west road.
Due to the nature and scale of such a project, there would have to be a sufficient demand and need to create a new interchange off the N2.

4.1.3 P197

The P197 is used as the alternate route to the N2 and R102. To provide a better north-south linkage inland and to promote increased usage of this road, the roads capacity and access will need to be increased, based on the findings of the capacity assessment in Section 6. This will also include upgrades to the Umkhomazi Bridge to increase its capacity. The future Mnini interchange will also support an increased usage of the P197.
5. Conclusion

The objectives that are considered in establishing the draft transportation plan include:

• Promotion of Public Transport (PT) usage
• Increase Connectivity / Capacity
• Increase Safety

The implementation plan has been divided into the short, medium and long term implementation projects. Some of the projects include:

• Upgrades to the P78 and P197
• Better facilities for public transport users
• Better pedestrian facilities to reduce the accident rate
• Building a new road to create a new east-west linkage

Some of the projects that have been identified are dependant on future developments, whereby their implementation will only be done to support such developments.
6. CAPACITY ASSESSMENT

The existing road network’s capacity has been analysed using the Highway Capacity Manual for the long term. Based on the developments of the Umkhomazi LAP for the short, medium and long term, the total generated trips for each development is calculated and then loaded onto the network. The trips generated for each development are given in Tables 1 to 4.

Two roads have been considered in the analysis i.e. P78 and P197. The analysis considers the capacity of these roads in the long term based on the generated trips.

The Free Flow Speed of both the P78 and P197 is estimated to be approximately 50km/hr, taking into account the terrain and horizontal alignment. Hence, the capacity of both the P78 and P197 can be estimated to be approximately 1500veh/hr per direction (Exhibit 21-3, HCM 2000).

The 2010 background traffic is shown in Figure 4. The long term trip generation (2025 AM) which includes short, medium and long term developments are shown in Figure 6. The total forecasted traffic (2025 AM) which is the combination of the background traffic and long term trip generation is shown in Figure 7.

It should be noted that ETA is currently completing a demographic study, any population figures underlying this analysis may be therefore subject to review.
6.1 Results

6.1.1 P78
The capacity of this road is estimated to be 1500veh/hr. The total forecasted traffic in the long term is estimated to be approximately 4700veh/hr (worst case).

Modal Split:
Based on screenline surveys, the estimated current modal split in the municipal area overall is 52:48 in the peak period.

Recognising the current trend of declining use of public transport a more realistic target of reversing the trend and achieving a positive growth in public transport has been set. Hence, the eThekwini’s Public Transport Plan has a targeted model split of 55:45.

Based on screenline surveys, the average vehicle occupancy for private vehicles is 2 and taxis 15. The modal split should be applied to person trips, hence the forecasted traffic should be converted to person trips by multiplying the forecasted vehicle volume by the average private vehicle occupancy.
Therefore, the total person trips on the P78 is 9400 (4700x2). Applying the targeted modal split, there would be 5170 public transport person trips and 4230 private vehicle person trips.

Converting person trips back to vehicle trips yields the following number of vehicles:
Total vehicles = (4230/2) + (5170/15) = 2460 → 2500veh/hr.

Based on the results, the capacity of the P78 is expected to be exceeded in the long term, even after applying the targeted modal split. Hence, the need for the creation of a 2nd east-west link road is justified. In addition, the 2nd east-west link road would open up development opportunities in the future.

The traffic loading on the P78 as well as the new link road is shown in Figure 8, which is the traffic loading after applying the modal split. The traffic loading on the new east-west link road is expected to attract about half the trips (based on future developments) from the existing P78.

6.1.2 P197:
The capacity of this road is estimated to be 1500veh/hr. The total forecasted traffic in the long term is estimated to be approximately 2800veh/hr.

Applying the same procedure set out in section 6.1.1, the total vehicles in the long term on the P197 would be approximately 1500veh/hr. This road would operate close to capacity, and hence only minor upgrades to the P197 would be needed in the long term. Growth in background traffic has been excluded in the analysis.
<table>
<thead>
<tr>
<th>No</th>
<th>Location</th>
<th>Development Type</th>
<th>Density U/HA</th>
<th>Area / No Sites</th>
<th>Trip Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>UMKOMAAS</td>
<td>Upgrading / densification</td>
<td>200 / 220 SITES</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>UMKOMAAS</td>
<td>Residential densification</td>
<td>400 / 440 SITES</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>WIDENHAM</td>
<td>Residential densification</td>
<td>480 / 530 SITES</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>CANONBRAE</td>
<td>New residential development</td>
<td>1600 SITES</td>
<td>1760</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>CANONBRAE</td>
<td>New local facilities</td>
<td>4.0HA</td>
<td>550</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>CANONBRAE</td>
<td>New commercial development</td>
<td>6.0HA</td>
<td>2000</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>UMKOMAAS</td>
<td>Additional light industrial</td>
<td>7.0HA</td>
<td>315</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>THE SHOALS</td>
<td>New residential development</td>
<td>220 SITES</td>
<td>242</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>CLANSTHAL</td>
<td>Residential densification</td>
<td>130 / 150 SITES</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>FININGLEY ON COAST</td>
<td>Initial residential development</td>
<td>20U/HA</td>
<td>7.0HA, 140 SITES</td>
<td>154</td>
</tr>
<tr>
<td>18</td>
<td>FININGLEY CRAIGIEBURN</td>
<td>New commercial development</td>
<td>4.0HA</td>
<td>1500</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>FININGLEY CRAIGIEBURN</td>
<td>New residential development</td>
<td>20U/HA</td>
<td>495</td>
<td></td>
</tr>
</tbody>
</table>
### Table 2: SHORT TERM DEVELOPMENT 0 – 5 YEARS

<table>
<thead>
<tr>
<th>NO</th>
<th>LOCATION</th>
<th>DEVELOPMENT TYPE</th>
<th>DENSITY U/HA</th>
<th>AREA / NO SITES</th>
<th>TRIP GENERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>FININGLEY CRAIGIEBURN</td>
<td>NEW INDUSTRIAL DEVELOPMENT</td>
<td>10.0HA</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>CRAIGIEBURN</td>
<td>NEW OFFICE / BUSINESS DEVELOPMENT</td>
<td>3.0HA</td>
<td>345</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>20U/HA</td>
<td>12.0HA, 200 SITES</td>
<td>220</td>
</tr>
<tr>
<td>27</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>20U/HA</td>
<td>12.0HA, 200 SITES</td>
<td>220</td>
</tr>
<tr>
<td>28</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>38.0HA, 600 SITES</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>10U/HA</td>
<td>17.0HA, 150 SITES</td>
<td>165</td>
</tr>
<tr>
<td>31</td>
<td>CRAIGIEBURN</td>
<td>ADDITIONAL LIGHT INDUSTRIAL / BUSIN.</td>
<td>20U/HA</td>
<td>20.0HA, 350 SITES</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>30U/HA</td>
<td>40.0HA, 900 SITES</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>20U/HA</td>
<td>20.0HA, 350 SITES</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>10.0HA</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>Location</td>
<td>Development Type</td>
<td>Density U/HA</td>
<td>Area / No Sites</td>
<td>Trip Generation</td>
</tr>
<tr>
<td>----</td>
<td>------------------------</td>
<td>----------------------------------------</td>
<td>--------------</td>
<td>-------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>43</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>20U/HA</td>
<td>7.0HA, 130 SITES</td>
<td>143</td>
</tr>
<tr>
<td>44</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>20U/HA</td>
<td>10.0HA, 180 SITES</td>
<td>198</td>
</tr>
<tr>
<td>45</td>
<td>CROOKES NAIDOOVILLE</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>20U/HA</td>
<td>20.0HA, 350 SITES</td>
<td>385</td>
</tr>
<tr>
<td>47</td>
<td>FININGLEY COAST</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>30U/HA</td>
<td>8.0HA, 200 SITES</td>
<td>220</td>
</tr>
<tr>
<td>48</td>
<td>FININGLEY COAST</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>10U/HA</td>
<td>20.0HA, 180 SITES</td>
<td>198</td>
</tr>
<tr>
<td>51</td>
<td>FININGLEY</td>
<td>RESIDENTIAL VILLAGES</td>
<td>10U/HA</td>
<td>8.0HA / 70 SITES</td>
<td>77</td>
</tr>
<tr>
<td>52</td>
<td>CRAIGIEBURN</td>
<td>SAICCOR INTERFACE</td>
<td>10.0 HA</td>
<td></td>
<td>450</td>
</tr>
<tr>
<td>54</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>30U/HA</td>
<td>25.0HA, 600 SITES</td>
<td>660</td>
</tr>
<tr>
<td>55</td>
<td>CRAIGIEBURN</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>20U/HA</td>
<td>40.0HA, 700 SITES</td>
<td>770</td>
</tr>
<tr>
<td>58</td>
<td>FININGLEY</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>10U/HA</td>
<td>60.0HA, 500 SITES</td>
<td>550</td>
</tr>
</tbody>
</table>
### Table 4: LONG TERM DEVELOPMENT BEYOND 10 YEARS

<table>
<thead>
<tr>
<th>NO</th>
<th>LOCATION</th>
<th>DEVELOPMENT TYPE</th>
<th>DENSITY U/HA</th>
<th>AREA / NO SITES</th>
<th>TRIP GENERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>FINNINGLEY COAST</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>10U/HA</td>
<td>30.0HA, 250SITES</td>
<td>275</td>
</tr>
<tr>
<td>62</td>
<td>CRAIGEBURN</td>
<td>ADDITIONAL INDUSTRIAL DEVELOPMENT</td>
<td>20.0 HA</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>Cragieburn</td>
<td>ADDITIONAL COMMERCIAL/BUSINESS</td>
<td>7.0 HA</td>
<td>2200</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>AMAHLONGWA</td>
<td>ADDITIONAL RESIDENTIAL</td>
<td>20U/HA</td>
<td>800</td>
<td>880</td>
</tr>
<tr>
<td>66</td>
<td>AMAHLONGWA</td>
<td>ADDITIONAL RESIDENTIAL</td>
<td>10U/HA</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>FINNINGLEY</td>
<td>NEW RESIDENTIAL</td>
<td>10U/HA</td>
<td>130HA, 1000 S</td>
<td>1100</td>
</tr>
<tr>
<td>71</td>
<td>FININGLEY</td>
<td>NEW RESID. VILLAGE DEVELOPMENT</td>
<td>10U/HA</td>
<td>120 SITES</td>
<td>132</td>
</tr>
<tr>
<td>72</td>
<td>CROOKES COAST</td>
<td>NEW RESIDENTIAL DEVELOPMENT</td>
<td>10U/HA</td>
<td>150 SITES</td>
<td>165</td>
</tr>
</tbody>
</table>
FIGURE 4: 2010 AM Background Traffic
FIGURE 5: Trip Distribution
FIGURE 7: 2025 AM
Total Forecasted Trip Generation
UMKHOMAZI LOCAL AREA PLAN

7 INFRASTRUCTURE

7.1 Sanitation Framework
The sanitation is divided into two parts;
Treatment works
Domestic pipelines

7.1.1 Treatment works
From the status quo report there are two existing sewerage treatment works with in the Umkhomazi study area.
Umkomaas Wastewater Treatment Works (0.500ML/day)
Craighieburn Wastewater Treatment Works (0.850ML/day)
Both the Umkomaas and Craigieburn Wastewater Treatment Works are at there max capacity and no new sewer flow would be able to be treated at the existing works without upgrading.
There are a number of local sewer pump stations in the area which are all at capacity.
The proposed sanitation framework for the Umkhomazi study area, is to provide a new 15 ML/day Bulk Regional Sewer Treatment Works near Umkomaas and then decommission the existing Umkomaas Treatment works.
The existing Treatment works at Craigieburn would remain at its current capacity.
This new planned bulk regional sewer treatment works and the Craigieburn Treatmentworks would have suffecient capacity to cater for Umkhomazi study area and even beyond the study area.
Developments that don’t fall within the catchment area of the Treatment Works, would gravitate to a strategically positioned pumpstation and then pumped to treatment works or to a point where it can gravitate to the works.
From this Umkhomazi Framework study, eThekwini would be in a position to do, what we call “Planning Design” as they would be equipped with the short, medium and long term upgrading and they can then plan this with their 3 to 5 year planning strategies.

7.1.2 Pipelines
Upgrading of pipelines will fall within the “Planning Design” exercise.

7.2 Water
The water needs to be divided into two parts;
Bulk Water
Domestic Water Supply.

7.2.1 Bulk Water
The Umkomaas study area is currently been supplied by the Wiggins and Toli Water Treatment Works.
Recently Umgeni Water and eThekwini Water Department implemented and constructed the new “South Coast Pipeline”, which augmented the current bulk water supply to the Southern areas.
Therefore the current Umkomaas study area has sufficient Bulk water capacity to accommodate most new developments.

7.2.2 Domestic Water Supply

The current Umkomaas study area is currently supplied by a number of strategically places reservoirs and there are about 10 exist reservoirs in the study area which are all near capacity.

Each area planned for development by the Planners, will need to be investigated individually to determine the impact on the Domestic Water Supply. Depending on what type of development and in which area it falls under, would determine the impact on what type of upgrade would be.

From this Umkhomazi Framework study, eThekwini would be in a position to do, what we call “Planning Design” as they would be equipped with the short, medium and long term upgrading and they can then plan this with their 3 to 5 year planning strategies.

7.2.3 Stormwater

eThekwini Stormwater Department, have completed all the 1:50 and 1:100 year flood lines for the Umkomaas study area, and are currently investigating the existing stormwater infrastructure for capacity, workability and operation. This study is currently underway and should be completed in the next two years (2011).

eThekweni Stormwater Department have a policy that all new developments need to control their stormwater on site via a Stormwater Management Plan. All developments have to attenuate the post 1:10 and 1:50 storms and are only allowed to discharge the original pre development site flow.

Therefore in theory no more stormwater should be added to the catchment areas.

7.3 Electricity

There are two supplies sources of electricity:

- **eThekwini Electricity**
- **Eskom**

**eThekwini Electricity**

eThekwini Electricity does not supply this area and only supplies a small rural community called Magabeni Township. This township is outside the study area.

**Eskom**

**Description of the Study Area**

Eskom Eastern Planners are currently reviewing a Network Development Plans for the Park Rynie area. This particular study is focusing on the Widenham SS and the 22kV SS in the required Umkomaas Area.

**Current Capacity and Load forecast**

- **Widenham**: 88/22 20 MVA SS currently feeds several 22kV Substations and currently peaks at 17.5 MVA (86.6 %). The load forecast projects that Widenham SS will reach its capacity (nameplate) by 2010 – 2011.
- The following 22kV Substations are fed from Widenham sub, St Josephs 22/11 kV, Umkomaas 22/11, Freeland Park 22/11 and Magabeni 22/11.
- **Umkomaas**: 22/11 kV is a 10 MVA SS and currently peaks at 5 MVA (65 %). Umkomaas SS is projected to reached its capacity (nameplate) by 2010 – 2011 by the Load forecast.
- **St Josephs**: 22/11 kV is a 10 MVA SS and currently peaks at 5 MVA (50 %). St Josephs SS is projected to reach its capacity (nameplate) in 2015 – 2016 by the Load forecast.
UMKOMAAS AREA FUTURE PLANS

The Park Rynie NDP has indicated the following projects for the Umkomaas Area.

To establish Finningley 1 SS 2*20 MVA - Proposed date 2012.
To establish Finningley 2 SS 1*20 MVA - Proposed date 2013.
To Establish Widenham SS as 88/11 to supply St Josephs - Proposed date 2011
To establish St Joseph as a Switching station - Proposed date 2011
To establish Umkomaas as an 11kV switching station supplied from Finningley 1 132/11kV Substation – Proposed date 2012.
Magabeni SS to be supplied from Umgababa 132/22/11kV – Proposed date 2012
Umkomaas NB62 to be fed from Ngwadini 132/22kV SS - Proposed date 2015

7.5 Telecommunication

All telecommunication is supplied by TELKOM for the Umkomaas study area.
A. Transportation Implementation Strategy

From the Umkhomazi LAP potential upgrading and new projects have been identified and well documented in the LAP, and this has been prioritised in short, medium & long term which is summarized in the following table:

<table>
<thead>
<tr>
<th>Development Type</th>
<th>Size/Lenght</th>
<th>Short/Long Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgrade of the R102</td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Maintenance of the P78</td>
<td>5 km</td>
<td>S</td>
</tr>
<tr>
<td>Maintenance of the P197</td>
<td>8 km</td>
<td>S</td>
</tr>
<tr>
<td>Create a Public Transport Hub (Cragieburn)</td>
<td>6000m²</td>
<td>S</td>
</tr>
<tr>
<td>Creation and Upgrade of Passenger Waiting Facilities</td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Upgraded Pedestrian Facilities i.e. Sidewalks</td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Maintenance and Upgrade of Collector Roads</td>
<td>8 km</td>
<td>L</td>
</tr>
<tr>
<td>New N2 Interchange</td>
<td></td>
<td>L</td>
</tr>
<tr>
<td>Create a 2nd East-West Link Road</td>
<td>6 km</td>
<td>L</td>
</tr>
<tr>
<td>New access Road into Umkomaas</td>
<td>1 km</td>
<td>L</td>
</tr>
<tr>
<td>Upgrade of the P197, including upgrade of the Umkhomazi Bridge</td>
<td>8 km</td>
<td>L</td>
</tr>
</tbody>
</table>

1. Sanitation & Water Framework Implementation
From the Umkhomazi LAP potential upgrading and new projects have been identified and well documented in the LAP, and this has been prioritised in short, medium & long term.

Potential sequence of Events
- From the short and medium term prioritisation list, one should differentiate between projects that require upgrading or upliftment to new developments.
- Projects that are generally for upgrading and upliftment generally don’t have any significant impact on the Sanitation & Water flows.
- However any new developments, being residential, commercial or industrial, would require clever planning, some events;
  - Interdepartmental communication between eThekwini departments must remain effective with well planned meetings, to ensure continues involvement of the departments on the progress of the Umkhomazi LAP.
  - Areas like Canonbrae and Finingley residential estates require close communication with the Developers to monitor probable growth of these areas, as this will have a serious impact on the sanitation & water infrastructure.
  - With the current economic downturn in South Africa, one needs to determine a realistic % growth for the Umkhomazi LAP area.
  - Good communication with eThekwini housing is essential to get their priority list and implementation planning of social housing, for area like Amahlongwa, Umkhomaas, Cragieburn.
  - From this, Professional Engineers from eThekwini & Consultants can start looking at more detailed designs, planning & feasibility proposals for the bulk sewer and water infrastructure.
  - Hand in hand with the design and planning, which is even more important, is identifying the financial impact for the proposed work. Getting buy in from eThekwini Municipality, that this is part of their holistic planning and getting funding allocated for these upgrades. This is where interdepartmental communication is essential.
From a programme point of view, it is imperative that preliminary design and feasibility study be done to determine the associated financial costs and how best to phase in any major capital works, for both the current and future developments. The reason why this is important is that finances need to be allocated for these major capital expenditures.

2. Stormwater

eThekweni Stormwater Department have a policy that all new developments need to control their stormwater on site via a Stormwater Management Plan. All developments have to attenuate the post 1:10 and 1:50 storms and are only allowed to discharge the original pre development site flow. Therefore in theory no more stormwater should be added to the catchment areas.

3. Electricity

**Eskom**

**Potential sequence of Events**

Eskom have a future feasibility study in place, for their substation and is well documented in the Umkhomazi LAP status quo report.

For the new developments pertaining to the Umkhomazi project, the project leaders and co-ordination team need to have informative meetings with Eskom, to ensure that Eskom are on the same page of the proposed Umkhomazi LAP and potential current projects.

From a programme point of view, it would be important to start communication with Eskom officials, regarding the current Umkhomazi LAP, to start identifying a common way forward, where eThekwini Municipality and Eskom are on the same page regarding the Umkhomazi study area.

4. Telecommunication

**Potential sequence of Events**

At the time of the study, Telkom head office declined our request for existing Telkom record and capacity information.

The project leaders and co-ordination team need to have informative meetings with Telkom, to ensure that Telkom are on the same page of the proposed Umkhomazi LAP and potential current projects.

The project team will also need to meet with Neotel.

From a programme point of view, it would be important to start communication with Eskom & Neotel officials, regarding the current Umkhomazi LAP, to start identifying a common way forward, where eThekwini Municipality, Telkom & Neotel are on the same page regarding the Umkhomazi study area.
8.3 ENVIRONMENTAL AND AGRICULTURAL DEVELOPMENT FRAMEWORK

GOLDER ASSOCIATES
EXECUTIVE SUMMARY

The Umkhomazi local area, situated in the southern portion of the eThekweni Municipality, is recognised for its natural beauty and biodiversity. The area is characterised by its steep, incisive topography deep river valleys and sensitive coastline. The purpose of this report is to provide an assessment of the environmental and agricultural components for input into the overall Umkhomazi Local Area Plan as part of a professional consulting team lead by RCR Collaborative for the eThekwini Municipality. The Umkhomazi Local Area Plan forms part of the eThekweni Municipality’s Integrated Development Plan and Spatial Development Framework. The purpose of a Local Area Plan is to assess the status quo of a particular area with regard to its transport, water and sanitation infrastructure, its socio-economic environment, its current land use groups and its environmental and agricultural features and to provide a vision and workable development framework to guide future development within the area. Golder provided the environmental and agricultural inputs to the Local Area Plan. More specifically these inputs related to:

• Providing a contextual analysis of the environmental agricultural features in Umkhomazi;
• Providing input into a status quo for Umkhomazi;
• Providing a vision and conceptual framework for Umkhomazi’s environmental and agricultural components;
• Identifying environmental and agricultural development opportunities; and
• Developing a viable and sustainable management framework for the identified opportunities.

The study, from an environmental and agricultural perspective, identified several important features in Umkhomazi. These were:

• The internationally acclaimed Aliwal Shoal (declared a Marine Protected Area in 2004);
• Coastal dunes and associated vegetation;
• The Finningley forest and associated vegetation;
• The Empisini nature reserve;
• The Durban Metropolitan Open Spaces System (D’MOSS);
• The Mkomazi, Mahlongwa and Mhlongwana river catchments and estuaries;
• The extensive areas of sugarcane and timber within the area; and
• The areas of small scale agriculture in the Western Portion of Umkhomazi.

Based on analysis and argument presented in this report, the recommendations were that development be guided by four ‘visions’:

1) the integrity of the area’s ecosystems and biodiversity should be maintained,
2) the quality of and access to environmental features in the area should be improved,
3) environmentally sensitive areas should be protected and rehabilitated and
4) some form of agriculture should be maintained in the area. The study also provided a management through which these ‘visions’ could be supported.
TABLE OF CONTENTS

1.0 INTRODUCTION
2.0 DESCRIPTION OF THE STUDY AREA
3.0 CONTEXTUAL ANALYSIS: ENVIRONMENT AND AGRICULTURE
4.0 STATUS QUO ANALYSIS
4.1 General Environmental and Agricultural Features
4.1.1 Coastal dunes and associated vegetation
4.1.2 Aliwal shoal
4.1.3 Local conservancies
4.1.4 The Durban Metropolitan Open Spaces System (D’MOSS)
4.1.5 Sand mining activities in the Mkomazi River
4.1.6 Commercial agricultural activities
4.1.7 Small-scale agricultural activities
4.1.8 Implications for development
5.0 CONCEPTUAL AND DEVELOPMENT FRAMEWORK
6.0 ENVIRONMENTAL MANAGEMENT FRAMEWORK
7.0 CLOSING

TABLES
Table 1: Environmental and agricultural features of BRUs in study area
Table 2: Initiatives initiated by SAPPI from 1995 - 2008 aimed at reducing environmental impact
Table 3: Estimated estuary values and sand mining volumes, Mkomazi and Mahlongwa rivers.

FIGURES
Figure 1: The Umkhomazi area is characterized by incisive river valleys and steep topography
Figure 2: Structural damages related the proximity of structures to the ocean as a result of Hurricane Eloise (1975), Florida, USA.
Figure 3: Storm damage - Clansthal Village
Figure 4: The Aliwal Shoal Marine Protected Area. Source: www.botany.uwc.ac.za (2009)
Figure 5: SAPPIs SAICORR Pant situated near to Umkomaas Village
Figure 6: Rainwater harvesting in the Crowder area of Umkhomazi

FOR: ETHEKWINI MUNICIPALITY
BY: RCR COLLABORATIVE PROJECT TEAM

8.3 ENVIRONMENTAL DEVELOPMENT FRAMEWORK
1 INTRODUCTION

The Umkhomazi local area, situated in the southern portion of the eThekweni Municipality, is recognised for its natural beauty and biodiversity (Clanstrand Conservancy, 2009; eThekweni Municipality, 2009). Characterised by undulating and incisive topography the area is bordered by two rivers namely; the Mkhomazi to the north and the Amahlongwa to the south. According to Hattingh (2008) the rivers and estuaries found within the Umkhomazi area are of high ecological value. Prominent environmental and agricultural features in the Umkhomazi area include:

- The internationally acclaimed Aliwal Shoal (declared a Marine Protected Area in 2004);
- Coastal dunes and associated vegetation;
- The Finningley forest and associated vegetation;
- The Empisini nature reserve;
- The Durban Metropolitan Open Spaces System (D’MOSS);
- The Mkomazi, Mahlongwa and Mhlongwana river catchments and estuaries;
- The extensive areas of sugarcane and timber within the area; and
- The areas of small scale agriculture in the Western Portion of Umkhomazi.

The purpose of this report is to provide an assessment of the environmental and agricultural components for input into the overall Umkhomazi Local Area Plan as part of a professional consulting team lead by RCR Collaborative for the eThekweni Municipality. Golder was required to provide input into the following aspects of the Project:

- Contextual and status quo analysis;
- Development concepts and framework;
- Environmental Management Framework; and
- Implementation framework.

This report is structured as follows: section two describes the extent of the Umkhomazi study area and section three presents a broad contextual analysis of key environmental and agricultural features for Umkhomazi. An analysis of the status quo in regard to the relevant environmental and agricultural features in Umkhomazi is provided in section four and a conceptual and development framework is presented in section 5. Section six presents and discusses an environmental management framework for Umkhomazi and some conclusions and recommendations are presented in section seven. The document limitations are presented in Appendix A.

2 DESCRIPTION OF THE STUDY AREA

The map presented in Appendix B shows that the Umkhomazi area is situated is the southernmost portion of the eThekweni Municipality. As shown in Appendix B, the Umkhomazi area is bordered by the Mkomazi River to the north and the Amahlongwa River in the South. Moving from eastern boundary on the coast to the western boundary, the area becomes increasingly fragmented due to severe, incisive topography and numerous river valleys. The Mkomazi River is by far the most prominent feature in terms of the area’s surface water and numerous activities take place along the river’s banks. The Amahlongwana River, located between the Mkomazi and Amahlongwa rivers, is recognised more for its biodiversity than for its size. Large areas of indigenous forest can be found along the banks of the Amahlongwana.

The major commercial agricultural activities can be found in the central portions of Umkhomazi where extensive areas of timber and sugarcane can be found. The situation and extent of these agricultural activities are presented in the map in Appendix C. Small-scale semi-intensive and intensive agricultural activities take place in the Craigieburn and Crowder areas in the western portion of the study area. These small-scale activities take place despite severe topographical constraints. The lower Durban metropolitan areas as well as neighbouring municipalities are the target markets for the small-scale producers in the Crowder who produce mostly fresh vegetables.
3 CONTEXTUAL ANALYSIS: ENVIRONMENT AND AGRICULTURE

According to the Bioresource Groups (BRG) classification, under which areas sufficiently uniform in factors such as climate and vegetation, the Umkhomazi area is found within BRG 1 (Moist Coast Forest, Thorn and Palm Veld). The area experiences a mild climate (moderated by the Indian Ocean) with rainfall distributed evenly throughout the year. Rainfall and temperature range from 819mm to 1270mm and 18.3 deg C to 21.9 deg C, respectively. According to Camp (1999), strong winds are common within this BRG and, when coupled with high temperatures, evapotranspiration rates for plants in the area can be high. The area has been subject to climatic extremes in recent years with significant damage to infrastructure and properties (situated near to the ocean) occurring following severe storms in 2007.

Situated just outside the town of Umkomaas is the SAICCOR plant owned by SAPPI Forests. According to Sappi (2009), the SAICCOR plant, commissioned in 1951, is the world's largest producer chemical cellulose and provides direct employment to approximately 1 100 workers and indirect employment to approximately 15 000. The plant, through its exports of processed paper products, is a major generator of revenue for both the local and regional economies. Although recognised as a major contributor to employment and economic growth in the region, the plant also produces large amounts of air pollution (predominantly sulphur dioxide) which has created tension between the plant's operators and local residents in Umkhomazi. The plant also discharges large quantities of the chemical cellulose by-product, lignosulfate, into the Indian Ocean which has been known to impact on the Aliwal Shoal and the local diving industry. The Aliwal Shoal, situated 5km offshore from the town of Umkhomazi within a Marine Protected Area, is home to 15 species of hard and four species of soft coral and generates significant tourism revenue for the dive operators, owners of accommodation in the area and also supports local fishing communities. The owners of the SAICCOR plant, SAPPI, have, however, endeavoured to address these impacts and have been committed to reducing the plant's impact on the environment and local residents. Figure 1: The Umkhomazi area is characterized by incisive river valleys and steep topography.

The Empisini (Place of the Hyena) Nature Reserve is a 60ha reserve situated outside the town of Umkomaas. The extent of the reserve is shown in Appendix D. The Reserve, established in 1973, includes 25ha of pristine coastal forest and 35ha of grasslands. Some of the trees found within the Reserve include, Cheesewood, Pigeonwood, Red Beech, small-leaved Jackal-berry, Natal Milkplum and Natal Bush Milkwood. Common animals found in the Reserve include, Monkey, mongoose, bushbuck, blue duiker, otter, bushpig, several species of bats and several species of bird. The Reserve has overnight accommodation facilities and also caters for day visitors.

Approximately 1497ha within the Mkomazi and Mhlongwana catchments has been set aside for the Durban Municipal Open Spaces System (D’MOSS). These areas provide numerous ecological and other functions for the local area including recreation for local communities, improving stormwater management, reducing noise pollution and maintaining urban conservation areas (Ethekwini).
UMKHOMAZI LOCAL AREA PLAN

Municipality, 2009). The D’MOSS, being an urban conservation area, is not to be developed for other land uses and is updated on a continual basis.

Commercial agricultural activities in the Umkhomazi area are predominantly sugarcane and timber production. The area’s generally steep and undulating (see Figure 1) topography hinder large-scale mechanised agricultural production. In the Clansthal area, average mid slopes (any position between the bottom and top slopes) are estimated to be between 18% and 35%. The steepness of the slopes, combined with a dense network of tributaries in the area often restricts the average primary land unit sizes in the Clansthal area as well as along the banks of the Mkomazi River to approximately six hectares. In areas with flatter topography, such as the upper Mhlongwana catchment, the average primary land unit sizes are larger, however (Clansthal Conservancy, 2009). It was noted by Naicker (2009) that the majority of agricultural labour in the Crowder area was sourced from the neighbouring Ugu and Umdoni municipalities. This indicates that the majority of residents in Umkhomazi are employed in other activities besides agriculture and that perhaps unemployement in neighbouring municipalities is more prevalent. It also suggests that the contribution of agriculture to direct employment of the area is relatively low.

With the expansion of the Durban Metropolitan area there has been an increase in the demand for housing of various types and densities.

Over and above the general need for the provision of basic housing for low income families, there has been an increase in the demand for housing (in the form of estates which may offer security and utility benefits) for the upper middle to upper class. This has resulted in a general and gradual shift of the land use patterns in the area from an agricultural to residential land use. The increased demand for property development has meant that land has acquired a premium price which has provided the incentive for many landowners in the area to capitalise on these development opportunities. Notable residential developments include the proposed Cannonbrae, Finningley and Shoals estates.

4 STATUS QUO ANALYSIS

The purpose of a status quo analysis for a particular area or region is to provide an overview of the existing features, their significance to and role in a particular area or region and any existing and relevant issues related to these features that need to be mentioned and taken into account.

4.1 General Environmental and Agricultural Features

The BRGs can be further partitioned into Bioresource Units (BRUs) which are classified according to sufficient homogeneity of factors such as soil, climate vegetation and terrain form. The Wa5 (Ndaya) and Ya12 (South Coast) BRUs are found in the study area. Table 1 (below) presents a summary of the predominant environmental and agricultural features of the study area. Figure 1: Bioresource Units found in Study Area

As Table 1 shows, the study area consists of grassland with isolated areas of forest and thicket.

Table 1: Environmental and agricultural features of BRUs in study area

<table>
<thead>
<tr>
<th>Feature</th>
<th>Ndaya (Wa5)</th>
<th>South Coast (Ya12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Vegetation type</td>
<td>Bushed grassland and bushland with isolated areas of forest</td>
<td>Bushed grassland and bushland thicket</td>
</tr>
<tr>
<td>Soil characteristics</td>
<td>Generally shallow and moderate to poorly drained</td>
<td>Shallow, duplex and generally moderate to poorly drained</td>
</tr>
<tr>
<td>Soil erosion rating</td>
<td>4 – high risk of erosion*</td>
<td>4.1 – high risk of erosion*</td>
</tr>
<tr>
<td>Climate capability class</td>
<td>C2: Local climate is favourable for a wide range of adapted crops throughout the year</td>
<td>C2: Local climate is favourable for a wide range of adapted crops throughout the year</td>
</tr>
<tr>
<td>Farming system type</td>
<td>Semi-intensive</td>
<td>Intensive</td>
</tr>
<tr>
<td>Average grazing carrying capacity</td>
<td>3.4 ha/Animal unit</td>
<td>3.1 ha/Animal Unit</td>
</tr>
</tbody>
</table>

FOR: ETHEKWINI MUNICIPALITY
BY: RCR COLLABORATIVE PROJECT TEAM

8.3 ENVIRONMENTAL DEVELOPMENT FRAMEWORK
UMKHOMAZI LOCAL AREA PLAN

Source: Camp (1999) Notes: a. Site selection within these BRUs must be done taking the risk of soil erosion into account to avoid erosion and degradation of natural resources.

According to the Clansthal Conservancy (2009), the area of coastal grassland lining the coast is the most threatened vegetation type due to the extensive agricultural activities in the area. The Finningley forest, found inland from the R102 from Crocworld towards the Finningley estate near the Clansthal village is another unique ecosystem and is home to tree species such Albizia adianthifolia (Flat-Crown) and Strelitzia nicolai. The Finningley forests have recently been proclaimed a protected area by the Crookes Brothers (Clansthal Conservancy, 2009). The Blue Duiker (Philantomba monticola), a protected and endangered species, is found in forested and dense bush vegetation along the Umkhomazi coastline. Alien invasive species, particularly Chromolaena odorata (Triffid weed), Lantana camara and Ricinus communis (Caster-oil) are also commonly found within the Umkhomazi and Clansthal areas (Clansthal Conservancy, 2009).

4.1.1 Coastal dunes and associated vegetation

Found lining the Umkhomazi coastline is a band of coastal dune. Although the primary ecological function of the coastal dunes is to provide a natural buffer for coastal inhabitants by dissipating wind and ocean energy, they also offer a wealth of biodiversity in terms of the vegetation types found growing on the dunes. These vegetation types range from sparse, low growing plants to dune forest. Some examples of common dune vegetation are Carpobrotus dimidiatus (Dune Vygie), Ipomoea pes-caprae (Dune Morning Glory), Chrysanthemoides monilifera (Dune Daisy) and Sporobolis virginicus (Hardy Dune Kweek). Some of the dominant low woody tree species occurring on the dunes are Mimusops caffra (Coastal Red Milkwood), Carissa macrocarpa (Amatungulu) and Brachylaena discolour (Assegai wood). The coastal dunes have, to an extent, been developed and residences and even businesses can be found on either side of these dunes. The proximity of these residences and businesses to the ocean was a contributing factor to the extensive damage that was caused during severe storms in 2007.

Coastal dunes are found along the entire Umkhomazi coastline and play an important role in dissipating wind and sea energy and maintaining coastal stability. According to Tinley (1985), there is constant conflict in terms of the ecological and economic functions dunes play in local coastal areas. Dunes have the following ecological functions:

1) natural buffer for sea and wind energy, 2) ability to store and yield sand which reduces the recession of beaches and 3) to provide areas of biodiversity. In terms of economic value dunes, due to their proximity from the ocean, present substantial development potential for both urban and industrial development. Any coastal developers should, however, consider the potential impacts of climate change as sea level rise could have major implications for development near the coastline. Figures 2 below show the evidence of damage done to properties in the Clansthal area in 2007. Theron et al. (2008) estimated the structural and infrastructural damage to be in the region of R300 million to R2 billion.
UMKHOMAZI LOCAL AREA PLAN

Research by Shows (1976) on the costs related to storm damage in the United States indicates that the 'damage-cost' curve is steep as one moves structures closer towards the sea. This is illustrated in Figure 4 below which shows the exponential relationship between the costs of structural damage and proximity to the ocean for Hurricane Eloise in 1975. The range in damage cost (in 1975) is between $200,000 and $14,000 as one moves seaward and landward from the jurisdictional Control Line, respectively. Sand mining activities in the Mkomazi River (discussed in more detail in section 4.1.5) may increased the rate of coastal erosion in the area and exacerbate the severity of coastal infrastructure and property damage should extreme climatic conditions reoccur. According to a study by Mather (2008), sea levels[1] are rising at a rate of 2.70 ± 0.05mm per annum along the Durban coast[2].

Figure 2: Structural damages related to the proximity of structures to the ocean as a result of Hurricane Eloise (1975), Florida, USA.

4.1.2 Aliwal shoal

The Aliwal Shoal, a MPA located off the Umkhomazi coast, is a popular recreational feature generating significant revenue for the local economy of Umkomaas. The Aliwal Shoal, protected under section 43 of the Marine Living Resources Act (Act 18 of 1998), is a sub-tidal reef supporting 15 species of hard and four species of soft coral. The location of the Shoal off the coast of Umkomaas is shown below in Figure 5.

The Shoal is home to many endangered and endemic fish species as well as several shark species and has been a source of conflict between user groups. In recent years, however, formal agreements between fisherman, spearfisherman and divers have been reached and a management plan implemented to ensure sustainable use of the shoal in the future. The MPA status of the Shoal (acquired in 2004) serves several functions with the objective of maintaining the status and integrity of the shoal and its fauna. These functions include conservation of the reef fauna, the development of a world renowned diving site and the regulation and control of the Shoal's various user groups. The proximity of the shoal to the coastline means that it is susceptible to discharge into the Indian Ocean by industries along the Mkomazi river.

Figure 4: The Aliwal Shoal Marine Protected Area. Source: www.botany.uwc.ac.za (2009)

SAPPI’s SAICCOR plant is by far the largest industrial zone within the Umkhomazi area. The plant is a major contributor to the regional as well as the local economies and provides direct employment for approximately 1100 workers and supports approximately 15 000 through secondary employment (SAPPI, 2009). Its contribution to the local Gross Domestic Product aside, the Plant is also the largest contributor to air pollution in the area. The waste and production by-products such as lignosulfate are also pumped out into the Indian Ocean. The SAICCOR Plant is shown below in Figure 6.
These impacts on the environment have raised tensions among local Umkomaas residents as well as the dive operators who livelihoods are reliant upon revenue from the tourism market. The conflict between the SAPPi SAICCOR plant and local diving companies utilising the Aliwal Shoal has been well documented. The greatest area of contention seems to be the effect of the SAICCOR mills effluent on the visibility of the Shoal. The plant’s effluent was previously discharged into the ocean via a pipeline which extended to the mouth of the Mkomazi River. This pipeline was extended in 1999 to 6.5km offshore (approximately 1.5km from the Shoal). According to local dive operators, the effluent (lignosulfate) impacts on the underwater visibility, therefore, impacting negatively on diving conditions and the revenue derived from diving operations.

In April 2008, the SAICCOR plant’s chemical cellulose production capacity was increased from 225 000 t per annum to 810 000 t per annum via a capital investment of $460 million. This expansion was referred to as the Amakhulu Project. According to SAPPI (2009), the expansion will ensure that the Plant remains the world’s foremost and largest exporter of chemical cellulose and provide a viable base for further industrial development in KwaZulu-Natal. Since initiating its operations in 1955, SAPPI has endeavoured to improve its overall impact on the environment. The SAICCOR plant was ISO[1] 9002 certified in 1995 which is indicative of the commitment SAPPI has for improving their production standards. SAPPI have also ensured that the mill is compliant with ISO 14001 Environmental Standards. Initiatives SAPPI has implemented to improve and mitigate its impact on the environment are outlined in Table 2 below.
The initiatives initiated by SAPPI from 1995 - 2008 aimed at reducing environmental impact are shown in Table 2.

<table>
<thead>
<tr>
<th>Date</th>
<th>Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>Developed Element Chlorine Free (ECF) bleaching process (explain more)</td>
</tr>
<tr>
<td>1998</td>
<td>LignoTech plant commissioned to process and recover lignosulfonate</td>
</tr>
<tr>
<td>1999</td>
<td>Effluent pipeline extended to 6.5km off the coast line</td>
</tr>
<tr>
<td>2008</td>
<td>LignoTech plant capacity expanded to 155 000 tons</td>
</tr>
</tbody>
</table>

SAPPI have also been proactive; SAPPI have also implemented eight ambient air quality monitoring stations to ensure the protection of local Umkhomazi residents and the members of neighbouring communities (Airey, 2009).

4.1.3 Local conservancies

The two major conservancies in the area, the Umkhomazi and Clansthal conservancies, are composed of concerned and proactive members of the local community. The approximte location and extent of each of the conservancies is shown in Appendix E. The Umkhomazi conservancy is located between the Mkomazi (north) and Mhlongwana (south) rivers in the Umkhomazi area. The Clansthal conservancy is located between the Mhlongwana (north) and Mhlongwa (south) rivers with the Umkhomazi area. BORDERED by commercial farmland in the west, the Clansthal Conservancy is roughly 2 190 ha in extent and incorporates some unique coastal biomes which include: Coastal dunes and associated vegetation, steep riverine forest, wetland and swamp forests and beaches. Formed with the objective of preserving the biodiversity and integrity of the environment, the Conservancy members are actively engaged in several initiatives in this regard.

The Clansthal Conservancy is well resourced and has established a website through which the Conservancy disseminates information to stakeholders, conservancy members and members of the local Clansthal community. The Conservancy performs the following functions with the Umkhomazi area: development watch, neighbourhood watch and conservancy watch. In relation to development in the area, the Conservancies work closely and monitor any new or proposed developments taking place within their constituency. Other environmental functions undertaken by the Conservancies include monitoring of the Marine Protected Area off the coast, ensuring cleanliness of the local beaches, removal of alien vegetation and weeds and looking for ways in which to take advantage of the areas suite of environmental goods and services. One way the Clansthal Conservancy has identified to take advantage of the area's goods and services is to construct some sort of reserve within the Mhlongwana catchment.

4.1.4 The Durban Metropolitan Open Spaces System (D'MOSS)

Although no private or publicly owned nature reserves are found within the study area many smaller conservation areas, identified as part of the Municipal Open Space System (MOSS), fall directly into the study area. The Municipal Open Space System was initially adopted in 1979 as part of the Metropolitan Open Space System to ensure that open spaces within the greater Durban Municipality were maintained for recreation, improving stormwater management, reducing noise pollution and for the maintenance of urban conservation areas (Ethekwini Municipality, 2009). It is the responsibility of the eThewini Municipality to maintain and extend (if necessary) the areas of D'MOSS under its jurisdiction. It is, therefore, an ongoing process and the latest D'MOSS layer as at April 2010 is shown in Appendix F.

4.1.5 Sand mining activities in the Mkomazi River

According to Theron et al. (2008) the eThekwin Municipality has become concerned over sand-mining activities which may have aesthetic as well as ecological implications for the major rivers in the Umkhomazi area.
Municipality. The two rivers of concern in the Umkhomazi area are the Mkomazi and Mahlongwa. Sand mining is an extractive activity that results in less of the resource available for no-consumptive and other uses. The river sand resource provides numerous environmental goods and services including habitat provision and tourism as well as preserving the integrity of estuaries and sandy beaches. Estuaries and sandy beaches, in turn, provide a range of environmental goods and services to the area. Theron et al. (2008) estimated the values (proxied by opportunity costs) of the environmental goods and services provided by the Mkomazi and Mahlongwa rivers in the Umkhomazi area.

The report suggests that the importance of sand as an input for the construction industry is apparent but at current market prices (for sand) and the rates of permit allocation by the state, sand miners are given no incentive to reduce or even restrict their sand mining activities. The sand resource delivers a multitude of environmental goods and services (for example habitat provision and tourism) which may be negatively impacted due to current sand mining activities. Theron et al. (2008) maintain that only when market prices (for sand) increase through increased scarcity of the resource will other ways of sourcing sand (such as dredging) become viable.

Table 3 below shows the estimated estuary values and sand mining volumes. As Table 3 shows, approximately 46% of the total estuary value is related to the estimated sand value in both the Mkomazi and Mahlongwa rivers. The estimated estuary value per hectare was greater for the Mkomazi than the Mahlongwa. This was primarily due to the Mkomazi’s higher biodiversity rating.

The valuation methodology used by Theron et al. (2008) was based on an opportunity cost versus direct income approach. The opportunity costs reflect the non-use or preservation of the sand resource while the direct costs reflect the direct revenue derived from the sale of sand in the construction industry. They reported that the respective market prices for sand in these rivers is R30.15/m³ while the opportunity costs are R109.86/m³ and R98.06/m³ for the Mkomazi and Mahlongwa river, respectively. The high opportunity costs suggest that alternative forms of sand mining (such as dredging) should be investigate as the potential income derived from the value of the environmental goods and services provided exceeds the current market price for sand. Theron et al. (2008) estimate the value of sandy beaches in the eThekweni Municipality at R4.2 billion[1]. The report concludes that if sand mining activities in the Mkomazi and Mahlongwa rivers continue at an unsustainable rate, there could severe implications for the sandy beaches in the area which are reliant on the supply of river sand to maintain their structure and threshold sand levels. This could ultimately affect the tourism potential of the entire Umkhomazi area but could more specifically affect the more popular beaches such that of the Clansthal Village.

### Table 3: Estimated estuary values and sand mining volumes, Mkomazi and Mahlongwa rivers.

<table>
<thead>
<tr>
<th>River</th>
<th>Estuary size (ha)</th>
<th>Biodiversity rating (Turpie, 2004)</th>
<th>Annual sand yield (m³)</th>
<th>Annual mining volume (m³)</th>
<th><em>Estimate of annual estuary value (R/ha)</em></th>
<th>Value related to sand (R/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mkomazi</td>
<td>77.9</td>
<td>72.9</td>
<td>214 263</td>
<td>40 320</td>
<td>654 062</td>
<td>302 177</td>
</tr>
<tr>
<td>Mahlongwa</td>
<td>5.9</td>
<td>36.9</td>
<td>9 203</td>
<td>13 440</td>
<td>331 068</td>
<td>152 914</td>
</tr>
</tbody>
</table>

Source: Theron et al. (2008). Note: a. The estuary values were estimated based on the research and findings of similar studies by Mann et al. (2002), Cooper et al. (2003), Hosking and du Preez (2004), Turpie et al. (2005) and Nahman and Rigby (2008).

### 4.1.6 Commercial agricultural activities

Although the entire area is suitable for grazing the average grazing capacity for the Ndaya and South Coast BRUs is low (see Table 1). Sugarcane and timber are produced extensively in the area with timber
plantsations typically consisting of Eucalyptus. The Eucalyptus plantations, owned by SAPPI Forests supply the nearby, SAPPI SAICCOR plant which produces export quality chemical cellulose products.

Although, climatically, the area can support a wide range of agricultural crops throughout the year, the agricultural potential of the area is primarily constrained by its average to poor soil quality and steep topography. Soils in the area are typically shallow, moderately to poorly drained and show a tendency to erode easily under poor management. The most abundant parent material in the Umkhomazi area is dwyka tillite which weathers to form shallow, grey and dark grey sandy clay loam type soils. Examples of these soils include:

- Glenrosa;
- Westleigh;
- Longlands;
- Oakleaf;
- Kroonstad; and
- Katspruit.

All the above mentioned soils show gradual drainage characteristics leading to high water run – off rates. These slow soil daraining attributes have contributed to the deep and incisive river valleys the area is recognised for (Clansthal Conservancy, 2009). A map of the Umkhomazi area showing the distribution of soils is presented in Appendix H. Towards the western boundary of the Umkhomazi area near the headwaters of the Mhlongwana River, the parent material is of the Natal Group Sandstone variety. These soils are notably harder and weather more slowly than the coastal soils. This explains the relatively flatter topography of the upper Mhlongwana catchment. These soils are typically deep, well drained yellow sandy loams. Examples include:

- Hutton;
- Griffin;
- Clovelly; and
- Oakleaf.

The edaphic (soil) features are especially important when considering the types of agricultural enterprises the area could support. The soil characteristics ultimately affect the types of agricultural enterprises the study area can support but generally, semi-intensive to intensive agricultural production systems are the most appropriate for the BRUs in the study area. It is important to note, however, that an accurate assessment of agricultural potential in the study area can only be made upon completion of a soil survey and local micro-climatic and topographical factors (Camp, 1999).

In terms of agricultural potential, the generally steep topography and shallow soil structure in the area contribute to the risk of soil erosion in the area given the generally poor drainage characteristics of the soils in the area. The Umkhomazi Local Area could be classified as being of medium agricultural potential. The areas located near the eastern boundary of the study area may be classified as being of medium to high potential due to extensive areas of sugarcane produced, the local soil conditions and flatter topography found in these areas. The topographic and soil conditions in the area are generally likely to restrict agricultural diversification opportunities in the area. Apart from sugarcane and timber which are already being produced within the area, semi-intensive and intensive enterprises such as fruit and vegetables are recommended.

4.1.7 Small-scale agricultural activities

Within the Crowder area, located to the west of Craigieburn, there are numerous small scale agricultural producers who produce a variety of crops and poultry products for sale within the local and nearby urban markets. Topography, access to adequate water and credit facilities are major factors constraining farm sizes in this area. These small-scale farmers have, however, been selected by the Department of Agriculture (DoA) to pilot and implement rainwater harvesting technologies. The project is still at its inception phase but plans are underway to implement fifty tanks (5000 litre volume) by 2010. An example of the rainwater harvesting tanks is shown in Figure 6 below. The rainwater
harvesting technologies were selected based on the topography of the area to assist in improving the supply of water to these small-scale producers. The DoA is also aiming to provide maize seed for 10ha of irrigable land on the banks of the Mkomazi River in 2010. This maize will be marketed as ‘green’ maize and sold in the lower Durban Metro and in the Chatsworth areas (Naicker, 2009).

The Shoal is, however, still affected by the discharge of lignosulfates into the Indian Ocean by the SAPPI SAICCOR plant. This is despite the extension of the effluent pipeline. Access to the Shoal should perhaps be improved and protected to ensure that the resource is accessible to tourists and other users who provide significant revenue for the local economy.

The damage to infrastructure and properties along the coast following severe storms in the area in 2007 has highlighted the energy dissipating role the coastal dunes play. Future developments and infrastructure should ideally be behind these coastal dunes to at least have some sort of protection against coastal extremes. The coastal dunes also provide the area with biodiversity which adds character and aesthetic appeal to the area. Figure 6: Rainwater harvesting in the Crowder area of Umkhomazi

4.1.8 Implications for development

The Umkhomazi area is experiencing development pressure and future developments need to take into account the area’s environmental and agricultural features. These features shouldn’t necessarily be seen as inhibiting future development but should rather be seen as guiding and managing appropriate future development. Opportunities to integrate development whilst preserving and even improving the area’s environmental and agricultural features should be investigated.

Users of the Aliwal Shoal are now governed by the Marine Protected Areas Act which has ensured more sustainable and equitable use of the Shoal.

The Mkomazi, Mahlongwa and Mhlongwana estuaries provide many environmental goods and services to the area. In the Mhlongwana catchment, the Clansthal Conservancy wishes to construct a conservation area (in conjunction with Ezemvelo KZN Wildlife) to preserve and protect the rivers biodiversity. Sand mining activities, particularly in the Mkomazi river, should be more closely regulated and the municipality should encourage the State to monitor the issuing of sand-mining permits. Sand mining, an extractive activity, should not exceed the natural regenerative capacity of the resource as this may lead to impacts on the area’s sandy beaches. The areas of D’MOSS are not intended to be developed and future developments will need to consider the locations of D’MOSS areas.

In terms of implications for agriculture, the generally steep topography and shallow soil structure in the area contribute to the risk of soil erosion in the area given the generally poor drainage characteristics of the soils in the area. Coupled with the erosion of soils in areas with steep slopes is increased storm-water runoff or ‘sheet-flow’. During periods of high rainfall flooding could, potentially, be exacerbated by...
increased sheet-flow through narrow river channels. Any agricultural land brought into production on steep slopes should have contours built to reduce sheet-flow. Alternatively, rainwater attenuation structures may need to be constructed towards the lower end of the main river catchments in the area (Mkomazi and Mahlongwa). The topographic and soil conditions in the area are likely to restrict agricultural diversification opportunities.

The Mkomazi and Mahlongwa rivers also flow through commercial agricultural land which may present certain environmental issues due to the area’s steep topography. According to members of the Umkhomazi conservancy the catchments have been affected by the run-off of fertilizers into the rivers. This agricultural run-off resulted in an algal bloom (due to eutrophication) in 2008 which killed large numbers of fish in the Mahlongwa river. The Clanthal Conservancy (2009) contends, however, that the risk of run-off from agricultural activities is relatively low due the high cost of agricultural inputs such as fertiliser and herbicides which provides local farmers with an incentive to optimise the use of these inputs. According to the Clanthal Conservancy (2009), many commercial sugarcane producers have, in recent years, decide not to burn their cane prior to harvest but to rather harvest the cane ‘green’. This has reduced the amount of air pollution in the area.

The small-scale agricultural producers situated in the Crowder area to the west of Craigieburn face several constraints to the profitability and the expansion of their agricultural enterprises. These are a lack of access to credit (due to low land values), lack of access to water (especially those situated far from the Mkomazi River) and poorly developed local markets. Development should, perhaps, be focused on these producers who are currently involved in a rain water harvesting pilot project with the DoA.

5 CONCEPTUAL AND DEVELOPMENT FRAMEWORK

The Umkhomazi area, recognized for its natural beauty, biodiversity and incisive topography has many environmental features of high ecological value which include:

- the internationally acclaimed Aliwal Shoal
- The strip of coastal dune and associated vegetation lining the coastline;
- The Mkomazi, Mahlongwa and Mhlongwana catchments and estuaries;
- The areas of natural forest such as the Finningley forest;
- The sandy beaches; and
- The D’MOSS.

Due to the sensitive nature and status of these environmental features, the guiding principles for the conceptual development framework should focus on protecting, preserving, improving access to and, where necessary rehabilitating these natural and sensitive features.

Apart from the area’s biodiversity and prominent environmental features, commercial agriculture is also well established in the Umkhomazi area and large sugarcane and timber farms are found primarily in the eastern portions of the area. Sugarcane and timber (Eucalyptus) thrive in the area’s shallow, poorly drained soils and derivatives of these enterprises are marketed locally, nationally and internationally. Small-scale agricultural activities (subsistence and marketing gardening) can be found in the western portion of Umkhomazi and the P197 road acts as an artificial divider between these small-scale/subsistence and commercial agricultural activities.

In the western portion of Umkhomazi, topography as well as other factors such as access to water and credit have constrained the agricultural activities in the this area but rising energy costs present a new threat to the viability of these small farming enterprises and may force some of these farmers to either leave the area or agricultural sector altogether. The guiding principles for the agricultural development framework should focus on maintaining the area’s current commercial agricultural activities to some extent and should also focus on supporting small – scale market gardeners and subsistence farmers. Renewable energy technologies may present an opportunity to assist these small – scale farmers in terms of reducing their energy costs.
UMKHOMAZI LOCAL AREA PLAN

Taking the area’s biodiversity, natural features and agricultural activities, the broad ‘visions’ for the conceptual and development frameworks relating to environmental and agricultural aspects are listed below:

**Maintain the area’s ‘green’ character**

The natural vegetation of the Umkhomazi area consists of grassland with isolated areas of forest and thicket. The areas of natural vegetation are restricted to the extreme eastern and western portions of Umkhomazi due to the commercial agricultural activities in Umkhomazi. The Finningley forest, found inland from the R102 from Crocworld towards the Finningley estate near the Clansthal village is unique ecosystem and home to tree species such *Albizia adianthifolia* (Flat-Crown) and *Streilizia nicolai*. The Finningley forests have recently been proclaimed a protected area by the Crookes Brothers (Clansthal Conservancy, 2009). The western portion of Umkhomazi is steeply sloped and these slopes are lined with dense thicket and areas of grassland. The areas of D’MOSS should be maintained and a strip of vegetation should be maintained along the N2 highway which passes through Umkhomazi.

**Ensure future coastal developments remain behind primary coastal dunes (R102)**

The coastal dunes lining the Umkhomazi coastline play an important energy dissipating and buffering role for coastal residents and any development on the seaward side of these dunes runs the risk of incurring substantial damage during unanticipated weather phenomena. The damage to road infrastructure and properties along the Umkhomazi coast following severe storms in the area in 2007 has highlighted role these coastal dunes play. Future developments and road infrastructure should, therefore, be positioned behind these coastal dunes to at least have some sort of protection against coastal extremes. The coastal dunes also provide the area with biodiversity which adds character and aesthetic appeal to the area.

**Municipality should continue to monitor and regulate sand mining activities in the area’s river catchments**

The Mkomazi, Mahlongwa and Mhlongwana estuaries provide many environmental goods and services to the area. Sand mining activities, particularly in the Mkomazi River, should be more closely regulated and the municipality should encourage the State the monitor the issuing of sand-mining permits. Sand mining, an extractive activity, should not exceed the natural regenerative capacity of the resource as this may lead to impacts on the area’s sandy beaches and also on the biodiversity of Umkhomzi’s estuaries.

**Protect and improve access to the Aliwal Shoal Marine Protected Area**

The internationally acclaimed Aliwal Shoal, a Marine Protected Area, generates significant tourism revenue for the local economy within Umkhomazi. Users of the Aliwal Shoal are now governed by the Marine Protected Areas Act which has ensured more sustainable and equitable use of the Shoal. The Shoal is, however, still affected by the discharge of lignosulfates into the Indian Ocean by the SAPPi SAICCOR plant. This is despite the extension of the effluent pipeline. Access to the Shoal should perhaps be improved and protected to ensure that the resource is accessible to tourists and other users who provide significant revenue for the local economy.

**Develop complementary tourism facilities/activities in Umkhomazi to support the Aliwal Shoal**

Divers and their families frequenting the Aliwal Shoal are given no incentive to remain in Umkhomazi once they have completed their dive. This could partially be due to a lack of complementary tourism facilities in the area which could attract divers and their families to Umkhomazi. An increase in Shoal related tourism could assist in promoting the tourism status of the Shoal. This in turn could help to protect and conserve the Shoal and its wealth of biodiversity.

**Eco-tourism opportunities along the Amahlongwana river/Clansthal**

This initiative is being driven by the Clansthal Conservancy and its...
UMKHOMAZI LOCAL AREA PLAN

objective is “to create a contiguous environmentally managed area - including any Stewardships - that links Empisini Nature reserve, parts of the Canonbrae development, parts of Umkomaas village, the Mahlongwana River Valley, selected open and riparian areas belonging to Crookes Brothers Limited and Crookes Finningley, the Finningley coastal forest, the Henderson dune forest land, and the three beaches and dune scrub between Widenham and Black Rock” (Crankshaw, 2009:pers comm).

Some form of agriculture in the area must be maintained

In terms of implications for agriculture, the generally steep topography and shallow soil structure in the area contribute to the risk of soil erosion in the area given the generally poor drainage characteristics of the soils in the area. Coupled with the erosion of soils in areas with steep slopes is increased storm-water runoff or ‘sheet-flow’. During periods of high rainfall flooding could, potentially, be exacerbated by increased sheet-flow through narrow river channels. Any agricultural land brought into production on steep slopes should have contours built to reduce sheet-flow. Alternatively, rainwater attenuation structures may need to be constructed towards the lower end of the main river catchments in the area (Mkomazi and Mahlongwa). The topographic and soil conditions in the area are likely to restrict agricultural diversification opportunities.

Rainwater harvesting and renewable energies in the to support small farmers in the Crowder Area

Relative to the well developed commercial farmers in the Umkhomazi area; small-scale agricultural producers situated in the Crowder area to the west of Craigieburn face several constraints to the profitability and the expansion of their agricultural enterprises. These are a lack of access to credit (due to low land values), lack of access to water (especially those situated far from the Mkomazi River) a poorly developed local market and rising energy costs. Many of the Crowder farmers market their fresh produce (vegetables) in the lower portion of the Durban Metropolitan area and a few have fixed supply contracts with large supermarket chains. Due to their production constraints, however, these contracts are often difficult for these farmers to fulfil. Future agricultural development in Umkhomazi should, therefore, be focused on addressing the production constraints of these farmers.

One way to address the water constraint for these farmers is to implement rainwater harvesting technologies in the area. The steepest and severest slopes in Umkhomazi can be found in the Crowder area and, in conjunction with the area’s poorly drained soils, there is an opportunity to capture the increased sheet-flow or run-off during periods of heavy rainfall. The Department of Agriculture is currently piloting a rainwater harvesting project with a number of Crowder farmers.

6 ENVIRONMENTAL MANAGEMENT FRAMEWORK

According to Jacobs (2009), the purpose of an environmental management framework is to ensure the development of environmentally harmonious policies, plans, programmes and stakeholder decisions in order to promote sustainable development[1].

In Chapter 5, Section 23 (1) and (2) of NEMA, the objectives of an environmental management framework are to (Jacobs, 2009):

Promote the application of appropriate management tools in order to ensure the integrated environmental management of activities;

Promote the integration of principles of environmental management into the making of all decisions which may have a significant effect on the environment;

Identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximizing benefits and promoting compliance with the principles of environmental management;
Ensure that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them;

Ensure adequate opportunity for participation in decision making;
Ensure the consideration of environmental attributes in management and decision-making which may have a significant effect on the environment; and

Identify and employ the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management.

The approach to developing an environmental management framework was to align the management framework with intended environmental visions of the study area. These environmental visions (taken and adapted from the conceptual and development framework) were the following:

Maintain the integrity of the area’s ecosystems and biodiversity;

Improve quality of and access to environmental features in the area;

Protect and rehabilitate environmentally sensitive areas; and

Maintain some form of agriculture in the area.

Core environmental areas that would enable or contribute to the realisation of these visions were then identified. Any risks or issues that could negatively impact and the opportunities that could positively impact on these core areas were then identified. Recommendations on future management were then developed to ensure the protection of these core environmental areas. The environmental management framework for the Umkomazi Local Area Plan is presented in the tables below.
### Vision/Intentions
- **Maintain the integrity of the area’s ecosystems and biodiversity**
- **Improve quality of and access to environmental features in the area.**

### Core Areas

<table>
<thead>
<tr>
<th>Vision/Intentions</th>
<th>Core Areas</th>
<th>Risks/Issues</th>
<th>Opportunities</th>
<th>Management required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain the integrity of the area’s ecosystems and biodiversity</td>
<td>D’MOSS, Empuzini Nature Reserve, Mkomazi, Amahlongwana and Amahlongwa river catchments, Mkomazi river estuary, Finningley forest and associated vegetation, Coastal dunes and associated vegetation</td>
<td>Urbanization and Development pressures, Management of existing and new developments</td>
<td>Clansthal Conservancy Stewardship Plan and tourism development, Maintenance of the D’MOSS</td>
<td>Municipality to continue efforts to maintain and preserve D’MOSS, Development on D’MOSS areas may need offsets and a full EIA depending on size, Control/Regulate development in the upper Umkhomazi catchment, Support efforts of local Conservancies in removing alien vegetation and re-populating with indigenous plants, Ensure that future development(s) are aligned with this vision</td>
</tr>
<tr>
<td>Improve quality of and access to environmental features in the area.</td>
<td>Aliwal Shoal, Mkomazi, Amahlongwana and Amahlongwa catchments, Crowder area</td>
<td>SAPPi SAICORR effluent pipeline and Shoal visibility, Emissions from SAPPi SAICORR and air quality, Inappropriate development in the headwaters of the Amahlongwana</td>
<td>Tourism amenities (splash pools, restaurants) for shoal divers, Clansthal Conservancy Stewardship Plan and tourism development, Holiday lodges (tourism) linked to Finningley Development</td>
<td>Protect and improve access to Aliwal Shoal launch site to increase tourism potential, Air quality issues need to be taken into account when considering locations for new developments, The potential impacts of water quality in the Mkomazi river needs to be considered for tourism developments, Clansthal conservancy to establish conservation trail and maintain via Stewardship Plan, Investigate tourism opportunities in Crowder area</td>
</tr>
</tbody>
</table>
### UMKHOMAZI LOCAL AREA PLAN

<table>
<thead>
<tr>
<th>Vision/Intentions</th>
<th>Core Areas</th>
<th>Risks/Issues</th>
<th>Opportunities</th>
<th>Management required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Protect and rehabilitate environmentally sensitive areas</strong></td>
<td>Areas of coastal dune, Umkhomazi, Amahlongwana and Amahlongwa River catchments</td>
<td>Global climate change may cause sea level rise, Unregulated sand mining activities in river catchments exacerbate coastal erosion, Tourism revenues linked to condition of beaches, Risk of soil erosion on steep slopes in the area</td>
<td>Protect sensitive vegetation found on sand dunes (<em>Carpobrotus dimidiatus</em> (Dune Vygie), <em>Ipomoea pes-caprae</em> (Dune Morning Glory), <em>Chrysanthemoides monilifera</em> (Dune Daisy) and <em>Sporobolis virginicus</em> (Hardy Dune Kweek)), Clansthal Conservancy Stewardship Plan and tourism development</td>
<td>Monitor and regulate sand mining activities in Umkhomazi river, Ensure any new development(s) remain behind the primary dunes, Ensure new development(s) are done taking into account the land contouring, Educate locals on how to preserve environmentally sensitive features</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vision/Intentions</th>
<th>Core Areas</th>
<th>Risks/Issues</th>
<th>Opportunities</th>
<th>Management required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maintain some form of agriculture in the area</strong></td>
<td>Areas of commercial timber and sugarcane production, Mosaic agriculture, Market gardening, Rainwater harvesting technologies</td>
<td>Urbanization and Development pressures, Competing residential developments</td>
<td>Verify areas of high and low potential land through a soil survey, Ensure that high potential land does not get developed and remains productive and viable, Investigate rainwater harvesting opportunities for small-scale farmers in Crowder to improve sustainability</td>
<td></td>
</tr>
</tbody>
</table>
UMKHOMAZI LOCAL AREA PLAN

7 CLOSING

The Umkhomazi area, recognized for its natural beauty, biodiversity and incisive topography has many environmental features of high ecological value which include:

The internationally acclaimed Aliwal Shoal;
The strip of coastal dune and associated vegetation lining the coastline;
The Mkomazi, Mahlongwa and Mhlongwana catchments and estuaries;
The areas of natural forest such as the Finningley forest;
The sandy beaches; and

The D’MOSS.

The purpose of this report is to provide an assessment of the environmental and agricultural components for input into the overall Umkhomazi Local Area Plan as part of a professional consulting team lead by RCR Collaborative for the eThekwini Municipality. Golder was required to provide input into the following aspects of the Project:

Contextual and status quo analysis;
Development concepts and framework; and
Environmental Management Framework;

An implementation framework for this Project was submitted separately. Golder Associates is glad to have been a part of the Project team for this assignment and hope that this report meets with your expectations. We look forward to developing our relationship further on future projects and assignments.

8.3 ENVIRONMENTAL DEVELOPMENT FRAMEWORK
DOCUMENT LIMITATIONS
This Document has been provided by Golder Associates Africa Pty Ltd ("Golder") subject to the following limitations:

i)  This Document has been prepared for the particular purpose outlined in Golder’s proposal and no responsibility is accepted for the use of this Document, in whole or in part, in other contexts or for any other purpose.

ii) The scope and period of Golder’s Services are as described in Golder’s proposal, and are subject to restrictions and limitations. Golder did not perform a complete assessment of all possible conditions or circumstances that may exist at the site referenced in the Document. If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by Golder in regards to it.

iii) Conditions may exist which were undetectable given the limited nature of the enquiry Golder was retained to undertake with respect to the site. Variations in conditions may occur between investigatory locations, and there may be special conditions pertaining to the site which have not been revealed by the investigation and which have not therefore been taken into account in the Document. Accordingly, additional studies and actions may be required.

iv) In addition, it is recognised that the passage of time affects the information and assessment provided in this Document. Golder’s opinions are based upon information that existed at the time of the production of the Document. It is understood that the Services provided allowed Golder to form no more than an opinion of the actual conditions of the site at the time the site was visited and cannot be used to assess the effect of any subsequent changes in the quality of the site, or its surroundings, or any laws or regulations.

v) Any assessments made in this Document are based on the conditions indicated from published sources and the investigation described. No warranty is included, either express or implied, that the actual conditions will conform exactly to the assessments contained in this Document.

vi) Where data supplied by the client or other external sources, including previous site investigation data, have been used, it has been assumed that the information is correct unless otherwise stated. No responsibility is accepted by Golder for incomplete or inaccurate data supplied by others.

vii) The Client acknowledges that Golder may have retained sub-consultants affiliated with Golder to provide Services for the benefit of Golder. Golder will be fully responsible to the Client for the Services and work done by all of its sub-consultants and subcontractors. The Client agrees that it will only assert claims against and seek to recover losses, damages or other liabilities from Golder and not Golder’s affiliated companies. To the maximum extent allowed by law, the Client acknowledges and agrees it will not have any legal recourse, and waives any expense, loss, claim, demand, or cause of action, against Golder’s affiliated companies, and their employees, officers and directors.

viii) This Document is provided for sole use by the Client and is confidential to it and its professional advisers. No responsibility whatsoever for the contents of this Document will be accepted to any person other than the Client. Any use which a third party makes of this Document, or any reliance on or decisions to be made based on it, is the responsibility of such third parties. Golder accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this Document.
UMKHOMAZI LOCAL AREA PLAN

8.3 ENVIRONMENTAL DEVELOPMENT FRAMEWORK
8.3 ENVIRONMENTAL DEVELOPMENT FRAMEWORK
UMKHOMAZI LOCAL AREA PLAN

8.3 ENVIRONMENTAL DEVELOPMENT FRAMEWORK
8.3 ENVIRONMENTAL DEVELOPMENT FRAMEWORK
8.3 ENVIRONMENTAL DEVELOPMENT FRAMEWORK
8.4 LAND USE MANAGEMENT FRAMEWORK

PROF. MIKE KAHN
1 INTRODUCTION

A “Land Use Framework” (LUF) primarily identifies the range/type of zones appropriate to the area under consideration. The subsequent formulation of a Land Use Scheme (or Planning Scheme) will compile the requisite detail that comprises a Scheme document and map.

The LUF is, therefore, a precursor to the formulation of a Planning Scheme. As such it identifies, in broad terms, the nature of the intended zoning categories that will be determined for the scheme.

It does not directly address the details embodied in the written part of a Scheme, viz.

It does not address
- the preparation of a schedule of General Definitions;
- a schedule of Land Use and Building Definitions;
- the preparation of a table of uses related to zones, i.e. the specific details of land uses (whether Free Entry, Consent Use, or Prohibited) or
- the development regulations pertaining to those zones.

However, a Land Use Framework will indirectly or implicitly, identify or “flag” aspects of the 4 listings quoted above.

Essentially, the LUF identifies the “intent” of the different zones that will be developed in the formulation of a Scheme.

The area of the Umkhomazi LUF is the same as that of the LAP, and comprises the areas of the 4 TPS's as well as the areas previously not managed by them; viz.

- The Umkomaas TPS
- The Widenham TPS
- The Clanthal TPS
- The Craigieburn TPS (which covers the areas of Naidooville and Roseneath)
- The SAICCOR industrial plant
- The traditional settlement of Willow Glen and Crosby
- The balance of the LAP area

The process of formulating a LUF comprises several aspects; viz.

- Analyzing the current TPS areas
- Adjusting for and being informed by the LAP
- Detailing and elaborating the use areas identified in the LAP
- Modifying the existing TPS’s in terms of the directives explicit and implicit in the LAP
- Applying and extending use zones to the areas previously not managed by the TPS’s.
- The LUF is applied to the “Medium-Term” phase of the LAP

In this particular case, notwithstanding the requirements of the brief to do so in terms of the LUMS approach, it has been decided that the LUF will, largely, make use of the zones as used in the current TPS. However, the current TPS’s evolved during a period when the area was not subject to much change or pressure for the development of new types of development. Consequently, there is a need to consider the introduction of new types of zones in order to be able to respond to current and anticipated new forms of development.

The approach, as seen in the tables below, largely utilizes the current zoning approach, as directed after a workshop to discuss the matter.

The two tables below identify:
- the “Translation” of the current zones for purposes of the LUF
- the introduction/consideration of “new” zone types.

The LUF map will identify zones in three ways; viz.

Where there is no alteration to these zones being recommended, the map will leave these areas “untouched”.

Where existing zones will be altered/amended or “translated” as indicated in the SR approach, the areas will be demarcated with a particular colour (Black) boundary, so that those who will be responsible for translating the LUF into a Land Use Scheme will have a clear directive to do so.

In the case of new areas (where there is no adopted cadastral layout, regardless of the stage of development of the proposed development) the areas will be demarcated as “Future ” zones with a boundary of another colour (RED).
UMKHOMAZI LOCAL AREA PLAN

2 GENERAL APPROACH

The LUF is prepared for the Medium-term phase of the LAP. Any land uses identified in the LAP for the long-term will retain their current or translated uses.

To a large extent, the approach involves the continued use of the current zoning typology. This is a consequence of a directive to the consultants prepare the LUF in terms of the current zoning typology.

However a decision was made to translate the Special Residential zones to follow an approach being adopted/considered in the balance of the city, viz. translating the various SR zones into a Minimum Lot size categorization.

No decision/discussion has yet taken place in regard to the treatment of the various General Residential Zones. There are two possible approaches that can be followed; viz.

- the various GR zones can be translated in a similar fashion to the SR zones above; or
- a single GR zone can be shown; and those who will be responsible for its translation into a Scheme map will differentiate between various GR typologies at that stage.

The LAP follows the following principles:

- The existing nature of the zoning of the current developments and TPS’s will be retained.
- The existing Town Centres of Umkomaas and Craigieburn will be retained as dominant foci for the Short- to Medium-term. These areas will be subject to some amendment and will be addressed under specific discussion later.
- There is a need, however, to identify the long-term proscription for a major shopping focus at the entrance to Umkomaas
- New office orientated clusters will be introduced in appropriate locations that reinforce a number of existing and proposed nodes.

• There will be an increased residential densification around the two Town Centres
• There will be an increased residential densification of the eastern and seaward facing residential zones, but these will not follow the pattern in other coastal settlements with high rise high density development, but rather with an increased low rise densification in order to protect views.
• A number of Medium Density Housing clusters will be introduced, mainly in the proposed new areas.
• New industrial areas will be introduced in appropriate locations.
• D’MOSS will continue to be an additional informant and will occur as an “overlay” to both the LUF and the LUS, and will not be demarcated on the LUF
• The Proposed Coastal Park will be an additional informant and will consequently be also addressed as an “overlay” until such time as it is adopted.

3 LAND USE FRAMEWORK TYPOLOGY

The second Table (below) identifies some basic “new” Zones for introduction in the approach of the LUF. These include:

a. Medium Density Housing
b. Interface Zones adjacent to major traffic generators of between potentially impacting uses. The Table is using the LUMS nomenclature for the time being i.e. Medium and High Impact Residential zones
c. Hotel and/or Lodge
d. General Shopping for the proposed long-term major facility. The use of a General Commercial zone should be avoided as this type of zone permits a range of uses with externality impacts such as service industrial uses.
e. An Office Zone
f. An Industrial/Business Park zone
g. The application of a Noxious Industrial Zone for the SAICCOR development
h. Retirement Village
# UMKHOMAZI LOCAL AREA PLAN

## 8.4 LAND USE MANAGEMENT FRAMEWORK

### LAND USE FRAMEWORK CATEGORIES:

#### Translation

<table>
<thead>
<tr>
<th>Zone</th>
<th>Town</th>
<th>LUF Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Residential 1</td>
<td>Umkomaas, Craigieburn</td>
<td>Special Residential 200</td>
</tr>
<tr>
<td>Special Residential 2</td>
<td>Umkomaas</td>
<td>Special Residential 350</td>
</tr>
<tr>
<td>Special Residential 2</td>
<td>Craigieburn</td>
<td>Special Residential 450</td>
</tr>
<tr>
<td>Special Residential 3</td>
<td>Craigieburn</td>
<td>Special Residential 700</td>
</tr>
<tr>
<td>Special Residential (1)</td>
<td>Clanthal</td>
<td>Special Residential 900</td>
</tr>
<tr>
<td>Special Residential (2)</td>
<td>Clanthal</td>
<td>Special Residential 1200</td>
</tr>
<tr>
<td>Residential</td>
<td>Widenham</td>
<td></td>
</tr>
<tr>
<td>Intermediate Residential</td>
<td>Craigieburn</td>
<td>Intermediate Residential</td>
</tr>
<tr>
<td>General Residential (1)</td>
<td>Umkomaas, Craigieburn</td>
<td>General Residential (1)</td>
</tr>
<tr>
<td>General Residential (2)</td>
<td>Umkomaas, Widenham</td>
<td>General Residential (2)</td>
</tr>
<tr>
<td>General Residential (3)</td>
<td>Umkomaas</td>
<td>General Residential (3)</td>
</tr>
<tr>
<td>Rural Residential</td>
<td>Craigieburn, Clanthal</td>
<td>Rural Residential</td>
</tr>
<tr>
<td>Mobile Park Home</td>
<td>Craigieburn</td>
<td>Mobile Park Home</td>
</tr>
<tr>
<td>Resort</td>
<td>Widenham</td>
<td>Resort</td>
</tr>
<tr>
<td>Agricultural land</td>
<td>Umkomaas</td>
<td>Agriculture</td>
</tr>
<tr>
<td>Agriculture</td>
<td>Craigieburn</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>Craigieburn, Widenham</td>
<td>Education</td>
</tr>
<tr>
<td>Administration</td>
<td>Umkomaas, Clanthal</td>
<td>Administration</td>
</tr>
<tr>
<td>Local Authority and Govt</td>
<td>Widenham</td>
<td></td>
</tr>
<tr>
<td>Worship</td>
<td>Craigieburn</td>
<td>Worship</td>
</tr>
<tr>
<td>Private Open space</td>
<td>Umkomaas</td>
<td>Private Open Space</td>
</tr>
</tbody>
</table>
4 COMMENTS ON PROPOSED ZONES

Only the principles applicable to the major and large scale zones will be described in this section.

SPECIAL RESIDENTIAL
There are currently 9 SR zones within the existing 4 TPS’s. Some of these are identical to each other, while others vary, depending on the implicit and underlying components of the uses permitted and the Development Regulations. The application of the Special Residential minimum lots configuration indicated that the majority of the current SR zones fall within the Minimum Lot size 1200 category, particularly as a substantial proportion of these areas comprise of the original large un-subdivided sites. Different minimum lot size categories, for the LUF, have been allocated according to their proximity to major foci and/or existing adjacent residential areas. In addition, as already mentioned, relatively higher density SR development is proposed for the seaward facing areas.

GENERAL RESIDENTIAL
There are relatively few GR zones in the current TPS’s. These are located adjacent to the existing two major town centres. There is no anticipated change envisage for the Umkomaas area. Additional sites are proposed adjacent to the Craigieburn town centre. New sites for clusters of GR zones are supported in some of the proposed developments.

MEDIUM DENSITY HOUSING
The proposal for Medium Density Housing is broadly supported in the various applications under consideration, viz. Cannonbrae, The Shoals, and Finingley. These have been reallocated to align with the recommendations of the LAP. This results in a fine-grain mixed residential use environment creating a level of choice, rather than large scale homogeneous residential areas.
RETIREMENT VILLAGES
These proposals are supported.

GENERAL COMMERCIAL / TOWN CENTRES
A large area is currently zoned General Commercial in the heart of the Umkomaas Town Centre. The extent of the zoning is broadly maintained and is encouraged to consolidate via redevelopment in centre of the zoned area. A grouping of General Commercial sites to the south of the zoned area is not currently developed as such and it is recommended that these areas be rezoned to accord with their present use. In this way the Town centre is concentrated on the brow of the hill and will not extend unnecessarily towards the more residential area, which is also not topographically associated with town centre accessibility.

The arrangement and extent of the General Commercial area of Craigieburn extends beyond a comfortable walking distance. Consequently, the area will be constrained to equate to the extent of a conventional Core, centred around the Civic facilities. On the other hand the current zoning (some which occurs as split zones across large sites) is reconfigured so that it occurs over a small distance, but is also enlarged to create an opportunity for an appropriately located extension to be developed to form a contemporary “core” to the Town Centre.

NOXIOUS INDUSTRY
The SAICCOR site is currently assigned a General Industrial zoning. It is appropriate that it be rezoned as a Noxious Industrial Zone.
An interface strip will be zoned to act as a buffer between this development and adjacent residential development.

GENERAL INDUSTRY
New General Industrial zones are to be created in areas away from the Town Centres and in areas away from the major residential areas. These are also located adjacent to major roads thereby giving good access to those who work in them.

LIGHT INDUSTRY
Several clusters of Light Industrial sites are located along major roads and at the edges of residential areas so that there are limited externality impacts.

BUSINESS PARK
Two Business Park area are identified; viz. an area that will form part of the proposed long-term node at the entrance to Umkomaas and adjacent to the current Light Industrial zone; and one that will permit a mix of appropriate uses to be both a buffer between the airstrip and residential areas and to accommodate cognate uses.

CONSERVATION ZONE
This is a Zone that can be applied over essentially private land. In this case it would occur through existing and proposed development and across Agricultural and Rural Residential zones, and across pieces of other zones in private ownership in the form of “split-zones” i.e. across cadastral boundaries.

ENVIRONMENTAL CONSERVATION RESERVE
This zone demarcates conservation and Amenity reserve areas in public ownership.

AGRICULTURE
The balance of the Umkhomazi Project Area will retain its present usage and be zoned for agricultural purposes. Some of the agricultural zones are currently used for forests/plantations, the majority is still used for growing sugar cane and there are clusters of market gardening. It is recommended that the more general Agricultural zone typology is retained in order to facilitate modification and diversification activities to evolve over time.
UMKHOMAZI LOCAL AREA PLAN

5 AREA BASED DESCRIPTION

UMKOMAAS
The area that comprises Umkomaas remains largely as it is. There is a small adjustment in respect of the extent of the General Commercial zoning which is slightly reduced in size. The Special Residential area adjacent to the “core” area and the General Residential areas is altered to a smaller Min lot size format to facilitate a relatively higher density.

WIDENHAM
The majority of Widenham also remains much as it is. The inland areas comprise of Special Residential Min lot 1200 The Special Residential zone facing the sea facilitates additional units because the zoning is altered to a smaller Special Residential min 450 lot size and yet retains its current low height and existing urban fabric. This area could also be considered in a “medium density” low-rise format. The major dune adjacent to the service station is to be rezoned for open space purposes.

CANNONBRAE
The proposed Cannonbrae development comprises the following land use zones:
- A long-term major shopping centre
- An office or Business Park zone
- A fine-grain mixed residential area of clusters of Special Residential areas and Medium Density Housing clusters. The Medium Density Housing Clusters are located along a major collector road and adjacent to an open space system.

CLANSTHAL
The majority of Clanthal remains much as it is. The inland areas will comprise of Special Residential Min lot 1200 sites The Special Residential zone facing the sea facilitates additional units because the zoning is reduced to a smaller Special Residential min 450 lot size.

THE SHOALS
The Shoals development will comprise of mainly detached housing at SR Mon Lot 1200 sites – a continuation of the adjacent Clanthal area. The area will be connected to Clanthal via a large Collector loop. A large Hotel site is located on a strategic hilltop. A single large Medium density zone is located at its southern edge alongside part of the open space system.

FINNINGLEY

Finningly East
This area comprises two areas, viz. A series of Medium Density clusters embedded within an open space system alongside the N2 Freeway A Conservation zone that serves to retain the natural ecology between the southern cluster and The Shoals development A mixed cluster of relatively higher density Special Residential (Min Lot 450); Medium Density Housing; a Retirement Village, and a General Residential area.

Finningly South: Inland area
This area comprises of a small cluster of mixed residential zones, viz
Special Residential Min Lot 1200 Special Residential Min Lot 450 Medium Density Housing A small Local convenience shopping area.

Finningley North
The proposed land uses for this area comprises:
- An airstrip
  A linear Business Park belt that acts simultaneously as a buffer between the airstrip and the adjacent residential areas; and as a area to accommodate uses cognate with the airstrip that have limited externalities
  A set of residential clusters for Medium Density Housing and for
Medium-to-High density residential development, i.e. a particular type of General Residential zoning
On the western side of the airstrip is a cluster of General Industrial development, and adjacent to that is a cluster of Light Industrial development where it abuts a proposed residential area.

UMAHLONGWA (WILLLOW GLEN /CROSBY)
This area comprises an existing set of developments and a proposed city Housing project. Both areas are proposed to be zoned for Special Residential Min Lot 450
The small existing commercial node will be consolidated into a larger node comprising commercial and administrative uses.

NAIDO OVILLE
This area retains its mainly residential and associated uses character. The zoning, of Special Residential Min lot 900 will permit large sites to be subdivided
The existing Service Station and Bus Depot will be expanded to create a Local Convenience Limited Commercial zone node.

ROSENEATH
The Craigieburn Town Centre is restructured with the zoning facilitating the development of a centrally located major facility, which will substantiate this centre with its Civic facilities. The lower section of currently zoned General Commercial sites will be rezoned for Limited Commercial uses and/or office development in order to constrain the Town centre to an accessible and convenient “core”.

Additional General Residential development will be zoned around the “core” to create a residential “Frame” component to the Town Centre
The river running through the Town centre will be formally demarcated as an Open Space (Conservation Zone) system.
Residential densities are increased around the edge of the Town Centre

Additional community facilities, viz. a health/hospital facility is encouraged in close proximity to the Town centre and generally accessible to all residents by being close to the major road.

The existing cemetery is to be expanded.

The various Special Residential zones, both existing and proposed, will be in accordance with the present form of development, viz SR 200, SR 350, and SR 450.

6 MANAGEMENT OVERLAYS
The LUF sets the guidelines for the preparation of a Land-Use Scheme.
The Scheme itself is the basic management tool to direct and constraint development and is the foundation of setting out the nature and form of development for any particular area.
However, in addition to a Scheme, a local municipality can further regulate and management development with reference to additional more detailed plans such Urban design plans, environmental plans, etc.
These additional plans can be formally associated with a Scheme, and the system for doing so has become known as the Management Overlay system.
Management Overlays can occur in several forms.
They can be detailed and specific directives tied directly to a Scheme; eg
Density Overlays
More detailed form based plans; eg
Urban Design Plans
Issues and concerns identified for further consideration; eg
DMOSS Overlays

FOR: ETHEKWINI MUNICIPALITY
BY: RCR COLLABORATIVE PROJECT TEAM

8.4 LAND USE MANAGEMENT FRAMEWORK
Coastal Management Plans
Conservancies
Sea Shore set backs in respect of climate change
SEA's

Reference to plans prepared by parallel authorities; eg

Biodiversity Overlays

In the case of the Umkhomazi LAP and LUF study area several parallel plans and informants are already extant.

These need to be formally identified in respect of how they will manage development.

At this stage these Management Overlays would include:

DMOSS
The proposed Coastal Management Plan (including sea level rise indicators and proposed Coastal Park)
The Umkomaas Town Centre Urban Design Plan
Two Conservancies
The Coastal Risk Zone (CRZ)
Estimated Sea Level Rise
8.4 LAND USE MANAGEMENT FRAMEWORK
9 IMPLEMENTATION FRAMEWORK
UMKHOMAZI LOCAL AREA PLAN

9.1 PURPOSE

The purpose of the following Implementation Framework is the promotion and agreement on potential development processes and directions for the Umkhomazi area. In so doing, the framework attempts to provide input into the planning of the wider Ethekwini Municipality, its development priorities and budgeting processes as well as contributing to the creating of a better local understanding of development processes.

9.2 DEVELOPMENT APPROACHES

The following outlines some of the development approaches underlying the Implementation Framework:

Responding to development pressures, i.e. promoting on the one hand the establishment of development which maintains and sustains the unique low intensity and green character of the Umkhomazi area, while on the other hand providing a physical and social infrastructure system which contributes to the creation of decent human loving conditions.

Promoting a sustainable development sequence, i.e. facilitating a development process which is based on a geographical, economic and servicing logic which improves the living conditions of the local residents, contributing to maintaining a variety of living options within Ethekwini and which maintains the specific character of Umkhomazi.

Retaining the unique character of the area, i.e. promoting the maintenance, rehabilitation, protection and management of the natural environment and guiding development such as to integrate the natural character into the built environment and to provide appropriate development densities.

Improving living conditions, i.e. supporting the provision of adequate and appropriate physical and social services, local economic development and the maintenance of the natural environment.

Locating development support within a wider metropolitan context, i.e. understanding the Umkhomazi area forms part of the development of the wider Ethekwini Municipality with a host of development needs, priorities and opportunities.

Ensuring sustainable development, including environmental as well as economic, social, institutional etc sustainability.

Supporting appropriate local economic development, i.e. facilitating the creation of an appropriate local economy which on the one hand is linked into wider metropolitan systems and opportunities, as well as those of adjacent municipalities, while on the other hand improving local living conditions.

Creating development management capacity, i.e. establishing capacities and capabilities at the municipal level allowing for the promotion and management of the appropriate development of the Umkhomazi area as well as creating a local understanding and involvement in the development process.

Ensuring availability of appropriate physical and social services, i.e. guiding development such as to enable the municipality and other service providers to establish adequate physical and social support services.

Positively integrating the natural into the built environment, i.e. in maintaining the unique character of the Umkhomazi area, the integration of the natural environment as a positive part of the built environment appears to be an essential development approach to be appropriately promoted and managed.
UMKHOMAZI LOCAL AREA PLAN

9.3 PRIORITISATION PRINCIPLES

The following provides an outline of the principles envisaged to guide the development of the Umkhomazi area.

Retaining the character of the coast, i.e. much of the coast of the Umkhomazi area is comparably natural and unspoiled. Within the Ethekwini Municipality this is relatively unique and should be maintained as such. While it is suggested that access to the area should be improved, and that appropriate basic amenities should be provided, no further development should take place within the area and the environmental management principles contained in this report should be adhered to.

Applying sound environmental principles to all development, i.e. all development within the Umkhomazi area should be guided by the environmental management guidelines of this report.

Supporting the development of Craigieburn as local service centre, i.e. the LAP suggests that the Craigieburn Node should be developed into the major activity node of the Umkhomazi area both with regards to local economic as well as social service development. Consequently this should be supported in terms of facility and amenity location as well as zoning for commercial, business, office and service industry development.

Supporting the upgrading and further development of the Umkomaas node, i.e. the Umkomaas town should be upgraded in accordance with the intentions contained in this report to fulfill the functions of local activity node as well as coastal tourism centre. This should inter alia be guided by the previously compiled Urban Renewal Framework.

Supporting appropriate local developmental and environmental initiatives, i.e. appropriate local development and protection initiatives should be encouraged and supported to ensure that local residents and interests form an integral part of retaining the unique character of the Umkhomazi area.

Promoting the improved utilisation of the existing rail service, i.e. located directly on the coast, the South Coast Rail provides a unique service both in terms of passenger as well as goods transport. It is suggested that with appropriate upgrading, the rail could also provide a unique tourism service along the entire coast.

R102 as subregional and local collector road, i.e. while the R102 should be appropriately maintained and upgraded, its function should be of local character rather than as regional linkage. In order to avoid the creation of a busy south-coast-road type development in close proximity of a natural coast line, the usage of N2 and an upgraded P197 should be promoted as regional linkage.

Improving inland road linkages, i.e. both the P197 as significant inland north-south linkage, as well as the P78 as internal east-west linkage should be adequately upgraded. At a more local level this would ultimately also include improved road linkages in the rural western part of the study area.

Supporting appropriate alternative inland tourism opportunities, i.e. the western part of the Umkhomazi area contains severely fragmented, dramatic and scenic landscapes. While the natural environment needs to be appropriately protected and managed and while the present small holding development should be supported, it is suggested that the area contains substantial tourism potential in terms of natural, quiet and picturesque amenities, as an alternative to the coastal tourism.

Supporting the retention of appropriate agricultural activities, i.e. although agricultural activities within an urbanising area are seen as a “soft” land use, likely to ultimately give way to urbanisation pressures, it is suggested that the retention of an appropriate level of agriculture within the Umkhomazi area should be promoted. Where possible this should also include a greater level of diversification and local benefitisation.

Providing adequate physical and social services, i.e. it is essential that the existing and future increased development is appropriately supported by the necessary physical and social services, the capacity of which may well determine the process of further development in the area.
9.4 POTENTIAL DEVELOPMENT PROJECTS

The following provides a basic listing of suggested initial development project requirements structured in terms of development components and phasing as identified in the LAP. For greater detail see the main section of the LAP as well as the non-spatial frameworks contained in this report.

TRANSPORTATION

SHORT TERM

- Upgrading of road infrastructure including R102, P197 and P78
- Establishment of bus and taxi rank at Craigieburn
- Upgrading of bus and taxi rank at Umkomaas

MEDIUM TERM

- Continued upgrading of road infrastructure
- Improvement of access and link roads in the west of the Umkhomazi area
- Promoting improved rail service and usage

LONG TERM

- Continued upgrading of road infrastructure
- Continued rail services improvement
- Potential establishment of additional P197 – N2 linkage in the south.

INFRASTRUCTURE

SHORT / MEDIUM / LONG TERM

- Verification of adequate water supply for the envisaged development
- Verification of adequate sanitation provision for the expected development
- Verification of adequate electricity supply for the expected development
- Appropriate stormwater management for the envisaged development
- Establishment of adequate postal service for all development
- Establishment of adequate telecom infrastructure for the development
- Verification of appropriate solid waste management.

SOCIAL SERVICES AND FACILITIES

SHORT / MEDIUM / LONG TERM

- Provision of additional education facilities as identified in the LAP
- Provision of additional health facilities as identified in the LAP
- Provision of additional civic and community amenities as identified
- Provision of additional recreation facilities and parks as identified.

DEVELOPMENT MANAGEMENT

SHORT / MEDIUM / LONG TERM

- Creation of appropriate management capacity in the municipality
- Creation of a system of development monitoring and planning updating
- Facilitating local development understanding and involvement.

ENVIRONMENTAL MANAGEMENT

SHORT / MEDIUM / LONG TERM

- Creating public understanding and support for environmental protection and management
- Promoting opportunities for active local community involvement
- Creating appropriate management and monitoring capacity.
# UMKHOMAZI LOCAL AREA PLAN

## LIST OF POTENTIAL DEVELOPMENT PROJECTS

<table>
<thead>
<tr>
<th>NO</th>
<th>PHASING</th>
<th>DEVELOPMENT TYPE</th>
<th>PROJECT</th>
<th>LOCATION</th>
<th>RESP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SHORT TERM</td>
<td>TRANSPORTATION</td>
<td>UPGRADING P78</td>
<td>CRAIGIEBURN</td>
<td>ETA</td>
</tr>
<tr>
<td>2</td>
<td>SHORT TERM</td>
<td>TRANSPORTATION</td>
<td>UPGRADING P197</td>
<td>WESTERN UMKHOMAZI</td>
<td>ETA</td>
</tr>
<tr>
<td>3</td>
<td>SHORT TERM</td>
<td>TRANSPORTATION</td>
<td>UPGRADING R102</td>
<td>EASTERN UMKHOMAZI</td>
<td>ETA</td>
</tr>
<tr>
<td>4</td>
<td>SHORT TERM</td>
<td>TRANSPORTATION</td>
<td>BUS / TAXI RANK / MARKET</td>
<td>CRAIGIEBURN</td>
<td>ETA ECON. DEV.</td>
</tr>
<tr>
<td>5</td>
<td>SHORT TERM</td>
<td>TRANSPORTATION</td>
<td>BUS / TAXI RANK UPGRADING / MARKET</td>
<td>UMKOMAAS</td>
<td>ETA ECON. DEV.</td>
</tr>
<tr>
<td>6</td>
<td>SHORT TERM</td>
<td>INFRASTRUCTURE</td>
<td>VERIFICATION ADEQUATE WATER SUPPLY</td>
<td>STUDY AREA</td>
<td>ETHEKWINI WATER</td>
</tr>
<tr>
<td>7</td>
<td>SHORT TERM</td>
<td>INFRASTRUCTURE</td>
<td>VERIFICATION ADEQUATE SANITATION</td>
<td>STUDY AREA</td>
<td>E. WASTE WATER</td>
</tr>
<tr>
<td>8</td>
<td>SHORT TERM</td>
<td>INFRASTRUCTURE</td>
<td>VERIFICATION ADEQUATE ELECTRICITY SUPPLY</td>
<td>STUDY AREA</td>
<td>ETHEKWINI ELECTRICITY</td>
</tr>
<tr>
<td>9</td>
<td>SHORT TERM</td>
<td>INFRASTRUCTURE</td>
<td>APPROPRIATE STORMWATER MANAGEMENT FOR SHORT TERM DEV.</td>
<td>STUDY AREA</td>
<td>ETHEKWINI</td>
</tr>
<tr>
<td>10</td>
<td>SHORT TERM</td>
<td>INFRASTRUCTURE</td>
<td>ADEQUATE POSTAL SERVICE PROVISION</td>
<td>STUDY AREA</td>
<td>SA POST OFFICE</td>
</tr>
<tr>
<td>11</td>
<td>SHORT TERM</td>
<td>INFRASTRUCTURE</td>
<td>VERIFICATION ADEQUATE TELECOM INFRASTRUCTURE</td>
<td>STUDY AREA</td>
<td>TELKOM</td>
</tr>
<tr>
<td>12</td>
<td>SHORT TERM</td>
<td>INFRASTRUCTURE</td>
<td>VERIFICATION ADEQUATE SOLID WASTE MANAGEMENT</td>
<td>STUDY AREA</td>
<td>E. SOLID WASTE</td>
</tr>
<tr>
<td>13</td>
<td>SHORT TERM</td>
<td>SOCIAL SERVICES / FACILITIES</td>
<td>PROVISION ADDITIONAL EDUCATION FACILITIES AS IDENTIFIED IN THE LAP</td>
<td>STUDY AREA (1)</td>
<td>DOE</td>
</tr>
<tr>
<td>14</td>
<td>SHORT TERM</td>
<td>SOCIAL SERVICES / FACILITIES</td>
<td>PROVISION ADDITIONAL HEALTH FACILITIES AS IDENTIFIED IN THE LAP</td>
<td>STUDY AREA (2)</td>
<td>DOHEALTH</td>
</tr>
<tr>
<td>15</td>
<td>SHORT TERM</td>
<td>SOCIAL SERVICES / FACILITIES</td>
<td>PROVISION ADDITIONAL CIVIC FACILITIES AS IDENTIFIED IN THE LAP</td>
<td>STUDY AREA (3)</td>
<td>ETHEKWINI</td>
</tr>
<tr>
<td>NO</td>
<td>PHASING</td>
<td>DEVELOPMENT TYPE</td>
<td>PROJECT</td>
<td>LOCATION</td>
<td>RESP</td>
</tr>
<tr>
<td>----</td>
<td>---------------</td>
<td>----------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>16</td>
<td>SHORT TERM</td>
<td>SOCIAL SERVICES / FACILITIES</td>
<td>PROVISION ADDITIONAL RECREATION FAC. AS IDENTIFIED IN THE LAP</td>
<td>STUDY AREA (4)</td>
<td>ETHEKINI PARKS</td>
</tr>
<tr>
<td>17</td>
<td>SHORT TERM</td>
<td>HOUSING</td>
<td>PROVISION OF ADDITIONAL HOUSING</td>
<td>CRAIGIEBURN</td>
<td>ETHEKWINI HOUSING</td>
</tr>
<tr>
<td>18</td>
<td>SHORT TERM</td>
<td>HOUSING</td>
<td>AMAHLONGWA HOUSING UPGRADING</td>
<td>AMAHLONGWA</td>
<td>ETHEKWINI HOUSING</td>
</tr>
<tr>
<td>19</td>
<td>SHORT TERM</td>
<td>ENVIRONMENT</td>
<td>CREATION OF PUBLIC UNDERSTANDING AND SUPPORT</td>
<td>STUDY AREA</td>
<td>ETHEKWINI ENVIRONM.</td>
</tr>
<tr>
<td>20</td>
<td>SHORT TERM</td>
<td>ENVIRONMENT</td>
<td>OPPORTUNITIES FOR LOCAL COMMUNITY INVOLVEMENT</td>
<td>STUDY AREA</td>
<td>ETHEKWINI ENVIRONM.</td>
</tr>
<tr>
<td>21</td>
<td>SHORT TERM</td>
<td>ENVIRONMENT</td>
<td>MANAGEMENT AND MONITORING CAPACITY</td>
<td>STUDY AREA</td>
<td>ETHEKWINI ENVIRONM.</td>
</tr>
<tr>
<td>22</td>
<td>SHORT TERM</td>
<td>DEVELOPMENT MANAGEMENT</td>
<td>CREATING APPROPR. DEVELOPMENT MANAGEMENT CAPACITY</td>
<td>STUDY AREA</td>
<td>ETHEKWINI</td>
</tr>
<tr>
<td>23</td>
<td>SHORT TERM</td>
<td>DEVELOPMENT MANAGEMENT</td>
<td>SYSTEM OF DEVELOPMENT MONITORING AND PLANNING UPDATING</td>
<td>STUDY AREA</td>
<td>ETHEKWINI</td>
</tr>
<tr>
<td>24</td>
<td>MEDIUM TERM</td>
<td>TRANSPORTATION</td>
<td>CONTINUED UPGRADING P78</td>
<td>CRAIGIEBURN</td>
<td>ETA</td>
</tr>
<tr>
<td>25</td>
<td>MEDIUM TERM</td>
<td>TRANSPORTATION</td>
<td>CONTINUED UPGRADING P197</td>
<td>WESTERN UMKHOMAZI</td>
<td>ETA</td>
</tr>
<tr>
<td>26</td>
<td>MEDIUM TERM</td>
<td>TRANSPORTATION</td>
<td>CONTINUED UPGRADING R102</td>
<td>EASTERN UMKHOMAZI</td>
<td>ETA</td>
</tr>
<tr>
<td>27</td>
<td>MEDIUM TERM</td>
<td>TRANSPORTATION</td>
<td>PROMOTING IMPROVED RAIL SERVICE AND USAGE</td>
<td>STUDY AREA</td>
<td>ETA</td>
</tr>
<tr>
<td>28</td>
<td>MEDIUM TERM</td>
<td>TRANSPORTATION</td>
<td>IMPROVEMENT LINK ROADS CROWDER</td>
<td>CROWDER</td>
<td>ETA</td>
</tr>
<tr>
<td>29</td>
<td>MEDIUM TERM</td>
<td>INFRASTRUCTURE</td>
<td>VERIFICATION ADEQUATE WATER SUPPLY FOR MEDIUM TERM DEVELOPMENT</td>
<td>STUDY AREA</td>
<td>ETHEKWINI WATER</td>
</tr>
<tr>
<td>30</td>
<td>MEDIUM TERM</td>
<td>INFRASTRUCTURE</td>
<td>VERIFICATION ADEQUATE SANITATION FOR MEDIUM TERM DEVELOPMENT</td>
<td>STUDY AREA</td>
<td>E. WASTE WATER</td>
</tr>
<tr>
<td>NO</td>
<td>PHASING</td>
<td>DEVELOPMENT TYPE</td>
<td>PROJECT</td>
<td>LOCATION</td>
<td>RESP</td>
</tr>
<tr>
<td>----</td>
<td>---------------</td>
<td>-------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>31</td>
<td>MEDIUM TERM</td>
<td>INFRASTRUCTURE</td>
<td>VERIFICATION ADEQUATE ELECTRICITY SUPPLY FOR MEDIUM TERM DEVELOPM.</td>
<td>STUDY AREA</td>
<td>ETHEKWINI ELECTRICITY</td>
</tr>
<tr>
<td>32</td>
<td>MEDIUM TERM</td>
<td>INFRASTRUCTURE</td>
<td>APPROPRIATE STORMWATER MANAGEMENT FOR MEDIUM TERM</td>
<td>STUDY AREA</td>
<td>ETHEKWINI</td>
</tr>
<tr>
<td>33</td>
<td>MEDIUM TERM</td>
<td>INFRASTRUCTURE</td>
<td>ADEQUATE POSTAL SERVICE PROVISION FOR MEDIUM TERM DEVELOPMENT</td>
<td>STUDY AREA</td>
<td>SA POST OFFICE</td>
</tr>
<tr>
<td>34</td>
<td>MEDIUM TERM</td>
<td>INFRASTRUCTURE</td>
<td>VERIFICATION ADEQUATE TELECOM INFRASTRUCTURE</td>
<td>STUDY AREA</td>
<td>TELKOM</td>
</tr>
<tr>
<td>35</td>
<td>MEDIUM TERM</td>
<td>INFRASTRUCTURE</td>
<td>VERIFICATION ADEQUATE SOLID WASTE MANAGEMENT</td>
<td>STUDY AREA</td>
<td>E. SOLID WASTE</td>
</tr>
<tr>
<td>36</td>
<td>MEDIUM TERM</td>
<td>SOCIAL SERVICES / FACILITIES</td>
<td>PROVISION ADDITIONAL EDUCATION FACILITIES AS IDENTIFIED IN THE LAP</td>
<td>STUDY AREA (5)</td>
<td>DOE</td>
</tr>
<tr>
<td>37</td>
<td>MEDIUM TERM</td>
<td>SOCIAL SERVICES / FACILITIES</td>
<td>PROVISION ADDITIONAL HEALTH FACILITIES AS IDENTIFIED IN THE LAP</td>
<td>STUDY AREA (6)</td>
<td>DOHEALTH</td>
</tr>
<tr>
<td>38</td>
<td>MEDIUM TERM</td>
<td>SOCIAL SERVICES / FACILITIES</td>
<td>PROVISION ADDITIONAL CIVIC FACILITIES AS IDENTIFIED IN THE LAP</td>
<td>STUDY AREA (7)</td>
<td>ETHEKWINI</td>
</tr>
<tr>
<td>39</td>
<td>MEDIUM TERM</td>
<td>SOCIAL SERVICES / FACILITIES</td>
<td>PROVISION ADDITIONAL RECREATION FAC. AS IDENTIFIED IN THE LAP</td>
<td>STUDY AREA (8)</td>
<td>ETHEKINI PARKS</td>
</tr>
<tr>
<td>40</td>
<td>LONG TERM</td>
<td>TRANSPORTATION</td>
<td>CONTINUED UPGRADING OF ROAD INFRASTRUCTURE</td>
<td>STUDY AREA</td>
<td>ETA</td>
</tr>
<tr>
<td>41</td>
<td>LONG TERM</td>
<td>TRANSPORTATION</td>
<td>CONTINUED RAIL SERVICES IMPROVEMENT</td>
<td>STUDY AREA</td>
<td>ETA</td>
</tr>
<tr>
<td>42</td>
<td>LONG TERM</td>
<td>TRANSPORTATION</td>
<td>POTENTIAL ESTABLISHMENT OF NEW P197 – N2 LINKAGE IN THE SOUTH</td>
<td>STUDY AREA</td>
<td>ETA</td>
</tr>
<tr>
<td>43</td>
<td>LONG TERM</td>
<td>INFRASTRUCTURE</td>
<td>VERIFICATION OF APPROPRIATE INFRASTRUCTURE CAPACITY</td>
<td>STUDY AREA</td>
<td>ETHEKWINI</td>
</tr>
<tr>
<td>44</td>
<td>LONG TERM</td>
<td>SOCIAL SERVICES / FACILITIES</td>
<td>PROVISION ADDITIONAL EDUCATION FACILITIES AS IDENTIFIED IN THE LAP</td>
<td>STUDY AREA (9)</td>
<td>DOE</td>
</tr>
<tr>
<td>NO</td>
<td>PHASING</td>
<td>DEVELOPMENT TYPE</td>
<td>PROJECT</td>
<td>LOCATION</td>
<td>RESP</td>
</tr>
<tr>
<td>-----</td>
<td>---------------</td>
<td>-------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>45</td>
<td>LONG TERM</td>
<td>SOCIAL SERVICES / FACILITIES</td>
<td>PROVISION ADDITIONAL HEALTH FACILITIES AS IDENTIFIED IN THE LAP</td>
<td>STUDY AREA (10)</td>
<td>DOHEALTH</td>
</tr>
<tr>
<td>46</td>
<td>LONG TERM</td>
<td>SOCIAL SERVICES / FACILITIES</td>
<td>PROVISION ADDITIONAL CIVIC FACILITIES AS IDENTIFIED IN THE LAP</td>
<td>STUDY AREA (11)</td>
<td>ETHEKWINI</td>
</tr>
<tr>
<td>47</td>
<td>LONG TERM</td>
<td>SOCIAL SERVICES / FACILITIES</td>
<td>PROVISION ADDITIONAL RECREATION FAC. AS IDENTIFIED IN THE LAP</td>
<td>STUDY AREA (12)</td>
<td>ETHEKWINI PARKS</td>
</tr>
</tbody>
</table>

**NOTES**

(1) SHORT TERM EDUCATION PRIMARY SCHOOLS 3 CRAIGIEBURN / 1 NAIDOOVILLE / 1 AMAHLONGWA / 1 UMKOMAAS / 1 WIDENHAM / 1 CLANSTHAL SECONDARY SCHOOLS 1 UMKOMAAS TERTIARY FACILITY 1 CRAIGIEBURN

(2) HEALTH CLINIC 1 CRAIGIEBURN / 1 WIDENHAM

(3) CIVIC MPH 1 CRAIGIEBURN / 1 AMAHLONGWA / 1 UMKOMAAS

(4) RECREATION SPORTSFIELD PARK / PLAY ETC 1 UMKOMAAS / 1 AMAHLONGWA

(5) MEDIUM TERM EDUCATION NONE

(6) HEALTH NONE

(7) CIVIC COMMUNITY HALL 1 NAIDOOVILLE

(8) RECREATION SPORTSFIELD PARK / PLAY ETC 1 NAIDOOVILLE / 1 SHOALS-CLANSTHAL

(9) LONG TERM EDUCATION PRIMARY SCHOOLS 1 AMAHLONGWA / 1 FININGLEY ESTATE

(10) HEALTH NONE

(11) CIVIC POLICE STATION CRAIGIEBURN / THUSONG CENTRE CRAIGIEBURN / LIBRARY AMAHLONGWA / MULTI-PURPOSE HALL FININGLEY ESTATE

(12) RECREATION SPORTSFIELD FININGLEY ESTATE / PARK-PLAY ETC SEE PAGE 51
10 WAY FORWARD
It is expected that, following the submission of the draft LAP, the various components of the Ethekwini Municipality will comment and ultimately support and approve the plan to guide the future development of the Umkhomazi area.

We believe that Umkhomazi has the potential to form a unique component of the municipality in that it is easily accessible, contains an attractive and functional coastal strip, accommodates a dramatic and scenic inland landscape, provides accommodation of both urban and rural environments and contains significant areas of green and natural environment.

It is the intention of the LAP to maintain and support the very special low intensity and natural character of the area while accommodating the expected growth. While such growth is likely to consist primarily of a range of additional residential developments, this needs to go hand in hand with the provision of necessary support facilities, appropriate services as well as appropriate local economic development.

The LAP also suggests that as much of the existing agricultural development as possible is maintained and that, where appropriate the potential for diversification and local beneficiation is seriously considered.

The Umkhomazi area accommodates access to one of the world’s prime diving site in the form of the Aliwal Shoal located in the Indian Ocean outside of Umkomaas. It is suggested that this amenity deserves much more support in the form of an upgraded launch site as well as a potential wider range of associated activities, primarily in the Umkomaas area.

The potential for alternative tourism development in the western part of the area, linked to the more traditional coastal tourism, should be further developed.

Lastly it is suggested that the realistic success of the future development of the Umkhomazi area will significantly depend on the integration and involvement of the local communities in the future planning and development.