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Development of a Disaster
Management Plan
PROPOSAL

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Local Municipality

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1. Introduction

The KwaDukuza Local Municipality is primarily responsible for the implementation of the Disaster Management Act, 2002 (Act 57 of 2002) within its area of jurisdiction, with a specific focus on ensuring effective and focused disaster risk reduction planning. The outcomes of a comprehensive disaster risk assessment can ensure that all developmental initiatives as well as contingency planning and practice of the municipality are informed by accurate knowledge of disaster risk, enabling various stakeholders to contribute to the reduction of disaster risk within the KwaDukuza Local Municipality.

Aurecon Disaster Risk Management is eminently experienced in all aspects of Disaster Risk Management with considerable experience across most of the 9 Provinces throughout South Africa.

This proposal outlines Aurecon's response to the Terms of Reference provided by the KwaDukuza Local Municipality to prepare a Disaster Management Plan, to ensure that the municipality is fully compliant with the disaster management act (act 57 of 2002) in terms of ensuring the accuracy and relevance of their plan. Aurecon is pleased to submit this proposal to provide such a service, linked to the relevant levels of planning in accordance with Key Performance Areas of the National Disaster Management Framework (NDMF), Provincial Disaster Management Framework (PDMF).

The combined capacity, expertise, methodologies and experience of the Aurecon project team are ideally suited to deliver and facilitate the development of a Disaster Management Plan for the KwaDukuza Local Municipality.



2. Scope of Services

The KwaDukuza Disaster Management Plan should:

- Identify types of disasters that are likely to occur in the Municipal area;
- Determine the possible impacts of these disasters;
- Identify the areas, communities or households at risk; this should include critical infrastructure, including green infrastructure such as dunes systems and wetlands;
- Put actions in place to reduce vulnerability in disaster prone areas;
- Develop a system of incentives that will promote the uptake of risk reduction activities;
- Involve community in disaster management;
- Promote applied research that informs improved disaster risk management;
- Analyse all captured data;
- Identify and address weakness in capacity to deal with possible disasters, including climate change;
- Provide appropriate prevention and mitigation strategies;
- Facilitate emergency preparedness;
- Map all data analysis (spatial) where applicable to inform improved disaster risk management and climate change vulnerability;
- Develop Risk Reduction programmes that respond to the analysed risk profile;
- Include education, training awareness and research program;
- Establish early warning systems and protocols for all identified hazard protocols that reach all sectors of society;
- Include a comprehensive assessment off climate change vulnerabilities and impacts; and
- Contain contingency and emergency procedures in the event of disaster which will:
 - Allocate responsibility to various role players and co-ordination thereof;
 - Provide prompt disaster response and relief;
 - Obtain essential goods and services;
 - Establish strategic communication links;
 - Provide for dissemination of information



3. Our Approach

This section of the document describes the approach that is proposed by the Project Team to develop the **Disaster Management Plan for the KwaDukuza Local Municipality**.

3.1 Outline of the disaster management plan in line with the provincial and national disaster management framework

The National disaster management framework categorises disaster management into 2 different aspects i.e. Key Performance Area (KPA) or an Enabler, described below.

KPA 1 ~ Integrated institutional capacity

KPA 2 ~ Risk assessment

KPA 3 ~ Disaster risk reduction

KPA 4 ~ Disaster preparedness

Enabler 1 ~ Information and communication management

Enabler 2 ~ Education, training, public awareness and research

Enabler 3 ~ Funding arrangements

The above mentioned components should form the basis of municipal disaster management strategy. For ease of understanding the plan should be structured accordingly. Disaster management is multi-sectoral and multidisciplinary, which require the involvement of multi-agency. This document is structured in such a way to allow for dissemination of information. The disaster management plan is the document which provides the details of what should be done while the disaster management framework provides the guidance and legislative framework to who should be executing the plan. The disaster management plan has to be included in the IDP as a sector plan to ensure that the disaster management strategies form part of the municipal strategy and that funding can be made available to effectively implement the disaster management plan. The following diagram provides a summary of the outline and relations of the various sections.

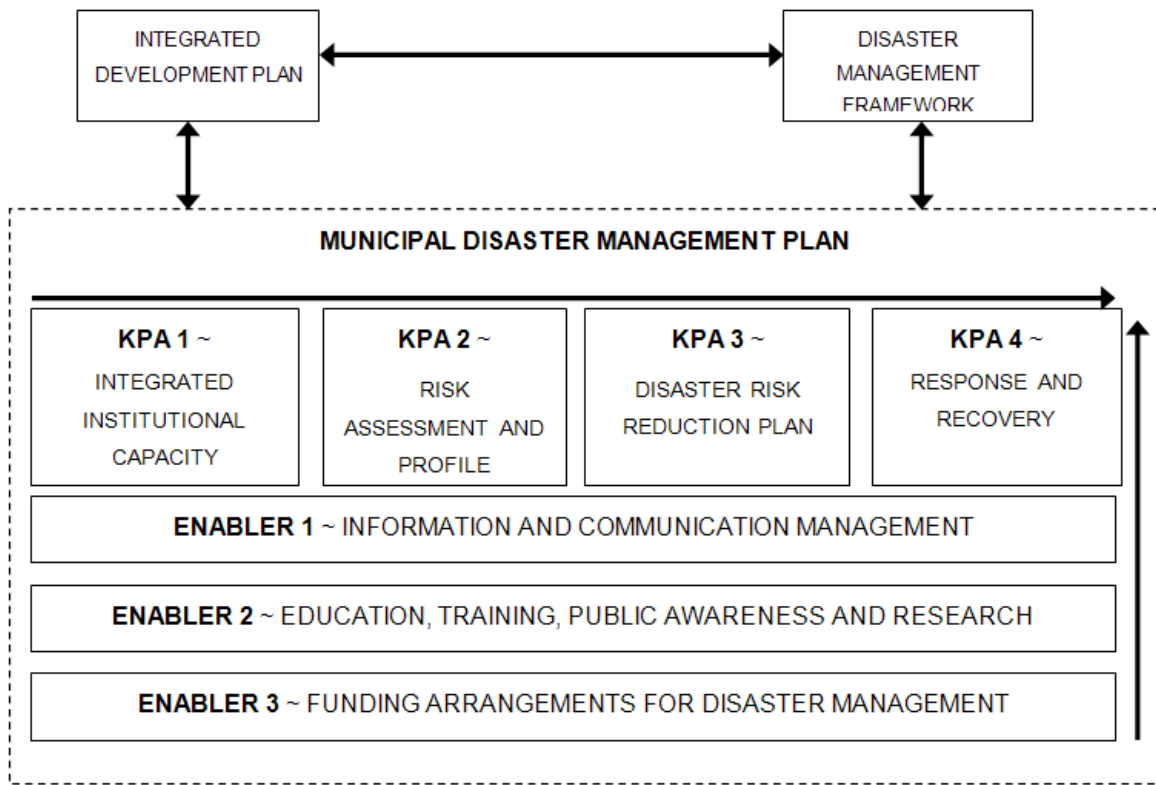


Figure 1: Outline of the disaster management plan

3.2 Disaster Management Plan Methodology

Figure 2 graphically depicts the recommended approach for preparing Disaster Management Plans. It is suggested that this project follow a similar process. The recommended actions for each of the phases are described below.

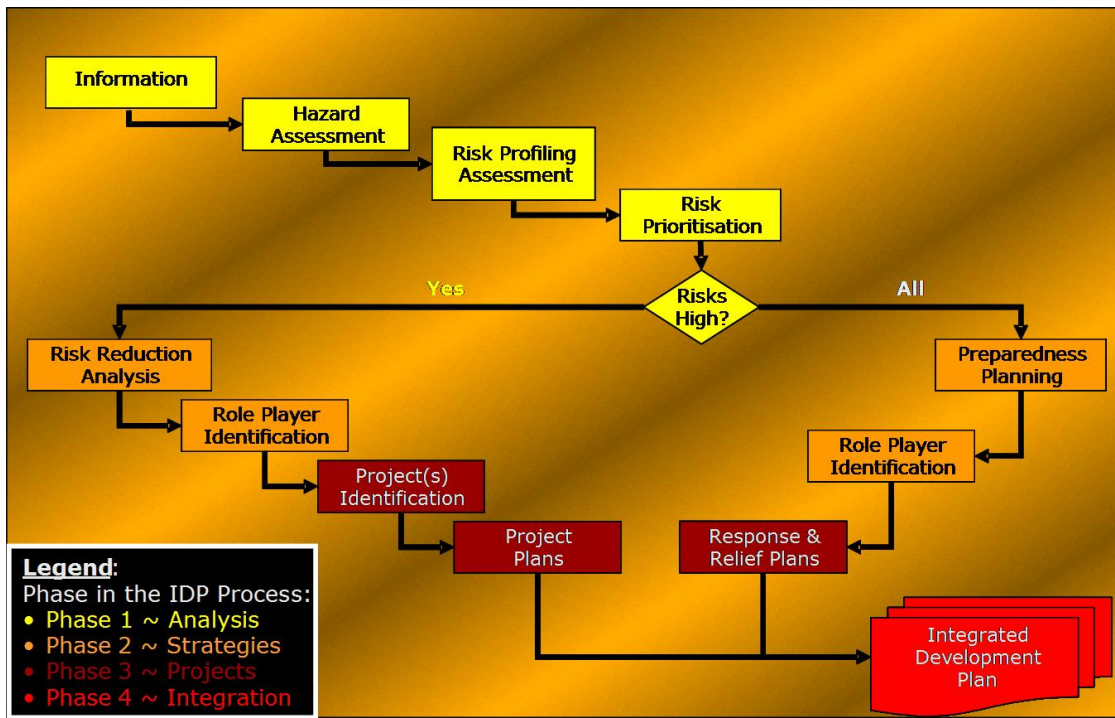


Figure 2: The Recommended Project Approach, Depicting the Various Steps in Preparing a Disaster Management Plan

Phase 1 ~ Analysis Phase: In the first phase of the DMP process, as in the IDP process, communities and stakeholders are given the chance to analyse their potential risk areas and determine their priorities, with inputs from Disaster Management. The outputs of this phase of the project will be a list of the intolerably high risks, and the tolerable risks for the area. In this phase all existing plans developed will be reviewed. In the event that both the intolerable and tolerable risks have not been sufficiently addressed we strongly recommend that support and guidance be provided by the municipality to ensure that the municipal plans are compliant. We also recommend that the plans at local level are standardised and consistent to facilitate the consolidation and preparation of the district plan.

Key actions and outcomes:

Compile the list of hazards, risks and risk prioritisation and risk profile. Complete the risk and vulnerability analysis, mapping and identification of vulnerable communities in the KwaDukuza Local Municipality. Assess the resources and capacity to support disaster management.

Phase 2 ~ Disaster Risk Reduction Planning: The **intolerably high risks** are addressed in Phase 2 of the project. In this phase, the KwaDukuza Local Municipality (KLM) will have to arrive at crucial decisions on the most appropriate ways to address the **intolerably high risks**, as well as, to ensure that concrete and sufficiently specified project proposals are designed, which can be used for implementation.



Key actions and outcomes:

Review the implementation status of the disaster management projects. Determine the value add projects to the municipality. Develop new projects for implementation which will provide the most benefit to the municipality and the communities.

Phase 3 ~ Disaster Preparedness Planning: The **tolerable risks** are addressed in Phase 3 of the project. In this phase, the municipality will have to arrive at crucial decisions on the most appropriate ways to address the **tolerable risks**, as well as, to ensure that concrete and sufficiently specified project proposals are designed, which can be used for implementation.

Key actions and outcomes:

Compile a list of role players and their contact details. Review the communication protocols and make recommendations on improvements. Further develop contingency plans for priority risks. Review the institutional arrangements and its effectiveness.

Phase 4 ~ IDP Integration Phase: In this phase, the municipality have to make sure that the project proposals are in line with the objectives and the agreed strategies of their Council, with the resource frames (financial and institutional) and with legal requirements.

Key actions and outcomes:

Integrate all identified initiatives and risks into the IDP.

Phase 5 ~ IDP Approval Phase: This phase is about the feedback process on the Draft IDP that is supposed to result in a final approval/adoption of the plan by the Municipal Councils.

Key actions and outcomes:

Assist with the approval and adoption of the reviewed and updated disaster management plan

Phase 6 ~ IDP Implementation Phase: The “Integrated Development Planning (IDP) Guidelines”¹ from the National Department of Provincial and Local Government does not specifically mention **Phase 6 ~ Implementation Phase**. However, it is logical that once the Municipal Councils have approved the IDP’s (with the budgets) that the municipal officials can commence with the implementation of their disaster management projects.

Key actions and outcomes:

Develop business plans and preliminary studies which can be used to source funding. Allocate of role players and teams to assist with the implementation. Implement and update the municipal disaster management information system and capture all disaster management information electronically.

3.3 Capacity Building

From experience we have learned that the only way to ensure the sustainability of similar projects is to ensure that the client’s project team is capacitated during this process. We will therefore place strong emphasis on training and capacity building within the municipality such that the municipality can perform these exercises on their own in future. We also have a web based disaster management information system which we will make available to the disaster management team to utilize and share their information with the DDMC and the PDMC (to view go to www.iimp.co.za). Tools like tablets, web

¹ http://www.dplg.gov.za/documents/Publications_b.htm

based GIS and various other reporting and templates will be utilised and made available to further equip the disaster management team.

3.3.1 Workshops

In order to develop the DMP input from the community on the challenges they face and projects that they require within their area. The aim of the interaction with the community will be to engage with communities regarding the hazards and risks they face. These sessions will also facilitate awareness on Disaster Management. Site visits will be conducted to verify the vulnerable areas within the municipality.

3.3.2 Site Visits

Site assessment teams usually have municipal members, one of whom may be (and in some cases, must be) a disaster management official. Site visits are an on-site observation and gathering of the “facts” that are reported back to the municipality as a part of the ongoing hazard identification process. During one or two days in the wards, the site assessment team will interact with communities of interest, councillors and wards committee members to ensure that the hazards identified are indeed relevant to specific community.

Through this process, the municipality ensures that for each hazard identified there is documentation to support the analysis and action plans related to its outcome. Further, the visit offers an opportunity to take pictures of the areas that are vulnerable to the hazards.



Figure 3: Examples of photographic evidence of hazards collected during site visits

3.3.3 Spatial Analysis

Geographic Information System (GIS) is a computer based application of technology involving spatial and attributes information to act as a decision support tool. It keeps information in different layers and generates various combinations pertaining to the requirement of the decision making. GIS could be utilized by different line departments in the municipality and stakeholders in the disaster management process. This system helps KLM to know the exact areas affected by different hazards identified by the community. The GIS helps with maps and co-ordinates of areas around KwaDukuza LM, it makes it easier for officials or stakeholders involved to direct them to the exact areas affected. GIS is an important tool in disaster management to help reduce risks and disasters, also it can help Map the areas that are most vulnerable in the municipality.

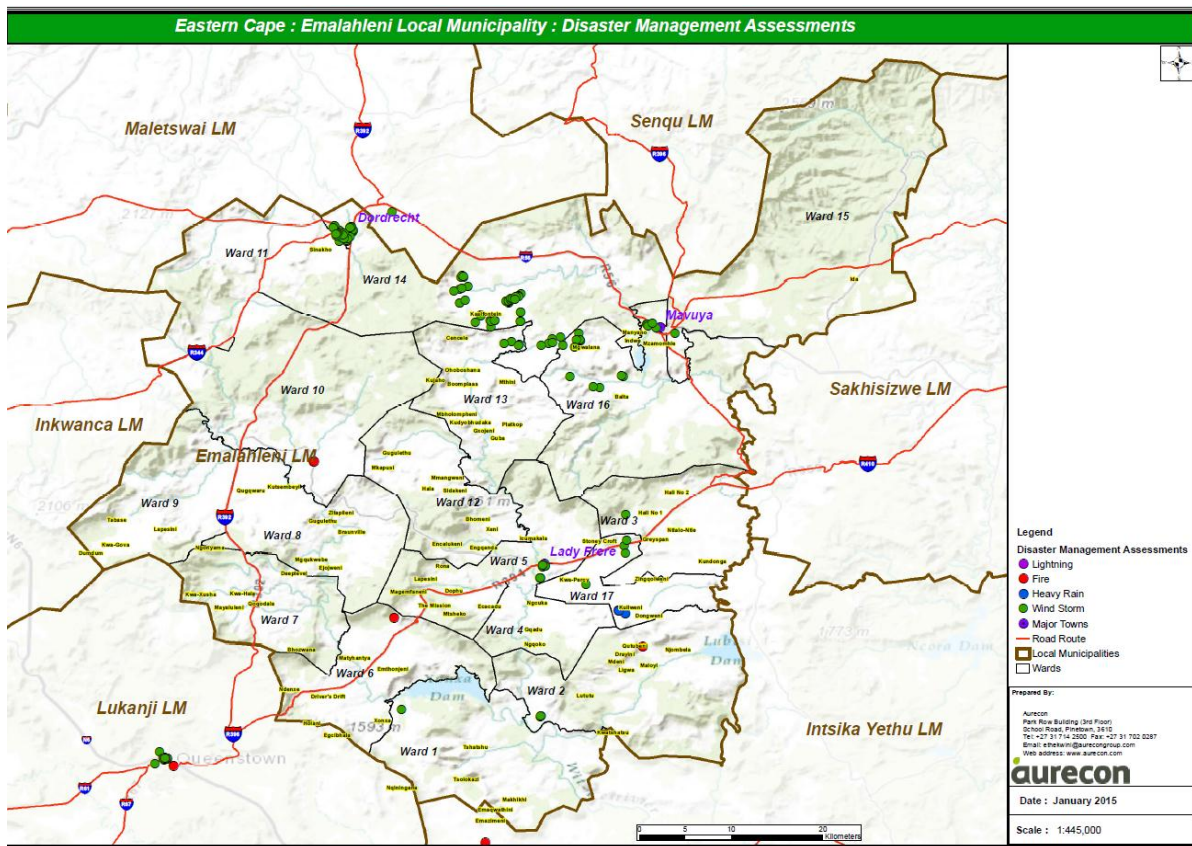


Figure 4: Example of areas affected by windstorms shown as green points



4. Project Organisation and Staff

This section describes the project organisation and staff for the development of the Disaster Management Plan.

4.1 Project Management and Coordination

It is the expectation of the Department that the proposals will include a component of project management and coordination. A Project Manager therefore should be specifically identified as part of the project proposal. It is envisaged therefore that the responsibilities of the Project Manager and Coordinator will include amongst other things the following:

- Liaison with Disaster Management at Local Municipal level
- Overall coordination of the project team (both the consultant's team and the Departmental and municipal teams)
- Rendering guidance and assistance to the project team
- Monitoring and control of performance, programming and cost of project, including revision of the project plan if and when necessary
- Coordinating all the role-players and resources needed for the successful development of the plan
- Coordinating steering committee progress meetings and preparing consolidated progress reports;
- Providing secretarial services
- Successful implementation of the project and delivery of the end product in accordance with the Terms of Reference

4.2 Team Composition and Task Assignments

4.2.1 KwaDukuza Local Municipality (KLM)

It will be imperative for the success of the project that KLM appoints a project manager to manage their interface with the project.

4.2.2 Aurecon Project Team

Aurecon approached projects according to its ISO 9001 certified management system. The Aurecon methodology provides for the appointment of a Project Director and Project Leader for the Project. The Project Director oversees the project and the Project Leader is involved in the hands-on management of the project.

For this project Aurecon will appoint a selection of staff with strategic management, disaster risk management, and public participation experience, and also provide a project support and secretariat service.

Aurecon will be self-sufficient in terms of all business equipment and supplies.

The organisational chart in terms of carrying out the proposed work is illustrated in the following sub-chapter, followed by a presentation of the biographical information of the key project staff.

Aurecon is proposing a team composing of a core team from the Ethekekwini office and a national team of Disaster Risk Consultants and specialist within Aurecon.

The following table provides an indication of the proposed project team.

RESOURCE	PROJECT ROLE	QUALIFICATIONS/YEARS OF EXPERIENCE
Rene Pearson	Project Director and Project Manager	25 Years Experience 1988 - NDip Information Technology, Diploma in Project Management <i>Member of the Disaster Management Institute of SA (DMISA)</i>
Elretha Louw	Academic Expert/ Climate Change Expert	25 Years Experience 2007 - PhD (medical Geography & Disaster Risk), University of Stellenbosch, RSA 1993 - MSc (Applied Climatology), University of Stellenbosch, RSA 1990 - Hons BSc cum laude, University of Stellenbosch, RSA 1989 - BSc, University of Stellenbosch, RSA, <i>Member of the Disaster Management Institute of SA (DMISA)</i>
Johan Adrian Minnie	Disaster Risk Management Specialist	23 Years Experience 2011 - PhD in Public & Development Management (Critical Success Factors for Public - Private Partnerships) University of Stellenbosch, RSA 2006 - Certificate in Business Continuity Management, UNISA 2000 - Magister Public & Development Management, University of Stellenbosch, RSA 1999 - Certificate in Disaster Management, Tecknikon South Africa 1998 - Honours B Public & Development Management (cum laude), University of Stellenbosch, RSA BMil (BA) Public Management & Political Science, University of Stellenbosch, RSA <i>Member of the Disaster Management Institute of SA (DMISA)</i>
Sarel Jansen van Rensburg	Engineer / Project Manager (Lead)	9 Years Experience 2001 - B. Eng (Computer Engineering) 2008 - M. Eng (Engineering Management) <i>Member of the Disaster Management Institute of SA (DMISA)</i>
Mari Romijn	Town and Regional planner	7 Years Experience 2013 - PhD Town and Regional Planning, North-West University (NWU), South Africa 2010 - MSc Town and Regional Planning, North-West University (NWU), South Africa 2008 - BSc Town and Regional Planning, North-West <i>Professional Planner, South African Council for Planners (SACPLAN)</i> <i>Corporate Member, South African Planning Institute (SAPI)</i>
Yolandi Meyer	Environmentalist / Project Coordinator and Administrator	7 Years Experience 2007 - B.Com Geology & Environmental Management, North-West University, South Africa 2008 - BSc Honours, Environmental Science & Development, North-West University, South Africa Diploma in Project Management
Gayle Hancox	GIS Planner / Agriculture	18 Years Experience BSc Agricultural Management
Colin Whitemore	Water Resources Expert	33 Years Experience 1987 - GDE, University of the Witwatersrand 1982 - BSc Engineering, University of Cape Town (UCT), South Africa <i>Professional Engineer, Engineering Council of South Africa (ECSA)</i> <i>Member, South African Institution of Civil Engineering (SAICE)</i>
Nick Mannie	Waste Management Expert	19 Years Experience 2008 - MSc Plant Pathology, University of KwaZulu-Natal (UKZN), South Africa 1999 - BTech Horticulture, University of South Africa (UNISA) <i>International Waste Manager, International Solid Waste Association</i>

		<i>(ISWA) Registered Scientist, South African Council for Natural Scientific Professions (SACNASP)</i>
Dawie Koekemoer	Agriculture	20 Years Experience 2002 - MEng (Project Management), University of Pretoria, South Africa 2001 - MEng (Engineering Management), University of Pretoria, South Africa 1998 - BEng (Hons) (Agricultural), University of Pretoria, South Africa 1994 - BEng (Agricultural), University of Pretoria, South Africa <i>Professional Engineer, Engineering Council of South Africa (ECSA)</i>
Bongani Gumede	Sociologist / Facilitator. Community Engagement	26 Years Experience 1999 - Bachelor of Education (UKZN) 1995 - Higher Diploma in Education for Adults
Desirée Melvill-Smith	Legal	10 Years Experience 2003 - LLB (Law), University of Pretoria, South Africa 2002 - BCom Law, University of Pretoria, South Africa <i>Non-practising Attorney, Law Society of South Africa</i>
Evan Smith	Fire and Rescue	40 Years Experience 1973 - 2012 eThekweni Municipality, Firefighter, Sub Officer, Protection Officer (fire and traffic), Station Officer (Operations & Fire Prevention), Fire Safety Officer.

As indicated in the figure above, the project leader will ensure that the various risk consultants for the different aspects of this project carry out their work according to the project plan and schedule.

Aurecon will maintain on-going contact with the KLM Project Manager.

4.3 Curriculum Vitae (CV) for Proposed Professional Staff

Please detailed CVs attached in the Annexures.

5. Cost Estimate

The overall project costs are summarised in the table below. The project will be charged on a lumpsum basis in terms of Aurecon's standard terms of business.

The table to follow provides an overview of the fees breakdown per phase.

Disaster Management Plan	Cost
SWOT Analysis	R 44,550.00
Phase 1 ~ Risk and Vulnerability Assessment	R 71,450.00
Phase 2 ~ Preparation of Disaster Risk Reduction plans	R 53,175.00
Phase 3 ~ Preparation of Disaster Preparedness plans	R 53,175.00
Phase 4 ~ IDP Integration Phase	R 37,000.00
Phase 5 ~ IDP Approval Phase	R 28,500.00
Phase 6 ~ IDP Implementation Phase	R 30,500.00
Subtotal	R 318,350.00
Disbursements @ 10 %	R 31,835.00
Subtotal	R 350,185.00
Vat @ 14%	R 49,025.90
Total (VAT included)	R 399,210.90

6. Conclusion

This proposal details the technical and cost implications of undertaking the work described in the terms of reference.

It is recommended that the KwaDukuza Local Municipality appoint AURECON for an amount of **R 399,210.90 (VAT included)** for the Development of a Disaster Management Plan for the KwaDukuza Local Municipality.

We thank you for affording Aurecon the opportunity to submit this proposal. We believe we have the necessary experience and expertise to undertake a thorough, independent and credible planning process to arrive at a concise implementable Disaster Management Plan, as demonstrated by our project experience and reputation as one of South Africa's leading disaster risk management consultancies.

Should you require any further information or have any queries, please contact Rene Pearson.



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