

GEOGRAPHIC INFORMATION SYSTEM (GIS) POLICY

Item A-CORP (57-2010) CM 2010/07/22	CITY DEVELOPMENT DEPARTMENT: IMPLEMENTATION AND PUBLISHING OF GEOGRAPHIC INFORMATION SYSTEM (GIS) POLICY FOR THE EKURHULENI METROPOLITAN MUNICIPALITY
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The date "01 July 2010" in Recommendation 2 was amended to read "01 August 2010" in terms of section 11(6)(b) of the Council's Standing Orders.

RESOLVED:

1. **That** the contents of the report regarding the Corporate GIS Policy **BE NOTED** (see **Annexure "A"** attached to the report).
2. **That** the policy referred to above **BE APPROVED, IMPLEMENTED** and **PUBLISHED** on the Intranet with effect from 01 August 2010.

EKURHULENI METROPOLITAN MUNICIPALITY

GIS POLICY AND PROCEDURES

The vision of the Ekurhuleni Metropolitan Municipality (EMM) is to establish a Corporate Geo-Informatics (**C GI**) to support the functions of the municipality in delivering services to Ekurhuleni's citizens, and both internal and external clients.

i) Preamble:-

The C GI was formalized recently, i.e. 01 July 2008. The following concerns needs to be considered:

- different departments in the EMM have established GIS to support their respective functions;
- in other instances, GIS has not been fully utilized to leverage service delivery of some departments;
- the Planning Information Management (PIM) of City Development has over the years performed the functions of a corporate GIS. However, this unit has not been offered the necessary resources and authority to fulfil the co-ordination and support functions;
- some departments however have not developed GIS or have not built enough capacity. This has resulted in other GIS units taking additional non-core functions to ensure availability of critical data sets;
- as a result, different GIS systems have been adopted with different standards, structures and uncoordinated GIS functions and services to meet their immediate needs.

Hence a GIS policy document adopted by the council as follows:

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ii) DEFINITIONS

GIS - The abbreviation for Geographic Information Systems. For the purpose of this policy, GIS is defined as the information system designed to input, manage, update, analyze and present spatially related information collected and managed by the municipality.

User - Any person provided access to EM M's GIS resources.

Custom/ised - This term refers to end products configured to suit specific user needs. It could refer to data sets or software applications.

ICT- Information & Communication Technology.

C GI- Corporate Geo- Informatics

1. Introduction

1.1 Overview

The **C GI** office located in the City Development offices is hereby entrusted with the ownership of all GIS related activities. The mission of the **C GI** is to direct corporate GIS policy and provide spatial information and support to all users within EMM area in order to facilitate informed decision-making and enable users to achieve their objectives.

This **C GI** office will provide the technological vision and leadership to deploy appropriate spatial technologies that will contribute towards an enriched community of EMM. It will re-invent, re-engineer, and streamline municipal operations wherever spatial technology can contribute towards increased efficiencies, increased effectiveness, and reduced costs.

1.2 Purpose

The purpose of this policy is to:

- ensure standardization on the use of GIS with a view of maximizing benefits from investments;
- provide a process for access to both information contained in the City's GIS as well as map and data products developed by the system;
- to guarantee compliance to all legislative requirements relating to the handling and dissemination of spatial and related information.

1.3 Application

This policy governs access, use and management of GIS resources. These include personnel, hardware, software, data, procedures, policies and methods, and products related to GIS. All users given access to any municipal GIS resources are expected to have read, understood and comply with this policy.

1.4 Principles

The municipality has an effort to build and maintain a spatial information system to provide more efficient service to its citizens and clients. It is the intent of the EMM to provide access to spatial information as permitted or required by law. It should be noted that the Promotion of Access to Information Act No.2 of 2000 requires the organs of state to make all public records available to the public.

Hence the municipality has concluded that the main objectives governing the adoption and use of GIS should be:

- Increased efficiency and effectiveness in the delivery of the municipal service delivery/customer care centres;
- Improve data and information integration at all municipal departments;
- Encourage data sharing where ever possible at all levels of government;
- Easy, consistent and effective access to geographic information; and
- Promote use of geographic information and tools as widely as possible.

2. Programmatic Responsibilities

2.1 Software

All GIS software shall adhere to the specifications as established by the **C GI**. The municipality has adopted the Environmental Science Research institute (ESRI) software as its standard corporate GIS software. The software is Open GIS compliant. All software orders shall match the user type as outlined in Section 3 of this policy document. It is the responsibility of individual software users to purchase their own GIS software. All municipal GIS software shall be licensed to the C GI office. The following table outlines the standard software and use that will be supported by corporate GIS:

Software	Use
DB IV, MS Access	Relational Database
ORACLE	Corporate Database
Arc Info/Editor Ver9.x	Advanced data manipulation, queries & visualization
Arc View ver9.x	Data manipulation, basic queries & visualization
Arc Explorer	Basic viewing and query
Arc GIS Server	Online Mapping, Basic viewing and query, Geo-processing, Dissemination, and Database management
SA Explorer, Arc Reader, Arc Publisher	Customised applications, Basic viewing & query.

C GI together with ICT will provide support to these software installations and technical queries where required. Networking and operating system queries shall all be referred to ICT. All software acquisitions shall adhere to specifications established by **C GI**.

2.2 Software Maintenance

In an effort to consolidate software inventories and coordinate continuous upgrades, all ESRI GIS software is to be licensed to C GI under a single customer number. The municipality will purchase only one primary license. The GIS Manager: Spatial Systems & Services will be responsible for the distribution and safe keeping of all software materials.

Users should not request software upgrades directly from the software vendor. These upgrades will be distributed to GIS users and/or Spatial Systems staff members will install the upgrades on user machines to ensure continued compatibility between all users. Users should contact the GIS Manager: Spatial Systems & Services from **C GI** for GIS software support.

2.3 Hardware

The **C GI** office shall determine the minimum hardware standards for all GIS users. These shall be agreed upon with ICT. All acquisitions of GIS hardware shall adhere to the standard procurement policy of the municipality. ICT shall be responsible for the maintenance of all hardware equipment. Hence all hardware support shall be referred to ICT Service Desk:

2.4 Data

All spatial datasets in custody of a GIS user or system shall be regarded as property of the municipality and hence shall conform to the municipal standards. These standards are as follows:

- The coordinate system shall be projected on the datum: Hartebeeshoek 1994 and referenced to LO 29 WGS84.
- All datasets created or obtained within or from third party organizations must ALWAYS have updated metadata. This shall conform to the published EMM metadata catalogue; this is in compliance of Spatial Data Infrastructure Act 54 of 2003.
- EMM's datasets must be maintained in a format specified by C GI and be updated within the corporate geographic database.

2.5 Metadata

GIS datasets with adequate documentation are more useful to EMM staff and external stakeholders. Such documentation alerts the potential user of the dataset's quality and limitations, enabling proper use of the dataset beyond the original developer. Documenting GIS datasets is an important responsibility of the GIS unit creating the datasets. Every GIS dataset created and acquired by a GIS user must have an accurate metadata record according to municipal standard. Corporate GIS will maintain an electronic metadata viewer however GIS units are responsible for the update of the database and hardcopy records where necessary. This is in compliance with the Spatial Data Infrastructure Act, Act no 54 of 2003.

2.6 GIS Projects

All projects conducted on behalf of the municipality, with GIS data as part or entire deliverable shall be supported by the Director: Geo-Informatics or his/her nominated individual. A copy of the latest GIS specifications document shall accompany letters of awards and/or contracts for such projects.

All digital data submitted in standard transfer media shall comply with the GIS specifications and must be checked by a responsible **C GI** staff. Any deviations to the GIS specifications shall be approved by the Director: Geo-Informatics.

3. User classification and responsibilities

To ensure efficient utilization and support for GIS users, the use and level of GIS functionalities has been classified according to user types with different needs and responsibilities. GIS users are classified as follows:

3.1 Corporate Geo-Informatics

This office will provide GIS co-ordination functions. Its responsibilities include *inter alia* drafting and implementation of policies and standards, GIS technical support, and capturing, collection and maintenance of core and base datasets.

3.2 GIS units/Sections

These offices, reporting directly to their respective departments will provide GIS support to their staff with the assistance of **C GI**. These units will provide high- end data manipulation and storage support and hence will require access to advanced software and hardware. They should also be equipped with support personnel to render necessary services at their departments. These units shall be equipped with necessary resources to fulfil their responsibilities outlined in the Services Level Agreement (SLA) referred to in section 3.6.

3.3 Power (GIS) Users

These are municipal employees or contractors who depend on GIS information to perform their daily functions. These users perform basic data capture with no need to adhere to advanced topology. However these users require access to, not necessarily ownership, advanced visualization and query software to perform their functions. Any requirements for advanced data manipulation tools will be performed by GIS units or corporate GIS as agreed.

3.4 Casual Users

These are users who only require access to GIS information via the Internet or through customised applications. GIS units and corporate GIS will deploy tools to enable access to GIS data and services for these users.

3.5 Browsers

Any other individual with a specific GIS need at any point in time will be regarded as an Information Browser. Such needs can be fulfilled by hard copy maps, internet tools and/or customised products.

3.6 Service Level Agreements (SLA)

In order to ensure sustainability of GIS and data integrity, the Head of Departments with GIS functionality will enter into SLA with the Director: Geo-Informatics. This contractual document will stipulate the types and frequency of updates of datasets, services and applications that are the responsibilities of parties concerned.

4. Access and dissemination of spatial information

4.1 Public records vs. custom products

For the purposes of this policy, there are two types of information that can be obtained from the municipality's GIS; public records and custom products. Public records are information, hard copy and/or digital formation that have been developed or produced in the normal course of activity for the operation and conduct of local government. Therefore, public records are information that already exist and will be provided to a user in the form that the information is stored and maintained on during the day-to-day operation of the municipality. However these excluded records excluded under section 12 and Chapter 4 of the Promotion of Access to Information Act.

Custom products are digital and/or hard copy information that the municipality has the ability to create, but is not required for the normal operation and conduct of local government and does exist at the time of the request. For a custom product to be developed, it will require using municipal resources to collect, manipulate, reformat, program and test quality control in order to respond to a specific request. Records identified as exempt under the Promotion of Access to Information Act shall not be considered as public record and will be made available subject to this GIS policy.

4.2 Access Constraints

i) Third part datasets

The corporate GIS database contains datasets that are obtained from outside organization. These datasets are intended for Municipal use only and cannot be disseminated to outside

Users. Any request to access these data sets in electronic form should be directed to original organizations that own the dataset.

ii) Personal records

Any information classified as personal records or containing information making reference to personal records will not be made available to users outside the municipality or any internal User whose job functions does not require access to such information.

iii) Security of individuals and property

Certain categories of information in the GIS database could endanger safety of individuals and property when disclosed to inappropriate Users. Hence access to such records may be strictly controlled. Where disputes arise, the ICT shall determine access to such records in accordance to applicable legislation.

4.3 Types of GIS services

All general GIS services to users outside of the council shall be directed to the **C GI** Office or designated customer care centre. These services include

- Request for all digital GIS data;
- Basic GIS maps other than for a specific project or day to day municipal services rendered by a specific department;
- Customised GIS products and maps;
- Any queries relating to GIS data and/or applications on the Internet; and
- Generic issues relating to access and use of GIS in the municipality.

Upon receipt of a request, by **C GI** or its designated customer care centre, a notification shall be conveyed to the requestor within five (5) working days as to whether the request can be fulfilled and if so, when. The five day period begins when Director: C-GIS or his designee receives a written request. If the request description is determined to be insufficient to begin processing, the requestor shall be promptly notified that the request cannot be processed without additional information. This shall satisfy the five (5) day reply requirement. Receipt of an augmented request description shall open another five (5) day reply window.

The **C GI** representative shall respond promptly in fulfilling such requests. The nature of the request, the content and location of the data as well as the staff size and current and anticipated workload shall bear on the reasonable expeditiousness of the response.

All data existing at the time of a GIS data request shall be deemed available for fulfilling such requests. Data that must be created or otherwise manipulated will be taken into account in the execution of the request and such request will not be subject to the Promotion of Access to Information Act.

4.4 Pricing Structure

i) Public records

In order to promote its GIS principles as outlined in section 1.4 the municipality has taken a resolution to provide access to its public records as stipulated on tariffs of charge, see **annexure C**. Request for data must be accompanied by appropriate medium of digital data transfer. If, for any reasons, the provided medium cannot be utilized, the user will be given an option to purchase one from the supplier at a prescribed fee.

However, provisions of section 45 of the Promotion of Access to Information Act shall apply where requests exceed the amounts that can be handled. The Director: Geo-Informatics or his/her appointee may refuse such requests. Ensuing disputes shall thereafter be referred to the Executive Director: ICT to deal with under the provisions of the applicable legislation.

ii) Custom products

Written agreements shall be required for all custom GIS products and services and prescribed hourly rates or part thereof shall be charged. An estimated payment fee, or assigned written agreement specifying the fee, must be received before work will be performed for custom products. Fees received for custom GIS products and services shall be reinvested by the municipality within the GIS.

Additional costs for documentation and any necessary postal costs will be incurred by the requestor. The requestor, if desired, may supply media. Payment is due prior to fulfilment of any requests. All costs for GIS services will be gazetted on the government gazette, and the EMM tariff of charges changes shall annually be published.

4.5 Exceptions

The municipality, at the discretion of the Director: Geo-Informatics or his/her designee may waive the gazette fee structure in the event the municipality wishing to enter into an agreement with another agency requesting GIS data. Such exceptions shall be to facilitate the sharing of geographic data that is deemed mutually beneficial to each GIS data provider so as to minimize public expense in creating and maintaining GIS datasets.

4.6 Media and File Formats

Because GIS data commonly involves very large amounts of data, the municipality shall provide such data on Compact Disc, Memory sticks or Removable hard drives. For security reasons, no stuffy or floppy disc drives will be accepted from a requestor. These can however be provided by a staff member on request at a prescribed fee

4.7 Electronic Access

The goals for GIS accessibility include the ability to download GIS datasets and the ability to view and query these datasets on the GIS web application.

The taxpayers and citizens of the state are the “owners” of GIS information produced and stored at EMM GIS Server.

Departments who collect, update, and distribute data at EMM GIS Server are the “caretakers.” If possible, GIS datasets will be stored with the caretaker department. When necessary to make data distribution efficient, a central store for GIS datasets will be set up within the Corporate GIS. The Corporate GIS and the GIS Technical Forum will develop policies for the inclusion and timely update of datasets in the central store.

Accessibility to datasets in the central store will be open to the public through http and ftp. EMM GIS datasets will meet all requirements for the Public Record Law. Access to datasets, which have been designated “restricted”, will be coordinated by the GIS Administrator with the custodial division or with the state’s corporate database. Datasets purchased by EMM GIS Server will adhere to the licensing agreement with the dataset provider. Datasets received by EMM GIS Server as the deliverable in satisfying a contract will adhere to licensing and distribution requirements in the contract.

5 Licensing Agreement

5.1 Acknowledgement of conditions

All GIS users shall abide by the municipality terms and conditions for use of GIS products. In order to minimise administrative obligations, the municipality will not request any written acceptance of conditions for use of GIS products. However every user accepting any GIS product will be provided and/or made aware of the municipal license agreement. These will be printed on all data exchange mediums, emails, file transfer protocol and web pages.

5.2 Immunity from Liability

Nothing in this policy shall be construed to be in conflict with the legislation applicable to the Republic of South Africa.

In making GIS data accessible, the Municipality makes no warranty of accuracy. The information contained in the fulfilment of any GIS data or map request is compiled for use by the Ekurhuleni Metropolitan Municipality, its employees and consultants. The municipality does not warrant the accuracy of any data, map or application. Any person or entity requesting GIS data should conduct an independent inquiry regarding the accuracy of all information provided. Any inaccuracies shall be reported to the municipality or its agents as stipulated in chapter 23 of the Spatial Information Bill or subsequent legislation.

Neither the Municipality nor its employees and representatives shall be liable for the information neither provided nor for any oral representation provided based on said data.

5.3 Copyright

Spatial information products and services originated by the State are protected in terms of the Copyright Act, 1978 (Act 98 of 1978). As the State President is the holder of State copyright, all organs of State enjoy unhindered use of the spatial information products and services of other organs of State, without a need for further permission to copy in terms of that copyright. i.e. © year. EMM. All rights reserved.

The Council or other suppliers assert copyright over all works including computer programmes and collections of data supplied to the User as part of the service. All such items are supplied for the personal use of the User only, and only for purposes permitted by applicable law. The data may not be copied or distributed to any other person in any manner or form for reward or any other purpose.

The User undertakes to refrain from any infringement of the Council's copyright to the data and to guarantee that all other persons to whom the User makes available any copyrighted data obtained from the Council for authorised purposes, including partners, employees, clients or professional advisers shall do likewise.

5.4 Indemnity

The Municipality shall not be liable for any loss or damages suffered by the User as a result of any inaccuracy in the service or data supplied, any interruption in access or supply or change in service levels in accordance with the provisions of section 3 above or any failure on the part of the Municipality to supply the service timeously or at all. The User acknowledges that the Municipality will have no control over the use made of any data supplied in terms hereof. The User waives all claims against the Municipality for any loss or damage suffered by the User and indemnifies the Municipality against any claim by any other person arising from incorporation of

the data in any plan, design or other work, or from reliance upon the completeness or accuracy of the data for any purpose whatsoever.

The Municipality, as public authority subject to budgetary constraints, reserves the right to change, from time to time, its official policy regarding the level of service provided, including conditions of supply and fees payable. In case of conflict between the provisions of this GIS policy and directives contained in any amended Council policy, the latter shall prevail.