LAND SURVEYING IN SOUTH AFRICA

Maintaining the highest standards of professional conduct and integrity

BY SIMPHIWE NTOZINI

When the Dutch East India Company established itself at the Cape of Good Hope in 1652, the company assigned land without having it surveyed. As more people settled, the process became more systematic and a land registry based on a Netherland's model was established. Every title deed of a grant of land was accompanied by a diagram showing its boundaries and area. Since many of these areas were circular in nature, the radius was obtained by walking roughly 2.5 miles. The grant of land was not fixed by the survey, but rather a recognizable natural object, if obtainable. This system gave rise to much abuse, and it was abolished by a proclamation that made it mandatory to use surveying and framing of diagrams.

The first geodetic survey was done in 1752. In 1919, Dr. van der Sterr, was appointed director of the newly created Directorate of Trigonometrical Surveys, now known as National Geo-spatial Information, situated at Mowbray in Cape Town. In Van der Sterr's era, the interprovincial rivalry was eliminated, and the country gained the services of a surveyor and scientists whose knowledge and expertise was well ahead of his local colleagues. He became an advocate for introducing the first university degree course in land surveying at the University of Cape Town.

GOVERNMENT-MANDATED STRUCTURE

The Land Survey Act requires the records of all surveys relating to property boundaries to be filed in the Surveyor-General's Office, which is responsible for Cadastral Surveying and Land Information Services in South Africa. These records show how a survey was performed and comprise a field book detailing how the observations were made, as well as a plan showing the relative positions of and survey stations and its coordinates. Surveyor Generals' offices have a safe where they keep all cadastral surveys that have been submitted to them by different land surveyors. These records are used for relocations and all other cadastral surveys to ensure there is

Figure 1: **Categories of Registration**

Fields of Specialization	Professional	Technologist	Technician	In-Training Professional	In-Training Technician
LAND-CADASTRAL – – – – – – – – – – ENGINEERING	4-year Degree Bachelor of Technology Relevant experience and board exam	National Diploma – Relevant experience and board exam	National Diploma and board exam	4-year Degree	No qualifications; student
GIS PHOTOGRAMETRY	Bachelor of Technology Relevant experience and board exam	National Diploma – Relevant experience and board exam	National Diploma and board exam		
MINING	Bachelor of Technology Relevant experience and board exam	National Diploma – Relevant experience and board exam	National Diploma and board exam		
HYDROGRAPHIC	4-year Degree Relevant experience and board exam	National Diploma – Relevant experience and board exam	National Diploma and board exam		

no potential for properties to overlap and to avoid conflicting claims to ownership. In each of the nine Surveyor Generals' offices, there are deeds offices that deal with the registration of properties or land. According to the Deeds Registration Act, no portion of any piece of land shall be transferred or registered without a diagram.

TRANSFORMING THE PROFESSION

Today, South Africa prides itself with seven higher education institutions for which survey professionals can be trained. Surveyors are regulated in terms of the Professional and Technical Surveyors Act No. 40 of 1984 (referred to as PLATO). As a government-mandated structure, PLATO has four broad categories of registration, as indicated in Figure 1 above.

Each registration category has certain sub-specialisations, such as Land Surveying, Engineering Surveying and Geographic information system (GIS). Technicians and other staff in training are only permitted to work under the control and direction of a Professional Surveyor or a Survey Technologist. By law, when dealing with matters relating to property boundaries or property attributes only a Professional Land Surveyor can advise on or undertake such work.

Contrary to the provision of the law wherein only matters relating to property boundaries are protected, other important infrastructural developments are not wholly protected by the law. For example, the topographical surveys, including precise surveys for roads, power lines and railways, are not legally protected. It is the client's responsibility to determine whether the person is registered with PLATO when appointing a surveyor to undertake a task.

Utilities such as Eskom, road agencies and water affairs bodies take consolation in the fact that the infrastructure will be surveyed at a later stage as an "as built," that is, after construction for registration at the deeds office. The Government's Statutory Survey Council – PLATO does not have legal recourse to unregistered surveyors who either have little or no academic training in surveying, or for those who, for one reason or another choose not to register.

As a solution to this situation, the Minister of Rural Development and Land Reform has proposed the Geomatics Profession Bill.

The main purpose of the Bill is to provide for the:

- Transformation of the geomatics profession
- Establishment of the South African Geomatics Council as a juristic person
- Facilitation of accessibility to the geomatics profession

The Bill also seeks to provide for measures designed to protect the public from unethical geomatics practices and to provide for measures in order to maintain a high standard of professional conduct and integrity. The Bill, when enacted, will repeal the current Professional and Technical Sureyors' Act, 1984.

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