

COMPANY PROFILE

INTRODUCTION

GeoCalibre is a specialist geotechnical consulting firm made up of a team of qualified professional geo-practitioners. The firm was established out of a love for the industry and an urge to define a new calibre of professional consulting. We build our quality services on values of excellence, professionalism, accountability, social responsibility, cost effectiveness and innovation.

WHAT WE DO

Engineering Geology forms the core of GeoCalibre's expertise, with the field itself incorporating the application of the geologic sciences to engineering practice. This assures that the key geologic factors of engineering works are recognized and adequately provided for; allowing for the precise design, construction, operation and maintenance of any given development.

KEY PERFORMANCE AREAS

- ① Identification of subsurface and/or surface geologic features which may hamper development.

These include, but are not limited to;

- The occurrence and modelling of soluble bedrock;
- Identification and quantification of problem soils (soil mechanics);
- Modelling of problematic geological structures/ rock discontinuities;
- Slope stability;
- Site excavatability;
- Ground- and surface water features.

- ① The delineation of development potential zonation for developments exhibiting a large surface area, multiple land use zones and/or numerous optional sites.

- ① Assessing the re-usage potential of on-site materials and/or the exploration for available construction material sources in any given area.

- ① The formulation of accurate geotechnical models to guide engineering solutions.

WHY WE DO IT

The successful completion of a reproducible and innovative geotechnical investigation- through qualified professionals- enables **cost effective** and **sustainable** development.

According to the Site Investigation Code of Practice of South Africa (SAICE, 2010) the conducting of a detailed geotechnical site investigation can **save** a client anywhere between 10 and 100 % on the project foundation costs.

WHY CHOOSE US

GeoCalibre uses advanced scientific methods to create accurate and reproducible geotechnical models; successfully guiding the implementation of site-specific design precautionary measures/engineering solutions. The methodology followed throughout the investigative process accounts for the nature and location of the development as well as adhering to the standards of our practice (SANS and SAICE).

WHY WE STAND OUT FROM THE CROWD

- 👤 A multi-disciplinary team of qualified scientists
- 👤 Registered Professional Natural Scientists (SACNASP)
- 👤 Members of SAIEG (MSAIEG)
- 👤 NHBRC Competent Geo-practitioners
- 👤 Accountability through Professional Indemnity Insurance
- 👤 Extensive industry experience with a diverse project background
- 👤 On the forefront of investigative technology and industry advancements.
- 👤 The defining calibre of geo-professional consulting

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GEOCALIBRE OPERATES THROUGHOUT SOUTHERN AFRICA

OUR CORE VALUES

Our core values are used to guarantee a final product of the UT- most **quality** and **stature**.



EXCELLENCE

Creating the defining calibre of professional consulting through the pursuit of daily excellence.



PROFESSIONALISM

A steadfast adherence to high ethical principles and professional standards to serve the profession and guide clients in a reliable, reproducible and consistent manner.



ACCOUNTABILITY

The willingness to define and accept responsibility and in so doing delivering on our professional commitments.



SOCIAL RESPONSIBILITY

Upliftment of our rural and urban communities- during and following professional investigations. Putting health and safety first, being environmentally responsible and supporting sustainable development.



COST-EFFECTIVENESS

Striving for the optimum balance between direct client expenditure and the value of the final product.



INNOVATION

A passionate drive and youthfulness to remain on the forefront of investigative technology and industry advancements.

THE DEFINING CALIBRE OF GEO-PROFESSIONAL CONSULTING

SERVICE OFFERINGS AND INDUSTRY EXPERIENCE

The tables to follow describe the services which GeoCalibre can effectively deliver within the various realms of our industry. Included in the various tables are several examples of investigations conducted by the professionals in GeoCalibre.

Development Type	Description	Investigative Techniques	Professionals Experience
Large and/or Complex Structures	<p>Deep foundation investigations</p> <p>Typical structures include:</p> <ul style="list-style-type: none"> • Multi-Storey Buildings • Power Stations • Bridges • Production Plants for Mines • Agricultural Silos • Shopping Centre's • Buildings with multiple basement levels 	<p>Extensive multi-disciplinary investigations</p> <p>Desktop Studies</p> <p>Geophysical Surveys</p> <p>In-situ Testing Methods; DMT, DPSH, SPT, CPTu, Packer Tests</p> <p>Field Tests including; geological mapping, surface feature identification joint line surveys, percolation testing</p>	<p>Kriel Power Station- Fabric Filter Plant Replacement- Mpumalanga- 2015</p> <p>4 Bridge Structures as part of the duplication of the existing Barry Marais Road- Gauteng- 2018</p> <p>Geotechnical Mine Design- Elbe Mine Namibia- 2019/2020</p> <p>Multi-Storey Office Block Structure- Sibasa Traffic Station- Limpopo- 2015</p> <p>ITAU Milling- Silos and Plant- Free State- 2014</p>
Dam Structures and Hydro-Electric Schemes	<p>Dams are complex structures requiring specialist input surrounding the following:</p> <ul style="list-style-type: none"> • Site selection • Dam type selection • Foundation conditions • Construction material availability • Basin/reservoir analysis • Slope stability along the wall and basin/reservoir 	<p>Rotary Core Drilling and associated geotechnical core logging and rock testing</p> <p>Trial Pitting- Heavy Mechanical Excavator or Large Diameter Auger Holes and associated undisturbed and disturbed soil testing</p>	<p>Olifantspoort Off Channel Storage Facility and Weir Extensions- Limpopo- 2016/2017/2018/2019</p> <p>Waterhout Piekniek Dam- Mpumalanga- 2017</p> <p>Wolwas Hydro Electric Scheme- Free State- 2015</p> <p>Sabie Hydro Electric Scheme- Mpumalanga- 2018</p> <p>Little Fish and Beenlegte Small Embedded Hydro Schemes- Eastern Cape- 2018</p>
Dolomite Stability Investigations	<p>Dolomite stability investigations are prerequisites for any development deemed to be underlain by Soluble Rock.</p> <p>Investigations adhere to the guidelines presented in SANS 1936 Part 1 to Part 4</p>	<p>Investigative methodology dependant on the site's location, phase and type of development and the availability of existing information for the area.</p> <p>Methodology prescribed by SANS 1936 and generally entails desktop studies, field mapping, geophysical surveys, trial pits, percussion drilling and associated rock chip logging.</p>	<p>Bridge Structures and Sealed Road as part of the duplication of the existing Barry Marais Road- Gauteng- 2018</p> <p>SAPPI Ngodwana- <u>Multiple investigations</u> for various structure- Mpumalanga- 2014 to 2018</p> <p>Olifantspoort Bulk Water Supply Pipeline and Pump Station PS2- Limpopo Province- 2019</p> <p>Multiple structures across the Northern Cape in the areas surrounding Kuruman and Postmansburg</p>

Development Type	Description	Investigative Techniques	Professionals Experience
<p align="center">Shallow Foundation Investigations</p>	<p>Shallow foundation investigations for light structure typically comprising of single and double storey infrastructural units.</p> <p>Typical structures include:</p> <ul style="list-style-type: none"> Solar Farms Schools/Clinics Residential Structures Industrial/Warehouse Structures Substations Churches Community Halls Sports Complexes etc. 	<p>Investigative methodology dependant on the site's location and the nature of the proposed development. Investigative methods typically include;</p> <p>Desktop studies and geological field mapping</p> <p>Trial pitting- and associated undisturbed and disturbed soil testing</p> <p>In-situ testing methods; DMT, DPSH, DPL and DCP</p> <p>Undisturbed sampling is vital to allow for the assessment and quantification of the mechanical properties of the underlying soft materials</p>	<p>240 Ha Solar Farm Development- Zimbabwe- 2014</p> <p>School Infrastructure- IDT Storm Damaged Schools Program- 65 Schools- Limpopo Province- 2014</p> <p>Hectorspruit and Riverside Industrial Developments- Mpumalanga- 2018</p> <p>Thamaoopo Hospital- Limpopo Province- 2019</p> <p>Makwarela Stadium- Limpopo- 2016</p> <p>Lydenburg Substations- Mpumalanga- 2016</p> <p>Standerton Community Hall- Mpumalanga- 2017</p>
<p align="center">Township Developments</p> <p align="center">(Rural and Urban)</p>	<p>Detailed geotechnical investigations are required to complete the township establishment, extensions, land rezoning and service installation processes.</p> <p>Aim of subdividing the land surface into various development potential zones; with the identification and modelling of geotechnical parameters which may hamper development.</p>	<p>Township Investigations are undertaken in several phases- each of which require their own unique investigative procedure; ranging from desktop studies (prefeasibility phase) to extensive trial pitting and associated sampling (Phase 1) to the profiling of excavated service trenches in (Phase 2 Investigations).</p> <p>Township Investigations follow the standards put forward in the SANS 634 document.</p>	<p>Polokwane Multi Land Use Development- Land Rezoning and Township Establishment- Combined surface area in excess of 300 Ha- Limpopo- 2018</p> <p>Nancefield Township Establishment- Carolina- Mpumalanga- 2016</p> <p>The Kloof 2165- Land Rezoning- Free State- 2018</p> <p>Marapong EXT6 and Phagameng EXT36 RDP Township Establishment- Limpopo- 2016</p> <p>Mookgopong and Bela Bela Township Establishment- Limpopo- 2017</p>
<p align="center">NHBRC Stand Enrolments</p>	<p>The National Home Builders Registration Council (NHBRC) was established in terms of the Housing Consumer Protection Measures Act, 1998 (Act No. 95 of 1998).</p> <p>According to the Act all residential development must be enrolled with the NHBRC.</p> <p>All enrolments need to be accompanied by a site-specific geotechnical report.</p>	<p>Site Class Designations (Appendix B3 of EF003) are to be undertaken by NHBRC Competent Geo-Professionals</p> <p>A site-specific geotechnical investigation is required to successfully justify the assigned Site Class Designation and guide structural design.</p> <p>The methodology followed must adhere to the standards presented in the Home Builders Manual as well as SANS 634.</p>	<p>NHBRC Stand Enrolments in the following major developments:</p> <p>Elephant Point- Mpumalanga</p> <p>The Rest Nature Estate - Mpumalanga</p> <p>Leadwood Big Game Estate- Limpopo</p> <p>Highland Gate Golf and Trout Estate- Mpumalanga</p> <p>Leopard Creek Golf Estate- Mpumalanga</p> <p>Hoogland Estate- Mpumalanga</p>

Development Type	Description	Investigative Techniques	Professionals Experience
<p>Bulk Water Supply, Treatment and Storage</p> <p>and</p> <p>Waste Water Treatment Systems</p>	<p>Bulk water and waste water systems entail a variety of infrastructural units; each with their own unique design input and investigative requirements.</p> <p>Infrastructure examples:</p> <ul style="list-style-type: none"> • Water Treatment Facilities, • Effluent, Settling and Maturation Dams/ Ponds • Reservoirs and Tanks, • Pump Stations • Pipelines 	<p>Due to the variety of infrastructure- extensive multi-disciplinary specialist investigations are recommended</p> <ul style="list-style-type: none"> • Deep foundation investigations for large/complex structures • Shallow foundation investigations for light structures. • Materials investigations for pipelines and construction materials. • Geo-environmental Investigations for structures storing toxic waste products. 	<p>Olifantspoort and Ebenezer Bulk Water Schemes- Water Supply to Polokwane- Limpopo- 2016 to 2019</p> <p>Dewetsdorp Bulk Water Supply Pipeline- Free State- 2017</p> <p>Hoedspruit and Flag Bashilo Water Treatment Works- Limpopo- 2014</p> <p>Polokwane Waste Water Treatment Works- Limpopo- 2019</p> <p>Malonga and Lebalelo South Bulk Water Reticulation Networks- Limpopo- 2017</p>
<p>Geo-Environmental</p> <p>and</p> <p>Hydrogeological Investigations</p>	<p>Geo-Environmental investigations for developments which have a distinct effect on the natural environment.</p> <p>Development examples Filling Stations, Landfill Sites, Tailings Facilities, Cemeteries, Effluent Dams, Golf Courses, Sanitation Facilities</p> <p>Hydrogeological investigations entail the identification, assessment/testing and modelling of water sources.</p>	<p>Geo-Environmental investigations are undertaken in order to support the EIA process.</p> <p>Investigative methods include conducting a hydro-census, desktop studies, contaminant transport rate assessments, ground- and surface water modelling and chemical testing of receptacles.</p> <p>Hydrogeological investigations are undertaken over a number of phases including the identification of drilling targets through desktop studies, field mapping and geophysical surveys. Targets are then drilled followed by yield testing and water sampling.</p>	<p>Limpopo Water and Sanitation Programme- Ablution Facilities for over 75 Schools across the Limpopo Province- 2017 to 2019</p> <p>Giyani Landfill Site- Limpopo- 2015</p> <p>Hydrological Investigation- Water Supply Identification, Drilling and Testing- Capricorn District- 2018</p> <p>Aloe Falls Country Estate and Golf Course- Mpumalanga- 2015</p> <p>Tailings Dam- TSB Komaitpoort- Mpumalanga- 2014</p> <p>Mokopane Filling Station- Limpopo- 2018</p>
<p>Material Investigations</p> <p>and</p> <p>Borrow Pit Exploration Programs</p>	<p>Detailed centreline and materials investigations are conducted to assist with the design of roads, pipelines, parking areas, and infrastructural units which require extensive layer works such as sports fields and embankments.</p> <p>These investigations focus on the testing of specific attributes related to materials and their re-usability in construction.</p>	<p>Materials investigations and borrow pit exploration programs are undertaken to classify and quantify materials as well as identify and model geological and geomorphological features which may impact the development as a whole.</p> <p>Methods typically include;</p> <p>Desktop Studies and geological field mapping</p> <p>Trial pitting- and associated disturbed soil testing</p> <p>Treated material testing through stabilisation with cement/lime</p> <p>In-situ testing methods; DPSH, DPL and DCP</p>	<p>Extensive experience in road construction/maintenance and borrow pit exploration throughout Southern Africa.</p> <p>ANE Package 1- Mozambique-N220 Chissano to Chibuto- 2017</p> <p>South African Regional Road Upgrades and Maintenance: R26; R702; R716; R709; R34; R37</p> <p>South African Major District Road Upgrades: D4370; D3370; D415; D417; S110</p> <p>Over 50 investigations for internal road networks and access roads</p> <p>Artificial Hockey Fields- Penryn College 2015 and HTS Middelburg 2018- Mpumalanga</p>