

Geotechnical | Environmental | Material-Testing



ABOUT US

OMAVI Geotechnical & Environmental Services (OMAVI) is a wholly Namibian owned technical advisory/ consulting and contracting firm specializing in the fields of engineering geology, geotechnical engineering, construction material testing and environmental management services. OMAVI has offices and a construction material testing laboratory in Windhoek, but provides services across the whole of Namibia. OMAVI was established with the aim of providing clients with value adding, cost effective and impactful solutions; tailored to meet specific clients' needs in so far as geotechnical constraints/ geotechnical risks; construction works and construction material quality control and assurance; and environmental management compliance are concerned.

The OMAVI team includes engineering geologists, geotechnical engineers, and construction material technicians who, collectively, have undertaken geotechnical and environmental management work across Namibia in various landscapes geologies, and are therefore well vested with the diverse range of soil and ground conditions across the country which dictate the planning, design and effective construction of various public and private developmental infrastructure (e.g., power plants, mine residue structures, mine process plants, roads, bridges, buildings, railways, runways, ports, pipelines, power plants, transmission lines, etc.).

BASIS OF OMAVI'S SERVICES TO INFRASTRUCTURE DEVELOPERS & MINE OPERATORS

Developers of various infrastructures (such as buildings, green energy power plants, roads and road structures, substations, etc.) as well as mines are typically faced with developing and operating numerous structures associated with significant geotechnical risks. Typical geotechnical risks include:

- Ground movements and slope failures associated with civil structures on slopes or mine residue structures with slopes such as Tailings Storage Facilities (TSF), Heap Leach Pads, Return Water Dams, Waste Rock Dumps
- Concrete & steel frame structures, road structures and working platform structures constructed on unstable founding ground that has inadequate bearing capacity and are thus susceptible to excessive ground settlements or even gradual and catastrophic failures
- Excessive seepage of groundwater into construction excavations, thus requiring dewatering operations which can disturb pore pressure regimes in soils and cause instability of the ground
- Difficult excavations in unexpectedly hard ground
- Seepage of polluted treatment into portable groundwater reservoirs
- Construction disputes between contractors and the infrastructure developers/ mine operators arising from unforeseen or differing ground conditions resulting in project cost overruns and delays

These risks must be pre-assessed, regularly monitored and the necessary preventative and/ or remedial or corrective measures undertaken to ensure that personnel, equipment and infrastructure are safely guarded and continue to operate optimally. OMAVI helps to identify these ground-associated risks before-hand and formulates the necessary site and project-specific risk prevention or risk management measures.

CORE SERVICES OFFERED

GEOTECHNICAL SITE INVESTIGATIONS FOR CIVIL & MINING STRUCTURES

Engineering Geology and Geotechnical Engineering Consulting Services:

- Planning, execution, and coordination of geotechnical site investigations for:
 - Borrow pit and construction material investigation & sampling
 - Design and Construction of building and steel structures foundations (residential, industrial, treatment plants),
 - Design and Construction of foundations for powerlines, sub-stations and power stations, transmission lines
 - Design, construction and operational management of foundations and slopes for mine waste residue (tailings dams, heap leach pads and mine waste dumps)
 - Routing and foundation design of pipelines,
 - Design and Construction of foundations for network/ transmission towers,
 - Design, construction and operational management of municipal and private waste dumps and landfill sites,
 - Stability evaluation of rock cuts and slopes,
- Derivation of geotechnical design parameters for design of foundations and slopes for civil and mining structures
- Quality assurance/ control and validation of geotechnical data for design and construction execution purposes
- Bearing capacity and settlement analyses of foundations



- Investigations for borrow construction material sources (e.g., identification and approval of soil, aggregates, ballast for use in earthworks and civil construction works)
- Geotechnical input into earthworks tender specifications/ documentation
- Geotechnical input into site layout and routing optimization and planning
- Supervision and management of geotechnical drilling and sampling projects
- Geotechnical mapping, logging, and soil profiling
- GIS-based studies for historical and present land-use analysis
- Installation and commissioning of geotechnical surveillance instrumentation (e.g., vibrating wire piezometers; inclinometers) plus post-installation monitoring and data interpretation to measure and monitor ground water levels & pore water pressures
- Research & Development (on various practical aspects of engineering geology and geotechnical engineering)





P.O. Box 1 642 Windhoek
 info@omavi.com.na
 +264 81 478 6303
 +264 81 214 3721

OUR EXPERIENCE BASE - Geotechnical Site Investigation Projects

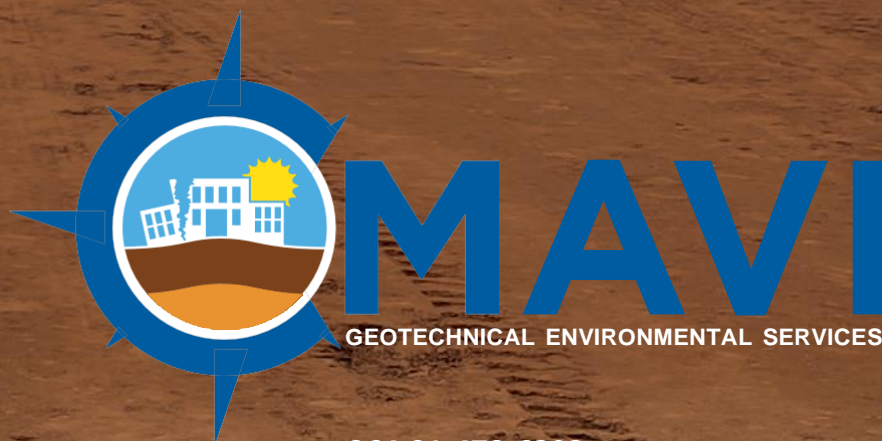
Project Title	OMAVI's Scope	Sector	Client Name	Status
Shallow and Deep geotechnical investigation for the extension of the Annixas 50MW power plant in Walvis Bay, Erongo Region, Namibia	<ul style="list-style-type: none"> - Desktop study - Field investigation (test pitting, core drilling, DPSH testing, Vertical soil electrical resistivity testing, soil & groundwater sampling) - Laboratory Testing (Foundation Indicators, CBRs, Mod AASHTO densities, soil consolidation testing, soil corrosion attack based on pH and electrical conductivity) - Report on the site's geotechnical conditions and recommendations for designs and construction of shallow and deep foundations, embedment depths, foundation platform preparations and on-site material re-use potential, grounding depths) 	Infrastructure (energy)	JV August 26 Construction/ Telemenia/ PHIM On behalf of NAMPOWER	Completed successfully
Geotechnical and geological investigation for the design of the new proposed reservoir at Namwater Water Supply scheme in Aroab, ! Karas Region	<ul style="list-style-type: none"> - Desktop study - Field investigation (test pitting, DCP testing & sampling) - Laboratory Testing - Report on the site's geotechnical conditions and recommendations for foundation and site drainage designs and construction, embedment depths, and on-site material re-use potential 	Infrastructure (reservoirs)	Namibian Water Corporation (NAMWATER)	Completed successfully
Shallow and Deep site-wide geotechnical investigation for the 85MW combined solar PV and green hydrogen power plant for HDF Energy Namibia near Swakopmund - Namibia	<ul style="list-style-type: none"> - Desktop study - Field investigation (test pitting, core drilling, DPSH testing, vertical soil electrical resistivity survey, soil and rock sampling) - Laboratory Testing (Foundation Indicators, CBRs, Mod AASHTO densities, soil shear strength & consolidation testing, soil thermal resistivity, soil corrosion attack based on pH and electrical conductivity) - Report on the site's geotechnical conditions and recommendations for designs and construction of shallow foundations, embedment depths, foundation platform preparations and on-site material re-use potential, grounding depths) 	Green Hydrogen Energy	HDF Energy Namibia	Ongoing
Geotechnical investigation for proposed new crushed stone quarry at Omakange Settlement, Omusati Region, Namibia	<ul style="list-style-type: none"> - Field mapping of limestone deposit - Laboratory testing & characterization of dolostone to assess suitability for use as crushed aggregate in roadworks and concrete works 	Mining/ Construction	Geonamib Minerals	Completed successfully
Construction material quality assessment of crushed stone aggregates from an	<ul style="list-style-type: none"> - Bulk sampling of stockpiles, laboratory testing & characterization of crushed aggregates for use in roadworks and concrete works 	Mining/ Construction	Green Gain Consultants	Completed successfully

abandoned quarry near Opuwo, Kunene Region, Namibia				
Quarry investigation for proposed new crusher plant near Witvlei, Omaheke Region, Namibia	<ul style="list-style-type: none"> - Field mapping of quartzite deposits - Bulk sampling of stockpiles, laboratory testing & characterization of crushed aggregates for use in roadworks 	Mining/ Construction	Peace Garden Investments	50% Completed & ongoing
Geotechnical site investigation for the extension of Swakopmund State Hospital, Erongo Region, Namibia	<ul style="list-style-type: none"> - Desktop study - Field investigation (test pitting, DCP testing & sampling) - Laboratory Testing - Report on the site's geotechnical conditions and recommendations for foundation designs and construction, embedment depths, and on-site material re-use potential 	Infrastructure (buildings)	PHIM Consulting Engineers	Completed successfully
Geotechnical site investigation for the widening and upgrading of the Monte Cristo Road in Windhoek to dual carriageway, Khomas Region, Namibia (sub-consultant under NCEL)	<ul style="list-style-type: none"> - Desktop study - Geotechnical drilling supervision and core logging for rock mass characterizations at proposed road cuts - Technical advice and recommendations on road cut designs and construction 	Infrastructure (roads)	Ongos Valley Development/ City of Windhoek	Completed successfully
Geotechnical site investigation for proposed single to 2/ 3 storey buildings (library, lecture halls, offices) and a parking lot for the new IUM campus on Erf 235, Eenhana.	<ul style="list-style-type: none"> - Desktop study - Field investigation (test pitting, DCP testing, sampling) - Laboratory Testing (Foundation Indicators, CBRs, Mod AASHTO densities, soil pH and Conductivity) - Technical report covering excavation conditions for services, recommendations on suitable foundations, founding depths, drainage systems and material re-use for different layer works 	Infrastructure (buildings, parking lots, small roads)	ENI Consulting Engineers	Completed successfully
Geotechnical site investigation and foundation recommendations for proposed 2-storey extension to an existing diamond cutting/ polishing building on Erf 417, southern industry, windhoek.	<ul style="list-style-type: none"> - Desktop study - Field investigation (test pitting, sampling) - Laboratory Testing (Foundation Indicators, CBRs, Mod AASHTO densities, soil pH and Conductivity) - Technical report covering excavation conditions for services, recommendations on suitable foundations, founding depths, drainage systems and material re-use for different layer works 	Infrastructure (building & parking lot foundations)	ANKIT GEM	Completed successfully
Geotechnical site investigation and foundation recommendations for proposed 2 and 3-storey residential complex on Erf 9799, Ocean View, Swakopmund.	<ul style="list-style-type: none"> - Desktop study - Field investigation (test pitting, DCP testing, sampling) - Laboratory Testing (Foundation Indicators, CBRs, Mod AASHTO densities, soil pH and Conductivity) - Technical report covering excavation conditions for services, recommendations on suitable foundations, founding depths, drainage systems and material re-use for different layer works 	Infrastructure (building & parking lot foundations)	PHIM consulting engineers and project managers	Completed successfully

<p>Feasibility level geotechnical site investigation and foundation recommendation for the Flexible Land Tenure Scheme in Mariental.</p>	<ul style="list-style-type: none"> - Desktop study - Field investigation (test pitting, DCP testing, sampling) - Technical report covering excavation conditions for services, recommendations on suitable foundations, founding depths, drainage systems and material re-use for different layer works 	<p>Infrastructure (roads/buildings/land use planning)</p>	<p>Sub-contracted by Others on behalf of Kamau Town Planning & Development Specialists</p>	<p>Completed successfully</p>
<p>Feasibility level geotechnical site investigation and foundation recommendation for the Flexible Land Tenure Scheme in Luderitz.</p>	<ul style="list-style-type: none"> - Desktop study - Field investigation (test pitting, DCP testing, sampling) - Technical report covering excavation conditions for services, recommendations on suitable foundations, founding depths, drainage systems and material re-use for different layer works 	<p>Infrastructure (roads/buildings/land use planning)</p>	<p>Sub-contracted by Others on behalf of Kamau Town Planning & Development Specialists</p>	<p>Completed successfully</p>
<p>Geotechnical investigation for the construction of Municipal Services (Sewers, pipelines, pump station) in Tsumeb, Namibia.</p>	<ul style="list-style-type: none"> - Desktop study - Field investigation (test pitting, DCP testing, sampling) - Technical report covering excavation conditions for services, recommendations on suitable foundations, founding depths, drainage systems and material re-use for different layer works 	<p>Infrastructure (municipal services)</p>	<p>Sub-contracted by Others on behalf of Om'Kumoh Consulting Engineers</p>	<p>Completed successfully</p>

OUR VALUE PROPOSITION

- It is a matter of fact that as a developer, contractor, design or construction engineer, project manager or town planner, if you do not know what lies in the ground underneath your site for a planned development, you will not be able to: (1) optimise the site layout, (2) optimize the design of foundations and drainage systems for the planned structures, slopes, retaining wall and/ or access roads, (3) capitalize on utilizing on site material for layer and/ or concrete works, and (4) schedule and cost your earthworks scope accurately enough.
- We help to detect unfavourable ground conditions, and in so doing we help to de-risk project schedules and budgets from unforeseeable ground conditions
- We help clients to comply with best practice environmental management, environmental monitoring, land rehabilitation and social impact management practices
- We help mine operators to continuously move towards compliance with the Global Standards on Tailings Management
- We help clients to comply with permitting and licensing requirements for water abstraction, waste disposal and management, mineral prospecting and mining



+264 81 478 6303

+264 81 2143721

info@omavi.com.na

1642, Windhoek, Namibia

