



Johan Goosen

Environmental Engineer

Qualifications

Bachelors in Landscape Architecture

MSc Environmental Engineering

Member, International Association of Impact Assessment (IAIA)

Registered Professional Landscape Architect, South African Council for Landscape Architectural Professionals (SACLAP)

Member, Institute for Landscape Architecture in South Africa (ILASA)

Specialisation

Environmental planning and landscape architecture

Years in industry

17.33

Johan is employed as an environmental planner and landscape architect and at Aurecon. He has more than 17 years' experience in environmental planning in a wide variety of sectors. His expertise includes urban open space planning and regional environmental planning frameworks, end land use planning for mining and waste facilities and brownfields site re-development. He has further been involved in numerous projects requiring environmental screening, impact assessment/permitting, environmental management during construction and visual impact assessment (VIA) for linear infrastructure such as roads, rail, bulk water, urban and rural property developments and the mining and metals sector.

In addition to South African experience, he has been involved on projects in the Ghana, Botswana, Uganda, Tanzania, Mozambique, Mauritius, Swaziland, the United States of America (USA) and Australia, where in 2017 he spent six weeks in Aurecon's Sydney office as one of the first employees in the company's work-share initiative between its South African and Australia and New Zealand regions.

Johan obtained a Bachelor in Landscape Architecture from the University of Pretoria in 1998 and a Master of Science in Environmental Engineering from the University of the Witwatersrand (Wits) in 2017. His research topic focused in success factors for brownfields regeneration in urban environments.

He is a registered professional landscape architect with the South African Council for Landscape Architectural Professionals (SACLAP). Volunteer work in this line includes serving on the national executive committee for the Institute for Landscape Architecture in South Africa (ILASA), co-writing the environmental section of the SACLAP professional exam, mentoring young graduates and regularly acting as external examiner for the graduate course in landscape architecture at the University of Pretoria on environmental engineering and sustainability aspects.

Experience

Technical advisory services for the Mauritius Light Rapid Transit (MLRT) system, Port Louis, Mauritius, Government of Mauritius, 10/2012 - 03/2019, Environmental Specialist

The Government of Mauritius is committed to build a light rapid transit (LRT) system serving the city areas between Port Louis and Curepipe to relieve the main road arteries and to review its existing bus network with the aim of achieving an efficient multi-modal public transport network. Aurecon was appointed, as a partner to lead agency Singapore Cooperation Enterprise (SCE) and the Singapore Mass Transit Corporation (SMRT), to provide technical advisory services for the development of the Mauritius LRT system. This included advisory services for transport and traffic planning, engineering and business case/financial planning. Responsible for the coordination of environmental assessment and specialist inputs undertaken by the South African team, including stormwater design, land contamination, heritage, geotechnical and ecology.



Ga-Seleka Road Upgrade Project, Limpopo Province, South Africa, Exxaro Coal Lephalale, 01/2016 - 08/2018, Environmental Task Leader

The objective of the project is to upgrade two district roads near Lephalale and, in the process, develop long-term economic and employment opportunities in the area. The project involves the design and construction of the Northern Link (running from Rietfontein for 33.5 km to Letlora) and the Southern Link (running from Kiti for 14.1 km to Abbotspoort). The 13 affected communities fall within three wards of the Lephalale Local Municipality. The main components of the project include safety, health and environment (SHE); social and institutional development; the design and construction of roads; project specification Item 1.2 as well as job creation and skills transfer through labour-intensive construction (LIC) during the design phase. Responsible for environmental stream leading environmental planning, environmental impact assessment (EIA), borrow pit applications, environmental management plan (EMP) and environmental auditing as well as the water use application.

Redevelopment of Erf 3564, Saldanha Bay, Western Cape Province, South Africa, De Goede Hoop Development Company, 08/2016 - 06/2018, Contaminated Land Specialist

The prospective redeveloper of an old service station has appointed Aurecon to undertake a peer review of the work completed by the original consultant for the owner of the underground fuel storage tanks. Responsible for environmental legal input and collation of the hydrogeologist's and chemical engineer's review into a concise peer review letter.

Environmental impact assessment (EIA) for Charka factories, Limpopo and Mpumalanga Provinces, South Africa, SAFIRE CHARKA (Pty) Limited, 05/2017 - 05/2018, Project Lead/Reviewer

Aurecon has been appointed for the Section 24G environmental authorisation application and atmospheric emissions licence (AEL) for the operation of the Charka factories in Piet Retief and Polokwane. Environmental and Health Risk Consulting Pty Ltd (EHRCON) was sub-contracted for the air quality impact assessment and AEL; while Aurecon carried out the environmental impact assessment (EIA). The EIA involved a site visit to the Polokwane site, reviewing all available information from Charka and attending a pre-application meeting with competent authorities (CA) to confirm project scope and listed activities. Aurecon also carried out the public participation process (PPP) and compiled the comments and response report. Responsible for the project initiation/review and quality assurance as well as strategic guidance for environmental project manager and sub-consultant (air quality specialist).

Reference design for the Geelong to Waurn Ponds Railway Infrastructure Upgrade Project, Victoria (VIC), Australia, Transport for Victoria, 07/2017 - 04/2018, Contaminated Land Specialist

Aurecon was appointed for the reference design for an initiative of the Regional Network Development Plan (RNDP) aimed at improving the reliability and frequency of services between Geelong and Waurn Ponds within the Barwon South West corridor. The reference design consists primarily of duplicating the track within the Warrnambool rail corridor from Geelong to south of Waurn Ponds, constructing tunnel(s) and other associated infrastructure between Geelong and South Geelong, constructing a new Barwon River crossing and associated infrastructure, providing additional side platforms at South Geelong, Marshall and Waurn Ponds stations, improving station facilities, access and amenities at South Geelong, Marshall and Waurn Ponds stations, upgrading signalling between Geelong and Waurn Ponds and modifying and/or grading separation of affected level crossings. Responsible for the compilation of the strategic preliminary site investigation (contamination land) of the proposed rail alignment.

Visual impact assessment (VIA) for the Eskom Northern KwaZulu-Natal Strengthening Project, KwaZulu-Natal Province, South Africa, Nako Iliso/Eskom, 06/2016 - 04/2018, Visual Impact Assessment (VIA) Reviewer

The project involves a specialist visual impact assessment (VIA) study as part of the full environmental impact assessment (EIA) process for the Eskom Northern KwaZulu-Natal Strengthening Project. The



proposed project consists of the new Iphiva 400/132 kV substation near the town of Mkhuze, which will be integrated into the 400 kV network by two 400 kV lines, namely the approximately 150 km Normandie-Iphiva, the approximately 130 km Iphiva-Duma 400 kV transmission powerlines and approximately 165 km of 132 kV distribution powerlines that will link into the Iphiva substation. Responsible for reviewing the specialist study and overall project management.

AB InBev Kumasi greenfields brewery, Ashanti Region, Ghana, Anheuser-Busch InBev (AB Inbev), 11/2017 - 03/2018, Environmental and Fatal Flaw Investigation Lead

Aurecon was appointed to undertake a geotechnical investigation and fatal flaw analysis (FFA) of the environmental/social risk and bulk infrastructure of a property that the client intended to purchase for the construction of a greenfield brewery near Kumasi. Responsible for the management and review of in-country data gathering and reporting, and overall quality and assurance of FFA report.

Belfast Implementation Project resettlement site and low-cost housing development, Mpumalanga Province, South Africa, Exxaro Coal Mpumalanga, 03/2016 - 12/2017, Environmental Task Leader

Aurecon has been appointed for the town planning, civil engineering design, environmental authorisation, including licensing and permits, for the Belfast Implementation Project resettlement site and the development of low-cost housing in the area. Responsible for leading the environmental task.

Environmental impact assessment (EIA) for Haakdoorndrift platinum open cast project, Limpopo Province, South Africa, Anglo American Platinum, 03/2016 - 12/2017, Environmental Task Leader

Aurecon was appointed to undertake the environmental impact assessment (EIA), waste and water licences for the Haakdoorndrift open cast project at their Amandelbult Complex as part of their open cast activities. Specialist studies include groundwater, soil and land capability, terrestrial and aquatic biodiversity, noise, blasting and vibration, heritage and palaeontology, social impact assessment (SIA) and as well as floodline determination. The project also involved obtaining environmental authorisation for the relocation of a railway line on a proposed open cast pit in the complex, as well as a waste management licence for the operation of a waste recycling facility at the complex. Responsible for leading the integrated regulatory process, namely the EIA, and waste and water use licence applications (WULAs). Also responsible for review and quality assurance of environmental auditing reports and arranging and undertaking site investigation and documentary audit of the various approvals.

Dragline relocation pre-feasibility study at Landau Colliery, Mpumalanga Province, South Africa, Anglo Operations Pty Ltd, 11/2015 - 09/2017, Environmental Task Leader

Aurecon was appointed to undertake a dragline relocation pre-feasibility study at Landau Colliery located in eMahlahleni. The scope of works extended to waste classification of discard material sources for Madini and Elandsfontein dumps. The works also included the compilation of a NEMA scoping/environmental impact assessment (EIA), waste licence and the integrated water use licence application (IWULA) for the proposed construction of a road, with the purpose of relocating the dragline from the Kromdraai Section to the Navigation Section of Landau Colliery. Responsible for leading the integrated regulatory process, namely the EIA and waste and WULA applications).

Assessment and amendment of the air emissions licence (AEL) for the Woodchem South Africa plant, Mpumalanga Province, South Africa, KAP Industrial, 05/2016 - 07/2017, Task Leader

The Woodchem plant in Piet Retief required expansion of its resin manufacturing capability, which in turn required the National Environmental Management Act (NEMA) Basic Assessment and Amendment of its air emissions licence (AEL). Responsible for task initiation/review and quality assurance and strategic guidance for environmental project manager and sub-consultant (air quality specialist).



Engineering and project management services for the Project Raptor identification phase study (IPS), Northern Cape Province, South Africa, Hotazel Manganese Mines (BHP), 02/2015 - 06/2017, Environmental Screening Task Leader

Project Raptor was an identification phase study (IPS), initiated by BHP Billiton Hotazel Manganese Mines, to investigate all alternatives regarding the establishment of new ore loading facilities for the Mamatwan and Wessels Mines. The aim was to produce a study document presenting a go-forward option and execution plan for the next phase. Aurecon followed a holistic approach to investigate options, scenarios and alternatives.

Acquisition of options to register servitude for two 400 kV transmission lines, Mpumalanga and Gauteng Provinces, South Africa, Eskom, 05/2013 - 05/2017, Environmental Task Leader for the Urban Section

Aurecon's appointment entailed the acquisition of options to register servitudes over land within an environmentally approved corridor for 2 x 400 kV transmission lines for a distance of 119.611 km from Matla Power Station near Secunda, Mpumalanga Province to Jupiter B Substation, in the vicinity of Rosherville, Gauteng Province and the management of the environmental management plan (EMP) during construction of the corridor on behalf of Eskom. The project was divided into three phases. Phase 1 comprised the acquisition of options to register servitudes for the proposed 2 x 400 kV transmission lines from Matla to Nevis Power Station, being the rural area. Phase 2 entailed the acquisition of options to register a servitude for the proposed 2 x 400 kV transmission lines from Nevis Substation to Jupiter, the urban area. Phase 3 included compliance management involving the appointment of an environmental control officer (ECO) during the construction of the lines. Responsible for leading the environmental task (water licensing and EMP compilation) for the urban section.

Polokwane Neighbourhood Development Partnership Grant (NDPG) 2014 - 2016, Limpopo Province, South Africa, Polokwane Local Municipality, 07/2014 - 03/2017, Environmental and Landscape Design Task Leader

Aurecon was appointed for a two-year period for the development of a precinct plan for the identified Seshego Hub, as part of the Neighbourhood Development Partnership Grant (NDPG) initiative; the management of required designs for current identified non-motorised transport (NMT) routes as well as the identification and design of future projects as identified in the P-Pan. Aurecon sub-contracted a portion of the work to Royal Haskoning (RH), but is supervising the implementation of the designs and performing all related future designs and its implementation. Responsible for environmental screening and landscape design inputs.

Environmental impact assessment (EIA) for the widening of Simon Vermooten Road, Gauteng Province, South Africa, City of Tshwane Metropolitan Municipality (CTMM), 03/2006 - 02/2017, Project Leader

The project entailed the widening of Simon Vermooten Road in Pretoria East. A scoping process in terms of the Environment Conservation Act (ECA) was followed to widen this arterial road, which was eventually approved by the provincial authority. Subsequent work included the environmental authorisation for a main bulk water supply line adjacent to the road. An environmental management planning (EMP) was also drafted, and monitoring conducted during the construction process. Responsible for the environmental impact assessment (EIA) and EMP monitoring during construction.

Waterberg feasibility (FEL 3) study for rail infrastructure, Limpopo and Mpumalanga Provinces, South Africa, Transnet SOC Johannesburg, 12/2014 - 12/2016

The project involved providing professional services for Stages 3, 4 and 5 of the Waterberg feasibility (FEL 3) study for coal rail infrastructure from Lephalale to Ermelo, including an incremental rail capacity development plan for expanding coal tonnage throughput up to 24 Mtpa. Aurecon was appointed to assist



Transnet in attaining their business goal of establishing an incremental rail capacity development plan. Aurecon investigated and established the requirements in terms of upgrading the existing rail infrastructure to support the envisaged expansion, which includes infrastructure, rolling stock and other assets. Responsible for the environmental screening and report lead.

Waste management licence applications for Rooiberg landfill, Limpopo Province, South Africa, Department of Environmental Affairs (DEA), 01/2014 - 12/2016, Environmental Task Leader

The Department of Environmental Affairs (DEA) undertook a study, commissioned in 2007, which identified unlicensed municipal waste disposal facilities in South Africa. From the 581 sites that were identified, 341 were disposal facilities that needed to be licensed. Aurecon was appointed to conduct and manage the waste management licence applications on behalf of all affected municipalities. The scope involved solid waste management, transfer of skills to officials, legal compliance, environmental impact assessment (EIA) and environmental management. Responsible for the waste licence and leading the EIA.

LNG-to-Power independent power producers (IPP) programme site selection project, Western Cape Province, South Africa, Department of Energy (DoE), 02/2016 - 11/2016, Environmental Practitioner

Aurecon was appointed by the South African Department of Energy's (DoE's) Independent Power Producer (IPP) Office to undertake the early phase project development work necessary to define a potential liquefied natural gas (LNG)-to-power project at Atlantis, Western Cape and at Coega, Eastern Cape. The scope of work entailed performing an initial site option investigation to assess the feasibility of establishing at least 1 000 MW and a maximum of 3 000 MW of gas-fired combined cycle gas turbine (CCGT) power generation technology. High-level studies on water requirements for potential desalination plants were also performed and potential third-party, non-power gas users, were also identified. Responsible for performing desktop environmental screening advice for the site selection study of Atlantis, Western Cape.

Integrated water and waste management plan (IWWMP) for Sonae Novobord, Mpumalanga Province, South Africa, Sonae Novobord, 03/2015 - 06/2016, Project Leader

Aurecon was appointed to compile the integrated water and waste management plan (IWWMP) as part of the requirements of Sonae Novobord's existing integrated water use licence (IWULA) to demonstrate how it aims to manage the licence in day-to-day operations. Aurecon's services included operational water balance, a ground water study, a surface water assessment and management measures, consideration of waste streams and handling, and collation of these studies into the IWWMP document. Responsible as project leader.

Economic viability study for the western corridor in Ghana: Phase 1, Western and Ashanti Regions, Ghana, Mota-Engil Engenharia e Construcao, 05/2015 - 05/2016, Environmental Lead

The project entails the assessment of the economic viability of a proposed highway project along the western corridor of Ghana. The proposed project comprised 330 km of new highway construction and stretches from Elubo in the south to Sunyani in the north. The study assessed the viability of the proposed project from three perspectives, namely transport economic, macroeconomic and environmental and social. The route was visually assessed to obtain information regarding the materials, structures and drainage and geometric properties of the existing alignment. Responsible as environmental task leader.

Environmental services for Klipplaats 400 kV line deviation, Mpumalanga Province, South Africa, Glencore Xstrata Coal South Africa (Glencore South Africa (Pty) Ltd), 05/2014 - 05/2016, Environmental Lead

The project entailed environmental studies, the water use licence application (WULA) and preliminary design for the Klipplaats 400 kV line deviation at the Tweefontein Coal Mine, the registered land owner of the farm Klipplaats 14IS in Mpumalanga. Responsible as environmental lead.



Design of a legal compliant hazardous waste facility, Limpopo Province, South Africa, Exxaro Coal Lephalele, 07/2013 - 01/2016, Environmental Task Leader

Grootegeluk Mine has two temporary hazardous waste storage areas for storing hazardous waste prior to it being removed from site for safe disposal at a licensed facility. These areas, however, were not compliant with environmental requirements and Aurecon consequently appointed to design a consolidated hazardous waste storage area. Particular attention was paid to safety standards, hazards, handling and storage. Responsible for the waste licence and leading the environmental impact assessment (EIA).

Contamination assessment of selected Transnet Properties sites, Regional, South Africa, Transnet SOC Ltd, 03/2014 - 12/2015, Project Leader

Aurecon was appointed to undertake the initial assessment of various sites or precincts in order to identify any environmental contamination and to provide Transnet Properties with an initial assessment report as well as a financial model for the closure and rehabilitation of these sites. Sampling and lab testing was undertaken as part of the studies, and included a groundwater and soil study, soil profiling, an asbestos study and an ecological overview.

Conceptual design and master planning for the WestPark industrial development, Western and Ashanti Regions, Ghana, Blackivy Ghana Ltd, 09/2015 - 11/2015, Environmental Lead

This project entailed the development of a master plan for the WestPark industrial park, including developing appropriate land-use zones, land infrastructure concept designs and off-grid electric power generation solutions. The concept designs included bulk earthworks, transport and roads, water supply, wastewater treatment, stormwater drainage, solid waste management, telecommunications, power generation and electrical transmission, distribution and reticulation networks. Responsible for the environmental screening task leader, including site visit and assessment.

Development of a socio-economic framework and category for Green Star SA rating tool, South Africa, Green Building Council of South Africa (GBCSA), 06/2012 - 11/2015, Project Leader

The project entailed the development of a category framework for international use, a socio-economic category for the Green Star SA rating tool and five related socio-economic credits. Responsible for the overall project management and delivery and quality review of socio-economic specialist.

Environmental impact assessment (EIA) for the 140 MW Esiamia gas-fired generation plant, Western Region, Ghana, Aggreko International Project, 04/2015 - 07/2015, Project Leader

The project involved the updating and completion of the environmental impact assessment (EIA) process for the 140 MW gas-fired generation plant in Esiamia, including specialist studies for air quality, noise, ecology and waste. An environmental permit was granted by the Ghana Environmental Protection Agency (EPA).

Aganang strategic environmental assessment (SEA), Limpopo Province, South Africa, Capricorn District Municipality, 06/2014 - 04/2015, Project Leader

The project involved a strategic environmental assessment (SEA) of the Aganang Local Municipality to include environmental status quo and the desired state of environment and environmental management zones to guide future development against conservation targets.

Study on the remediation of the Hammarsdale mercury sludge ponds, KwaZulu-Natal Province, South Africa, Department of Water and Sanitation (DWS), 10/2013 - 03/2015, Report Task Leader

During the 1970s and 1980s biocides containing mercury were used at the Hebox textile factory in Hammarsdale. The effluent generated by the facility was routed to the Hammarsdale wastewater treatment works (WWTW). The resultant sludge, containing mercury and other chemicals was later disposed of in the Hammarsdale mercury sludge ponds, owned by the Department of Public Works. Aurecon was appointed to perform a water quality management study on the remediation process and develop a remediation plan. Responsible for the rehabilitation landform design and fulfilling the role of report task leader.



Development of reconciliation strategies for large bulk water supply systems: Orange River (ORECONS), South Africa, WRP Consulting Engineers, 03/2012 - 02/2015, Task Leader/Environmental Specialist

The project entailed the formulation of a water reconciliation strategy for the Orange River System, based on the recent extensive studies in the area and a similar reconciliation strategy study on the Vaal River Catchment. Aurecon was appointed for the preliminary screening workshop; reviewing schemes and updating cost estimates, viewing/assessing social and environmental impacts, assembling information and formulating scenarios as well as the final screening workshop. A preliminary and a final water reconciliation strategy were the two main outputs of the study. Task leader responsible for the environmental screening undertaken to compare environmental and social impacts of the various proposed dam options in the Orange River catchment.

Update of Taung Skull World Heritage Site Integrated Management Plan, North West Province, South Africa, Department of Economic Development, Environment, Conservation and Tourism (DEDECT), 05/2014 - 12/2014, Professional Landscape Architect

Aurecon was appointed to update the 2010 draft integrated management plan for the Taung Skull World Heritage Site. Responsible for the review and the update of the existing management plan.

Basic assessment (BA) for the Pangaea/Kanga 88 kV powerlines, Mpumalanga Province, South Africa, Eskom, 05/2013 - 06/2014, Landscape Architect

Eskom proposed the establishment of two 88 kV substations, Pangaea and Kanga, in conjunction with two 88 kV loop-in-loop-out lines from the existing 88 kV Erasmus-Arbor line to ensure electric supply for the upcoming Kusile Railway Line. The railway line will be constructed as a private siding, which is needed to transport limestone to the Kusile Power Station. Aurecon was appointed to conduct a basic assessment (BA) as well as a Level 1 wetland assessment to determine the extent of wetland or wet areas that are related to the proposed routes chosen for the construction of the Pangaea and Kanga 88 kV power lines. Responsible for overall project management and as environmental impact assessment (EIA) lead.

Feasibility study for the treatment of acid mine drainage (AMD), Gauteng Province, South Africa, Department of Water and Sanitation (DWS), 12/2011 - 03/2014, Environmental Specialist

Aurecon was appointed to conduct a feasibility study to address the treatment of acid mine drainage (AMD) from Gauteng's underground mining basins, by removing salts and metals, to protect the receiving water resources and reduce the dilution releases from the Vaal Dam to the Vaal Barrage. The work included investigating future scenarios, analysing alternative infrastructure options and exploring alternatives for implementation. Responsible for advising the client on environmental impact assessment (EIA) process options, assisting with the writing of the "Options for Discharge of Water and Waste" report and the analysis of project options against the receiving environment. Responsible fulfilling the role of environmental screening resource.

Full planning and engineering services for a new Sasko bakery in Woodmead, Western Cape Province, South Africa, Pioneer Food Group, 04/2007 - 02/2014, Environmental Task Leader

The project entailed the provision of full planning and engineering services for the development of Sasko's new bakery in Woodmead. Aurecon provided architectural, project management, civil, structural, electrical, mechanical, fire and wet services engineering for the new bakery complex, including an ancillary administration block, a washbay and a workshop. Responsible as the environmental task leader for the National Environmental Management Act (NEMA) Section 24 application and the rehabilitation plan for the wetland restoration.



Technical advisory services for the Mauritius Light Rapid Transit (MLRT) system, Port Louis, Mauritius, Aurecon Singapore, 09/2012 - 01/2014, Task Leader/Environmental Specialist

Aurecon was appointed, as a partner to lead agency Singapore Cooperation Enterprise (SCE) and the Singapore Mass Transit Corporation (SMRT), to provide technical advisory services for the development of the Mauritius Light Rapid Transit (LRT) system. This included advisory services for transport and traffic planning, engineering and business case/financial planning. The Government of Mauritius is committed to build a LRT system to serve the established city areas running between the capital of Port Louis and Curepipe to relieve the main road arteries and to review its existing bus network in order to achieve an efficient multi-modal public transport network that can serve Mauritius over the long term. Task leader responsible for the environmental screening process undertaken as part of the reference design of the public-private partnership (PPP).

Upington Solar Park, Northern Cape Province, South Africa, Eskom, 01/2014, Visual Impact Specialist

Aurecon was appointed by Lidwala Specialist Solutions as visual sub-consultant on both the scoping and environmental impact assessment (EIA) phase for the construction of a new solar farm in the Northern Cape. Responsible for the visual impact assessment (VIA) during the scoping phase of the project.

Rail feasibility study for the Beira-Chirodzi Corridor, Tete and Sofala Provinces, Mozambique, JSPL Mozambique Minerais Limitada, 03/2013 - 12/2013, Environmental Lead

Jindal Africa (JSPL) acquired concession rights for Chirodzi, a coal mine close to the town of Tete. To support the full export activity of the mine, a cost and operational effective rail export solution was required to transport up to 20 Mtpa of coal through to the Port of Beira. The first phase of the study involved the identification of routes using design parameters, environmental constraints and geotechnical data as inputs. From Phase 1 four corridors were selected for further detailing during Phase 2 of the study using InRail Alignment and Open Track railway simulation software.

Moreleta Spruit Adopt-a-River project, Gauteng Province, South Africa, Department of Water and Sanitation (DWS)/IKAMVA Strategic Insights, 07/2011 - 12/2011, Project Leader

The project involved the compilation of a situation analysis, gap analysis and high-level action plan, as well as stakeholder engagement with relevant role players in the catchment to set up the Adopt-a-River forum. The situation analysis included historical context, land use and zoning, terrestrial and aquatic ecology, infrastructure and flood risk. A comprehensive geographic information system (GIS) database was also developed and made available for use via free software to relevant stakeholders. This was all deemed as Phase 1, with a view towards Phase 2 of the project, which entails the compilation of a state-of-the-rivers report as well as a master environmental management plan (EMP). Responsible for project management and environmental reporting.

End land use plans for mine closure, Mpumalanga & Northern Cape Provinces, South Africa, Exxaro/De Beers, 06/2008 - 10/2011, Specialist Landscaper

The end land use is a critical part of the Anglo Closure Toolbox approach for mine closure. Such a land use plan should consider the environmental risks determined for closure and the socio-economic context of the mine site; and should identify various post-closure land uses, which would also be spatially represented in line with the closure strategy for each part of the mine site. Various end land use plans have been developed for the Mpumalanga coal fields, as well as for Namaqua Mines (De Beers) in the Northern Cape. Responsible for project management, master planning and reporting of findings.

Zululand Anthracite Colliery (ZAC) environmental management plan (EMP), KwaZulu-Natal Province, South Africa, Zululand Anthracite Colliery (ZAC), 01/2011 - 10/2011, Project Manager

The project entailed the amendment of the existing environmental management programme report (EMPR) and a new National Environmental Management Act (NEMA) basic assessment application and process for



a new open pit and ancillary activities. Responsible for the environmental impact assessment (EIA) project management and report writing, as well as the visual impact assessment (VIA) task as specialist.

Consolidation, update and amendment of the Lonmin environmental management programme report (EMPR), North West Province, South Africa, Lonmin Plc, 02/2011 - 08/2011, Project Manager

The project entailed the consolidation of all the approved environmental management programme reports (EMPRs) and amendments into two documents, one for each mineral rights area. This included updating activities according to more recent approvals in terms of other legislation and specialist studies, and the amendment of the environmental management plans (EMPs) for newly planned activities, all in terms of the Mineral and Petroleum Resources Development Act (MPRDA) and the National Environmental Management Act (NEMA) legislation. Responsible for project management, master planning and reporting of findings.

Environmental impact assessment (EIA) for Blue Crane Country Estate, Gauteng Province, South Africa, Private Property Developer, 2001 - 2011, Project Manager

The project entailed conducting an environmental impact assessment (EIA) for a proposed development for Blue Crane Country Estate. Responsible for conducting an EIA and compiling an environmental management plan (EMP).

Environmental impact assessment (EIA) for Noordheuwel, Extension 20, Gauteng Province, South Africa, Private Property Developer, 2007 - 2011, Project Manager

The project entailed an environmental impact assessment (EIA) for a proposed urban development in Noordheuwel, Extension 20. Responsible for conducting the EIA and compiling an environmental management plan (EMP).

Environmental impact assessment (EIA) for Secunda Corridor (light industrial), Mpumalanga Province, South Africa, Private Property Developer, 2008 - 2011, Project Manager

The project entailed an environmental impact assessment (EIA) and environmental management plan (EMP) for an urban development in Secunda. Responsible for conducting an EIA and compiling the EMP.

Environmental impact assessment (EIA) for Provincial Road D419, North West Province, South Africa, North West Provincial Government (NWPG), 2004 - 2011, Project Manager

The project entailed an environmental impact assessment (EIA) and environmental management plan (EMP) for a new 30 km section of road. Responsible for conducting an EIA and compiling an EMP.

Foskor Pyroxenite Expansion Project (PEP), Phase 2: visual impact assessment (VIA), Mpumalanga Province, South Africa, Foskor (Pty) Ltd, 04/2010 - 09/2010, Task Leader

Golder conducted an environmental impact assessment (EIA) for the Foskor Pyroxenite Expansion Project (PEP), Phase 2. As part of the EIA, a visual impact assessment (VIA) was required, especially due to the close proximity of the project to the Kruger National Park and other tourism areas. The VIA included aspects such as site photo assessment with a global positioning system (GPS), geographic information system (GIS) Viewshed Analysis, adjacent land use analysis and mapping of human receptors. Responsible for the task management and VIA report.

Urban design framework (UDF) for Kimberley central business district (CBD), Northern Cape Province, South Africa, Sol Plaatje Local Municipality, 12/2008 - 08/2010, Project Leader

The project entailed the landscape design of six areas in the Kimberley central business district (CBD). This appointment developed into an urban design framework (UDF) for the Kimberley CBD on concept level, reporting into a municipal infrastructure grant (MIG) funding application in order to gain funding for the various projects. Responsible for project management, urban design, client liaison and drafting of the UDF.



Waste site buffer zone feasibility studies, Gauteng and North West Provinces, South Africa, Cape Gate (Pty) Ltd/The Waste Group, 06/2008 - 05/2010, Specialist Landscape Architect (buffer zone planning)

Buffer zones required by legislation around general and hazardous waste sites cause the sterilisation of land. Feasibility studies for the alternative “some use” development options have been completed for Cape Gate in Vanderbijlpark (hazardous) and Mooiplaats private landfill site in Gauteng and Rustenburg Municipality (general waste), where health and safety perimeters per environmental media, and surrounding land use and social conditions are used to investigate and proposed feasible options for the use of such buffer zone land. Responsible for project management, master planning and reporting of findings.

Zanzibar Urban Services Project (ZUSP) visual impact assessment (VIA), Dar es Salaam and Zanzibar, Tanzania, World Bank, 06/2009 - 02/2010, Task Leader

Golder conducted an environmental impact assessment (EIA) for the Zanzibar Urban Services Project (ZUSP). As part of the EIA, a visual impact assessment (VIA) was required, especially due to the World Heritage Status of Stonetown in Zanzibar, and the high tourism usage of the area. The VIA included aspects such as site photo assessment with a global positioning system (GPS), developing a unique street view assessment method, and analysis and mapping of culturally sensitive areas. Responsible for task management and VIA report.

Environmental impact assessment (EIA) for River Falls Office Park, Gauteng Province, South Africa, Private Property Developer, 2006 - 2010, Project Manager

The project entailed an environmental impact assessment (EIA) and environmental management plan (EMP) for River Falls Office Park. Responsible for conducting the EIA and compiling the EMP.

Greenbelt master plan and business case for the Galeshewe Urban Renewal Programme (GURP), Northern Cape Province, South Africa, Sol Plaatje Local Municipality, 02/2009 - 09/2009, Project Leader of open space component

The Galeshewe Urban Renewal Programme (GURP) is a presidential project as part of a national urban renewal strategy started in 2001. GURP was funded by the Neighbourhood Development Partnership Grant (NDPG) under the National Treasury. Galeshewe, a township adjacent to Kimberley, was one of the nominated areas of this project. The Green Belt Project entailed strategic open space planning, and the delineation of green corridors/belts, with the primary focus on urban design principles in combination with ecological design methodologies. Concept designs and a business case were submitted in order to gain funding for the greening of Galeshewe. Responsible for project management, master planning, landscape design and drafting of the business case.

Pixley Ka Seme integrated environmental management programme (IEMP), Northern Cape Province, South Africa, Pixley Ka Seme Local Municipality, 02/2009 - 06/2009, Project Leader

The project entailed undertaking a process to draw up an integrated environmental management programme (IEMP) for the district. The work included existing and desired status quo environmental reporting; an assessment of all integrated development planning (IDP) and spatial development frameworks (SDFs) of local municipalities; stakeholder engagement to determine the environmental challenges and needs of each local council and the drafting of the IEMP. Responsible for project management and environmental reporting.



Visual impact assessment (VIA) for the proposed Meteor Estate in the Vredefort Dome area, Free State Province, South Africa, Africa Geo-Environmental Engineering and Science (Pty) Ltd (AGES) Potchefstroom, 12/2008 - 04/2009, Specialist Landscape Architect: visual impact assessment (VIA) task

The project entailed visual assessment for a proposed residential estate on the boundaries of the Vredefort Dome World Heritage Site. This included site assessment, determination of visual baseline qualities, into modelling the changes the proposed development would have on the surrounding environment through geographic information systems (GIS) modelling and impact assessment. Responsible for project management, photo and impact assessment.

Visual impact assessment (VIA) for Benga mine and power plant, Tete Province, Mozambique, Riversdale Mozambique Limitada (RML), 08/2008 - 02/2009, Specialist Landscape Architect

Riversdale Mining, through their Mozambican arm Riversdale Mozambique Limitada (RML), appointed Golder for the full scope of feasibility and environmental assessment for the Benga Coal Resource adjacent to the Zambezi River. Part of the specialist studies included a visual impact assessment (VIA), complete with Viewshed analysis, digital terrain model, sections, artificial modelling of the mine process and infrastructure. Responsible for project management, site inspection and on-site photo assessments, report writing and impact assessment. Other duties included management of all geographic information systems (GIS) modelling.

Environmental impact assessment (EIA) for Wapadrand, Extension 36, Gauteng Province, South Africa, Private Property Developer, 2001 - 2009, Project Manager

The project entailed an environmental impact assessment (EIA) and environmental management plan (EMP) for an urban development bordering the Bronberg protected area. Responsible for conducting an EIA and compiling the EMP.

Environmental impact assessment (EIA) for The Hills Link Road (K40), Gauteng Province, South Africa, Private Property Developer, 2008 - 2009, Project Manager

The project comprised an environmental impact assessment (EIA) and environmental management plan (EMP) for a new 5 km section of road. Responsible for conducting an EIA and compiling the EMP.

Mining end land use investigation for The Oaks Mine, Limpopo Province, South Africa, De Beers, 06/2008 - 10/2008, Project Leader

The project entailed undertaking an investigation and public consultation process in order to identify alternative end land use options for their The Oaks Mine in Limpopo. This included advertisements in the prominent newspapers, and a detailed stakeholder engagement and tender process in order to determine suitable candidates/communities with which to partner for end land use. Responsible for project management, identification of land use alternatives, stakeholder consultation, tender adjudication and recommendations.

Environmental impact assessment (EIA) for Randjesfontein, Extension 1, Gauteng Province, South Africa, Private Property Developer, 2005 - 2008, Project Manager

The project consisted of an environmental impact assessment (EIA) for Randjesfontein Extension 1, a residential estate. Responsible for conducting the EIA and compiling an environmental management plan (EMP).



Regional coordination for the National Microbial Monitoring Programme (NMMP) for Crocodile West Marico and Vaal Water Management Areas (WMAs) on behalf of the Department of Water and Sanitation (DWS), Various provinces, South Africa, Department of Water and Sanitation (DWS), 2007 - 2008, Project Manager

The National Microbial Monitoring Programme (NMMP) provides information on the status and trends of the extent of faecal pollution, in terms of the microbial quality of surface water resources in priority areas; and provides information to help assess the potential health risk to humans associated with the possible use of faecally polluted water resources. Responsible for the regional coordination function between the Department of Water and Sanitation (DWS), local governments and other stakeholders regarding sample collection and distribution of the bi-monthly report for each water management area (WMA).

Rehabilitation framework for the Pienaars River, Gauteng Province, South Africa, City of Tshwane Metropolitan Municipality (CTMM), 06/2007 - 11/2007, Project Leader

The project was concerned with a rehabilitation framework for the Pienaars River in Mamelodi. This included site assessments with specialists, obtaining inputs from stakeholders from various communities and the City of Tshwane, status quo reporting, development of open space management, land-use and in-stream interventions and identification of pilot projects for further phases, and geographic information systems (GIS) mapping of all proposals. Responsible for project management and open space plan component.

Development initiative for Bloemhof Dam, North West Province, South Africa, North West Provincial Government (NWP), 11/2006 - 05/2007, Landscape Architect/Environmental Planner

The project involved the development of a master plan and environmental impact assessment (EIA) plan for the Bloemhof Dam Nature Reserve. This included baseline studies, public participation, feasibility analysis, development of a master plan, architectural layouts for different use areas and the full EIA application process. Responsible for geographic information systems (GIS) mapping, project management and master planning.

Environmental impact assessment (EIA) for various wildlife estates in the Hoedspruit and Bela-Bela areas, Limpopo Province, South Africa, Private Property Developer, 2004 - 2007, Project Manager

The project entailed an environmental impact assessment (EIA) environmental management plan (EMP) for various wildlife estates in the Hoedspruit and Bela-Bela areas. Responsible for conducting the EIA and compiling the EMP.

Environmental impact assessment (EIA) for President Park Extension 44, Gauteng Province, South Africa, Private Property Developer, 2006, Project Manager

The project involved an environmental impact assessment (EIA) for President Park, Extension 44, which is a medium-density housing development. Responsible for conducting the EIA and compiling an environmental management plan (EMP).

Ga-Rankuwa Extension 21, Gauteng Province, South Africa, City of Tshwane Metropolitan Municipality (CTMM), 2004 - 2006, Project Leader

The project involved an environmental impact assessment (EIA), environmental management plan (EMP), open space master plan and EMP auditing during construction for underprivileged community in the North of Tshwane Metro. The entire life-cycle of the project was overseen. Responsible for conducting the EIA, compiling the EMP, master planning and landscape architecture.

Frances Baard integrated environmental management programme (IEMP), Northern Cape Province, South Africa, Frances Baard District Municipality (FBDM), 02/2004 - 09/2004, Geographic Information System (GIS) Specialist

The project entailed the development of an integrated environmental management programme (IEMP) for the Frances Baard District Municipality (FBDM). The programme includes the status quo report, legal matrix



of responsibilities, and an environmental issues and threats report for each local municipality. The end product was an interactive tool to officials with decision-making parameters and strategies for sustainable development. Responsible for project management and geographic information systems (GIS) mapping.

Galeshewe open space and landscape plan, Northern Cape Province, South Africa, Sol Plaatje Local Municipality, 03/2004 - 08/2004, Geographic Information System (GIS) Specialist

The project entailed an open space assessment of Galeshewe Township in Kimberley, including on-foot surveys of each open space, detailed planning proposals for improvement, newspaper articles and geographic information system (GIS) databases. Responsible for project management and GIS.

Environmental geographic information system (GIS) for Dr Ruth Segomotsi Mompoti District Municipality, North West Province, South Africa, VISI Africa Town Planners, 01/2004 - 03/2004, Geographic Information System (GIS) Specialist

The project involved a strategic environmental analysis (SEAN) and guidelines for the Dr Ruth Segomotsi Mompoti District Municipality in North West Province, as a specialist environmental study feeding into the integrated development plan (IDP) for the area. Responsible for project management, geographic information systems (GIS) environmental analysis and strategic guideline document.

Geographic information systems (GIS) digital terrain model (DTM) for Tshwane, Gauteng Province, South Africa, City of Tshwane Metropolitan Municipality (CTMM), 08/2003 - 12/2003, Geographic Information System (GIS) Specialist

The project involved electronic 3D model for the City of Tshwane Metropolitan Municipality (CTMM) to be used in the integrated development planning process, with specific reference to strategic spatial planning and analyses and decision making, as well as presentation purposes for the executive mayoral office. Responsible for project management, data gathering and analysis of current meta-database, presentation mapping and 3D analysis.

Gauteng Open Space Study (GOSS), Phase 1, Gauteng Province, South Africa, Gauteng Provincial Government (GPG), 03/2001 - 07/2001, Specialist Landscape Architect

The first phase of the Gauteng Open Space Study (GOSS) was a geographic information system (GIS) based strategic open space planning project for the entire Gauteng Province. The project was completed for the Gauteng Department of Agriculture, Conservation, Environment and Land Affairs (DACEL). Responsible for information gathering and GIS database information input, including assigning land use categories for land parcels.

Dinokeng integrated environmental management plan (IEMP), Gauteng Province, South Africa, International Union for Conservation of Nature (IUCN)/Gauteng Provincial Government (GPG), 2001, Geographic Information System (GIS) Specialist

This project comprised the environmental planning component for the Dinokeng initiative, including conducting the environmental planning component for the North-eastern Gauteng Initiative (NEGI), a spatial planning initiative. This included the potential establishment of a big-five game reserve in the north-eastern part of Gauteng, with the Institute of Directors (IOD)/International Union for Conservation of Nature (IUCN) consortium. Responsible for environmental planning, all geographic information system (GIS) related work and map productions for the environmental team.

Extension of Borakalalo National Park, North West Province, South Africa, North West Parks and Tourism Board (NWP&TB), 2001, Geographic Information System (GIS) Specialist

The project concerned the proposed extension of Borakalalo National Park. The work included conducting a physical infrastructure inventory and natural resource base and social inventory for the North West Parks and Tourism Board (NWP&TB) to facilitate the planning of the proposed extension of the national park. Responsible for environmental management and geographic information system (GIS).



Bronberg strategic environmental assessment (SEA), Gauteng Province, South Africa, Gauteng Provincial Government (GPG), 2001, Geographic Information System (GIS) Specialist

The project involved a strategic environmental assessment (SEA) of the Bronberg Ridge in Pretoria East. The work included assessing the state of the environment to set up land use and conservation management guidelines for the effective conservation of sensitive natural and cultural habitats and management of developable areas. Responsible for all geographic information system (GIS) related work, including habitat modelling for rare and endangered species and map productions.

Bushmans River Game Reserve: Phases 1 and 2, KwaZulu-Natal Province, South Africa, Private, 2001, Geographic Information System (GIS) Specialist

The project entailed the planning and development of a proposed big-five game reserve in the Kwazulu-Natal Midlands, with Roger Collision (Collision Consulting) and Darryl Lombard (Lorton Consulting). Responsible for environmental planning, geographic information system (GIS) related work, including the creation of digital terrain model (DTM) and subsequent slope and aspect analyses.

Museum Park initiative in Pretoria inner city, Gauteng Province, South Africa, City of Tshwane Metropolitan Municipality (CTMM), 05/2000 - 08/2000, Landscape Architect

The project entailed urban design proposals and street furniture design for the Museum Park initiative in Pretoria inner city. Responsible for site analysis, urban design and graphic presentation drawings.

Tourism plan for the Maluleke area, Mpumalanga Province, South Africa, South African National Parks (SANParks), 05/2000 - 07/2000, Landscape Architect

The project involved developing a community-based tourism plan for the Makuleke tribe in conjunction with South African National Parks (SANParks) in the Pafuri area. Responsible for site suitability analysis, lodge site design and graphic presentation drawings.

Visual impact assessment (VIA) for the Samancor chrome smelter in North West, North West Province, South Africa, Samancor, 12/1999 - 03/2000, Specialist Landscape Architect

The project included specialist tourism, land use and visual impact assessment (VIA) of a proposed chrome smelter in Mooinooi as part of the Council for Scientific and Industrial Research (CSIR) consortium for Samancor. Responsible for the VIA and information gathering.

Implementation of Spiegelhaus Garden, Magdeburg, Germany, BUGA 2000 Landscape Expo, Germany, 04/1999 - 05/1999, Landscape Contractor Staff

The project involved the implementation of the Spiegelhaus Garden - BUGA 2000 Landscape Expo, Magdeburg - a R750 million landscape project hosted every two years in a different city in Germany. Responsible for landscape installation.