

CURRICULUM VITAE OF JO-ANNE THOMAS

Profession:	Environmental Management and Compliance Consultant; Environmental Assessment Practitioner
Specialisation:	Environmental Management; Strategic environmental advice; Environmental compliance advice & monitoring; Environmental Impact Assessments; Policy, strategy & guideline formulation; Project Management; General Ecology
Work experience:	Twenty one (21) years in the environmental field

VOCATIONAL EXPERIENCE

Provide technical input for projects in the environmental management field, specialising in Strategic Environmental Advice, Environmental Impact Assessment studies, environmental auditing and monitoring, environmental permitting, public participation, Environmental Management Plans and Programmes, environmental policy, strategy and guideline formulation, and integrated environmental management. Key focus on integration of the specialist environmental studies and findings into larger engineering-based projects, strategic assessment, and providing practical and achievable environmental management solutions and mitigation measures. Responsibilities for environmental studies include project management (including client and authority liaison and management of specialist teams); review and manipulation of data; identification and assessment of potential negative environmental impacts and benefits; review of specialist studies; and the identification of mitigation measures. Compilation of the reports for environmental studies is in accordance with all relevant environmental legislation.

Undertaking of numerous environmental management studies has resulted in a good working knowledge of environmental legislation and policy requirements. Recent projects have been undertaken for both the public- and private-sector, including compliance advice and monitoring, electricity generation and transmission projects, various types of linear developments (such as National Road, local roads and power lines), waste management projects (landfills), mining rights and permits, policy, strategy and guideline development, as well as general environmental planning, development and management.

SKILLS BASE AND CORE COMPETENCIES

- Project management for a range of projects
- Identification and assessment of potential negative environmental impacts and benefits through the review and manipulation of data and specialist studies
- Identification of practical and achievable mitigation and management measures and the development of appropriate management plans
- Compilation of environmental reports in accordance with relevant environmental legislative requirements
- External and peer review of environmental reports & compliance advice and monitoring
- Formulation of environmental policies, strategies and guidelines
- Strategic and regional assessments; pre-feasibility & site selection
- Public participation processes for a variety of projects
- Strategic environmental advice to a wide variety of clients both in the public and private sectors
- Working knowledge of environmental planning processes, policies, regulatory frameworks and legislation

EDUCATION AND PROFESSIONAL STATUS

Degrees:

- B.Sc Earth Sciences, University of the Witwatersrand, Johannesburg (1993)
- B.Sc Honours in Botany, University of the Witwatersrand, Johannesburg (1994)
- M.Sc in Botany, University of the Witwatersrand, Johannesburg (1996)

Short Courses:

- Environmental Impact Assessment, Potchefstroom University (1998)
- Environmental Law, Morgan University (2001)
- Environmental Legislation, IMBEWU (2017)
- Mining Legislation, Cameron Cross & Associates (2013)
- Environmental and Social Risk Management (ESRM), International Finance Corporation (2018)

Professional Society Affiliations:

- Registered with the South African Council for Natural Scientific Professions as a Professional Natural Scientist: Environmental Scientist (400024/00)
- Registered with the International Associated for Impact Assessment South Africa (IAIASa): 5601
- Member of the South African Wind Energy Association (SAWEA)

EMPLOYMENT

Date	Company	Roles and Responsibilities
January 2006 - Current	Savannah Environmental (Pty) Ltd	Director Project manager Independent specialist environmental consultant, Environmental Assessment Practitioner (EAP) and advisor.
1997 – 2005	Bohlweki Environmental (Pty) Ltd	Senior Environmental Scientist at. Environmental Management and Project Management
January – July 1997	Sutherland High School, Pretoria	Junior Science Teacher

PROJECT EXPERIENCE

Project experience includes large infrastructure projects, including electricity generation and transmission, wastewater treatment facilities, mining and prospecting activities, property development, and national roads, as well as strategy and guidelines development.

RENEWABLE POWER GENERATION PROJECTS: PHOTOVOLTAIC SOLAR ENERGY FACILITIES

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Christiana PV 2 SEF, North West	Solar Reserve South Africa	Project Manager & EAP
De Aar PV facility, Northern Cape	iNca Energy	Project Manager & EAP
Everest SEF near Hennenman, Free State	FRV Energy South Africa	Project Manager & EAP
Graafwater PV SEF, Western Cape	iNca Energy	Project Manager & EAP
Grootkop SEF near Allanridge, Free State	FRV Energy South Africa	Project Manager & EAP
Hertzogville PV 2 SEF with 2 phases, Free State	SunCorp / Solar Reserve	Project Manager & EAP
Karoshhoek CPV facility on site 2 as part of the larger Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP

Project Name & Location	Client Name	Role
Kgabalatsane SEF North-East for Brits, North West	Built Environment African Energy Services	Project Manager & EAP
Kleinbegin PV SEF West of Groblershoop, Northern Cape	MedEnergy Global	Project Manager & EAP
Lethabo Power Station PV Installation, Free State	Eskom Holdings SoC Limited	Project Manager & EAP
Majuba Power Station PV Installation, Mpumalanga	Eskom Holdings SoC Limited	Project Manager & EAP
Merapi PV SEF Phase 1 – 4 South-East of Excelsior, Free State	SolaireDirect Southern Africa	Project Manager & EAP
Sannaspos Solar Park, Free State	SolaireDirect Southern Africa	Project Manager & EAP
Ofir-Zx PV Plant near Keimoes, Northern Cape	S28 Degrees Energy	Project Manager & EAP
Oryx SEF near Virginia, Free State	FRV Energy South Africa	Project Manager & EAP
Project Blue SEF North of Kleinsee, Northern Cape	WWK Development	Project Manager & EAP
S-Kol PV Plant near Keimoes, Northern Cape	S28 Degrees Energy	Project Manager & EAP
Sonnenberg PV Plant near Keimoes, Northern Cape	S28 Degrees Energy	Project Manager & EAP
Tutuka Power Station PV Installation, Mpumalanga	Eskom Transmission	Project Manager & EAP
Two PV sites within the Northern Cape	MedEnergy Global	Project Manager & EAP
Two PV sites within the Western & Northern Cape	iNca Energy	Project Manager & EAP
Upington PV SEF, Northern Cape	MedEnergy Global	Project Manager & EAP
Vredendal PV facility, Western Cape	iNca Energy	Project Manager & EAP
Waterberg PV plant, Limpopo	Thupela Energy	Project Manager & EAP
Watershed Phase I & II SEF near Litchtenburg, North West	FRV Energy South Africa	Project Manager & EAP
Alldays PV & CPV SEF Phase 1, Limpopo	BioTherm Energy	Project Manager & EAP
Hyperion PV Solar Development 1, 2, 3, 4, 5 & 6	Building Energy	Project Manager & EAP

Basic Assessments

Project Name & Location	Client Name	Role
Aberdeen PV SEF, Eastern Cape	BioTherm Energy	Project Manager & EAP
Christiana PV 1 SEF on Hartebeestpan Farm, North-West	Solar Reserve South Africa	Project Manager & EAP
Heuningspruit PV1 & PV 2 facilities near Koppies, Free State	Sun Mechanics	Project Manager & EAP
Kakamas PV Facility, Northern Cape	iNca Energy	Project Manager & EAP
Kakamas II PV Facility, Northern Cape	iNca Energy	Project Manager & EAP
Machadodorp 1 PV SEF, Mpumalanga	Solar To Benefit Africa	Project Manager & EAP
PV site within the Northern Cape	iNca Energy	Project Manager & EAP
PV sites within 4 ACSA airports within South Africa, National	Airports Company South Africa (ACSA)	Project Manager & EAP
RustMo1 PV Plant near Buffelspoort, North West	Momentous Energy	Project Manager & EAP
RustMo2 PV Plant near Buffelspoort, North West	Momentous Energy	Project Manager & EAP
RustMo3 PV Plant near Buffelspoort, North West	Momentous Energy	Project Manager & EAP
RustMo4 PV Plant near Buffelspoort, North West	Momentous Energy	Project Manager & EAP
Sannaspos PV SEF Phase 2 near Bloemfontein, Free State	SolaireDirect Southern Africa	Project Manager & EAP
Solar Park Expansion within the Rooiwal Power Station, Gauteng	AFRKO Energy	Project Manager & EAP
Steynsrus SEF, Free State	SunCorp	Project Manager & EAP

Project Name & Location	Client Name	Role
Sirius Solar PV Project Three and Sirius Solar PV Project Four (BA in terms of REDZ regulations), Northern Cape	SOLA Future Energy	Project Manager & EAP

Screening Studies

Project Name & Location	Client Name	Role
Allemans Fontein SEF near Noupoot, Northern Cape	Fusion Energy	Project Manager & EAP
Amandel SEF near Thabazimbi, Limpopo	iNca Energy	Project Manager & EAP
Arola/Doornplaat SEF near Ventersdorp, North West	FRV & iNca Energy	Project Manager & EAP
Bloemfontein Airport PV Installation, Free State	The Power Company	Project Manager & EAP
Brakspruit SEF near Klerksorp, North West	FRV & iNca Energy	Project Manager & EAP
Carolus Poort SEF near Noupoot, Northern Cape	Fusion Energy	Project Manager & EAP
Damfontein SEF near Noupoot, Northern Cape	Fusion Energy	Project Manager & EAP
Everest SEF near Welkom, Free State	FRV & iNca Energy	Project Manager & EAP
Gillmer SEF near Noupoot, Northern Cape	Fusion Energy	Project Manager & EAP
Grootkop SEF near Allansridge, Free State	FRV & iNca Energy	Project Manager & EAP
Heuningspruit PV1 & PV 2 near Koppies, Free State	Cronimat	Project Manager & EAP
Kimberley Airport PV Installation, Northern Cape	The Power Company	Project Manager & EAP
Kolonnade Mall Rooftop PV Installation in Tshwane, Gauteng	Momentous Energy	Project Manager & EAP
Loskop SEF near Groblersdal, Limpopo	S&P Power Unit	Project Manager & EAP
Marble SEF near Marble Hall, Limpopo	S&P Power Unit	Project Manager & EAP
Morgenson PV1 SEF South-West of Windsorton, Northern Cape	Solar Reserve South Africa	Project Manager & EAP
OR Tambo Airport PV Installation, Gauteng	The Power Company	Project Manager & EAP
Oryx SEF near Virginia, Free State	FRV & iNca Energy	Project Manager & EAP
Rhino SEF near Vaalwater, Limpopo	S&P Power Unit	Project Manager & EAP
Rustmo2 PV Plant near Buffelspoort, North West	Momentous Energy	Project Manager & EAP
Spitskop SEF near Northam, Limpopo	FRV & iNca Energy	Project Manager & EAP
Steynsrus PV, Free State	Suncorp	Project Manager & EAP
Tabor SEF near Polokwane, Limpopo	FRV & iNca Energy	Project Manager & EAP
Upington Airport PV Installation, Northern Cape	The Power Company	Project Manager & EAP
Valeria SEF near Hartebeestpoort Dam, North West	Solar to Benefit Africa	Project Manager & EAP
Watershed SEF near Lichtenburg, North West	FRV & iNca Energy	Project Manager & EAP
Witkop SEF near Polokwane, Limpopo	FRV & iNca Energy	Project Manager & EAP
Woodmead Retail Park Rooftop PV Installation, Gauteng	Momentous Energy	Project Manager & EAP

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO and bi-monthly auditing for the construction of the Adams Solar PV Project Two South of Hotazel, Northern Cape	Enel Green Power	Project Manager
ECO for the construction of the Kathu PV Facility, Northern Cape	REISA	Project Manager
ECO and bi-monthly auditing for the construction of the Pulida PV Facility, Free State	Enel Green Power	Project Manager
ECO for the construction of the RustMo1 SEF, North West	Momentous Energy	Project Manager
ECO for the construction of the Sishen SEF, Northern	Windfall 59 Properties	Project Manager

Project Name & Location	Client Name	Role
Cape		
ECO for the construction of the Upington Airport PV Facility, Northern Cape	Sublunary Trading	Project Manager
Quarterly compliance monitoring of compliance with all environmental licenses for the operation activities at the Kathu PV facility, Northern Cape	REISA	Project Manager
ECO for the construction of the Konkoonies II PV SEF and associated infrastructure, Northern Cape	BioTherm Energy	Project Manager
ECO for the construction of the Aggeneys PV SEF and associated infrastructure, Northern Cape	BioTherm Energy	Project Manager

Compliance Advice and ESAP Reporting

Project Name & Location	Client Name	Role
Aggeneys Solar Farm, Northern Cape	BioTherm Energy	Environmental Advisor
Airies II PV Facility SW of Kenhardt, Northern Cape	BioTherm Energy	Environmental Advisor
Kalahari SEF Phase II in Kathu, Northern Cape	Engie	Environmental Advisor
Kathu PV Facility, Northern Cape	Building Energy	Environmental Advisor
Kenhardt PV Facility, Northern Cape	BioTherm Energy	Environmental Advisor
Kleinbegin PV SEF West of Groblershoop, Northern Cape	MedEnergy	Environmental Advisor
Konkoonies II SEF near Pofadder, Northern Cape	BioTherm Energy	Environmental Advisor
Konkoonies Solar Farm, Northern Cape	BioTherm Energy	Environmental Advisor
Lephalale SEF, Limpopo	Exxaro	Environmental Advisor
Pixley ka Seme PV Park, South-East of De Aar, Northern Cape	African Clean Energy Developments (ACED)	Environmental Advisor
RustMo1 PV Plant near Buffelspoort, North West	Momentous Energy	Environmental Advisor
Scuitdrift 1 SEF & Scuitdrift 2 SEF, Limpopo	Building Energy	Environmental Advisor
Sirius PV Plants, Northern Cape	Aurora Power Solutions	Environmental Advisor
Upington Airport PV Power Project, Northern Cape	Sublunary Trading	Environmental Advisor
Upington SEF, Northern Cape	Abengoa Solar	Environmental Advisor
Ofir-ZX PV SEF near Keimoes, Northern Cape	Networx S28 Energy	Environmental Advisor
Steynsrus PV1 & PV2 SEF's, Northern Cape	Cronimet Power Solutions	Environmental Advisor
Heuningspruit PV SEF, Northern Cape	Cronimet Power Solutions	Environmental Advisor

Due Diligence Reporting

Project Name & Location	Client Name	Role
5 PV SEF projects in Lephalale, Limpopo	iNca Energy	Environmental Advisor
Prieska PV Plant, Northern Cape	SunEdison Energy India	Environmental Advisor
Sirius Phase One PV Facility near Upington, Northern Cape	Aurora Power Solutions	Environmental Advisor

Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
Biodiversity Permit & WULA for the Aggeneys SEF near Aggeneys, Northern Cape	BioTherm Energy	Project Manager & EAP
Biodiversity Permit for the Konkoonies II SEF near Pofadder, Northern Cape	BioTherm Energy	Project Manager & EAP
Biodiversity Permitting for the Lephalale SEF, Limpopo	Exxaro Resources	Project Manager & EAP

Project Name & Location	Client Name	Role
Environmental Permitting for the Kleinbegin PV SEF West of Groblershoop, Northern Cape	MedEnergy	Project Manager & EAP
Environmental Permitting for the Upington SEF, Northern Cape	Abengoa Solar	Project Manager & EAP
Environmental Permitting for the Kathu PV Facility, Northern Cape	Building Energy	Project Manager & EAP
Environmental Permitting for the Konkoonsies Solar Farm, Northern Cape	BioTherm Energy	Project Manager & EAP
Environmental Permitting for the Lephalale SEF, Limpopo	Exxaro Resources	Project Manager & EAP
Environmental Permitting for the Scuitdrift 1 SEF & Scuitdrift 2 SEF, Limpopo	Building Energy	Project Manager & EAP
Environmental Permitting for the Sirius PV Plant, Northern Cape	Aurora Power Solutions	Project Manager & EAP
Environmental Permitting for the Steynsrus PV1 & PV2 SEF's, Northern Cape	Cronimet Power Solutions	Project Manager & EAP
Environmental Permitting for the Heuningspruit PV SEF, Northern Cape	Cronimet Power Solutions	Project Manager & EAP
Permits for the Kleinbegin and UAP PV Plants, Northern Cape	MedEnergy Global	Project Manager & EAP
S53 Application for Arriesfontein Solar Park Phase 1 – 3 near Danielskuil, Northern Cape	Solar Reserve / SunCorp	Project Manager & EAP
S53 Application for Hertzogville PV1 & PV 2 SEFs, Free State	Solar Reserve / SunCorp	Project Manager & EAP
S53 Application for the Bloemfontein Airport PV Facility, Free State	Sublunary Trading	Project Manager & EAP
S53 Application for the Kimberley Airport PV Facility, Northern Cape	Sublunary Trading	Project Manager & EAP
S53 Application for the Project Blue SEF, Northern Cape	WWK Developments	Project Manager & EAP
S53 Application for the Upington Airport PV Facility, Free State	Sublunary Trading	Project Manager & EAP
WULA for the Kalahari SEF Phase II in Kathu, Northern Cape	Engie	Project Manager & EAP
Environmental Permitting for the Steynsrus PV1 & PV2 SEF's, Northern Cape	Cronimet Power Solutions	Project Manager & EAP
Environmental Permitting for the Heuningspruit PV SEF, Northern Cape	Cronimet Power Solutions	Project Manager & EAP

RENEWABLE POWER GENERATION PROJECTS: CONCENTRATED SOLAR FACILITIES (CSP)

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Ilanga CSP 2, 3, 4, 5, 7 & 9 Facilities near Upington, Northern Cape	Emvelo Holdings	Project Manager & EAP
Ilanga CSP near Upington, Northern Cape	Ilangethu Energy	Project Manager & EAP
Ilanga Tower 1 Facility near Upington, Northern Cape	Emvelo Holdings	Project Manager & EAP

Project Name & Location	Client Name	Role
Karoshhoek CPVPD 1-4 facilities on site 2 as part of the larger Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP
Karoshhoek CSP facilities on sites 1.4; 4 & 5 as part of the larger Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP
Karoshhoek Linear Fresnel 1 Facility on site 1.1 as part of the larger Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO for the construction of the !Khi CSP Facility, Northern Cape	Abengoa Solar	Project Manager
ECO for the construction of the Ilanga CSP 1 Facility near Upington, Northern Cape	Karoshhoek Solar One	Project Manager
ECO for the construction of the Solar Park, Northern Cape	Kathu Solar	Project Manager
ECO for the construction of the KaXu! CSP Facility, Northern Cape	Abengoa Solar	Project Manager
Internal audit of compliance with the conditions of the IWUL issued to the Karoshhoek Solar One CSP Facility, Northern Cape	Karoshhoek Solar One	Project Manager

Screening Studies

Project Name & Location	Client Name	Role
Upington CSP (Tower) Plant near Kanoneiland, Northern Cape	iNca Energy and FRV	Project Manager & EAP

Compliance Advice and ESAP reporting

Project Name & Location	Client Name	Role
Ilanga CSP Facility near Upington, Northern Cape	Ilangethu Energy	Environmental Advisor
Ilangaletu CSP 2, Northern Cape	FG Emvelo	Environmental Advisor
Kathu CSP Facility, Northern Cape	GDF Suez	Environmental Advisor
Lephalale SEF, Limpopo	Cennergi	Environmental Advisor
Solis I CSP Facility, Northern Cape	Brightsource	Environmental Advisor

Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
Environmental Permitting for the Ilanga CSP Facility near Upington, Northern Cape	Ilangethu Energy	Project Manager & EAP
Environmental Permitting for the Kathu CSP, Northern Cape	GDF Suez	Project Manager & EAP
WULA for the Solis I CSP Facility, Northern Cape	Brightsource	Project Manager & EAP

RENEWABLE POWER GENERATION PROJECTS: WIND ENERGY FACILITIES

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Sere WEF, Western Cape	Eskom Holdings SoC Limited	EAP

Project Name & Location	Client Name	Role
Aberdeen WEF, Eastern Cape	Eskom Holdings SoC Limited	Project Manager & EAP
Amakhala Emoyeni WEF, Eastern Cape	Windlab Developments	Project Manager & EAP
EXXARO West Coast WEF, Western Cape	EXXARO Resources	Project Manager & EAP
Goereesoe Wind Farm near Swellendam, Western Cape	iNca Energy	Project Manager & EAP
Hartneest WEF, Western Cape	Juwi Renewable Energies	Project Manager & EAP
Hopefield WEF, Western Cape	Umoya Energy	EAP
Kleinsee WEF, Northern Cape	Eskom Holdings SoC Limited	Project Manager & EAP
Klipheuwel/Dassiesfontein WEF within the Overberg area, Western Cape	BioTherm Energy	Project Manager & EAP
Moorreesburg WEF, Western Cape	iNca Energy	Project Manager & EAP
Oyster Bay WEF, Eastern Cape	Renewable Energy Resources Southern Africa	Project Manager & EAP
Project Blue WEF, Northern Cape	Windy World	Project Manager & EAP
Rheboksfontein WEF, Western Cape	Moyeng Energy	Project Manager & EAP
Spitskop East WEF near Riebeeck East, Eastern Cape	Renewable Energy Resources Southern Africa	Project Manager & EAP
Suurplaat WEF, Western Cape	Moyeng Energy	Project Manager & EAP
Swellendam WEF, Western Cape	IE Swellendam	Project Manager & EAP
Tsitsikamma WEF, Eastern Cape	Exxarro	Project Manager & EAP
West Coast One WEF, Western Cape	Moyeng Energy	Project Manager & EAP

Basic Assessments

Project Name & Location	Client Name	Role
Amakhala Emoyeni Wind Monitoring Masts, Eastern Cape	Windlab Developments	Project Manager & EAP
Beaufort West Wind Monitoring Masts, Western Cape	Umoya Energy	Project Manager & EAP
Hopefield Community Wind Farm near Hopefield, Western Cape	Umoya Energy	Project Manager & EAP
Koekenaap Wind Monitoring Masts, Western Cape	EXXARO Resources	Project Manager & EAP
Koingnaas WEF, Northern Cape	Just Palm Tree Power	Project Manager & EAP
Laingsburg Area Wind Monitoring Masts, Western Cape	Umoya Energy	Project Manager & EAP
Overberg Area Wind Monitoring Masts, Western Cape	BioTherm Energy	Project Manager & EAP
Oyster Bay Wind Monitoring Masts, Eastern Cape	Renewable Energy Systems Southern Africa (RES)	Project Manager & EAP

Screening Studies

Project Name & Location	Client Name	Role
Albertinia WEF, Western Cape	BioTherm Energy	Project Manager & EAP
Koingnaas WEF, Northern Cape	Just Pal Tree Power	Project Manager & EAP
Napier Region WEF Developments, Western Cape	BioTherm Energy	Project Manager & EAP
Tsitsikamma WEF, Eastern Cape	Exxarro Resources	Project Manager & EAP
Various WEFs within an identified area in the Overberg area, Western Cape	BioTherm Energy	Project Manager & EAP
Various WEFs within an identified area on the West Coast, Western Cape	Investec Bank Limited	Project Manager & EAP
Various WEFs within an identified area on the West Coast, Western Cape	Eskom Holdings Limited	Project Manager & EAP

Project Name & Location	Client Name	Role
Various WEFs within the Western Cape	Western Cape Department of Environmental Affairs and Development Planning	Project Manager & EAP
Velddrift WEF, Western Cape	VentuSA Energy	Project Manager & EAP
Wind 1000 Project	Thabo Consulting on behalf of Eskom Holdings	Project Manager & EAP
Wittekleibosch, Snylip & Doriskraal WEFs, Eastern Cape	Exxarro Resources	Project Manager & EAP

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO for the construction of the West Coast One WEF, Western Cape	Aurora Wind Power	Project Manager
ECO for the construction of the Gouda WEF, Western Cape	Blue Falcon	Project Manager
EO for the Dassiesklip Wind Energy Facility, Western Cape	Group 5	Project Manager
Quarterly compliance monitoring of compliance with all environmental licenses for the operation activities at the Gouda Wind Energy facility near Gouda, Western Cape	Blue Falcon	Project Manager
Annual auditing of compliance with all environmental licenses for the operation activities at the West Coast One Wind Energy facility near Vredenburg, Western Cape	Aurora Wind Power	Project Manager
External environmental and social audit for the Amakhala Wind Farm, Eastern Cape	Cennergi	Project Manager
External environmental and social audit for the Tsitsikamma Wind Farm, Eastern Cape	Cennergi	Project Manager
ECO for the construction of the Excelsior Wind Farm and associated infrastructure, Northern Cape	BioTherm Energy	Project Manager
External compliance audit of the Dassiesklip Wind Energy Facility, Western Cape	BioTherm Energy	Project Manager

Compliance Advice

Project Name & Location	Client Name	Role
Amakhala Phase 1 WEF, Eastern Cape	Cennergi	Environmental Advisor
Dassiesfontein WEF within the Overberg area, Western Cape	BioTherm Energy	Environmental Advisor
Excelsior Wind Farm, Western Cape	BioTherm Energy	Environmental Advisor
Great Karoo Wind Farm, Northern Cape	African Clean Energy Developments (ACED)	Environmental Advisor
Hopefield Community WEF, Western Cape	African Clean Energy Developments (ACED)	Environmental Advisor
Rheboksfontein WEF, Western Cape	Moyeng Energy	Environmental Advisor
Tiqua WEF, Western Cape	Cennergi	Environmental Advisor
Tsitsikamma WEF, Eastern Cape	Cennergi	Environmental Advisor
West Coast One WEF, Western Cape	Moyeng Energy	Environmental Advisor

Due Diligence Reporting

Project Name & Location	Client Name	Role
Witteberg WEF, Western Cape	EDPR Renewables	Environmental Advisor
IPD Vredenburg WEF within the Saldanha Bay area, Western Cape	IL&FS Energy Development Company	Environmental Advisor

Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
Biodiversity Permitting for the Power Line between the Tsitikamma Community WEF & the Diep River Substation, Eastern Cape	Cennergi	Project Manager & EAP
Biodiversity Permitting for the West Coast One WEF, Western Cape	Aurora Wind Power	Project Manager & EAP
Environmental Permitting for the Excelsior WEF, Western Cape	BioTherm Energy	Project Manager & EAP
Plant Permits & WULA for the Tsitikamma Community WEF, Eastern Cape	Cennergi	Project Manager & EAP
S24G and WULA for the Rectification for the commencement of unlawful activities on Ruimsig AH in Honeydew, Gauteng	Hossam Soror	Project Manager & EAP
S24G Application for the Rhebokfontein WEF, Western Cape	Ormonde - Theo Basson	Project Manager & EAP
S53 Application & WULA for Suurplaat and Gemini WEFs, Northern Cape	Engie	Project Manager & EAP
S53 Application for the Hopefield Community Wind Farm near Hopefield, Western Cape	Umoya Energy	Project Manager & EAP
S53 Application for the Project Blue WEF, Northern Cape	WWK Developments	Project Manager & EAP
S53 for the Oyster Bay WEF, Eastern Cape	RES	Project Manager & EAP
WULA for the Great Karoo Wind Farm, Northern Cape	African Clean Energy Developments (ACED)	Project Manager & EAP

CONVENTIONAL POWER GENERATION PROJECTS (COAL)

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Mutsho Power Station near Makhado, Limpopo	Mutsho Consortium	Project Manager & EAP
Coal-fired Power Station near Ogies, Mpumalanga	Ruukki SA	Project Manager & EAP
Thabametsi IPP Coal-fired Power Station, near Lephhalale, Limpopo	Axia	Project Manager & EAP
Transalloys Coal-fired Power Station, Mpumalanga	Transalloys	Project Manager & EAP
Tshivasho IPP Coal-fired Power Station (with WML), near Lephhalale, Limpopo	Cennergi	Project Manager & EAP
Umbani Coal-fired Power Station, near Kriel, Mpumalanga	ISS Global Mining	Project Manager & EAP
Waterberg IPP Coal-Fired Power Station near Lephhalale, Limpopo	Exxaro Resources	Project Manager & EAP

Basic Assessments

Project Name & Location	Client Name	Role
Coal Stockyard on Medupi Ash Dump Site, Limpopo	Eskom Holdings	Project Manager & EAP

Project Name & Location	Client Name	Role
Biomass Co-Firing Demonstration Facility at Arnot Power Station East of Middleburg, Mpumlanaga	Eskom Holdings	Project Manager & EAP

Screening Studies

Project Name & Location	Client Name	Role
Baseload Power Station near Lephallale, Limpopo	Cennergi	Project Manager & EAP
Coal-Fired Power Plant near Delmas, Mpumalanga	Exxaro Resources	Project Manager & EAP
Makhado Power Station, Limpopo	Mutsho Consortium, Limpopo	Project Manager & EAP

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO for the Camden Power Station, Mpumalanga	Eskom Holdings	Project Manager

Compliance Advice

Project Name & Location	Client Name	Role
Thabametsi IPP Coal-fired Power Station, near Lephallale, Limpopo	Axia	Environmental Advisor

Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
Permit application for the Thabametsi Bulk Water Pipeline, near Lephallale, Limpopo	Axia	Project Manager & EAP
S53 & WULA for the Waterberg IPP Coal-Fired Power Station near Lephallale, Limpopo	Exxaro Resources	Project Manager & EAP
S53 Application for the Tshivasho Coal-fired Power Station near Lephallale, Limpopo	Cennergi	Project Manager & EAP

CONVENTIONAL POWER GENERATION PROJECTS (GAS)

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Ankerlig OCGT to CCGT Conversion project & 400 kV transmission power line between Ankerlig and the Omega Substation, Western Cape	Eskom Holdings SoC Limited	Project Manager & EAP
Gourikwa OCGT to CCGT Conversion project & 400 kV transmission power line between Gourikwa & Proteus Substation, Western Cape	Eskom Holdings SoC Limited	Project Manager & EAP
Richards Bay Gas to Power Combined Cycle Power Station, KwaZulu-Natal	Eskom Holdings SoC Limited	Project Manager & EAP
Richards Bay Gas to Power Plant, KwaZulu-Natal	Richards Bay Gas	Project Manager & EAP
Decommissioning & Recommissioning of 3 Gas Turbine Units at Acacia Power Station & 1 Gas Turbine Unit at Port Rex Power Station to the existing Ankerlig Power Station in Atlantis Industria, Western Cape	Eskom Holdings	Project Manager & EAP
Two 132kV Chickadee Lines to the new Zonnebloem Switching Station, Mpumalanga	Eskom Holdings	Project Manager & EAP

Screening Studies

Project Name & Location	Client Name	Role
Fatal Flaw Analysis for 3 area identified for the establishment of a 500MW CCGT Power Station	Globeleq Advisors Limited	Project Manager & EAP
Richards Bay Gas to Power Combined Cycle Power Station, KwaZulu-Natal	Eskom Holdings SoC Limited	Project Manager & EAP

GRID INFRASTRUCTURE PROJECTS

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Aggeneis-Oranjemond Transmission Line & Substation Upgrade, Northern Cape	Eskom Transmission	Project Manager & EAP
Ankerlig-Omega Transmission Power Lines, Western Cape	Eskom Transmission	Project Manager & EAP
Karoshhoek Grid Integration project as part of the Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP
Koeberg-Omega Transmission Power Lines,, Western Cape	Eskom Transmission	Project Manager & EAP
Koeberg-Stikland Transmission Power Lines, Western Cape	Eskom Transmission	Project Manager & EAP
Kyalami Strengthening Project, Gauteng	Eskom Transmission	Project Manager & EAP
Mokopane Integration Project, Limpopo	Eskom Transmission	Project Manager & EAP
Saldanha Bay Strengthening Project, Western Cape	Eskom Transmission	Project Manager & EAP
Steelpoort Integration Project, Limpopo	Eskom Transmission	Project Manager & EAP
Transmission Lines from the Koeberg-2 Nuclear Power Station site, Western Cape	Eskom Transmission	Project Manager & EAP
Tshwane Strengthening Project, Phase 1, Gauteng	Eskom Transmission	Project Manager & EAP

Basic Assessments

Project Name & Location	Client Name	Role
Dassenberg-Koeberg Power Line Deviation from the Koeberg to the Ankerlig Power Station, Western Cape	Eskom Holdings	Project Manager & EAP
Golden Valley II WEF Power Line & Substation near Cookhouse, Eastern Cape	BioTherm Energy	Project Manager & EAP
Golden Valley WEF Power Line near Cookhouse, Eastern Cape	BioTherm Energy	Project Manager & EAP
Karoshhoek Grid Integration project as part of the Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP
Konkoonsies II PV SEF Power Line to the Paulputs Substation near Pofadder, Northern Cape	BioTherm Energy	Project Manager & EAP
Perdekraal West WEF Powerline to the Eskom Kappa Substation, Western Cape	BioTherm Energy	Project Manager & EAP
Rheboksfontein WEF Powerline to the Aurora Substation, Western Cape	Moyeng Energy	Project Manager & EAP
Soetwater Switching Station near Sutherland, Northern Cape	African Clean Energy Developments (ACED)	Project Manager & EAP

Solis Power I Power Line & Switchyard Station near Upington, Northern Cape	Brightsource	Project Manager & EAP
Stormwater Canal System for the Ilanga CSP near Upington, Northern Cape	Karoshhoek Solar One	Project Manager & EAP
Tsitsikamma Community WEF Powerline to the Diep River Substation, Eastern Cape	Eskom Holdings	Project Manager & EAP

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO for the construction of the Ferrum-Mookodi Transmission Line, Northern Cape and North West	Trans-Africa Projects on behalf of Eskom	Project Manager
EO for the construction of the Gamma-Kappa Section A Transmission Line, Western Cape	Trans-Africa Projects on behalf of Eskom	Project Manager
EO for the construction of the Gamma-Kappa Section B Transmission Line, Western Cape	Trans-Africa Projects on behalf of Eskom	Project Manager
EO for the construction of the Hydra IPP Integration project, Northern Cape	Trans-Africa Projects on behalf of Eskom	Project Manager
EO for the construction of the Kappa-Sterrekus Section C Transmission Line, Western Cape	Trans-Africa Projects on behalf of Eskom	Project Manager
EO for the construction of the Namaqualand Strengthening project in Port Nolloth, Western Cape	Trans-Africa Projects on behalf of Eskom	Project Manager
ECO for the construction of the Neptune Substation Soil Erosion Mitigation Project, Eastern Cape	Eskom	Project Manager
ECO for the construction of the Ilanga-Gordonia 132kV power line, Northern Cape	Karoshhoek Solar One	Project Manager

Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
Environmental Permitting and WULA for the Rockdale B Substation & Loop in Power Lines,	Eskom Holdings	Project Manager & EAP
Environmental Permitting and WULA for the Steelpoort Integration project, Limpopo	Eskom Holdings	Project Manager & EAP
Environmental Permitting for Solis CSP near Upington, Northern Cape	Brightsource	Project Manager & EAP

MINING SECTOR PROJECTS

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Elitheni Coal Mine near Indwe, Eastern Cape	Elitheni Coal	Project Manager & EAP
Groot Letaba River Development Project Borrow Pits	liso	Project Manager & EAP
Grootegeluk Coal Mine for coal transportation infrastructure between the mine and Medupi Power Station (EMPr amendment) , Limpopo	Eskom Holdings	Project Manager & EAP
Waterberg Coal Mine (EMPr amendment), Limpopo	Sesoko Resources	Project Manager & EAP
Aluminium Plant WML & AEL, Gauteng	GfE-MIR Alloys & Minerals	Project Manager & EAP

Basic Assessments

Project Name & Location	Client Name	Role
Rare Earth Separation Plant in Vredendal, Western Cape	Rareco	Project Manager & EAP

Decommissioning and Demolition of Kilns 5 & 6 at the Slurry Plant, Kwa-Zulu Natal	PPC	Project Manager & EAP
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Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO for the construction of the Duhva Mine Water Recovery Project, Mpumalanga	Eskom Holdings SoC Limited	Project Manager
External compliance audit of Palesa Coal Mine's Integrated Water Use License (IWUL), near KwaMhlanga, Mpumalanga	HCI Coal	Project Manager
External compliance audit of Palesa Coal Mine's Waste Management License (WML) and EMP, near KwaMhlanga, Mpumalanga	HCI Coal	Project Manager
External compliance audit of Mbali Coal Mine's Integrated Water Use License (IWUL), near Ogies, Mpumalanga	HCI Coal	Project Manager
Independent External Compliance Audit of Water Use License (WUL) for the Tronox Namakwa Sands (TNS) Mining Operations (Brand se Baai), Western Cape	Tronox Namakwa Sands	Project Manager
Independent External Compliance Audit of Water Use License (WUL) for the Tronox Namakwa Sands (TNS) Mineral Separation Plant (MSP), Western Cape	Tronox Namakwa Sands	Project Manager
Independent External Compliance Audit of Water Use License (WUL) for the Tronox Namakwa Sands (TNS) Smelter Operations (Saldanha), Western Cape	Tronox Namakwa Sands	Project Manager
Compliance Auditing of the Waste Management Licence for the PetroSA Landfill Site at the GTL Refinery, Western Cape	PetroSA	Project Manager

Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
Waste Licence Application for the Rare Earth Separation Plant in Vredendal, Western Cape	Rareco	Project Manager & EAP
WULA for the Expansion of the Landfill site at Exxaro's Namakwa Sands Mineral Separation Plant, Western Cape	Exxaro Resources	Project Manager & EAP
S24G & WML for an Aluminium Plant, Gauteng	GfE-MIR Alloys & Minerals	Project Manager & EAP

INFRASTRUCTURE DEVELOPMENT PROJECTS (BRIDGES, PIPELINES, ROADS, WATER RESOURCES, STORAGE, ETC)

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Bridge across the Ngotwane River, on the border of South Africa and Botswana	Eskom Holdings	Project Manager & EAP
Chemical Storage Tanks, Metallurgical Plant Upgrade & Backfill Plant upgrade at South Deep Gold Mine, near Westonaria, Gauteng	Goldfields	Project Manager & EAP
Expansion of the existing Welgedacht Water Care Works, Gauteng	ERWAT	Project Manager & EAP

Project Name & Location	Client Name	Role
Golden Valley WEF Access Road near Cookhouse, Eastern Cape	BioTherm Energy	Project Manager & EAP
Great Fish River Wind Farm Access Roads and Watercourse Crossings near Cookhouse, Eastern Cape	African Clean Energy Developments (ACED)	Project Manager & EAP
Ilanga CSP Facility Watercourse Crossings near Upington, Northern Cape	Karoshok Solar one	Project Manager & EAP
Modification of the existing Hartebeestfontein Water Care Works, Gauteng	ERWAT	Project Manager & EAP
N10 Road Realignment for the Ilanga CSP Facility, East of Upington, Northern Cape	SANRAL	Project Manager & EAP
Nxuba (Bedford) Wind Farm Watercourse Crossings near Cookhouse, Eastern Cape	African Clean Energy Developments (ACED)	Project Manager & EAP
Pollution Control Dams at the Medupi Power Station Ash Dump & Coal Stockyard, Limpopo	Eskom	Project Manager & EAP
Qoboshane borrow pits (EMPr only), Eastern Cape	Emalahleni Local Municipality	Project Manager & EAP
Tsitsikamma Community WEF Watercourse Crossings, Eastern Cape	Cennergi	Project Manager & EAP
Clayville Central Steam Plant, Gauteng	Bellmall Energy	Project Manager & EAP
Msenge Emoyeni Wind Farm Watercourse Crossings and Roads, Eastern Cape	Windlab	Project Manager & EAP

Basic Assessments

Project Name & Location	Client Name	Role
Harmony Gold WWTW at Doornkop Mine, Gauteng	Harmony Doornkop Plant	Project Manager & EAP
Ofir-ZX Watercourse Crossing for the Solar PV Facility, near Keimoes, Northern Cape	Networx S28 Energy	Project Manager & EAP
Qoboshane bridge & access roads, Eastern Cape	Emalahleni Local Municipality	Project Manager & EAP
Relocation of the Assay Laboratory near Carletonville, Gauteng	Sibanye Gold	Project Manager & EAP
Richards Bay Harbour Staging Area, KwaZulu-Natal	Eskom Holdings	Project Manager & EAP
S-Kol Watercourse Crossing for the Solar PV Facility, East of Keimoes, Northern Cape	Networx S28 Energy	Project Manager & EAP
Sonnenberg Watercourse Crossing for the Solar PV Facility, West Keimoes, Northern Cape	Networx S28 Energy	Project Manager & EAP
Kruisvallei Hydroelectric Power Generation Scheme, Free State	Building Energy	Project Manager & EAP
Masetjaba Water Reservoir, Pump Station and Bulk Supply Pipeline near Nigel, Gauteng	Naidu Consulting Engineers	Project Manager & EAP
Access Road for the Dwarsug Wind Farm, Northern Cape Province	South Africa Mainsteam Renewable Power	Project Manager & EAP
Upgrade of the Cooling Water Treatment Facility at the Kriel Power Station, Mpumalanga	Eskom	Project Manager & EAP

Screening Studies

Project Name & Location	Client Name	Role
Roodepoort Open Space Optimisation Programme (OSOP) Precinct, Gauteng	TIMAC Engineering Projects	Project Manager & EAP
Vegetable Oil Plant and Associated Pipeline, Kwa-Zulu Natal	Wilmar Oils and Fats Africa	Project Manager & EAP

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO and bi-monthly auditing for the construction of the Olifants River Water Resources Development Project (ORWRDP) Phase 2A: De Hoop Dam, R555 realignment and housing infrastructure	Department of Water and Sanitation	Project Manager Auditor
ECO for the Rehabilitation of the Blaaupan & Storm Water Channel, Gauteng	Airports Company of South Africa (ACSA)	Project Manager
Due Diligence reporting for the Better Fuel Pyrolysis Facility, Gauteng	Better Fuels	Project Manager
ECO for the Construction of the Water Pipeline from Kendal Power Station to Kendal Pump Station, Mpumalanga	Transnet	Project Manager
ECO for the Replacement of Low-Level Bridge, Demolition and Removal of Artificial Pong, and Reinforcement the Banks of the Crocodile River at the Construction at Walter Sisulu National Botanical Gardens, Gauteng Province	South African National Biodiversity Institute (SANBI)	Project Manager
External Compliance Audit of the Air Emission Licence (AEL) for a depot in Bloemfontein, Free State Province and in Tzaneen, Mpumalanga Province	PetroSA	Project Manager

Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
WULA for the Izubulo Private Nature Reserve, Limpopo	Kjell Bismeyer, Jann Bader, Laurence Saad	Project Manager & EAP
WULA for the Masodini Private Game Lode, Limpopo	Masodini Private Game Lodge	Environmental Advisor
WULA for the Ezulwini Private Nature Reserve, Limpopo	Ezulwini Investments	Project Manager & EAP
WULA for the Masodini Private Game Lode, Limpopo	Masodini Private Game Lodge	Project Manager & EAP
WULA for the N10 Realignment at the Ilanga SEF, Northern Cape	Karoshhoek Solar One	Project Manager & EAP
WULA for the Kruisvallei Hydroelectric Power Generation Scheme, Free State	Building Energy	Project Manager & EAP
S24G and WULA for the illegal construction of structures within a watercourse on EFF 24 Ruimsig Agricultural Holdings, Gauteng	Sorrow Language Services	Project Manager & EAP

HOUSING AND URBAN PROJECTS

Basic Assessments

Project Name & Location	Client Name	Role
Postmasburg Housing Development, Northern Cape	Transnet	Project Manager & EAP

Compliance Advice and reporting

Project Name & Location	Client Name	Role
Kampi ya Thude at the Olifants West Game Reserve, Limpopo	Nick Elliot	Environmental Advisor

Project Name & Location	Client Name	Role
External Compliance Audit of WUL for the Johannesburg Country Club, Gauteng	Johannesburg Country Club	Project Manager

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
Due Diligence Audit for the Due Diligence Audit Report, Gauteng	Delta BEC (on behalf of Johannesburg Development Agency (JDA))	Project Manager

ENVIRONMENTAL MANAGEMENT TOOLS

Project Name & Location	Client Name	Role
Development of the 3rd Edition Environmental Implementation Plan (EIP)	Gauteng Department of Agriculture and Rural Development (GDARD)	Project Manager & EAP
Development of Provincial Guidelines on 4x4 routes, Western Cape	Western Cape Department of Environmental Affairs and Development Planning	EAP
Compilation of Construction and Operation EMP for the Braamhoek Transmission Integration Project, Kwazulu-Natal	Eskom Holdings	Project Manager & EAP
Compilation of EMP for the Wholesale Trade of Petroleum Products, Gauteng	Munaca Technologies	Project Manager & EAP
Operational Environmental Management Programme (OEMP) for Medupi Power Station, Limpopo	Eskom Holdings	Project Manager & EAP
Operational Environmental Management Programme (OEMP) for the Dube TradePort Site Wide Precinct	Dube TradePort Corporation	Project Manager & EAP
Operational Environmental Management Programme (OEMP) for the Kusile Power Station, Mpumalanga	Eskom Holdings	Project Manager & EAP
Review of Basic Assessment Process for the Wittekleibosch Wind Monitoring Mast, Eastern Cape	Exxaro Resources	Project Manager & EAP
Revision of the EMPr for the Sirius Solar PV	Aurora Power Solutions	Project Manager & EAP
State of the Environment (SoE) for Emalahleni Local Municipality, Mpumalanga	Simo Consulting on behalf of Emalahleni Local Municipality	Project Manager & EAP
Aspects and Impacts Register for Salberg Concrete Products operations	Salberg Concrete Products	EAP
First State of Waste Report for South Africa	Golder on behalf of the Department of Environmental Affairs	Project Manager & EAP
Responsibilities Matrix and Gap Analysis for the Kruisvallei Hydroelectric Power Generation Scheme, Free State Province	Building Energy	Project Manager
Responsibilities Matrix and Gap Analysis for the Roggeveld Wind Farm, Northern & Western Cape Provinces	Building Energy	Project Manager

PROJECTS OUTSIDE OF SOUTH AFRICA

Project Name & Location	Client Name	Role
Advisory Services for the Zizabona Transmission Project, Zambia, Zimbabwe, Botswana & Namibia	PHD Capital	Advisor
EIA for the Semonkong WEF, Lesotho	MOSCET	Project Manager & EAP
EMP for the Kuvaninga Energia Gas Fired Power Project, Mozambique	ADC (Pty) Ltd	Project Manager & EAP
Environmental Screening Report for the SEF near Thabana Morena, Lesotho	Building Energy	EAP
EPBs for the Kawambwa, Mansa, Mwense and Nchelenge SEFs in Luapula Province, Zambia	Building Energy	Project Manager & EAP
ESG Due Diligence for the Hilton Garden Inn Development in Windhoek, Namibia	Vatange Capital	Project Manager
Mandahill Mall Rooftop PV SEF EPB, Lusaka, Zambia	Building Energy	Project Manager & EAP
Monthly ECO for the PV Power Plant for the Mocuba Power Station	Scatec	Project Manager

Appendix D – the Specialist’s CV

Curriculum Vitae

Adri Barkhuysen

Date of Birth: 1 December 1959

Specialist Field: Avifauna

Consultant: Environmental Assessment Practitioner

Professional Natural Scientist: *Pr. Sci. Nat. (400350/13)*

Contact Details:

34 Scanlen Street, Mount Croix, Port Elizabeth 6001 Email: adriba@telkomsa.net

Tel: 041-373 2047 Fax: 041-991 0551 Cell: 082 630 2448

QUALIFICATIONS

MSc (Zoology) – University of Port Elizabeth – 2000-2002

MSc thesis - evaluate and compare the prey/food availability of eagles and large terrestrial birds that are prone to power line interactions – electrocutions and collisions - between transformed and untransformed habitats in a Karoo landscape near Somerset-East.

BSc Honours in Zoology – Potchefstroom University – 1998-1999

BSc Zoology and Botany – Unisa (part-time) 1990-1996

RELEVANT WORK EXPERIENCE

- 1994-2002: Volunteer Raptor Conservation Group of the Endangered Wildlife Trust (EWT).
- 2002-2010: Field biologist with EWT in the Eastern Cape. Duties included: eagle/farmer conflict resolution, surveying and monitoring breeding success of Cape vulture for the Vulture Study Group and Black eagle for the Raptor Conservation Group.

Project Coordinator of the Birds of Prey Working Group and Oribi Working Group for EWT in the Eastern Cape, which included various Oribi translocation initiatives to reintroduce Oribi into areas where it disappeared from.

- Since August 2010 to present: Environmental Consultant and bird specialist for East Cape Diverse Consultants.

BUSINESS PROFILE:

I am the Director and owner of East Cape Diverse Consultants CC (ECDC) since August 2010. The business provides a professional environmental consulting service to a wide variety of clients while I conduct regular assessments and studies as an avifauna specialist.

The income of ECDC is mainly generated from the cellular industry, as environmental assessment practitioner to obtain environmental authorization from competent authorities for projects that require basic assessment and EIA reports. But we supply services in the agricultural, power line and wind farm sectors.

CLIENTS:

Industry:

- Eskom Distribution Division - power line
- Eskom Transmission Division - power line
- Cellular - Vodacom, MTN, CellC and Telkom 8Ta
- Cellular – American Tower Company, Atlas Tower, Eaten Towers, BJB Project Services, Sensile Infrastructure Consultants, Analytics Hive.
- Wind farm - Newcombe Wind Developments and Woodlands Trust

Consultants:

- Bohlweki Environmental
- Royal HaskoningDHV
- JAH Environmental Consulting
- SKR Consulting
- Environmental CEN
- Wild Skies Ecological Services
- Ecology Consulting in the UK
- Phila Environmental Services

Our cellular clients and work include Vodacom, MTN, CellC, American Tower Company (ATC) and Telkom/8-ta, with projects in the Eastern Cape (and in the former Transkei region), KwaZulu-Natal (Zululand and Midlands) and Western Cape (south Cape region). These include the public participation process and visual impact assessments.

The agricultural work include, impact assessments for environmental authorization for a variety of projects, including:

- Centre-pivot irrigation development – dairy farming;
- Extension to Feathers Egg laying plant - poultry farming;
- Road and fire break – timber plantation;
- Culvert river crossing and soil erosion/stabilizing – dairy farming;
- Bush clearing – citrus farming;
- Charcoal/Briquette plant/factory

A variety of works, acting as Environmental Control Officer were completed, mainly for the construction of cellular towers.

Section 24G applications for non-compliance of NEMA environmental regulations by farmers/landowners. This sector of work was based in the Eastern and Western Cape Provinces.

An application for Sand Mining permits in the former Transkei to the Department of Minerals Resources.

Water Use Licence Applications for landowners/clients to the Department Water and Sanitation in the Cacadu district region.

Secondly, my work as avifauna specialist, include conducting bird field studies and bird impact assessments for the wind farm industry, Eskom power lines, universities, environmental organisations and environmental consultants in the private sector.

Bird studies include:

- Bird Impact assessment desktop study for scoping report - for the proposed 400kV Eskom power line from Grassridge near Port Elizabeth to Poseidon substation near Bedford – for Bohlweki Environmental;
- Bird habitat assessment report for the existing 132kV Eskom power line to fit bird flight diverters from Grassridge to Humansdorp – for Royal HaskoningDHV;
- avifauna pre-construction monitoring for proposed wind farms;
 - Spitskop WEF near Riebeeck-East - for JAH Environmental Consulting.
 - Banna Ba Pifhu WEF near Humansdorp – for Woodlands Trust.
 - Roodeplaat WEF near Uitenhage – for Newcombe Wind Developments.
- Bird Impact Assessment report for proposed wind powered generation facilities

- Spitskop near Riebeeck-East with JAH Environmental Consulting
 - Banna Ba Pifhu WEF near Humansdorp – for Woodlands Trust.
- Black eagle nest surveys and monitoring between Uitenhage and Steytlerville during 2003 to 2007 for EWT;
 - African Barred owl surveying project in the Albany district and in the former Transkei – 2007-2009 for EWT;
 - Bird study - Jacobin cuckoo / Cape bulbul brood parasite field study at NMMU Reserve, Port Elizabeth - for Prof Oliver Kruger, Bielefeldt University, Germany;
 - Monitoring of Cape vulture roosting and breeding colonies in the former Transkei 2006-2007 - for Dr Andre Boshoff of Nelson Mandela Metropolitan University;
 - Bird Impact Assessment for the proposed Wing Park airstrip development EIA near Port Elizabeth - 2014;
 - Large eagle nests and breeding success surveys and monitoring for Wild Skies Ecological services – 2013;
 - Black eagle, African Crowned eagle and Martial eagle nest searching surveys and monitoring for the continuation of the EIA process of the proposed Roodeplaas WEF - 2015-2018;
 - Avifauna baseline assessment and a year pre-construction monitoring: for Transnet Manganese Export Terminal in the Coega IDZ and Port of Ngqura – Phila Environmental Services 2015-2016.

Other bird related work:

Professional assistance to American, Bill Clark, an author of a book on African birds of prey – 2007

Consultant for Birding EcoTours Chris Lotz – African Barred owl research and exploring – 2007-2009

Professional assistance to Marie-Sophie Garcia-Heras and Dr Rob Simmons from UCT on Black harrier research for her PhD - 2014

Professional assistance to Gareth Tate from UCT on Black sparrowhawk research for his PhD - 2014

Consultant for the Wildlife film makers – Talking Picture Films - 2003-2005 and Home Brew Films - 2016- 2017

Professional assistance to Dr Guy Castley of the Griffith University, Australia with forest bird surveys and monitoring - 2017

Collaborations:

In the successful operation of our business, we employ the services of many professional scientists to conduct specialist studies, e.g. wetland ecologist Dr Brian Colloty, ecologist Jesse Jegles, plant specialist Dr Marietjie Landman, Jamie Pote, archeological Dr Billy de Klerk, Dr Celeste Booth, paleontological Dr Johan Binneman, Dr Francois du Rand, historians Gerrie Horn, etc. which broadens our understanding of sensitive sites or issues under assessment.

Other Environmental work:

Consultations with a variety of clients in the industrial/commercial sector for potential and future developments such as a hydroponic establishment, coal-driven electric generators, charcoal/briquette plant, poultry farming, fruit juice extraction plant, bird pest control, waste water analysis for a house hold chemical manufacturer, etc.

I am still regularly consulted on eagle/farmer conflict resolutions.

CURRICULUM VITAE

Dr Owen Davies Pr. Sci. Nat. (Ecology)

Ecologist

Email:OwenD@arcusconsulting.co.za



ARCUS

Specialisms

- Avifaunal surveys
- Ecological surveys
- Field research
- Data analysis and assessment of ecological data

Summary of Experience

Owen is a Professional Natural Scientist registered with the South African Council for Natural Scientific Professions (SACNASP) and obtained his doctoral degree from the Percy FitzPatrick Institute of African Ornithology, a DST-NRF Centre of Excellence at the University of Cape Town. Owen has been involved in avifaunal monitoring activities for renewable energy projects since 2013. Extensive field research has given Owen experience in the techniques required for conducting biological surveys on a variety of taxa including observations, physical trapping and identification of small terrestrial birds, raptors, bats, small mammals, rodents, snakes, reptiles, scorpions and fish. He is also qualified to conduct observations and acoustic monitoring of marine mammals in the offshore environment. Data collection in a diversity of habitats and ecosystems, combined with formal training in field skills such as off-road driving, enables Owen to conduct ecological surveys across southern Africa. In addition, his skills in data analysis and scientific writing at the PhD level enable him to produce high quality assessments and reports.

Qualifications and Professional Interests

- **University of Cape Town, Percy FitzPatrick Institute of African Ornithology, 2010 to 2015**
PhD Zoology
- **University of Cape Town, Percy FitzPatrick Institute of African Ornithology, 2008 to 2010**
MSc Zoology (upgraded to PhD)
- **University of Cape Town, 2007**
BSc Zoology (Hons)
- **University of Cape Town, 2003 to 2006**
BSc Zoology
BSc Botany

Professional History

2015 (July) to present - Avifaunal Specialist, Ecologist, field team leader, Arcus Consultancy Services, Cape Town
2014 to 2015 - Bat monitoring field assistant, Arcus Consultancy Services, Cape Town
2013 to 2015 - Avifaunal observer, Arcus Consultancy Services, Cape Town
2009 to 2013 - Research Assistant (birds) to Dr J. Fuchs (Curator of Birds at the Muséum national d'Histoire naturelle, Paris), throughout South Africa
2007 to 2013 - Research Assistant (birds) to Prof T. M. Crowe (Percy FitzPatrick Institute of African Ornithology, Department of Zoology, University of Cape Town), throughout South Africa
2011 - Research Assistant (birds) to Dr I. Little, Endangered Wildlife Trust, Uganda
2010 - Research Assistant (bats) to Asst. Prof Hassan Salata, Department of Wildlife (South Sudan), Northern Cape
2010 to 2011 - Research Assistant (small mammals) to Dr B. Smit, University of Pretoria, Northern Cape
2010 - Research Assistant to Dr H. Smit-Robinson, Birdlife SA, Western and Northern Cape

CURRICULUM VITAE

Project Experience

- Umsinde Emoyeni WEF (Avifaunal assessment, data analysis and reporting)
- Confidential WEF near Molteno, Northern Cape Province (bird monitoring data analysis and reporting)
- Confidential Grid Connection near De Aar, Northern Cape Province (Avifaunal assessment, Ecological assessment, site-walkthrough, data analysis and reporting)
- Confidential WEF near Yzerfontein, Western Cape Province (Avifaunal assessment, Ecological assessment, site-walkthrough, data analysis and reporting)
- Metsimatala Solar (Field team leader, bird observations, data analysis and reporting in collaboration with specialists)
- Kolkies WEF (Field team leader, bird observations, bat mast commission, data analysis and reporting in collaboration with specialists)
- Karee WEF (Field team leader, bird observations, bat mast commission, data analysis and reporting in collaboration with specialists)
- Gouda WEF (Field team leader, bird observations – post construction)
- Hopefield WEF (Field team leader, bird observations, data analysis and reporting in collaboration with specialists – post construction)
- Spitzkop West WEF (Bird observations, bat mast commission)
- Pofadder WEF (Bat mast commission)
- Cookhouse WEF (Bat mast commission and decommission)
- Komsberg WEF (Field team leader, bird observations, bat mast commission, data analysis and reporting in collaboration with specialists)
- Bokpoort Solar (Avifaunal assessment, bird observations, data analysis and reporting)

Conferences and Seminars


- Biodiversity Southern Africa Conference, Biological Sciences Department, University of Cape Town, 2 to 6 December 2013
- Southern African Society for Systematic Biology (SASSB) Conference 2012: Systematics in the Era of Integrative Biology, Arniston, Western Cape, 16 to 20 July 2012
- The Willi Hennig Society Annual Meeting XXX Conference for Cladistic Research 2011, Sao Jose do Rio Preto, State of Sao Paulo, Brazil, 29 July to 2 August 2011
- Southern African Society for Systematic Biology (SASSB) Conference 2011: Biodiversity Matters!, Rhodes University, Grahamstown, Eastern Cape, 19 to 21 January 2011
- Zoological Society of Southern Africa (ZSSA) 50th Anniversary conference 2009, Natalia Resort, Illovo Beach, Kwa-Zulu Natal South Coast, 21 to 25 July 2009
- Southern African Society for Systematic Biology (SASSB) 10th Anniversary Conference 2009, Natalia Resort, Illovo Beach, Kwa-Zulu Natal South Coast, 25 to 27 July 2009
- Pan-African Ornithological Congress (PAOC 12) South African Conference 2008: Birds and People – Interaction, Utilisation and Conservation, Goudini Spa, Western Cape, 7 to 12 September 2008

Publications

DAVIES, O.R, JUNKER, K, JANSEN, R, CROWE, T.M. & BOOMKER, J. 2008. Age- and sex-based variation in helminth infection of Helmeted Guineafowl (*Numida meleagris*) with comments on Swainson's Spurfowl (*Pternistis swainsonii*) and Orange River Francolin (*Scleroptila levaillantoides*). South African Journal of Wildlife Research 38 (2): 163-170.

JUNKER, K., DAVIES, O.R., JANSEN, R., CROWE, T.M. & BOOMKER, J. 2008. Nematodes of Swainson's Spurfowl *Pternistis swainsonii* and Orange River Francolin *Scleroptila levaillantoides* from the Free State province, South Africa, with a description of *Tetrameres swainsonii*, sp. nov. (Nematoda: Tetrameridae). Journal of Helminthology 82: 365-371.

Short CV/Summary of Expertise – Simon Todd

 <p>SIMON TODD CONSULTING</p> <p>ECOLOGICAL SPECIALIST SERVICES</p> <p>Assessment/Management/Research</p>	<p>Simon Todd Pr.Sci.Nat</p> <p>C: 082 3326502 O: 021 782 0377 Simon.Todd@3foxes.co.za</p> <p>60 Forrest Way Glencairn 7975</p>	<p>Ecological Solutions for People & the Environment</p>
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Professional Profile

Simon Todd has extensive experience in biodiversity management and ecological assessment across South African ecosystems. This includes a variety of broad-scale strategic assessments and best-practice guidelines for a range of industries. In addition, Simon Todd has conducted a large amount of research on the impacts of land-use on biodiversity and has published numerous scientific papers in international peer-reviewed journals on this topic. Simon Todd is a recognised ecological expert and is a past chairman and current executive committee member of the Arid-Zone Ecology Forum and has over 20 years' experience working throughout the country. Simon Todd is registered with the South African Council for Natural Scientific Professions (No. 400425/11).

Recent notable projects include:

- First-author of a book chapter on the ecological impacts of Shale Gas development on the Karroo of South Africa. (2017)
 - Co-author on the Biodiversity chapter of the Shale Gas SEA being conducted by CSIR. (2016)
 - Co-author on the Eskom Grid Infrastructure SEA, managed by CSIR. (2016)
 - Co-author on the Wind and Solar SEA, managed by CSIR. (2015)
-

Abbreviated CV

- Profession: Independent Ecological Consultant - Pr.Sci.Nat 400425/11
- Specialisation: Plant & Animal Ecology
- Years of Experience: 20 Years

Skills & Primary Competencies

- Research & description of ecological patterns & processes in Thicket, Savannah Nama Karoo, Succulent Karoo, Arid Grassland and Fynbos Ecosystems.
- Ecological Impacts of land use on biodiversity and provision of associated management advice.

- Vegetation surveys & degradation assessment & mapping
- Long-term vegetation monitoring
- Faunal surveys & assessment.
- GIS & remote sensing

Tertiary Education:

- 1992-1994 – BSc (Botany & Zoology), University of Cape Town
- 1995 – BSc Hons, Cum Laude (Zoology) University of Natal
- 1996-1997- MSc, Cum Laude (Conservation Biology) University of Cape Town

Employment History

- 1997 – 1999 – Research Scientist (Contract) – South African National Biodiversity Institute
- 2000-2004 – Specialist Scientist (Contract) - South African National Biodiversity Institute
- 2004-2007 – Senior Scientist (Contract) – Plant Conservation Unit, Department of Botany, University of Cape Town
- 2007-Present – Senior Scientist (Associate) – Plant Conservation Unit, Department of Botany, University of Cape Town.
- 2010-Present – Self-employed as consultant and sole proprietor of Simon Todd Consulting, which has conducted more than 150 specialist assessments.

General Experience & Expertise

- Lead ecologist on several SEA chapters, including Eskom Grid Infrastructure, Wind and Solar SEA and Shale Gas SEA.
- Conducted a large number of fauna and flora specialist assessments distributed widely across South Africa. Projects have ranged in extent from <50 ha to more than 50 000 ha.
- Widely-recognized ecology specialist. Published numerous peer-reviewed scientific publications based on various ecological studies across the country. Past chairman of the Arid Zone Ecology Forum and current executive committee member.
- Extensive field and personal experience across a broad range of South African ecosystems, with particular focus on the Western, Northern and Eastern Cape.
- Strong research background which has proved invaluable when working on ecologically sensitive and endangered ecosystems, habitats and species.
- Published numerous research reports as well as two book chapters and a large number of papers in leading scientific journals dealing primarily with human impacts on the vegetation and ecology of South African ecosystems.
- Maintain several long-term vegetation monitoring projects which have led to several publications.
- Guest lecturer at two universities and have also served as an external examiner.
- Reviewed papers for more than 12 international ecological journals.
- SACNASP registered as a Professional Natural Scientist, (Ecology) No. 400425/11.

Current Committees

- SANBI Vegmap Committee – 2015 – present
- CSIR Wind and Solar SEA Phase II advisory committee – 2016-present
- AZEF deputy chair – 2012-present
- SANBI Karoo Biogaps Taxon leads' committee and executive committee member.

Recent & Relevant Outputs & Publications

Strategic Environmental Assessments

Co-Author. Chapter 7 - Biodiversity & Ecosystems - Shale Gas SEA. CSIR 2016.

Co-Author. Chapter 1 Scenarios and Activities – Shale Gas SEA. CSIR 2016.

Co-Author – Ecological Chapter – Wind and Solar SEA. CSIR 2014.

Co-Author – Ecological Chapter – Eskom Grid Infrastructure SEA. CSIR 2015.

Contributor – Ecological & Conservation components to SKA SEA. CSIR 2017.

Specialist Fauna and Flora Assessments:

Specialist Ecological studies for many different developments distributed across the country including:

- Over 30 Wind Energy projects
- More than 60 Solar Energy developments
- More than 30 different housing, roads, mining and other infrastructure development projects.
- More than 20 electricity transmission infrastructure projects.

A full list of projects is available on request.

PROFESSIONAL CURRICULUM FOR CHERENE DE BRUYN
Professional Archaeologist for PGS Heritage

KEY QUALIFICATIONS

2016-2017	MA in Archaeology University College London, United Kingdom
2015	BSC Honours in Physical Anthropology, University of Pretoria, South Africa
2013	BA Honours in Archaeology University of Pretoria, South Africa
2010-2012	BA (General) University of Pretoria, South Africa Major subjects: Archaeology and Anthropology

PROFESSIONAL QUALIFICATIONS:

- Association of Southern African Professional Archaeologists - Professional Member (#432)
- International Association for Impact Assessment South Africa - Member (#6082)
- Association of Southern African Professional Archaeologists - CRM Accreditation
 - Principal Investigator: Grave relocation
 - Field Director: Colonial period archaeology, Iron Age archaeology
 - Field Supervisor: Rock art, Stone Age archaeology
 - Laboratory Specialist: Human Skeletal Remains
- KZN Amafa and Research Institute - Accredited Professional Heritage Practitioner

Languages:

Afrikaans & English

SUMMARY OF EXPERIENCE

Expertise in Heritage Impact Assessment Management, Historical and Archival Research, Archaeology, Physical Anthropology, Grave Relocations, Fieldwork, Geographic Information Systems and Project Management including *inter alia* -

Involvement in various grave relocation projects

- Grave exhumation, test excavations and grave “rescue” excavations in the various provinces of South Africa.
- Permit applications with SAHRA BGG and AMAFA, including relevant Municipalities and Authorities for grave relocation projects.

Involvement with various Heritage Impact Assessments,

- Heritage Impact Assessments and Management for various projects within Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, Northern Cape, North West and Western Cape Province.
- Archaeological Walkdowns for various projects.
- Instrument Survey and recording for various projects.
- Desktop, archival and heritage screening for projects.

Heritage Assessment Projects

Below a selected list of Heritage Impact Assessments (HIA) Projects involvement:

- Heritage Management Plan for the proposed development of the 305MW Oya solar photovoltaic (PV) facility and associated infrastructure near Matjiesfontein, Western Cape.

- Heritage Impact Assessment for the Proposed Township Establishment on the Remainder of Portion 8 of the Farm Boschoek 103 JQ, near Boschoek, North West Province.
- The Proposed Irenedale Water Pipeline Between Bosjesspruit Colliery And A Local Reservoir, Located In The Lekwa Local Municipality And The Govan Mbeki Local Municipality, Gert Sibande District Municipality, Mpumalanga Province.
- Heritage Impact Assessment for the proposed development of the Msobo Coal Tselentis Colliery: Albion Opencast project, Near Breyten, Mpumalanga Province.
- Heritage Impact Assessment for the Proposed Development Of An Airport For Kolomela Mine In Postmasburg, Northern Cape.
- Heritage Impact Assessment for the Proposed South African Coal Estates (SACE) Clydesdale Pit Project, near Emalahleni, Mpumalanga Province.
- Heritage Impact Assessment for the Amendment of the Mogalakwena Mine Expansion Project, near Mokopane, Limpopo Province.
- Heritage Impact Assessment for the Mogalakwena Mine Integrated Permitting Project near Mokopane, Limpopo Province.
- Heritage Impact Assessment for the Proposed Solar PV Plant at Armoede, near Mokopane, Limpopo Province.
- Heritage Impact Assessment for the Proposed New Cargo Precinct For The O.R. Tambo International Airport On The Farm Witkoppie 64, Gauteng Province.
- Heritage Impact Assessment for the upgrade of road d4407 between Hluvukani and Timbavati, road d4409 at Welverdiend and road d4416/2 between Welverdiend and road P194/1 in the Bohlabela region of the Mpumalanga Province.
- Heritage Impact Assessment for the proposed Piggery on Portion 46 of the farm Brakkefontein 416, within the Nelson Mandela Bay Municipality, Eastern Cape.
- Heritage Impact Assessment for proposed development On Erf 30, Letamo Town, Farm Honingklip 178 Iq, Mogale Local Municipality, Gauteng Province.
- Heritage Impact Assessment for the proposed Prospecting Right Application on the Farm Reserve No 4 15823 And 7638/1, near St Lucia, within the jurisdiction of the Mfolozi Local Municipality in the King Cetshwayo District Municipality, KwaZulu-Natal Province.

Grave Relocation Projects

Below, a selection of grave relocation projects involvement:

- Report On Test Excavations. Ivn_078 Maruma Graves, Farm Turfspruit 241 Kr, Mokopane, Limpopo Province. Test Excavation Of Possible Burial Ground As Identified By The Maruma Family.
- Relocation Of Two Infant Graves From The Farm Wonderfontein 428 Js, Belfast, Mpumalanga Province.
- Relocation Of Approximately 4 Stillborn Graves From Farm Wonderfontein 428 Js, Umsimbithi Mining (Pty) Ltd, Belfast, Chief Albert Luthuli Local Municipality, Mpumalanga Province.

EMPLOYMENT SUMMARY:

Positions Held

- 2020 – to date: Archaeologist - PGS Heritage (Pty) Ltd
- 2018 – 2019: Manager of the NGT ESHS Heritage Department – NGT Holdings (Pty) Ltd
Archaeologist and Heritage Consultant – NGT Holdings (Pty) Ltd
- 2015-2016: Archaeological Contractor - BA3G, University of Pretoria
- 2014 – 2015: DST-NRF Archaeological Intern, Forensic Anthropological Research Centre

CURRICULUM VITAE

ELIZE BUTLER

PROFESSION: Palaeontologist

YEARS' EXPERIENCE: 26 years in Palaeontology

EDUCATION: B.Sc Botany and Zoology, 1988
University of the Orange Free State

B.Sc (Hons) Zoology, 1991
University of the Orange Free State

Management Course, 1991
University of the Orange Free State

M. Sc. *Cum laude* (Zoology), 2009
University of the Free State

Dissertation title: The postcranial skeleton of the Early Triassic non-mammalian Cynodont *Galesaurus planiceps*: implications for biology and lifestyle

MEMBERSHIP

Palaeontological Society of South Africa (PSSA) 2006-currently

EMPLOYMENT HISTORY

Part time Laboratory assistant Department of Zoology & Entomology
University of the Free State Zoology 1989-
1992

Part time laboratory assistant

Department of Virology

University of the Free State Zoology 1992

Research Assistant

National Museum, Bloemfontein 1993 – 1997

Principal Research Assistant

National Museum, Bloemfontein

and Collection Manager

1998–currently

TECHNICAL REPORTS

Butler, E. 2014. Palaeontological Impact Assessment of the proposed development of private dwellings on portion 5 of farm 304 Matjesfontein Keurboomstrand, Knysna District, Western Cape Province. Bloemfontein.

Butler, E. 2014. Palaeontological Impact Assessment for the proposed upgrade of existing water supply infrastructure at Noupoort, Northern Cape Province. 2014. Bloemfontein.

Butler, E. 2015. Palaeontological impact assessment of the proposed consolidation, re-division and development of 250 serviced erven in Nieu-Bethesda, Camdeboo local municipality, Eastern Cape. Bloemfontein.

Butler, E. 2015. Palaeontological impact assessment of the proposed mixed land developments at Rooikraal 454, Vrede, Free State. Bloemfontein.

Butler, E. 2015. Palaeontological exemption report of the proposed truck stop development at Palmiet 585, Vrede, Free State. Bloemfontein.

Butler, E. 2015. Palaeontological impact assessment of the proposed Orange Grove 3500 residential development, Buffalo City Metropolitan Municipality East London, Eastern Cape. Bloemfontein.

Butler, E. 2015. Palaeontological Impact Assessment of the proposed Gonubie residential development, Buffalo City Metropolitan Municipality East London, Eastern Cape Province. Bloemfontein.

Butler, E. 2015. Palaeontological Impact Assessment of the proposed Ficksburg raw water pipeline. Bloemfontein.

Butler, E. 2015. Palaeontological Heritage Impact Assessment report on the establishment of the 65 mw Majuba Solar Photovoltaic facility and associated infrastructure on portion 1, 2 and 6 of the farm Witkoppies 81 HS, Mpumalanga Province. Bloemfontein.

Butler, E. 2015. Palaeontological Impact Assessment of the proposed township establishment on the remainder of portion 6 and 7 of the farm Sunnyside 2620, Bloemfontein, Mangaung metropolitan municipality, Free State, Bloemfontein.

Butler, E. 2015. Palaeontological Impact Assessment of the proposed Woodhouse 1 photovoltaic solar energy facilities and associated infrastructure on the farm Woodhouse729, near Vryburg, North West Province. Bloemfontein.

Butler, E. 2015. Palaeontological Impact Assessment of the proposed Woodhouse 2 photovoltaic solar energy facilities and associated infrastructure on the farm Woodhouse 729, near Vryburg, North West Province. Bloemfontein.

Butler, E. 2015. Palaeontological Impact Assessment of the proposed Orkney solar energy farm and associated infrastructure on the remaining extent of Portions 7 and 21 of the farm Wolvehuis 114, near Orkney, North West Province. Bloemfontein.

Butler, E. 2015. Palaeontological Impact Assessment of the proposed Spectra foods broiler houses and abattoir on the farm Maiden Manor 170 and Ashby Manor 171, Lukhanji Municipality, Queenstown, Eastern Cape Province. Bloemfontein.

Butler, E. 2016. Palaeontological Impact Assessment of the proposed construction of the 150 MW Noupoort concentrated solar power facility and associated infrastructure on portion 1 and 4 of the farm Carolus Poort 167 and the remainder of Farm 207, near Noupoort, Northern Cape. Prepared for Savannah Environmental. Bloemfontein.

Butler, E. 2016. Palaeontological Impact Assessment of the proposed Woodhouse 1 Photovoltaic Solar Energy facility and associated infrastructure on the farm Woodhouse 729, near Vryburg, North West Province. Bloemfontein.

Butler, E. 2016. Palaeontological Impact Assessment of the proposed Woodhouse 2 Photovoltaic Solar Energy facility and associated infrastructure on the farm Woodhouse 729, near Vryburg, North West Province. Bloemfontein.

Butler, E. 2016. Proposed 132kV overhead power line and switchyard station for the authorised Solis Power 1 CSP project near Upington, Northern Cape. Bloemfontein.

Butler, E. 2016. Palaeontological Impact Assessment of of the proposed Senqu Pedestrian Bridges in Ward 5 of Senqu Local Municipality, Eastern Cape Province. Bloemfontein.

Butler, E. 2016. Recommendation from further Palaeontological Studies: Proposed Construction of the Modderfontein Filling Station on Erf 28 Portion 30, Founders Hill, City Of Johannesburg, Gauteng Province. Bloemfontein.

Butler, E. 2016. Recommendation from further Palaeontological Studies: Proposed Construction of the Modikwa Filling Station on a Portion of Portion 2 of Mooihoek 255 Kt, Greater Tubatse Local Municipality, Limpopo Province. Bloemfontein.

Butler, E. 2016. Recommendation from further Palaeontological Studies: Proposed Construction of the Heidedal filling station on Erf 16603, Heidedal Extension 24, Mangaung Local Municipality, Bloemfontein, Free State Province. Bloemfontein.

Butler, E. 2016. Recommended Exemption from further Palaeontological studies: Proposed Construction of the Gunstfontein Switching Station, 132kv Overhead Power Line (Single Or Double Circuit) and ancillary infrastructure for the Gunstfontein Wind Farm Near Sutherland, Northern Cape Province. Savannah South Africa. Bloemfontein.

Butler, E. 2016. Palaeontological Impact Assessment of the proposed Galla Hills Quarry on the remainder of the farm Roode Krantz 203, in the Lukhanji Municipality, division of Queenstown, Eastern Cape Province. Bloemfontein.

Butler, E. 2016. Chris Hani District Municipality Cluster 9 water backlog project phases 3a and 3b: Palaeontology inspection at Tsomo WTW. Bloemfontein.

Butler, E. 2016. Palaeontological Impact Assessment of the proposed construction of the 150 MW Noupoot concentrated solar power facility and associated infrastructure on portion 1 and 4 of the farm Carolus Poort 167 and the remainder of Farm 207, near Noupoot, Northern Cape. Savannah South Africa. Bloemfontein.

Butler, E. 2016. Palaeontological Impact Assessment of the proposed upgrading of the main road MR450 (R335) from the Motherwell to Addo within the Nelson Mandela Bay Municipality and Sunday's river valley Local Municipality, Eastern Cape Province. Bloemfontein.

Butler, E. 2016. Palaeontological Impact Assessment construction of the proposed Metals Industrial Cluster and associated infrastructure near Kuruman, Northern Cape Province. Savannah South Africa. Bloemfontein.

Butler, E. 2016. Palaeontological Impact Assessment for the proposed construction of up to a 132kv power line and associated infrastructure for the proposed Kalkaar Solar Thermal Power Plant near Kimberley, Free State and Northern Cape Provinces. PGS Heritage. Bloemfontein.

Butler, E. 2016. Palaeontological Impact Assessment of the proposed development of two burrow pits (DR02625 and DR02614) in the Enoch Mgijima Municipality, Chris Hani District, Eastern Cape.

Butler, E. 2016. Ezibeleni waste Buy-Back Centre (near Queenstown), Enoch Mgijima Local Municipality, Eastern Cape. Bloemfontein.

Butler, E. 2016. Palaeontological Impact Assessment for the proposed construction of two 5 Mw Solar Photovoltaic Power Plants on Farm Wildebeestkuil 59 and Farm Leeuwbosch 44, Leeudoringstad, North West Province. Bloemfontein.

Butler, E. 2016. Palaeontological Impact Assessment for the proposed development of four Leeuwberg Wind farms and basic assessments for the associated grid connection near Loeriesfontein, Northern Cape Province. Bloemfontein.

Butler, E. 2016. Palaeontological impact assessment for the proposed Aggeneys south prospecting right project, Northern Cape Province. Bloemfontein.

Butler, E. 2016. Palaeontological impact assessment of the proposed Motuoane Ladysmith Exploration right application, Kwazulu Natal. Bloemfontein.

Butler, E. 2016. Palaeontological impact assessment for the proposed construction of two 5 MW solar photovoltaic power plants on farm Wildebeestkuil 59 and farm Leeuwbosch 44, Leeudoringstad, North West Province. Bloemfontein.

Butler, E. 2016: Palaeontological desktop assessment of the establishment of the proposed residential and mixed use development on the remainder of portion 7 and portion 898 of the farm Knopjeslaagte 385 Ir, located near Centurion within the Tshwane Metropolitan Municipality of Gauteng Province. Bloemfontein.

Butler, E. 2017. Palaeontological impact assessment for the proposed development of a new cemetery, near Kathu, Gamagara local municipality and John Taolo Gaetsewe district municipality, Northern Cape. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment Of The Proposed Development Of The New Open Cast Mining Operations On The Remaining Portions Of 6, 7, 8 And 10 Of The Farm Kwaggafontein 8 In The Carolina Magisterial District, Mpumalanga Province. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment for the Proposed Development of a Wastewater Treatment Works at Lanseria, Gauteng Province. Bloemfontein.

Butler, E. 2017. Palaeontological Scoping Report for the Proposed Construction of a Warehouse and Associated Infrastructure at Perseverance in Port Elizabeth, Eastern Cape Province.

Butler, E. 2017. Palaeontological Desktop Assessment for the Proposed Establishment of a Diesel Farm and a Haul Road for the Tshipi Borwa mine Near Hotazel, In the John Taolo Gaetsewe District Municipality in the Northern Cape Province. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment for the Proposed Changes to Operations at the UMK Mine near Hotazel, In the John Taolo Gaetsewe District Municipality in the Northern Cape Province. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment for the Development of the Proposed Ventersburg Project-An Underground Mining Operation near Ventersburg and Henneman, Free State Province. Bloemfontein.

Butler, E. 2017. Palaeontological desktop assessment of the proposed development of a 3000 MW combined cycle gas turbine (CCGT) in Richards Bay, Kwazulu-Natal. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment for the Development of the Proposed Revalidation of the lapsed General Plans for Elliotdale, Mbashe Local Municipality. Bloemfontein.

Butler, E. 2017. Palaeontological assessment of the proposed development of a 3000 MW Combined Cycle Gas Turbine (CCGT) in Richards Bay, Kwazulu-Natal. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment of the proposed development of the new open cast mining operations on the remaining portions of 6, 7, 8 and 10 of the farm Kwaggafontein 8 10 in the Albert Luthuli Local Municipality, Gert Sibande District Municipality, Mpumalanga Province. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment of the proposed mining of the farm Zandvoort 10 in the Albert Luthuli Local Municipality, Gert Sibande District Municipality, Mpumalanga Province. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment for the proposed Lanseria outfall sewer pipeline in Johannesburg, Gauteng Province. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment of the proposed development of open pit mining at Pit 36W (New Pit) and 62E (Dishaba) Amandelbult Mine Complex, Thabazimbi, Limpopo Province. Bloemfontein.

Butler, E. 2017. Palaeontological impact assessment of the proposed development of the sport precinct and associated infrastructure at Merrifield Preparatory school and college, Amathole Municipality, East London. PGS Heritage. Bloemfontein.

Butler, E. 2017. Palaeontological impact assessment of the proposed construction of the Lehae training and fire station, Lenasia, Gauteng Province. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment of the proposed development of the new open cast mining operations of the Impunzi mine in the Mpumalanga Province. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment of the construction of the proposed Viljoenskroon Munic 132 KV line, Vierfontein substation and related projects. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment of the proposed rehabilitation of 5 ownerless asbestos mines. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment of the proposed development of the Lephale coal and power project, Lephale, Limpopo Province, Republic of South Africa. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment of the proposed construction of a 132KV powerline from the Tweespruit distribution substation (in the Mantsopa local municipality) to the Driedorp rural substation (within the Naledi local municipality), Free State province. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment of the proposed development of the new coal-fired power plant and associated infrastructure near Makhado, Limpopo Province. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment of the proposed construction of a Photovoltaic Solar Power station near Collett substation, Middelburg, Eastern Cape. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment for the proposed township establishment of 2000 residential sites with supporting amenities on a portion of farm 826 in Botshabelo West, Mangaung Metro, Free State Province. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment for the proposed prospecting right project without bulk sampling, in the Koa Valley, Northern Cape Province. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment for the proposed Aroams prospecting right project, without bulk sampling, near Aggeneys, Northern Cape Province. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment of the proposed Belvior aggregate quarry II on portion 7 of the farm Maidenhead 169, Enoch Mgijima Municipality, division of Queenstown, Eastern Cape. Bloemfontein.

Butler, E. 2017. PIA site visit and report of the proposed Galla Hills Quarry on the remainder of the farm Roode Krantz 203, in the Lukhanji Municipality, division of Queenstown, Eastern Cape Province. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment of the proposed construction of Tina Falls Hydropower and associated power lines near Cumbu, Mthlontlo Local Municipality, Eastern Cape. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment of the proposed construction of the Mangaung Gariap Water Augmentation Project. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment of the proposed Belvoir aggregate quarry II on portion 7 of the farm Maidenhead 169, Enoch Mgijima Municipality, division of Queenstown, Eastern Cape. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment of the proposed construction of the Melkspruit-Rouxville 132KV Power line. Bloemfontein.

Butler, E. 2017 Palaeontological Desktop Assessment of the proposed development of a railway siding on a portion of portion 41 of the farm Rustfontein 109 is, Govan Mbeki local municipality, Gert Sibande district municipality, Mpumalanga Province. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment of the proposed consolidation of the proposed Ilima Colliery in the Albert Luthuli local municipality, Gert Sibande District Municipality, Mpumalanga Province. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment of the proposed extension of the Kareerand Tailings Storage Facility, associated borrow pits as well as a storm water drainage channel in the Vaal River near Stilfontein, North West Province. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment of the proposed construction of a filling station and associated facilities on the Erf 6279, district municipality of John Taolo Gaetsewe District, Ga-Segonyana Local Municipality Northern Cape. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment of the proposed of the Lephale Coal and Power Project, Lephale, Limpopo Province, Republic of South Africa. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment of the proposed Overvaal Trust PV Facility, Buffelspoort, North West Province. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment of the proposed development of the H2 Energy Power Station and associated infrastructure on Portions 21; 22 And 23 of the farm Hartebeestspruit in the Thembisile Hani Local Municipality, Nkangala District near Kwamhlanga, Mpumalanga Province. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment of the proposed upgrade of the Sandriver Canal and Klippan Pump station in Welkom, Free State Province. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment of the proposed upgrade of the 132kv and 11kv power line into a dual circuit above ground power line feeding into the Urania substation in Welkom, Free State Province. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment of the proposed Swaziland-Mozambique border patrol road and Mozambique barrier structure. Bloemfontein.

Butler, E. 2017. Palaeontological Impact Assessment of the proposed diamonds alluvial & diamonds general prospecting right application near Christiana on the remaining extent of portion 1 of the farm Kaffraria 314, registration division HO, North West Province. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment for the proposed development of Wastewater Treatment Works on Hartebeesfontein, near Panbult, Mpumalanga. Bloemfontein.

Butler, E. 2017. Palaeontological Desktop Assessment for the proposed development of Wastewater Treatment Works on Rustplaas near Piet Retief, Mpumalanga. Bloemfontein.

Butler, E. 2018. Palaeontological Impact Assessment for the Proposed Landfill Site in Luckhoff, Letsemeng Local Municipality, Xhariep District, Free State. Bloemfontein.

Butler, E. 2018. Palaeontological Impact Assessment of the proposed development of the new Mutsho coal-fired power plant and associated infrastructure near Makhado, Limpopo Province. Bloemfontein.

Butler, E. 2018. Palaeontological Impact Assessment of the authorisation and amendment processes for Manangu mine near Delmas, Victor Khanye local municipality, Mpumalanga. Bloemfontein.

Butler, E. 2018. Palaeontological Desktop Assessment for the proposed Mashishing township establishment in Mashishing (Lydenburg), Mpumalanga Province. Bloemfontein.

Butler, E. 2018. Palaeontological Desktop Assessment for the Proposed Mlonzi Estate Development near Lusikisiki, Ngquza Hill Local Municipality, Eastern Cape. Bloemfontein.

Butler, E. 2018. Palaeontological Phase 1 Assessment of the proposed Swaziland-Mozambique border patrol road and Mozambique barrier structure. Bloemfontein.

Butler, E. 2018. Palaeontological Desktop Assessment for the proposed electricity expansion project and Sekgame Switching Station at the Sishen Mine, Northern Cape Province. Bloemfontein.

Butler, E. 2018. Palaeontological field assessment of the proposed construction of the Zonnebloem Switching Station (132/22kV) and two loop-in loop-out power lines (132kV) in the Mpumalanga Province. Bloemfontein.

Butler, E. 2018. Palaeontological Field Assessment for the proposed re-alignment and de-commissioning of the Firham-Platrand 88kv Powerline, near Standerton, Lekwa Local Municipality, Mpumalanga province. Bloemfontein.

Butler, E. 2018. Palaeontological Desktop Assessment of the proposed Villa Rosa development In the Buffalo City Metropolitan Municipality, East London. Bloemfontein.

Butler, E. 2018. Palaeontological field Assessment of the proposed Villa Rosa development In the Buffalo City Metropolitan Municipality, East London. Bloemfontein.

Butler, E. 2018. Palaeontological desktop assessment of the proposed Mookodi – Mahikeng 400kV line, North West Province. Bloemfontein.

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Reneke on a certain Portion of Portion 12 (Ptn of Ptn 7) of the Farm Doornhoek 165, Registration Division: HO, North West Province

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Butler, E., 2021. Palaeontological Impact Assessment for the Proposed an Inland Diesel Depot, Transportation Pipeline and Associated Infrastructure on Portion 5 of the Farm Franshoek No. 1861, Swinburne, Free State Province

CONFERENCE CONTRIBUTIONS

NATIONAL

PRESENTATION

Butler, E., Botha-Brink, J., and F. Abdala. A new gorgonopsian from the uppermost *Dicynodon Assemblage Zone*, Karoo Basin of South Africa. 18th the Biennial conference of the PSSA 2014. Wits, Johannesburg, South Africa.

INTERNATIONAL

Attended the Society of Vertebrate Palaeontology 73th Conference in Los Angeles, America. October 2012.

CONFERENCES: POSTER PRESENTATION

NATIONAL

Butler, E., and J. Botha-Brink. Cranial skeleton of *Galesaurus planiceps*, implications for biology and lifestyle. University of the Free State Seminar Day, Bloemfontein. South Africa. November 2007.

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Butler, E., and J. Botha-Brink. The biology of the South African non-mammaliaform cynodont *Galesaurus planiceps*. 15th Conference of the PSSA, Howick, South Africa. August 2008.

INTERNATIONAL VISITS

Natural History Museum, London

July 2008

Paleontological Institute, Russian Academy of Science, Moscow

November 2014

Morné de Jager

Personal Data

Identity Number	711221 5062 080
Date of Birth	21 December 1971
Sex	Male
Marital Status	Married, three children
Driver's license	Code 08
Nationality	South African
Home Language	Afrikaans (speak, read and write)
Other Languages	English (speak, read and write)
Higher Educational Qualifications	B.Eng (Chemical Engineering) [Pretoria University]
Previous Employment	Johannesburg Consolidated Investments Wates Meiring and Barnard Department of Water Affairs and Forestry M2 Environmental Connections cc
Current Employment	Enviro-Acoustic Research cc

Short Resumé

Morné started his career in the mining industry as a bursar Learner Official (JCI, Randfontein), working in the mining industry, doing various mining related courses (Rock Mechanics, Surveying, Sampling, Safety and Health [Ventilation, noise, illumination etc] and Metallurgy. He did work in both underground (Coal, Gold and Platinum) as well as opencast (Coal) for 4 years. He changed course from Mining Engineering to Chemical Engineering after his second year of his studies at the University of Pretoria.

After graduation he worked as a Water Pollution Control Officer at the Department of Water Affairs and Forestry for two years (first year seconded from Wates, Meiring and Barnard), where duties included the perusal (evaluation, commenting and recommendation) of various regulatory required documents (such as EMPR's, Water Licence Applications and EIA's), auditing of licence conditions as well as the compilation of Technical Documents.

Since leaving the Department of Water Affairs, Morné has been in private consulting for the last 15 years, managing various projects for the mining and industrial sector, private developers, business, other environmental consulting firms as well as the Department of Water Affairs. During that period he has been involved in various projects, either as specialist, consultant, trainer or project manager, successfully completing these projects within budget and timeframe. During that period he gradually moved towards environmental acoustics, focusing on this field exclusively since 2007.

He has been interested in acoustics as from school days, doing projects mainly related to loudspeaker design. Interest in the matter brought him into the field of Environmental Noise Measurement, Prediction and Control. He has been doing work in this field for the past 13 years, and was involved with more than 400 noise studies in the last few years, including amongst others:

Project Experience – Acoustics

Wind Energy Facilities

Full Environmental Noise Impact Assessments for - Bannf (Vidigenix), iNca Gouda (Aurecon SA), Isivunguvungu (Aurecon), De Aar (Aurecon), Kokerboom 1 (Aurecon), Kokerboom 2 (Aurecon), Kokerboom 3 (Aurecon), Kangnas (Aurecon), Plateau East and West (Aurecon), Wolf (Aurecon), Outeniqwa (Aurecon), Umsinde Emoyeni (ARCUS), Komsberg (ARCUS), Karee (ARCUS), Kolkies (ARCUS), San Kraal (ARCUS), Phezukomoya (ARCUS), Canyon Springs (Canyon Springs), Perdekraal (ERM), Scarlet Ibis (CESNET), Albany (CESNET), Sutherland (CSIR), Kap Vley (CSIR), Kuruman (CSIR), Rietrug (CSIR), Sutherland 2 (CSIR), Perdekraal (ERM), Teekloof (Mainstream), Eskom Aberdene (SE), Dorper (SE), Spreeukloof (SE), Loperberg (SE), Penhoek Pass (SE), Amakhala Emoyeni (SE), Zen (Savannah Environmental – SE), Goereesoe (SE), Springfontein (SE), Garob (SE), Project Blue (SE), ESKOM Kleinzee (SE), Namas (SE), Zonnequa (SE), Walker Bay (SE), Oyster Bay (SE), Hidden Valley (SE), Deep River (SE), Tsitsikamma (SE), AB (SE), West Coast One (SE), Hopefield II (SE), Namakwa Sands (SE), VentuSA Gouda (SE), Dorper (SE), Klipheuwel (SE), INCA Swellendam (SE), Cookhouse (SE), Iziduli (SE), Msenge (SE), Cookhouse II (SE), Rhebokfontein (SE), Suurplaat (SE), Karoo Renewables (SE), Koningaas (SE), Spitskop (SE), Castle (SE), Khai Ma (SE), Poortjies (SE), Korana (SE), IE Moorreesburg (SE), Gunstfontein (SE), Boulders (SE), Vredenburg (Terramanzi), Loeriesfontein (SiVEST), Rhenosterberg (SiVEST), Noupoot (SiVEST), Prieska (SiVEST), Dwarsrug (SiVEST), Graskoppies (SiVEST), Philco (SiVEST), Hartebeest Leegte (SiVEST), Ithemba (SiVEST), !Xha Boom (SiVEST), Spitskop West (Terramanzi), Haga Haga (Terramanzi), Vredenburg (Terramanzi), Msenge Emoyeni (Windlab), Wobben (IWP), Trakas (SiVest), Beaufort West (SiVest), Pienaarspoort 1 and 2 (SE), Kokerboom 3 (Zutari), Mphepo Zambia (SLR)


Mining and Industry

Full Environmental Noise Impact Assessments for – Delft Sand (AGES), BECSA – Middelburg (Golder Associates), Kromkrans Colliery (Geovicon Environmental), SASOL Borrow Pits Project (JMA Consulting), Lesego Platinum (AGES), Tweefontein Colliery (Cleanstream Environmental), Evraz Vametco Mine and Plant (JMA), Goedehoop Colliery (Geovicon), Haca Project (Prescali Environmental), Der Brochen Platinum Project (J9 Environment), Brandbach Sand (AGES), Verkeerdepas Extension (CleanStream Environmental), Dwaalboom Limestone (AGES), Jagdlust Chrome (MENCO), WPB Coal (MENCO), Landau Expansion (CleanStream Environmental), Otjikoto Gold (AurexGold), Klipfontein Colliery (MENCO), Imbabala Coal (MENCO), ATCOM East Expansion (Jones and Wagner), IPP Waterberg Power Station (SE), Kangra Coal (ERM), Schoongesicht (CleanStream Environmental), EastPlats (CleanStream Environmental), Chapudi Coal (Jacana Environmental), Generaal Coal (JE), Mopane Coal (JE), Glencore Boshhoek Chrome (JMA), Langpan Chrome (PE), Vlakpoort Chrome (PE), Sekoko Coal (SE), Frankford Power (REMIG), Strahrae Coal (Ferret Mining), Transalloys Power Station (Savannah), Pan Palladum Smelter, Iron and PGM Complex (Prescali Environmental), Fumani Gold (AGES), Leiden Coal (EIMS), Colenso Coal and Power Station (SiVEST/EcoPartners), Klippoortjie Coal (Gudani), Rietspruit Crushers (MENCO), Assen Iron (Tshikovha), Transalloys (SE), ESKOM Ankerlig (SE), Nooitgedacht Titano Project (EcoPartners), Algoa Oil Well (EIMS), Spitskop Chrome (EMAssistance), Vlakfontein South (Gudani), Leandra Coal (Jacana), Grazvalley and Zoetveld (Prescali), Tjate Chrome (Prescali), Langpan Chromite (Prescali), Vereeniging Recycling (Pro Roof), Meyerton Recycling (Pro Roof), Hammanskraal Billeting Plant 1 and 2 (Unica), Development of Altona Furnace, Limpopo Province (Prescali Environmental), Haakdoorndrift Opencast at Amandelbult Platinum (Aurecon), Landau Dragline relocation (Aurecon), Stuart Coal Opencast (CleanStream Environmental), Tetra4 Gas Field Development (EIMS), Kao Diamonds – Tipping Village Relocation (EIMS), Kao Diamonds – West Valley Tailings Deposit (EIMS), Upington Special Economic Zone (EOH), Arcellor Mittal CCGT Project near Saldanha (ERM), Malawi Sugar Mill Project (ERM), Proposed Mooifontein Colliery (Geovicon Environmental), Goedehoop North Residue Deposit Expansion (Geovicon Environmental), Mutsho 600MW Coal-Fired Power Plant (Jacana Environmentals), Tshivhaso Coal-Fired Power Plant (Savannah Environmental), Doornhoek Fluorspar Project (Exigo), Royal Sheba Project (Cabanga Environmental), Rietkol Silica (Jacana), Gruisfontein Colliery (Jacana), Lehlabile Colliery (Jaco-K Consulting), Bloemendal Colliery (Enviro-Insight), Rondevly Colliery (REC), Welgedacht Colliery (REC), Kalabasfontein Extension (EIMS), Waltloo Power Generation Project (EScience), Buffalo Colliery (Marang), Balgarthen Colliery (Rayten), Kusipongo Block C (Rayten), Zandheuvel (Exigo), NamPower Walvis Bay (GPT), Eloff Phase 3 (EIMS), Dunbar (Enviro-Insight), Smokey Hills (Prescali), Bierspruit (Aurecon), ECM Lannex (Prescali), ECM Tweefontein (Prescali), Smokey Hills (Prescali), Dalyshope (Digby Wells), Eland Platinum Mine (JEMS), Tweefontein (Prescali), Lannex (Prescali), Salene Manganese (Prescali), Baberton Gas to Power (Rayten), SISHEN Expansion (Shangoni)

Road and Railway

K220 Road Extension (Urbansmart), Boskop Road (MTO), Sekoko Mining (AGES), Davel-Swaziland-Richards Bay Rail Link (Aurecon), Moloto Transport Corridor Status Quo Report and

	<p><i>Pre-Feasibility (SiVEST), Postmasburg Housing Development (SE), Tshwane Rapid Transport Project, Phase 1 and 2 (NRM Consulting/City of Tshwane), Transnet Apies-river Bridge Upgrade (Transnet), Gautrain Due-diligence (SiVest), N2 Piet Retief (SANRAL), Atterbury Extension, CoT (Bokomoso Environmental), Riverfarm Development (Terramanzi), Conakry to Kindia Toll Road (Rayten)</i></p>
Airport	<p><i>Oudtshoorn Noise Monitoring (AGES), Sandton Heliport (Alpine Aviation), Tete Airport Scoping (Aurecon)</i></p>
Noise monitoring and Audit Reports	<p><i>Peerboom Colliery (EcoPartners), Thabametsi (Digby Wells), Doxa Deo (Doxa Deo), Harties Dredging (Rand Water), Xstrata Coal – Witbank Regional (Xstrata), Sephaku Delmas (AGES), Amakhala Emoyeni WEF (Windlab Developments), Oyster Bay WEF (Renewable Energy Systems), Tsitsikamma WEF Ambient Sound Level study (Cennergi and SE), Hopefield WEF (Umoya), Wesley WEF (Innowind), Ncora WEF (Innowind), Boschmanspoort (Jones and Wagner), Nqamakwe WEF (Innowind), Hopefield WEF Noise Analysis (Umoya), Dassiesfontein WEF Noise Analysis (BioTherm), Transnet Noise Analysis (Aurecon), Jeffries Bay Wind Farm (Globeleq), Sephaku Aganang (Exigo), Sephaku Delmas (Exigo), Beira Audit (BP/GPT), Nacala Audit (BP/GPT), NATREF (Nemai), Rappa Resources (Rayten), Measurement Report for Sephaku Delmas (Ages), Measurement Report for Sephaku Aganang (Ages), Bank of Botswana measurements (Linspace), Skukuza Noise Measurements (Concor), Development noise measurement protocol for Mamba Cement (Exigo), Measurement Report for Mamba Cement (Exigo), Measurement Report for Nokeng Fluorspar (Exigo), Tsitsikamma Community Wind Farm Pre-operation sound measurements (Cennergi), Waainek WEF Operational Noise Measurements (Innowind), Sedibeng Brewery Noise Measurements (MENCO), Tsitsikamma Community Wind Farm Operational noise measurements (Cennergi), Noupoot Wind Farm Operational noise measurements (Mainstream), Twisdraai Colliery (Lefatshe Minerals), SASOL Prospecting (Lefatshe Minerals), South32 Klipspruit (Rayten), Sibanye Stillwater Kroondal (Rayten), Rooiberg Asphalt (Rooiberg Asphalt), SASOL Shondoni (Lefatshe), SASOL Twisdraai (Lefatshe), Anglo Mototolo (Exigo), Heineken Inyaniga (AECOM), Glencore Izimbiwa (Cleanstream), Glencore Impunzi (Cleanstream), Black Chrome Mine (Prescali) Sibanye Stillwater Ezulwini (Aurecon), Sibanye Stillwater Beatrix (Aurecon), Bank of Botswana (Linspace), Lakeside (Linspace), Skukuza (SiVest), Rietvlei Colliery (Jaco-K Consulting), TCTA – Mokolo Project (GIBB), Various (Linspace), Sulzer Hydromining (Sulzer), WCO WEF (Aurora), Great Kei (EDF-Renewables)</i></p>
Small Noise Impact Assessments	<p><i>TCTA AMD Project Baseline (AECOM), NATREF (Nemai Consulting), Christian Life Church (UrbanSmart), Kosmosdale (UrbanSmart), Louwlandia K220 (UrbanSmart), Richards Bay Port Expansion (AECOM), Babalegi Steel Recycling (AGES), Safika Slag Milling Plant (AGES), Arcelor Mittal WEF (Aurecon), RVM Hydroplant (Aurecon), Grootvlei PS Oil Storage (SiVEST), Rhenosterberg WEF, (SiVEST), Concerto Estate (BPTrust), Ekuseni Youth Centre (MENCO), Kranskop Industrial Park (Cape South Developments), Pretoria Central Mosque (Noman Shaikh), Soshanguve Development (Maluleke Investments), Seshego-D Waste Disposal (Enviroexcellence), Zambesi Safari Equipment (Owner), Noise Annoyance Assessment due to the Operation of the Gautrain (Thornhill and Lakeside Residential Estate), Upington Solar (SE), Ilangaletu Solar (SE), Pofadder Solar (SE), Flagging Trees WEF (SE), Uyekraal WEF (SE), Ruuki Power Station (SE), Richards Bay Port Expansion 2 (AECOM), Babalegi Steel Recycling (AGES), Safika Ladium (AGES), Safika Cement Isando (AGES), RareCo (SE), Struisbaai WEF (SE), Perdekraal WEF (ERM), Kotula Tsatsi Energy (SE), Olievenhoutbosch Township (Nali), , HDMS Project (AECOM), Quarry extensions near Ermelo (Rietspruit Crushers), Proposed uMzimkhulu Landfill in KZN (nZingwe Consultancy), Linksfield Residential Development (Bokomoso Environmental), Rooihuiskraal Ext. Residential Development, CoT (Plandev Town Planners), Floating Power Plant and LNG Import Facility, Richards Bay (ERM), Floating Power Plant project, Saldanha (ERM), Vopak Growth 4 project (ERM), Elandsport Ext 3 Residential Development (Gibb Engineering), Tiegerpoort Wedding Venue (Henwood Environmental), Monavoni Development (Marindzini), Rezoning of Portion 1 (Primo Properties), Tswaing Mega City (Makole), Mabopane Church (EP Architects), ERGO Soweto Cluster (Kongiwe), Fabio Chains (Marang), GIDZ JMP (Marang), Temple Complex (KWP Create), Germiston Metals (Dorean), Sebenza Metals (Dorean), Malmesbury Abattoir Expansion (Roelcor)</i></p>
Noise Compliance Statements	<p><i>Dwarsrug BESS (SiVEST), Hyperion BESS (SE), Loeriesfontein BESS (SiVEST), Platsjambok East and West BESS (SiVEST), Waaihoek BESS (CESNET), Koeris BESS (Zurari), Frontier Gas to Power (ERM), Hyperion BESS (Savannah)</i></p>
Project reviews and amendment reports	<p><i>Loperberg (Savannah), Dorper (Savannah), Penhoek Pass (Savannah), Oyster Bay (RES), Tsitsikamma Community Wind Farm Noise Simulation project (Cennergi), Amakhala Emoyeni (Windlab), Spreeukloof (Savannah), Spinning Head (SE), Kangra Coal (ERM), West Coast One (Moyeng Energy), Rhebokfontein (Moyeng Energy), De Aar WEF (Holland), Quarterly Measurement Reports – Dangote Delmas (Exigo), Quarterly Measurement Reports – Dangote Lichtenburg (Exigo), Quarterly Measurement Reports – Mamba Cement (Exigo), Quarterly</i></p>



Measurement Reports – Dangote Delmas (Exigo) Quarterly Measurement Reports – Nokeng Fluorspar (Exigo), Proton Energy Limited Nigeria (ERM), Hartebeest WEF Update (Moorreesburg) (Savannah Environmental), Modderfontein WEF Opinion (Terramanzi), IPD Vredenburg WEF (IPD Power Vredenburg), Paul Puts WEF (ARCUS), Juno WEF (ARCUS), Rheboksfontein WEF (ERM), Umzinde WEF (Zutari), Kokerboom 4 (Zutari), Dwarsrug WEF (SIVEST), etc.

SPECIALIST EXPERTISE

Matthew Keeley

Profession: Senior Development Economist

Experience: 14 years

Key Skills: Local Economic Development Planning, Economic Property Market Analysis and Socio-Economic and Economic Impact Assessments

Brief Profile: Matthew Keeley is the Eastern Cape Regional Manager of Urban-Econ Development Economists and oversees all the company's provincial research projects. He has served in this position since 2010, and in this time managed in excess of 250 economic planning and research studies. Matthew obtained his Bachelor's degree majoring in Geography and Economics from Rhodes University; this was followed by an Honours degree in Economic Geography (Spatial Development), part of which was studied at University West, Sweden. He holds a Master of Science (MSc) through dissertation in Geography, with a focus on human settlement socio-economic planning.

Matthew's professional experience has involved the project management of a number of high-profile economic planning projects in the province, these include studies such as the Eastern Cape Provincial Industrial Strategy Implementation Plan, Nelson Mandela Bay Iconic Landmark Precinct Business Plan, Nelson Mandela Bay Stadium Property Precinct Plan, Kingdom of Lesotho Renewable Energy Master Plan Impact Analysis & NMBM Integrated Public Transport System (IPTS) SMME Strategy, to name just a few.

Education:

Rhodes University	Bachelor Degree in Geography and Economics
Rhodes University & University West (Sweden)	Honours Degree in Economic Geography (Spatial Development)
University of South Africa (UNISA)	Master of Science (MSc) in Geography

Ivan Baker

M.Sc Environmental Science and Hydropedology (*Cand Sci Nat*)

Cell: +27 79 898 4056

Email: ivan@thebiodiversitycompany.com

Identity Number: 9401105251087

Date of birth: 10 January 1994



Profile Summary

Working experience throughout Southern Africa

Working experience in West-Africa

Specialist experience with mining, construction and agriculture.

Specialist expertise include hydropedology, pedology, land contamination, agricultural potential, land rehabilitation, rehabilitation management and wetlands resources.

Experience hydropedological modelling (HYDRUS model)

Areas of Interest

Mining, Oil & Gas, Renewable Energy & Bulk Services Infrastructure Development, Farming, Land contamination, Sustainability and Conservation.

Key Experience

- Environmental Impact Assessments (EIA)
- Environmental Management Programmes (EMP)
- Wetland delineations and ecological assessments
- Rehabilitation Plans and Monitoring
- Soil-and rock classification
- Level 1, 2 and 3 hydropedology assessments
- Agriculture potential assessments
- Land contamination assessments
- Modulation of surface- and subsurface flows (HYDRUS model)

Country Experience

South Africa	Mozambique
Swaziland	Zimbabwe
Guinea	

Nationality

South African

Languages

English – Proficient

Afrikaans – Proficient

Qualifications

- MSc (North-West University of Potchefstroom) – Hydropedology
- BSc Honours (North-West University of Potchefstroom) – Environmental geology- Pedology and rehabilitation
- BSc Environmental sciences
- Cand Sci Nat (Pr Sci Nat Pending)
- Certificate of Competence: Tools for Wetland Assessments

SELECTED PROJECT EXPERIENCE

Project Name: Environmental impact assessment for the construction of Road DR08606 leading to Mlamli Hospital, Sterkspruit

Personal position / role on project: Wetland ecologist

Location: Sterkspruit, Eastern Cape Province, South Africa

Main project features: To conduct a wetland assessment, as a component of the environmental authorisation process and Water Use Licence Application (WULA) for the construction of Road DR08606 leading to Mlamli Hospital

Project Name: Biodiversity Baseline & Impact Assessment Report for the proposed Nondvo Dam Project

Personal position / role on project: Wetland ecologist

Location: Mbabane, Swaziland

Main project features: To conduct various assessments according to IFC standards in regard to delineation of wetlands and assessing ecosystem services.

Project Name: Agricultural Potential Assessment - Proposed Kalabasfontein Coal Mining Project Extension

Personal position / role on project: Project Manager and Soil Specialist.

Location: Bethal, Mpumalanga, South Africa

Main project features: To conduct a soil assessment to identify any sensitive resources that might be affected by the proposed mining activities and associated infrastructure as part of an environmental impact assessment.

Project Name: Soil assessment for the closure of the St Helena Shaft, Harmony

Personal position / role on project: Soil specialist

Location: Welkom, Free State, South Africa

Main project features: To conduct a thorough soil and fertility assessment to recommend relevant mitigation and rehabilitation measures to finalise closure at the relevant mine

Project Name: Wetland Functionality Assessment for the Environmental, Health and Socio-Economic Baseline Studies for Block 2 at Siguiri Gold Mine

Personal position / role on project: Wetland ecologist

Location: Siguiri, Guinea, West-Africa

Main project features: To conduct various assessments according to IUCN standards in regard to delineation of wetlands and assessing ecosystem services.

Project Name: Level 3 Hydropedological Assessment for the Sara Buffels Mining Project

Personal position / role on project: Hydropedologist

Location: Ermelo, Mpumalanga, South-Africa

Main project features: To conduct various assessments to determine the hillslope hydrology and to acquire information relevant to the vadose zone's hydraulic properties to quantify sub-surface flows by means of modelling.

Project Name: Level 3 Hydropedological Assessment for the Buffalo Coal Mining Project

Personal position / role on project: Hydropedologist

Location: Dundee, KwaZulu-Natal, South-Africa

Main project features: To conduct various assessments to determine the hillslope hydrology and to acquire information relevant to the vadose zone's hydraulic properties to quantify sub-surface flows by means of modelling

Project Name: Biodiversity Baseline & Impact Assessment for the proposed Tereane 15MW Solar PV Plant

Personal position / role on project: Ecosystem Services Specialist

Location: Cuamba, Mozambique, Southern-Africa

Main project features: To conduct various assessments according to IUCN standards in regard to ecosystem services

Project Name: Land contamination assessment for the proposed Fleurhof Development

Personal position / role on project: Soil Specialist

Location: Fleurhof, South Africa

Main project features: To conduct assessments relevant to the determination of land contamination, including recommendations, mitigations and risk assessments.

OVERVIEW

An overview of the specialist technical expertise include the following:

- Ecological wetland assessment studies, including the integrity (health) and functioning of the wetland systems.
- Wetland offset strategy designs.
- Wetland rehabilitation plans.
- Monitoring plans for wetland systems.
- Soil classification and agricultural assessments.
- Stripping and stockpiling guidelines.
- Soil rehabilitation plans.
- Soil and stockpile monitoring plans.
- Hydropedological assessments.

TRAINING

Some of the more pertinent training undergone includes the following:

- Tools for a Wetland Assessment (Certificate of Competence) – Rhodes University 2018; and
- Workshop on digital soil mapping.

EMPLOYMENT EXPERIENCE

Internship at SRK consulting (January 2017-August 2017)

- **Field assistant** for SRK consulting during 2017 included the sampling of surface and groundwater as well as on site tests, the accumulation of various different data sets from field loggers, presenting and arranging the relevant data and ultimately using it for my own personal post-graduate studies.

Internship at The Biodiversity Company (August 2017-December 2017)

Employed as an intern (wetland and soil scientist) during the last few months of 2017. During this period, I was part of a variety of soil- and wetland projects, both as report writer and/or field assistant.

CURRENT EMPLOYMENT: The Biodiversity Company (January 2018 – Present)

- **Scientific report writing** to ensure that the relevant standards and requirements have been attained, namely local country legislation, as well as WB, EP and IFC requirements.

ACADEMIC QUALIFICATIONS

North-West University of Potchefstroom: MAGISTER SCIENTIAE (MSc) - Hydropedology:

Title: *Characterisation of vadose zone processes in a tailings facility*

North-West University of Potchefstroom (2016): BACCALAUREUS SCIENTIAE HONORIBUS (Hons) – Environmental Geology- Pedology and rehabilitation

North-West University of Potchefstroom (2015): BACCALAUREUS SCIENTIAE IN NATURAL AND ENVIRONMENTAL SCIENCES. Majors: Geology and Geography

IRIS SIGRID WINK



Profession	Civil Engineer (Traffic & Transportation)
Position in Firm	Associate
Area of Specialisation	Manager: Traffic & Transportation Engineering
Qualifications	PrEng, MSc Eng (Civil & Transportation)
Years of Experience	19 Years
Years with Firm	8 Years

SUMMARY OF EXPERIENCE

Iris is a Professional Engineer registered with ECSA (20110156). She joined JG Afrika (Pty) Ltd. in 2012. Iris obtained a Master of Science degree in Civil Engineering in Germany and has more than 18 years of experience in a wide field of traffic and transport engineering projects. Iris left Germany in 2003 and has worked as a traffic and transport engineer in South Africa and Germany. She has technical and professional skills in traffic impact studies, public transport planning, non- motorised transport planning and design, design and development of transport systems, project planning and implementation for residential, commercial and industrial projects and providing conceptual designs for the abovementioned. She has also been involved with numerous transport studies and route risk assessments for renewable energy projects (wind, CSP, solar, hydro).

One of her passions is Road Safety and especially Road Safety of vulnerable road users. Iris is registered with the International Road Federation as a Global Road Safety Audit Team Leader as well as registered as a Road Safety Auditor in South Africa. She is involved with a number of initiatives and committees and has years of experience in auditing projects in the field of Road Safety.

PROFESSIONAL REGISTRATIONS & INSTITUTE MEMBERSHIPS

- PrEng** - Registered with the Engineering Council of South Africa No. 20110156
Registered Mentor with ECSA for the Cape Town Office of JG Afrika
- MSAICE** - Member of the South African Institution of Civil Engineers
- ITSSA** - Member of ITS SA (Intelligent Transport Systems South Africa)
- SAWEA** - Member of the South African Wind Energy Association
- SARF** - South African Road Federation: Committee Member of Council
- SARF WR** - South African Road Federation Western Region Committee Member
- SARF RSC** - South African Road Federation National Road Safety Committee
- IRF** - Registered as International Road Safety Audit Team Leader

EDUCATION

1996 - **Matric** – Matric (Abitur) – Carl Friedrich Gauss Schule, Hemmingen, Germany

1998 - **Diploma** as Draughtsperson – Lower Saxonian State Office for Road and Bridge Engineering

2003 - **MSc Eng** (Civil and Transportation) – Leibniz Technical University of Hanover, Germany

SPECIFIC EXPERIENCE (SELECTION)

JG Afrika (Pty) Ltd (Previously Jeffares & Green (Pty) Ltd)

2016 – **Date**

Position – Associate

Road Safety Audit for N3 Section 2 New England Interchange, Stage 3 and Stage 5, Client: WSP on behalf of SANRAL

Road Safety Audit for N3 Section Cato Ridge to Dardanelles, Stage 2 and 3, Client: Nyeleti on behalf of SANRAL

Road Safety Audit for N3 Section Lynnfield to Ashburton, Stage 3, Client: NME on behalf of SANRAL

Road Safety Appraisals for Section 7B of the N4 close to Pretoria, Client: Bakwena

Traffic Studies for the Choje Windfarm, Eastern Cape, Client: DNV GL

Road Safety Assessments for the Feasibility Study of Upgrading Road DR0212 from Noordoewer to Rosh Pinah to Bitumen Standard, Client: Namibian Road Authority

Traffic Risk Assessment for Legoko Solarfarms, Client: Atlantic Renewable Energy Partners (Pty) Ltd

Road Safety Audits for N2 Wildcoast Toll Roads, Eastern Cape/Natal, Client: Aurecon/Knight Piesold on behalf of SANRAL

Traffic Risk Studies for the Kuruman Windfarm (450MW) in the Northern Cape, Client: CSIR on behalf of Mulilo

Beau Constantia and Constantia Glen Winefarms – Detailed Access Design, Client: private

Road Safety Audit for N1 Section 16 Winburg to Ventersburg – Client: Aurecon on behalf of SANRAL

Road Safety Audit for N2 Section 20 Wild Coast Toll Road Project – Client: Knight Piesold & Aurecon on behalf of SANRAL

Road Safety Audit Appraisals on roads in the Mpumalanga Province for the Department of Transport Mpumalanga - Client: AFRISA on behalf of DoT Mpumalanga

Traffic and Parking Audits for the Suburb of Groenvallei in Cape Town – Client: City of Cape Town Department of Property Management.

Road Safety Audit for the Upgrade of N1 Section 4 Monument River – Client: Aurecon on behalf of SANRAL

Road Safety Audit for the Upgrade of N2 Section 8 Knysna to Wittedrift – Client: SMEC on behalf of SANRAL

Road Safety Audit for the Upgrade of N1 Section 16 Zandkraal to Winburg South – Client: SMEC on behalf of SANRAL

Traffic and Road Safety Studies for the Improvement of N7 Section 2 and Section 3 (Rooidraai and Piekenierskloof pass) – Client: SANRAL

Road Safety Appraisals for Northern Region of Cape Town – Client: Aurecon on behalf of City of Cape Town (TCT)

Traffic Engineering Services for the Enkanini Informal Settlement, Kayamandi - Client: Stellenbosch Municipality

Lead Traffic Engineer for the Upgrade of a 150km Section of the National Route N2 from Kangela to Pongola in KwaZulu-Natal, Client: SANRAL

Traffic Engineering Services for the Kosovo Informal Settlement (which is part of the Southern Corridor Upgrade Programme), Client: Western Cape Government

Traffic and Road Safety Studies for the proposed Kosovo Informal Housing Development (part of the Southern Corridor Upgrade Program), Client: Western Cape Government.

Road Safety Audit Stage 3 – Upgrade of the R573 Section 2 between Mpumalanga/Gauteng and Mpumalanga/Limpopo, Client: AECOM on behalf of SANRAL

Road Safety Audit Stage 1 and 3 – Upgrade of the N2 Section 5 between Lizmore and Heidelberg, Client: Aurecon on behalf of SANRAL

Traffic Safety Studies for Roads Upgrades in Cofimvaba, Eastern Cape – Client: Cofimvaba Municipality

Road Safety Audit Stage 1 and 3 – Improvement of Intersections between Olifantshoek and Kathu, Northern Cape, Client: Nadeson/Gibb on behalf of SANRAL

Road Safety Audit Stage 3 – Upgrade of the Beacon Way Intersection on the N2 at Plettenberg Bay, Client: AECOM on behalf of SANRAL

Traffic Impact Assessment for a proposed Primary School at Die Bos in Strand, Somerset West, Client: Edifice Consulting Engineers

Road Safety Audit Stage 1 and 3 – Improvement of R75 between Port Elizabeth and Uitenhage, Eastern Cape, Client: SMEC on behalf of SANRAL

Road Safety Audit Stage 1 and 3 – Upgrade of the N2 between Heidelberg and Riversdale, Western Cape, Client: Aurecon on behalf of SANRAL

Traffic Impact Assessment and Site Safety Studies for the Extension of the Farewell King Site in the Durban Container Terminal, Client: Vopak

Road Safety Audit Stage 1 and 3 – Pedestrian Facilities at De Doorns on National Route 1 Section 3, Client: Aurecon on behalf of SANRAL

Road Safety Audit Stage 1 - Upgrade of the R63 Section 13 between Fort Beaufort and Alice, Client V3 Consulting on behalf of SANRAL

Traffic and Pedestrian Safety Studies for the Upgrade of the R63 Section 13 between Fort Beaufort and Alice, Client: V3 Consulting on behalf of SANRAL

Traffic Impact Assessment for the Crawford Campus of the College of Cape Town, Client: College of Cape Town

JG Afrika (Pty) Ltd (Previously Jeffares & Green (Pty) Ltd)

2012 – 2016

Position – Senior Traffic & Transportation Engineer

Traffic Impact Study for the Campsdrift Msunduzi Waterfront Housing Development, Pietermaritzburg, Client: Private

N2 Section 19 – **Traffic and Pedestrian Safety Studies** as part of the upgrading project, Mthatha to Qumbu, Eastern Cape, Client: UWP on behalf of SANRAL

Bloemsmond Solarfarms – **Transport Impact Assessment** for two solarfarms close to Upington in the Northern Cape, Client: Atlantic Energy Partners

Scatec Solarfarms – **Detailed design of access roads** for three solarfarms close to Upington, Client: Scatec Solar

Gravel Roads Upgrade for Fezile Dabi District, Free State, **Traffic Impact Investigation**, Client: Free State Province

R63 Rehabilitation between Alice and King Williams Town – **Traffic & NMT Study** for several intersections and accesses along this 60km long road in regards to pedestrian safety, Client: SANRAL

Zambia RD Rehabilitation – **Traffic Study and Advice** for the Rehabilitation of a 320km stretch of road in Zambia, Client: Government of Zambia

N2 Caledon to Riviersonderend – **Traffic and NMT safety audit** as part of the N2 Upgrade between Caledon and Riviersonderend, Client: SANRAL

MR529 Rehabilitation, Western Cape - **Conceptual designs for possible upgrades** to the intersections of the R27 and Voortrekker Street in Veldrift and the intersection of MR527 and MR529 close to Piketberg. Client: Western Cape Government (WCG)

SANRAL R61 Rehabilitation, Eastern Cape – **Traffic input into upgrading** requirements regarding NMT and public transport facilities, such as sidewalks, pedestrian bridges, taxi/bus stops. Client: SANRAL

Delft Housing Development – **Conceptual Planning of the Site Development Plan and Transport Impact Assessment** for a 700-residential unit development, Client: Onke Consulting

Nyanga Public Transport Node – **Traffic Study including Non-motorised Transport (NMT) and Public Transport Planning** as part of the Upgrade of the Nyanga Public Transport Node and surrounding area, Client: City of Cape Town

Durban RoRo Terminal Capacity Expansion – **Traffic Management Plan and Transport Impact Assessment** for the Expansion of Transnet’s RoRo Terminal in the Durban Port, Client: Transnet Capital Projects

Transnet Traffic Management Plan – **Traffic Management Plan and Impact Assessment** for the Resurfacing of the Transnet Park Site in Port Elizabeth, Client: Transnet

Mthatha Landfill Site – **Traffic Impact Assessment** for the Development of a landfill site at Mthatha, Eastern Cape, Client: PASCO Waste & Environmental

Bellville Medical Centre, Bellville CBD – **Transport Impact Assessment** for the development of an educational medical facility for 2000 nursing students. Client: University of the Western Cape

Bloekombos District Hospital, Joostenberg – **Transport Impact Assessment** for the proposed development of a 300-room hospital and ambulant station including circulation of emergency vehicles, parking, access assessments, etc. Client: Western Cape Government

Stellenbosch School Precinct – **Transport Advice regarding improving traffic** operation of several intersections along Strand Street (R44), Van Rheeede Street and Doornbosch Street including **assessment of accessibility**, possible pedestrian links between schools, recommendations on intersection upgrades and signal timing plans. Client: Stellenbosch Municipality

Secunda **Traffic Signals**, Mpumalanga - Investigating all signalized intersections in Secunda including site visits, capturing and analyzing intersections and establishing the timing plans and upgrades needs for SASOL Secunda. Client: SASOL

Transport Risk Assessments for Wind Farms, Western Cape - Conducting the transport risk assessments for the Trouberg, Bakenskop and Harpuisberg sites for Windlab including route assessments, abnormal load investigations and recommendation regarding port of entry and permits. Client: Windlab

Transport Risk Assessment for seven Solar Farms in the Western Cape - Conducting the route assessment including all relevant transportation matters for proposed sites close to De Doorns, Wolseley, Eendekuil, Riebeek Kasteel, McGregor, Bonnievale and Klipheuwel. Client: Sunspot

Traffic Impact Study for the Hintsabe Project, Eastern Cape - Conducting the traffic impact study for the Hintsabe Peddie mixed land use development close to East London. Client: GIBB Consulting / Eastern Cape Development Corporation (ECDC)

Bardale Village Phase 7, Western Cape - **Traffic engineering input** into the Site Development Plan including all key issues, such as accommodation of Public Transport and Non-motorised Transport services and facilities, among others. Client: Integrated Housing Development

Traffic Impact Study for Malabar Ext.6, Eastern Cape - Conducting the traffic impact study for the mixed land use development Malabar Extension 6 in Port Elizabeth including all transportation key Client: Nelson Mandela Bay Municipality (NMBM)

Traffic and Transportation Advice, Hiddingh Campus UCT, Cape Town - Traffic engineering advice for the revamp of the Hiddingh Campus of the University of Cape Town, Gardens. Client: University of Cape Town (UCT)

Transport Study for Industrial Development, Joostenberg Vlakte - Conducting transport study including capacity analyses, access management and input into SDP. Client: ASLA Developments

TR28/1 Dualing, Hermanus - Traffic signals and timing for several intersections along TR28/1. Client: WCG

Arup (Pty) Ltd

2012

Position – Senior Traffic & Transportation Engineer (from 2010)

Inner City Transport Plan for the City of Cape Town (CoCT) - Preparation of an **Inner City Transport Plan** creating a framework to allow stakeholders to understand priorities and process of the CoCT. Client: CoCT

Transport Assessments and Reviews for Renewable Energy Projects - Conducting transport assessments and reviews for a wide range of wind farm, solar and CSP farm projects in the Eastern, Northern and Western Cape, such as Renosterberg, Coega, St Helena Bay and Boschfontein. Clients: various

2006 – 2012

Position – Leading Traffic & Transportation Engineer

Eikestad Urban Renewal, Stellenbosch - Leading traffic engineer for Eikestad Urban Renewal responsible for all **traffic related matters** concerning this project including conducting the **traffic impact study**, input and assistance in ramp designs, access and parking layouts, upgrades of surrounding roads, implementation of improved NMT facilities, delivery management plans, design of loading areas, intermediate between client and municipality, etc. Client: Eikestad (Pty) Ltd

2004 – 2012

Position – Traffic & Transportation Engineer

Wide range of **Traffic Studies** in South Africa - Conducted a wide range of studies for projects in the Western Cape as well as Johannesburg, Pretoria and Mauritius including trip generation, trip distribution, traffic analyses, queuing analysis, ramp design calculations, conceptual designs and recommendations, such as Rosebank Gardens, Rosebank Mall, Ferndale Erf 389. Client: various

2009 – 2011

Position – Traffic & Transportation Engineer

Central Park Business Development, Vergenoegd Farm, Somerset West - **Traffic Study and traffic engineering advice** for the development of Farm 653/15, Vergenoegd for business purposes, including access control, advise in public transport and Non-motorised transport facilities, conceptual designs of the recommended upgrades of the surrounding road network as well as input into the EIA. Client: Urban Dynamics Western Cape (UDWC)

Gaborone NMT Facilities, Botswana - **Conceptual design of cycle and pedestrian facilities** as well as preparing the schedule of quantities Client: Gaborone City Council.

2008 – 2009

Position – Traffic & Transportation Engineer

West Coast IRT Corridor: NMT Integration, South Africa - **Development of conceptual designs of the non-motorised transport** components along the link roads within a 500m radius from the proposed IRT stations (Paarden Eiland, Milnerton, Tableview). Client: CoCT

DFA Campus, Tshwane - **Design and coordination of traffic signals** of existing intersections and the new access to the development along Soutpansberg Road as part of the new Department of Foreign Affairs (DFA) Head Office. Client: DFA

K29 Cosmo City, Johannesburg - **Design and coordination of signal timing plans** for the intersections of Hans Strijdom Road / Access Road A4 and Hans Strijdom Road / South Africa Drive. Client: City of Johannesburg

Traffic Signal Design, Cape Town - Detailed calculation of timing plans for signalized intersections including legal aspects, warranties, etc. for several projects around Cape Town. Client: various

2005 – 2008

Position – Graduate Traffic & Transportation Engineer

Klipfontein Corridor, Cape Town - **Traffic capacity analyses of intersections** with aaSIDRA software and assisting in establishing a model of the Klipfontein Corridor Spine with SATURN, conducting travel time surveys. Client: CoCT

Traffic Impact Review and Parking Assessment, Grand West Casino Extension, Cape Town - Reviewing the external traffic situation and impact by the development traffic for the extension of the Grand West Casino & Entertainment World, Cape Town. Parking assessment and review of internal traffic situation. Client: Grand West Casino

Presentation of RAIL CPTR Information for the City of Cape Town - Updating of the CPTR (Current Public Transport Record) information of the rail network for the City of Cape Town; sourcing all required data and studies; responsible for implementing the City of Cape Town rail network in electronic format. Client: CoCT

Schmidt Ingenieurbüro, Hanover, Germany

2000

Position – Engineering Assistant

Research, consultation and investigation of legal matters for several projects in line with the VOB/B (German Law of Construction Services). Clients: various

Leibniz University of Hanover, Germany (Institutes for Road & Railway Engineering)

2000

Position – Engineering Assistant

Upgrading of the B6 Expressway in Hanover, NLStb - **Conceptual designs for the bridge construction** at an intersection in Hanover/Garbsen. Client: Lower Saxonian State Office

2000 - 2003

Position – Scientific Research Assistant

Simulation of Railway Operations in the European Rail Network - Illustration of infrastructure costs, research of the circumference of facilities of the track support layer work and analyzing the feasibility of different extensive databases. Client: Deutsche Bahn (German Railway Company)

Technical University of Berlin & German Railroad Company (Die Bahn), Germany

2003

Position – Scientific Research Assistant, Master Thesis

Investigation of the allocation of access rights to the European rail network infrastructure - Research of the feasibility of the different bidding processes to allocate access rights of railway operators in the European railway market. Client: Technical University of Berlin and German Railway Company.

CONTINUED PROFESSIONAL DEVELOPMENT

Courses

2006 - Highway Capacity Analysis (SARF)

2006 - Management of Transport Supply and Demand (UCT)

2007 - Traffic Signal Design (SARF)

2008 - Preparation of Contract Documentation (SARF)

2008 - Traffic Calming and Road Safety (SARF)

2009 - Geometric Design of Urban and Rural Roads (SARF)

2009 - Non-motorised Transport (SARF)

2010 - An IRT System for Cape Town (SARF)

2010 - HCM 2010 Seminar (SAICE)

2010 - SADC Road Traffic Signs Manual (SARF)

2010 - ITS Workshop (ITS SA)

2010 - Road Marking (SARF)

2010 - Public Transport Options (SARF)

2011 - EIA for Roads in South Africa (SARF)

2011 - Transport Demand and Supply (UCT)

- 2012 - BRT Lessons Learnt (SARF)
- 2012 - Handling Projects in a Consulting Engineering Practise (CESA/SAICE)
- 2013 - Optimizing Intersections (SARF)
- 2013 - Winning Tenders (CESA)
- 2013 - Transport Logistics: Wind Turbines (SARF)
- 2014 - Traffic Safety Officer & Roads Audit Course (SARF)
- 2014 - Traffic Signal Optimization (SARF)
- 2015 - Road Safety Auditor Course (SARF)
- 2015 - Non-motorised Transport Planning (SARF)
- 2016 - SATC Road Safety Audit Workshop Pretoria (SARF)
- 2018 – Road Safety in Engineering (SARF) – Presenter
- 2020 – Road Safety Audit Course (SARF) – Co-Lecturer

PERSONAL DETAILS

Nationality – German (permanent Residency in RSA)
Date of Birth – 1976-10-12
Domicile – Cape Town, South Africa

Languages

English – Very Good
German – Native Language
Afrikaans – Fair

ADRIAN WESLEY NATHANIEL JOHNSON



Profession	Technologist
Position in Firm	Senior Technologist
Area of Specialisation	Highway
Qualifications	PrTechEng, BSc (Hons) (Applied Science: Transport Planning), BTech Civil Engineering
Years of Experience	14 Years
Years with Firm	3 Years

SUMMARY OF EXPERIENCE

Adrian Johnson is a Professional Technologist registered with ECSA (201570274). He joined JG Afrika (Pty)Ltd. in January 2017. Adrian holds a BSc(Hons) (Applied Sciences: Transportation Planning) degree from the University of Pretoria , a BTech degree in Civil Engineering from the Cape Peninsula University of Technology and is currently completing his Masters degree in Transport Studies at the University of Cape Town. He has more than 13 years of experience in a wide range of engineering projects.

He has technical and professional skills in traffic impact studies, transport impact assessments, public transport planning, non-motorised transport planning & design, data analysis of public transport systems, access management plans, quality control, project planning and implementation, geometric design, site supervision, transport assessments for renewable energy projects, speed limit reviews and road safety audits.

PROFESSIONAL REGISTRATIONS & INSTITUTE MEMBERSHIPS

- PrTechEng** - Engineering Council of South Africa, Registration No 201570274
- SAICE** - South African Institute of Civil Engineering. No 201700129
- SARF WR** - South African Road Federation Western Region Committee Member

EDUCATION

- 2004 - National Diploma (Civil)** – Peninsula Technikon
- 2006 - BTech (Civil)** – Cape Peninsula University of Technology
- 2011 - BSc (Hon) (Applied Sciences: Transportation Planning)** – University of Pretoria
- Current – Master of Transport Studies** – University of Cape Town (research project outstanding)

SPECIFIC EXPERIENCE

JG Afrika (Pty) Ltd (Previously Jeffares & Green (Pty) Ltd)

2017 – Date

Position – Senior Technologist (Traffic and Transportation Engineering)

Various Transport Impact Statements (TIA) and Traffic Impact Statements (TIS) for private clients including:

- Weltevreden Clinic TIS for Edifice Consulting Engineers
- Oakhurst Primary TIS for BVZ Plan
- Sinai Academy TIS for Bettsworth Scott Planners
- Rustlamere TIA for Bettsworth Scott Planners
- Joostenbergvlakte Farms 732 and 728 TIA for Asla
- Garden Emporium TIA for Rory Cameron Smith Architects
- Strandfontein Sandmine TIS for Chand Environmental Consultants
- Proposed development of Erf 538 Grassy Park TIA for First Plan
- Riebeek West: Proposed Function/Wedding Venue TIS for Elco Property Developers

Speed Limit Review Main Road 546, Main Road 552 and Divisional Road 2220, Lutzville, Western Cape – Client: Western Cape Government

Gromis and Komis Wind Energy Facility - Transport study for the proposed Windfarm, Northern Cape. Client: CSIR

Geel Kop Solar Facility Transport study for the proposed Bloemsmond Solar PV Facility near Upington, Northern Cape – Client: AEP (Pty) Ltd

Khunab Solar Facility Transport Transport study for the proposed Khunab Solar PV Facility near Upington, Northern Cape – Client: AEP (Pty) Ltd

Bloemsmond Solar Facility Transport study for the proposed Bloemsmond Solar PV Facility near Upington, Northern Cape – Client: AEP (Pty) Ltd

NMT Study for the Upgrading of DR1285, Elgin – Client: Western Cape Government

Traffic Study for the Kudusberg and Rondekop Wind Energy Facilities, Northern Cape. Client: G7

Speed Limit Review Main Road 540, Elandsbay, Western Cape – Client: Western Cape Government

Road Safety Audit for N1 Section 16 Winburg to Ventersburg – Client: Aurecon on behalf of SANRAL

Road Safety Audit for the for the N4 at Bapong, Client: Bakwena

Road Safety Audit for N2 Wild Coast Toll Road Projects, Eastern Cape & Natal, Client: Aurecon/Knight Piesold on behalf of SANRAL

Kuruman Wind Energy Facility Transport study for the proposed Kuruman Windfarm, Northern Cape. Client: CSIR

Coega West Windfarm Transportation and Traffic Management Plan for the proposed Coega Windfarm in Coega, Port Elizabeth – Client: Electrawinds Coega

Parking Audit of the Groenvallei area in Bellville – Client: City of Cape Town

Road Safety Appraisals for the Mpumalanga Province – Client: Mpumalanga Provincial Government

Transportation and Traffic Management Plan for the proposed Coega West Wind Energy Facility in Port Elizabeth – Client: Electrawinds Coega (Pty) Ltd

Road Safety Appraisals for North Region of Cape Town – Client: Aurecon on behalf of City of Cape Town (TCT)

Speed Limit Reviews for North Region of Cape Town – Client: Aurecon on behalf of City of Cape Town (TCT)

Road Safety Audit for the Upgrade of N1 Section 4 Monument River – Client: Aurecon on behalf of SANRAL

Road Safety Audit for the Upgrade of N2 Section 8 Knysna to Wittedrift – Client: SMEC on behalf of SANRAL

Road Safety Audit for the Upgrade of N1 Section 16 Zandkraal to Winburg South – Client: SMEC on behalf of SANRAL

Traffic and Road Safety Studies for the Improvement of N7 Section 2 and Section 3 (Rooidraai and Piekenierskloofpass) – Client: SANRAL

Traffic Engineering Services for the Enkanini Informal Settlement, Kayamandi - Client: Stellenbosch Municipality

Traffic Engineer for the Upgrade of a 150km Section of the National Route N2 from Kangela to Pongola in KwaZulu-Natal, Client: SANRAL

GIBB (Pty) Ltd

2014 – 2016

Position – Technologist / Project Leader (Traffic and Transportation Engineering)

Operational Support to the MyCiTi Integrated Rapid Transit System - Tasks included analysis of AFC data, generating monthly operations reports, analysis of passenger surveys, journey time runs, travel time surveys, compilation of a MyCiTi Festive Season Report and compilation of reports for the Century City and V&A Waterfront stakeholders. Client: Transport for Cape Town.

Technical Support to the MyCiTi Business Planning Department - A detailed route-by-route analysis, during peak and off-peak conditions to generate daily demand profiles, with a focus on identifying inefficiencies.

Additional tasks included:

- An assessment of profitability of routes based on patronage, revenue and operating costs;
- Analysis of AFC data;
- Comparison between the manual survey results and the Transportation Reporting System (TRS) data;
- Analysis of the Free Token Card Promotion;
- Route and bus optimisation;
- Station and feeder stop utilization and
- Assessment of Parking Tariffs for Managed Parking Bays within the City of Cape Town.

Client: Transport for Cape Town.

AFC Data Analysis - Data Analysis of AFC Data of the City of Tshwane's A Re Yeng Bus Service.
Client: Development Bank of Southern Africa.

Ghana Transport Status Quo Study - Transport Status Quo Study for the Greater Accra Regional Spatial Development Framework. Client: Government of Ghana: Ministry of Lands & Natural Resources.

Botswana TIA – Transport Impact Assessment for the Mogoditshane- Kanye Road project in Botswana.
Client: Republic of Botswana's Ministry of Transport and Communications: Roads Department.

Botswana Access Management Plan Transport Impact Assessment for the Mogoditshane- Kanye Road project in Botswana. Client: Republic of Botswana's Ministry of Transport and Communications: Roads Department.

MyCiTi System Planning - Rationalisation of the GABS bus routes within the City of Cape Town.
Client: Transport for Cape Town.

Road Safety Master Plan - Compilation of a Road Safety Master Plan for Stellenbosch Municipality.
Client: Stellenbosch Municipality.

Constantia TIS - Transport Impact Statement and Parking Motivation for the proposed redevelopment of Erf 2134, Constantia. Client: High Constantia Properties.

Top Yard TIA - Transport Impact Assessment for the Government Garage Precinct Plan (Top Yard).
Client: PricewaterhouseCoopers (PWC).

Boschendal TIA - Transport Impact Assessment for the development of Boschendal Village.
Client: Boschendal (Pty)Ltd.

Vergenoegd TIA - Transport Impact Assessment for the development of Portion 19 of Farm 653, Vergenoegd. Client: Headland Planners.

Tygerberg Hospital Traffic Status Quo Study - Traffic Status Quo Study for the Development Framework for the Tygerberg Hospital Site in Bellville. Client: City Think Space.

Eerste River TIA - Transport Impact Assessment for Erf 5541, Eerste River. Client: Headland Planners

BVi Consulting Engineers

2013– 2014

Position – Technologist (Transportation Engineering)

Waihoek Wind Energy Facility TIA - Transport Impact Assessment for the proposed construction of a Wind Energy Facility on Waihoek Farm near Utrecht Town in Kwazulu-Natal. Client: Mainstream Renewable Power.

Sere Wind Farm - Supervision of Bell Mouth Widening's & Other Modifications along route B1, 2 And 3 from Saldanha Port to Sere Wind Farm near Koekenaap. Client: Siemens.

Slip lane Design for Windhoek Service Station - Geometric design of a slip lane to the existing Windhoek Fuel Centre, Windhoek, Namibia. Client: Multi Consult.

Lafarge Industries

2011– 2013

Position – Quality Controller

Responsible for the quality control at four ReadyMix concrete plants and the Tygerberg Quarry.

- Design of new concrete mixes and optimisation of existing mix designs.
- Assist client with technical matters and problem solving.
- Compile technical reports.
- Motivate, train and develop staff to ensure growth and succession.
- Arrange and monitor staff schedules.
- Conduct Quality training for field technicians, reps and batchers.
- Statistical analysis of concrete results and monitoring product performance.

Aurecon Mozambique

2010– 2011

Position – Roadworks Engineer (Site Supervision)

Mozambique site supervision - Roadworks Engineer responsible for inspection of works and monitoring workmanship for the Construction of a 135km road from Montepuez to Ruaca in Northern Mozambique. Client: Administracao Nacional De Estradas (Mozambican Roads Authority)

Aurecon South Africa

2004– 2010

Position – Technician/Technologist (Traffic and Transportation Engineering)

Kewtown site supervision - Resident Engineer for the Community Residential Units Programme Pilot Project in Kewtown. Client: City of Cape Town.

N2 road design - Vertical and horizontal alignment of the N2 from Coega to Colchester.
Client: SANRAL.

Western Cape Provincial Weighbridges -Resident Engineer on various projects involving the upgrading and expansion of the 9 Provincial Weighbridges in the Western Cape. Client: Provincial Administration: Western Cape.

Traffic and Transport tasks - Various traffic counts, traffic data analysis and transport impact statements. Client: Various.

CONTINUED PROFESSIONAL DEVELOPMENT

Courses

2007 - SAICE Flood estimation and Storm Water Drainage for Roads Course

2008 - Certificate in Project Management

2009 - SAICE Practical Geometric Design Course

2011 - C&CI Concrete Technology

2013 - Post graduate Courses – Financial Management and Asset Management
AutoCAD Civil 3D Training

2014 - Leadership Training -Project Risk Training and Anti- Corruption and Integrity Management
Post graduate Courses – Strategic Operations Management and Project Management

2015 - Leadership Training – Report Writing

2016 - Leadership Training - Quality Management and Time Management

2017 - Road Safety Auditor Course (SARF)

2018 - Road Safety in Engineering Seminar (SARF)

PERSONAL DETAILS

Nationality – South African

Date of Birth – 1984-05-31

Domicile – Cape Town, South Africa

Languages

English – Very Good

Afrikaans – Good



Personal Information:

- Date of Birth: 1969-11-13
- Marital Status: Married
- Nationality: South African
- Contact no: 082 922 9019
- Email: lourens@logis.co.za
- Web: logis.co.za

Years of Industry Experience

- 30 years'

Countries of Experience

- South Africa; Lesotho; Swaziland; Mozambique; Botswana; Zimbabwe; Namibia; Angola; Guinea; Ghana; Uganda

Qualifications and Memberships

- BA (University of Pretoria) Geography and Anthropology (Majors), 1993
- Professional Geo-Information Sciences (GISc) Practitioner registered with the South African Geomatics Council (SAGC). Membership no. PGP0147
- Member: Geo-Information Society of South Africa (GISSA)

Key Skills and Competencies

- Arc/Info and ArcGIS
- Arcview
- QGIS
- Postflight Terra 3D
- PlanetGIS
- Vistapro
- Various GIS support applications
- Microsoft (Word/Excel/Access)

Professional Overview

Lourens provides professional **Geographical Information Systems (GIS)** services to a wide range of clients that require the processing, analysis and presentation of geospatial data. His overarching function is the application of GIS in environmental management and planning, impact assessments and spatial modelling, but his services often extend to a much broader range of business sectors. These include the application of GIS in:

- Agriculture
- Bulk service providers and utilities
- The renewable energy sector
- Electricity generation and distribution
- Mining and exploration
- Urban and rural development planning
- Conservation and tourism
- Strategic integrated planning
- Environmental education and social awareness
- Engineering, transport and infrastructure development

He is an accomplished **Visual Impact Assessment (VIA)** specialist who has successfully undertaken over a 100 visual impact assessments for a wide variety of developments, ranging from mining, renewable energy facilities, power lines to roads and lodges.

Lourens has a multi-disciplinary approach to projects and therefore specialises in creating synergy between planning professionals and project specialists (regardless of the type of project) in order to provide uniform, quality spatial data products, solutions and services.

Experience and Expertise

- Data sourcing and acquisition
- Data capture and processing
- Data evaluation, conversion and transfer
- Geodatabase development/implementation/maintenance
- System design and development
- Spatial analysis/modelling (visibility, slope, aspect, etc.)
- Digital terrain modeling
- Terrain evaluation and site screening
- Image processing and analysis
- Impact assessment and impact management
- Environmental management
- GIS-based decision support systems development
- Project management and report writing
- Map production, display, queries and reporting
- Environmental sciences expertise
- Process development
- Visual impact assessment
- GPS fieldwork and aerial surveys
- Drone data processing

Project Experience

General projects *(A brief description of some prominent and relevant projects)*

GIS mapping and database for Black Eagle habitats and flight patterns in the Karoo National Park

Environmental planning and development control schemes for the Drakensberg Babangibone, Cathkin Peak and Garden Castle development nodes

Goukou River (Stilbaai) Environmental Structure Plan

Conservation and open space proposals for the Umhlanga Forest

Grootvlei mine water pumping operation (Blesbokspruit sub-catchment)

GIS services for the Saldanha steel plant

ENPAT Provincial (1:250,000 scale GIS decision support systems) based on an inventory of environmental and socio-economic geographical data

- ENPAT Northern Province (Limpopo Province)
- ENPAT Mpumalanga
- ENPAT North-West

ENPAT Metropolitan (1:50,000 scale GIS decision support systems) containing environmental and socio-economic geographical data that were evaluated for conservation opportunities, development constraints and agricultural constraints

- ENPAT Gauteng
- ENPAT Cape Town
- ENPAT Durban Functional Region (DFR)
- ENPAT Bloemfontein/Botshabello
- ENPAT Port Elizabeth

ENPAT National (1:1,000,000 scale GIS decision support system) and ENPAT publication

Environmental Management Frameworks (EMF). Frameworks of spatially represented information connected to environmental management parameters designed to aid in the pro-active identification of potential conflict between development proposals and critical and/or sensitive environments

- EMF Northern Province (Limpopo Province)
- EMF Mpumalanga
- EMF North-West

Spatial Development Initiatives (SDI). The fast tracking of the EMF concept for priority SDI's

- Lubombo Corridor SDI
- Coega Industrial Development Zone (IDZ)
- Wild Coast SDI
- West Coast Investment Initiative

Sigma colliery: North-West strip operation

Development masterplan for the Tswaing Crater Museum

Conservation plan for the Rietvlei Nature Reserve

GIS services for the planning and management of the Chobe National Park (Botswana)

GIS services for an environmental overview of South Africa

Demarcation/delineation of regions in South Africa

Orange-Vaal (ORVAAL) transfer scheme - Caledon cascades scheme

ENPAT Provincial (1:250,000 scale GIS decision support systems) based on an inventory of environmental and socio-economic geographical data

- ENPAT Eastern Cape
- ENPAT Free State
- ENPAT Kwa-Zulu Natal

Environmental Management Frameworks (EMF). Frameworks of spatially represented information connected to environmental management parameters designed to aid in the pro-active identification of potential conflict between development proposals and critical and/or sensitive environments

- EMF Eastern Cape
- EMF Free State
- EMF Kwa-Zulu Natal

Hennops River EMF (environmental inventory and management proposals in Centurion)

The Important Bird Areas (IBA) of South Africa map and database

Centurion Metropolitan Substructure Environmental Management Framework (EMF)

Alexandra renewal project EMF

Carbon Sinks and Sequestration - Eastern Cape Wild Coast. Information maps for the "Carbon Sinks - A Rehabilitation Option for South Africa's Natural Environment" report

Prince Edward and Marion Islands. Maps for the World Heritage Site (WHS) bid document

Theewaterskloof and Genadendal - Integrated spatial data management system

Gauteng Communication Network Strategy (GAUCONS). Environmental zones for the control of the construction of telecommunication structures

Gauteng Industries Buffer Zones. The mapping of industrial and mining activities, the creation of buffer control zones and the development of a GIS-based decision support system for the Gauteng Province

Limpopo National Park (LNP) Mozambique. Base maps for fieldwork and planning

Schmidtsdrift Environmental Management Program Report (EMPR)

Loch Vaal Environmental Management Framework (EMF)

Rustenburg - Strategic Environmental Assessment (SEA). The creation of environmental control zones, a GIS-based decision support system and information poster

Faerie Glen Nature Reserve Strategic Environmental Assessment (SEA)

Willow Quarries - Environmental Impact Assessment (EIA). Modeling of mining expansion plan and the potential impact on Golden Mole habitats

Ekurhuleni Metropolitan Municipality (EMM) Environmental Management Framework (EMF)

Limpopo - State of the Environment Report (SoER)

Windhoek (Namibia) - Environmental Structure Plan (ESP)

Gauteng Supplementation and Implementation of EIA Regulations Project (EIA SIP)

Siyanda District Municipality Environmental Management Framework (EMF)

Olifants and Letaba River Catchments Environmental Management Framework (EMF)

Barberton Nature Reserve environmental sensitivity mapping and land use zoning plan

Regional Strategic Environmental Assessments (Regional Assessments)

Regional assessment for the Eskom Wind Energy Facility (Sere) in the Western Cape

Regional assessments for the Eskom Wind Integration Project (WIP)

- Area 1: West Coast (Saldanha to Garies)
- Area 2: Overberg Region
- Area 3: Beaufort West region
- Area 4: Eastern Cape (Tsitsikamma to Port Elizabeth)
- Area 5: Northern Cape (Hondeklipbaai to Port Nolloth)

Sandveld Wind Energy Regional Assessment

West Coast National Park (Saldanha area) Regional Assessment

Regional Assessment for the Theewaterskloof Municipal area

Brand-se-Baai (Exxaro) wind energy regional assessment

Overberg (BioTherm) wind energy regional assessments

- Area 1: Gordons Bay to Pearly Beach
- Area 2: Napier RA (Agulhas NP/Swellendal region)

Suurplaat/Sutherland (Investec Wind Energy Development) Regional Assessment

Waterberg (Limpopo) Concentrating Solar Power (CSP) Regional Assessment (Exxaro)

Western Cape Province Regional SEA for Wind Energy facility developments

ISS Global Mining Regional SEA for Power Station Developments in Mpumalanga Province

Northern Cape Province Regional SEA for Wind Energy facility developments

Etc. (a comprehensive list of general projects can be provided upon request)

Visual Impact Assessments (VIA), viewshed analyses and visual assessments

- Coal strip mining in Zimbabwe viewshed analyses
- Viewshed analyses and sensitivity mapping for telecommunication masts in the northern provinces (Limpopo, Mpumalanga and North-West)
- Siemens 3rd license cellular communications infrastructure EIAs. Viewshed analyses and sensitivity mapping for over 4,000 telecommunication mast sites in all major metropolitan areas of South Africa.
- CSIR high mast viewshed analysis and sensitivity mapping
- Atlantis Open Cycle Gas Turbine power station VIA
- Kynoch Gypsum Tailings dam extension VIA
- N1 Western Bypass Shell service station VIA
- Coega regional hazardous waste processing facility VIA
- Robinson Deep landfill extension VIA
- Hazardous waste blending platform VIA
- Mercury-Ferrum-Garona transmission line integration VIA
- Matimba B (Medupi) coal-fired power station VIA
- Concentrating Solar Power (CSP) plant in Upington VIA
- Zeus to Mercury transmission line (comparative viewshed analyses)
- Mmamabula (Botswana) transmission line and power station viewshed analyses
- Petronet new multi-products pipeline VIA
- Wind energy facility (Sere) in the Western Cape province VIA
- Ankerlig power station conversion and transmission line VIA
- Gourikwa power station conversion and transmission line VIA
- Kyalami strengthening project VIA
- Steelpoort integration project VIA
- Medupi reservoir and telecommunication mast VIA
- VIA's for Basic Assessment Reports (wind monitoring masts)
 - Cookhouse, Hopefield, Amakhala, Caledon, Worcester, Tulbach, Overberg, Britannia Bay, Brand-se-Baai, Deep River, Happy Valley, River Bank, Uiekraal, Beaufort West, Laingsburg, Rhebokfontein, Suurplaat and West Coast
- Cookhouse wind energy facility VIA
- Hopefield wind energy facility VIA
- Mokopane Integration Project VIA
- Cradle of Humankind World Heritage Site (WHS) viewshed protection zone, visual character assessment and visual zonation plan
- Indwe wind energy facility VIA
- Amakhala wind energy facility VIA
- Boontjieskraal wind energy facility VIA
- Britannia Bay wind energy facility VIA
- Brand-se-Baai wind energy facility VIA
- Upington and Pofadder solar thermal facilities VIAs

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- Dorper wind energy facility VIA
 - Flagging Trees wind energy facility VIA
 - Rheboksfontein, Suurplaat and West Coast wind energy facilities VIAs
 - Riverbank wind energy facility VIA
 - Waterberg photovoltaic plant VIA
 - Eskom wind intergration projects VIAs
 - Welgedacht water care works VIA
 - Aberdeen wind energy facility
 - Aggeneis-Oranjemund power line intergration
 - Project Blue wind energy facility
 - Inca De Aar solar energy facility
 - Aced De Aar solar energy facility
 - Exxaro Lephale solar energy facility
 - Happy Valley wind energy facility
 - Hendrina power station ash dam extension
 - Hidden Valley wind energy facility
 - Kakamas photovoltaic plant
 - Karoo renewable energy facility
 - Ilanga (Karoskraal) solar thermal power plant
 - Keimoes photovoltaic plants (Sonnenberg, Ofir and Geelkop)
 - Kimberley photovoltaic solar plant
 - Kleinbegin photovoltaic plant
 - Kleinzee wind energy facility
 - Koingnaas wind energy facility
 - Oyster Bay wind energy facility
 - Ilanga Lethemba (Paardevelei) PV solar energy facility
 - Upington photovoltaic solar facility
 - Ramphela (Ritchie) PV solar energy facility
 - Ruukie (Mpumalanga) coal fired power station
 - Saldanha Steel wind energy facility
 - Spitskop wind energy facility
 - Tsitsikamma community wind energy facility
 - Uyekraal wind energy facility
 - Veldrift and Saldanha wind energy facilities
 - Vredendal photovoltaic solar energy facility
 - Wag'nBiekiespan solar energy facility
 - Walker Bay wind energy facility
 - Etc. *(a comprehensive list can be provided upon request)*

Professional History

4/2017: Professional GISc and VIA Practitioner (sole proprietor/self employed)

1/2016 – 3/2017: SMEC South Africa, Pretoria – Technical Specialist

11/1999 – 12/2015: MetroGIS (Pty) Ltd, Pretoria – Director

10/1997 – 10/1999: GISBS (GIS Business Solutions - Q Data Consulting) – Project Manager

4/1990 - 9/1997: GisLAB CC (GIS Laboratory - University of Pretoria) – Member / Project Manager

Courses & Conferences attended

1997 ESRI International User Conference – United States of America

Publications & Papers presented

Name: Gateway to Kruger Map and Guide

Authors: Andy Tinker Photography

Publisher: ATP Publishing

Date: 2010

Name: Kruger National Park Map and Photographic Guide

Authors: Andy Tinker Photography

Publisher: ATP Publishing

Date: 2007

Name: Lowveld and Kruger Guide

Authors: High Branching Team

Publisher: Jacana Media (Pty) Ltd

Date: 2004

Name: Heights to Homes to Oceans (H2O) Water Wise information poster

Authors: Rand Water

Publisher: Rand Water

Date: 2004

Name: Garden Route - Still Bay to Storms River (Discover the Magic)

Authors: Jacana

Publisher: Jacana Media (Pty) Ltd

Date: 2003

Name: KwaZulu-Natal - A celebration of biodiversity

Authors: Jacana

Publisher: Jacana Media (Pty) Ltd

Date: 2001

Name: Pilanesberg Official Map and Park Guide

Authors: North-West Parks & Tourism Board and Jacana

Publisher: Jacana Media (Pty) Ltd

Date: 2001

Name: ESRI Map Book (Volume 13)

Authors: Various

Publisher: Environmental Systems Research Institute (ESRI)

Date: 1998

Name: Environmental Potential Atlas for South Africa

Authors: W. van Riet, J. van Rensburg, P. Claassen, L. du Plessis and T. van Viegen

Publisher: J.L. van Schaik

Date: 1997

Awards

Award: Best South African Environmental Technical Paper

Awarded for: Environmental Potential Atlas for South Africa (Publication)

Awarded by: Environmental Planning Professions Interdisciplinary Committee (EPPIC)

Date: 1998

Award: QDC Performance Award

Awarded for: ENPAT Development

Awarded by: Q Data Consulting

Date: 1998

Award: Best Cartographic Map Gallery Competition - 3rd Place

Awarded for: Environmental Potential Atlas for South Africa (Publication)

Awarded by: Environmental Systems Research Institute (ESRI)

Date: 1998 International ESRI User Conference

Award: Map Gallery Most Analytical Competition - 3rd Place

Awarded for: Environmental Potential Atlas for South Africa

Awarded by: Environmental Systems Research Institute (ESRI)

Date: 1997 International ESRI User Conference

Award: Best South African Environmental Technical Paper

Awarded for: National Environmental Potential Atlas (ENPAT National)

Awarded by: Environmental Planning Professions Interdisciplinary Committee (EPPIC)

Date: 1995

Language Skills

Mother Tongue: Afrikaans

Languages	Speak	Read	Write
English	Good	Good	Good
Afrikaans	Good	Good	Good

12. Appendix 1 - Specialist CV

CURRICULUM VITAE

- **Dr Brian Michael Colloty**

- **7212215031083**

1 Rossini Rd

Pari Park

Port Elizabeth, 6070

brianc@envirosoci.co.za

083 498 3299

Profession: Ecologist & Environmental Assessment Practitioner (Pr. Sci. Nat. 400268/07)

Member of the South African Wetland Society

Specialisation: Ecology and conservation importance rating of inland habitats, wetlands, rivers & estuaries

Years experience: 25 years

SKILLS BASE AND CORE COMPETENCIES

- 25 years experience in environmental sensitivity and conservation assessment of aquatic and terrestrial systems inclusive of Index of Habitat Integrity (IHI), WET Tools, Riparian Vegetation Response Assessment Index (VEGRAI) for Reserve Determinations, estuarine and wetland delineation throughout Africa. Experience also includes biodiversity and ecological assessments with regard sensitive fauna and flora, within the marine, coastal and inland environments. Countries include Mozambique, Kenya, Namibia, Central African Republic, Zambia, Eritrea, Mauritius, Madagascar, Angola, Ghana, Guinea-Bissau and Sierra Leone. Current projects also span all nine provinces in South Africa.
- 15 years experience in the coordination and management of multi-disciplinary teams, such as specialist teams for small to large scale EIAs and environmental monitoring programmes, throughout Africa and inclusive of marine, coastal and inland systems. This includes project and budget management, specialist team management, client and stakeholder engagement and project reporting.
- GIS mapping and sensitivity analysis

TERTIARY EDUCATION

- 1994: B Sc Degree (Botany & Zoology) - NMU
- 1995: B Sc Hon (Zoology) - NMU
- 1996: M Sc (Botany - Rivers) - NMU
- 2000: Ph D (Botany – Estuaries & Mangroves) – NMU

EMPLOYMENT HISTORY

- 1996 – 2000 Researcher at Nelson Mandela University – SAB institute for Coastal Research & Management. Funded by the WRC to develop estuarine importance rating methods for South African Estuaries
- 2001 – January 2003 Training development officer AVK SA (reason for leaving – sought work back in the environmental field rather than engineering sector)
- February 2003- June 2005 Project manager & Ecologist for Strategic Environmental Focus (Pretoria) – (reason for leaving – sought work related more to experience in the coastal environment)
- July 2005 – June 2009 Principal Environmental Consultant Coastal & Environmental Services (reason for leaving – company restructuring)
- June 2009 – August 2018 Owner / Ecologist of Scherman Colloty & Associates cc
- August 2018 Owner / Ecologist - EnviroSci (Pty) Ltd

SELECTED RELEVANT PROJECT EXPERIENCE

World Bank IFC Standards

- Kenmare Mining Pivililli, Mozambique - wetland (mangroves, peatlands and estuarine) assessment and biodiversity offset analysis - current
- Botswana South Africa 400kv transmission line (400km) biodiversity assessment on behalf of Aurecon - current
- Farim phosphate mine and port development, Guinea Bissau – biodiversity and estuarine assessment on behalf of Knight Piesold Canada – 2016.
- Tema LNG offshore pipeline EIA – marine and estuarine assessment for Quantum Power (2015).
- Colluli Potash South Boulder, Eritrea, SEIA marine baseline and hydrodynamic surveys co-ordinator and coastal vegetation specialist (coastal lagoon and marine) (on-going).
- Wetland, estuarine and riverine assessment for Addax Biofeuls Sierra Leone, Makeni for Coastal & Environmental Services: 2009
- ESHIA Project manager and long-term marine monitoring phase coordinator with regards the dredge works required in Luanda bay, Angola. Monitoring included water quality and biological changes in the bay and at the offshore disposal outfall site, 2005-2011

South African

- Plant search and rescue, for NMBM (Driftsands sewer, Glen Hurd Drive), Department of Social Development (Military veterans housing, Despatch) and Nxuba Wind Farm, - current
- Wetland specialist appointed to update the Eastern Cape Biodiversity Conservation Plan, for the Province on behalf of EOH CES appointment by SANBI – current. This includes updating the National Wetland Inventory for the province, submitting the new data to CSIR/SANBI.
- CDC IDZ Alien eradication plans for three renewable projects Coega Wind Farm, Sonop Wind Farm and Coega PV, on behalf of JG Afrika (2016 – 2017).
- Nelson Mandela Bay Municipality Baakens River Integrated Wetland Assessment (Inclusive of Rehabilitation and Monitoring Plans) for CEN IEM Unit - Current
- Rangers Biomass Gasification Project (Uitenhage), biodiversity and wetland assessment and wetland rehabilitation / monitoring plans for CEM IEM Unit – current.
- Gibson Bay Wind Farm implementation of the wetland management plan during the construction and operation of the wind farm (includes surface / groundwater as well wetland rehabilitation & monitoring plan) on behalf of Enel Green Power - current
- Gibson Bay Wind Farm 133kV Transmission Line wetland management plan during the construction of the transmission line (includes wetland rehabilitation & monitoring plan) on behalf of Eskom – 2016.

- Tsitsikamma Community Wind Farm implementation of the wetland management plan during the construction of the wind farm (includes surface / biomonitoring, as well wetland rehabilitation & monitoring plan) on behalf of Cennergi – completed May 2016.
- Alicedale bulk sewer pipeline for Cacadu District, wetland and water quality assessment, 2016
- Mogalakwena 33kv transmission line in the Limpopo Province, on behalf of Aurecon, 2016
- Cape St Francis WWTW expansion wetland and passive treatment system for the Kouga Municipality, 2015
- Macindane bulk water and sewer pipelines wetland and wetland rehabilitation plan 2015
- Eskom Prieska to Copperton 132kV transmission line aquatic assessment, Northern Cape on behalf of Savannah Environmental 2015.
- Joe Slovo sewer pipeline upgrade wetland assessment for Nelson Mandela Bay Municipality 2014
- Cape Recife Waste Water Treatment Works expansion and pipeline aquatic assessment for Nelson Mandela Bay Municipality 2013
- Pola park bulk sewer line upgrade aquatic assessment for Nelson Mandela Bay Municipality 2013
- Transnet Freight Rail – Swazi Rail Link (Current) wetland and ecological assessment on behalf of Aurecon for the proposed rail upgrade from Ermelo to Richards Bay
- Eskom Transmission wetland and ecological assessment for the proposed transmission line between Pietermaritzburg and Richards Bay on behalf of Aurecon (2012).
- Port Durnford Exxaro Sands biodiversity assessment for the proposed mineral sands mine on behalf of Exxaro (2009)
- Fairbreeze Mine Exxaro (Mtunzini) wetland assessment on behalf of Strategic Environmental Services (2007).
- Wetland assessment for Richards Bay Minerals (2013) – Zulti North haul road on behalf of RBM.
- Biodiversity and aquatic assessments for 105 renewable projects in the past 6 years in the Western, Eastern, Northern Cape, KwaZulu-Natal and Free State provinces. Clients included RES-SA, RedCap, ACED Renewables, Mainstream Renewable, GDF Suez, Globeleq, ENEL, Abengoa amongst others. Particular aquatic sensitivity assessment and Water Use License Applications on behalf of Mainstream Renewable Energy (8 wind farms and 3 PV facilities.), Cennergi / Exxaro (2 Wind farm), WKN Wind current (2 wind farms & 2 PV facilities), ACED (6 wind farms) and Windlab (3 Wind farms) were also conducted. Several of these projects also required the assessment of the proposed transmission lines and switching stations, which were conducted on behalf of Eskom.
- Vegetation assessments on the Great Brak rivers for Department of Water and Sanitation, 2006 and the Gouritz Water Management Area (2014)
- Proposed FibreCo fibre optic cable vegetation assessment along the PE to George, George to Graaf Reinet, PE to Colesburg, and East London to Bloemfontein on behalf of SRK (2013-2015).