

## CURRICULUM VITAE OF LISA OPPERMAN

<b>Profession :</b>	Environmental Assessment Practitioner and GIS Consultant
<b>Specialisation:</b>	Environmental Impact Assessments, Basic Assessments, Site Screening and Site Selection reporting, compilation of maps through the use of ArcGIS
<b>Work Experience:</b>	4 years of experience in the environmental management and GIS field

### VOCATIONAL EXPERIENCE

Lisa Opperman has four years of experience in the environmental field. She has worked on a variety of EIA processes including renewable energy projects, as well as industrial developments. She has also been involved in the undertaking of public participation for projects located in South Africa which has included the undertaking of public meetings, focus group meetings and key stakeholder meetings in both Afrikaans and English. She also has experience in working with ArcGIS 10 for the compilation of maps, the manipulation of data and screening for environmental sensitivities within areas with the potential for development.

### SKILLS BASE AND CORE COMPETENCIES

- GIS Mapping
- EIA Report Writing
- Conducting of public involvement processes
- Administrative tasks
- Analysis and manipulation of geographical information and technical experience with the use of ArcGIS

### EDUCATION AND PROFESSIONAL STATUS

#### Degrees:

- B.Sc. (Hons) Environmental Management (2014), North-West University, Potchefstroom
- B.A Psychology, Geography and Environmental Studies (2013), North-West University, Potchefstroom

#### Courses:

- Environmental Legal Compliance and Auditing (2017), Janice Tooley at the Protea Hotel OR Thambo, Johannesburg

**EMPLOYMENT**

<b>Date</b>	<b>Company</b>	<b>Roles and Responsibilities</b>
<b>February 2015 – current</b>	Savannah Environmental (Pty) Ltd	Environmental Assessment Practitioner and GIS Consultant <i>Tasks include: Compilation of Environmental Scoping Reports, Plan of Study, Environmental Impact Assessment Reports, Basic Assessments and Environmental management programmes; Environmental Screening Reports; Specialist management; project proposals and tenders; Client liaison and Marketing; Process EIA Applications, GIS Mapping and data analysis and manipulation</i>

**PROJECT EXPERIENCE****Renewable Power Generation Projects: Solar Energy Facilities****Screening Studies**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Pre-feasibility Desktop Screening and Fatal Flaw Scan for a Solar PV Project near Lichtenburg, North West Province</i>	ABO Wind AG	EAP and GIS Consultant
<i>Pre-feasibility Desktop Screening and Fatal Flaw Scan for a Solar PV Project neat Aggeneys, Northern Cape Province</i>	ABO Wind AG	EAP and GIS Consultant

**Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Buffels PV 1 &amp; Buffels PV 2 Solar Energy Facilities near Orkney, North West</i>	Kabi Solar	EAP and GIS Consultant
<i>Woodhouse Solar 1 &amp; Woodhouse Solar 2 PV Facilities near Vryburg, North West</i>	Genesis Eco-Energy Developments	EAP and GIS Consultant
<i>Orkney Solar Farm, North West</i>	Genesis Eco-Energy Developments	EAP and GIS Consultant
<i>Tewa Isitha Solar 1 &amp; Tewa Isitha Solar 2 PV facilities near Upington, Northern Cape</i>	AfriCoast Energy	EAP and GIS Consultant
<i>Lichtenburg 1, Lichtenburg 2 and Lichtenburg 3 PV Facilities, near Lichtenburg, North West Province (EIA Phase)</i>	ABO Wind AG	EAP and GIS Consultant

**Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Harmony Gold 3x PV Facilities, Welkom, Free State</i>	BBEntropie	EAP and GIS Consultant

## **Renewable power generation projects: Wind Energy Facilities**

### **Screening Studies**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Juno Wind Farm Screening Assessment Report near Lamberts Bay, Western Cape Province</i>	<i>AMDA Developments</i>	<i>EAP and GIS Consultant</i>
<i>Lamberts Bay Wind Farm Screening Assessment Report near Lamberts Bay, Western Cape Province</i>	<i>Windy World</i>	<i>EAP and GIS Consultant</i>
<i>Pre-feasibility Desktop Screening and Fatal Flaw Scan for the Kudusberg and Rondekop Wind Energy Facilities, Northern Cape and Western Cape Provinces</i>	<i>ABO Wind AG</i>	<i>EAP and GIS Consultant</i>
<i>Pre-feasibility Desktop Screening and Fatal Flaw Scan for Wind Projects near Touws River, Western Cape Province</i>	<i>ABO Wind AG</i>	<i>EAP and GIS Consultant</i>

### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Boulders Wind Farm, Western Cape Province</i>	<i>Vredenburg Windfarm</i>	<i>EAP and GIS Consultant</i>
<i>Namas Wind Farm, Northern Cape Province</i>	<i>Genesis Namas Wind (Pty) Ltd</i>	<i>EAP and GIS Consultant</i>
<i>Zonnequa Wind Farm, Northern Cape Province</i>	<i>Genesis Zonnequa Wind (Pty) Ltd</i>	<i>EAP and GIS Consultant</i>

### **Grid Infrastructure Projects**

#### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>132/11kV Olifantshoek Substation and Power Line, Northern Cape</i>	<i>Eskom</i>	<i>EAP and GIS Consultant</i>
<i>Grid connection infrastructure for the Namas Wind Farm, Northern Cape Province</i>	<i>Genesis Namas Wind (Pty) Ltd</i>	<i>EAP and GIS Consultant</i>
<i>Grid connection infrastructure for the Zonnequa Wind Farm, Northern Cape Province</i>	<i>Genesis Zonnequa Wind (Pty) Ltd</i>	<i>EAP and GIS Consultant</i>

### **Gas Projects**

#### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Richards Bay Combined Cycle Power Plant (CCPP) power plant, KwaZulu-Natal (Scoping Phase)</i>	<i>Eskom</i>	<i>EAP (assistance) and GIS Consultant</i>

#### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Neopak Combined Heat and Power (CHP) Plant, Rosslyn, Gauteng</i>	<i>Neopak</i>	<i>EAP, Public Participation and GIS Consultant</i>

### **Screening Studies**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Richards Bay Combined Cycle Power Plant (CCPP) power plant, near Richards Bay, KwaZulu-Natal</i>	<i>Eskom</i>	<i>EAP and GIS Consultant</i>

## **Infrastructure Development Projects (bridges, pipelines, roads, etc)**

### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Water Treatment Plant at the Neopak Facility, Rosslyn, Gauteng	Neopak	EAP, Public Participation and GIS Consultant

## **Housing and Urban Projects**

### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Metals Industrial Cluster near Kuruman, Northern Cape	Northern Cape Department of Economic Development and Tourism	EAP and GIS Consultant

## **Environmental Management Tools**

### **Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Environmental Management Programme (EMPr) for the Nxuba Wind Farm, Eastern Cape	ACED	EAP
Operation Environmental Management Programme (EMPr) for Phase 1 of the Amakhala Emoyeni Wind Energy Facility, Eastern Cape	Cennergi	EAP
Operation Environmental Management Programme (EMPr) for the Tsitsikamma Community Wind Energy Facility, Eastern Cape Province	Cennergi	EAP
Environmental Management Programme (EMPr) for the Skuitdrift 1 Solar PV Energy Facility near Augrabies, Northern Cape Province	Building Energy South Africa	EAP and GIS Consultant
Environmental Management Programme (EMPr) for the Skuitdrift 2 Solar PV Energy Facility near Augrabies, Northern Cape Province	Building Energy South Africa	EAP and GIS Consultant

## **Environmental and Social Management System (ESMS)**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Preparation of Policies and Plans for the Roggeveld Wind Farm, Western Cape Province	Building Energy South Africa	EAP assistance
Preparation of Policies and Plans for the Kruisvallei Hydro Scheme, Free State Province	Building Energy South Africa	EAP assistance

## CURRICULUM VITAE OF KHOMOTJO REUBEN MAROGA

<b>Profession :</b>	Environmental Consultant
<b>Specialisation:</b>	Environmental Impact Assessments, Basic Assessments, Site Visits, Compilation of Environmental Management Programmes and Liaison with authorities
<b>Work Experience:</b>	2 years of experience in the environmental management field

### VOCATIONAL EXPERIENCE

Khomotjo Reuben Maroga has two years of experience in the environmental field. He has worked on a mining infrastructure project in compiling environmental control officer's reports and conducting air and groundwater monitoring using the DustTrak DRX Aerosol Monitor and a Bailer as apparatuses. Additionally, he has provided assistance to Eco-Elementum & Engineering on WUL applications and EIAs.

### SKILLS BASE AND CORE COMPETENCIES

- ECO Report writing
- Environmental monitoring
- Administrative tasks

### EDUCATION AND PROFESSIONAL STATUS

#### Degrees:

- B.Sc. (Hons) Geology, University of Johannesburg, 2016
- B.Sc. Geology and Environmental Management, University of Johannesburg, 2015

#### Courses:

- Business Communication, ProEarth Learning Academy (Pty) in Middelburg (2018)
- Describe the functions of a Health and Safety representative, Elite Training (Pty) Ltd in Middelburg (2017)
- Basic Fire Fighting, Elite Training (Pty) Ltd in Middelburg (2017)
- Combined OSHAS 18001: 2007 and ISO 14001: 2015 Introduction, NOSA in eMalahleni (2017)
- Combined OSHAS 18001: 2007 and ISO 14001: 2015 Implementation (2017), NOSA in eMalahleni (2017)
- Emotional Intelligence, LearnMe (Pty) Ltd in Middelburg (2017)

## EMPLOYMENT

Date	Company	Roles and Responsibilities
October 2018 - current	Savannah Environmental (Pty) Ltd	<p>Environmental Consultant</p> <p><i>Tasks include:</i> Applying applicable legislation, research of related environmental policy documentation required for EIAs, efficient and quality report writing, liaison with relevant environmental authorities, site visits, compilation of application forms, environmental management programmes (EMPrs) and public participation include documentation. Other related tasks include undertaking water use license applications, environmental auditing (Environmental Control Officer – ECO work) and any other related authorisation, permitting and licensing tasks (on an as and when required basis).</p>
September 2016 - October 2018	Yoctolux Collieries (Pty) Ltd	<p>Environmental Management Intern</p> <p><i>Tasks included:</i> Drafting monthly ECO reports, conducting monthly environmental monitoring, providing assistance on WULAs and EIAs to Eco-Elementum &amp; Engineering (Pty) Ltd and providing oversight on IAPs eradication and management programme.</p>
January – September 2016	University of Johannesburg Auckland Park, Kingsway Campus	<p>Second-year Practical Demonstrator</p> <p><i>Tasks included:</i> Marking of practical's, attending to any ad-hoc administrative duties and liaising with designated lecturers.</p>

## PROJECT EXPERIENCE

### Mining Projects: Coal Mining

#### **Water Use Licence Application**

Project Name & Location	Client Name	Role
Compiling a water use licence report for an underground coal mining development (Tala Bethal Coal) in Hendrina, Mpumalanga.	Diepsoils Investments (Pty) Ltd Vernon Siemelink: 072 196 9928	Assistant

#### **Waste Treatment Works**

Project Name & Location	Client Name	Role
Kriel Power Station Lime Plant Upgrade, Kriel, Mpumalanga	Eskom Holdings SOC Limited Khuliso Rasimphi : 017 615 2634	Junior EAP

## **Renewable Energy**

### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Basic Assessment Process for Sirius 2x 100MW Solar Photovoltaic facilities, Upington, Northern Cape	SOLA Future Energy (Pty) Ltd Oliver Johnsto: 021 421 9764	Junior EAP
Basic Assessment Process for Aggeneys 2x 100MW Solar Photovoltaic facilities, Aggeneys, Northern Cape.	Atlantic Energy Partners (Pty) Ltd and ABO Wind AG Sonia Mischczak: 021 418 2596	Junior EAP

## **Infrastructure Development**

### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Basic Assessment Process for the Wilmar Vegetable Oil Pipeline, Richards Bay, Kwa-Zulu Natal.	Wilmar Processing (Pty) Ltd Aidan Dowdle: 082 872 3628	Junior EAP

## **Amendments**

### **Part 1 Amendment**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
20MW Konkoonsies Solar Photovoltaic facility, Pofadder, Northern Cape.	Biotherm Energy (Pty) Ltd Michael Barnes: 011 367 4600	Junior EAP
10MW Aries Solar PV Photovoltaic facility, near Kenhardt, Northern Cape.	Biotherm Energy (Pty) Ltd Michael Barnes: 011 367 4600	Junior EAP
27MW Klipheuwel/Dassiefontein Wind Energy facility near Calendon, Western Cape.	Biotherm Energy (Pty) Ltd Michael Barnes: 011 367 4600	Junior EAP

## CURRICULUM VITAE OF THALITA BOTHA

<b>Profession:</b>	Environmental Assessment Practitioner (EAP)
<b>Specialisation:</b>	Environmental Assessments, Report writing, report reviewing, Geographical Information Systems (GIS), development of project proposals for procuring new projects, project administration
<b>Work Experience:</b>	3 and a half years' experience in Environmental Assessments and GIS

### VOCATIONAL EXPERIENCE

Professional execution of consulting services for projects in the environmental management field, specialising in Environmental Impact Assessment studies, environmental permitting, public participation, compilation of Environmental Management Plans and Programmes, environmental policy, and integrated environmental management. Responsibilities include report writing, analysis and the manipulation of geographical and technical experience with the use of ArcGIS, project management, review of specialist studies and the identification and assessment of potential negative environmental impacts and benefits. Compilation of the reports for environmental studies is in accordance with all relevant environmental legislation.

Experience in conducting environmental impact assessments for Concentrated Solar Power (CSP) Projects, Wind Energy Projects and grid infrastructure projects as well as infrastructure projects. Recent projects have been undertaken for both the public- and private-sector, including electricity generation and transmission projects (wind and solar), linear developments (such local roads and power lines), as well as general environmental planning, development and management. The completion of a diverse set of environmental management studies has resulted in a good working knowledge of environmental legislation and policy requirements.

### SKILLS BASE AND CORE COMPETENCIES

- Compilation of environmental impact assessment reports and environmental management programmes in accordance with relevant environmental legislative requirements;
- Analysis and manipulation of geographical information and data and technical experience with the use of ArcGIS;
- Identification and assessment of potential negative environmental impacts and benefits through the review of specialist studies;
- Public participation/involvement and stakeholder consultation;
- Identification of practical and achievable mitigation measures and the compilation of appropriate management plans; and
- Key experience in the assessment of impacts associated with renewable energy and large infrastructure projects.



## EDUCATION AND PROFESSIONAL STATUS

### Degrees:

- B.Sc. (Hons.) Environmental Management (2014), North-West University, Potchefstroom
- B.Sc. Environmental- and Biological Science (2013), North-West University, Potchefstroom

### Courses:

- Integrated Water Resources Management, the National Water Act and Water Use Authorisations (2017), Carin Bosman Sustainable Solutions

## EMPLOYMENT

Date	Company	Roles and Responsibilities
<b>September 2015 - Current</b>	Savannah Environmental (Pty) Ltd	<p>Environmental Assessment Practitioner</p> <p><i>Tasks include: Compilation of Environmental Impact Assessment (EIA) reports; Basic Assessment (BA) reports and Environmental Management Programmes; Environmental Screening reports; Co-ordination of the public participation process; Project management; project proposals and tenders; Client liaison and Marketing; Process EIA Applications.</i></p> <p>GIS (utilising ArcGIS),</p> <p><i>Tasks include: Analysis and manipulation of data, screening assessments; compilation of maps.</i></p>

## PROJECT EXPERIENCE

### Renewable Power Generation Projects: Solar Energy Facilities

#### Basic Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
<i>Thaba Eco Hotel SEF, Gauteng</i>	<i>Camco Clean Energy</i>	<i>EAP</i>
<i>Moeding Solar PV Facility, North West Province</i>	<i>Moeding Solar</i>	<i>EAP</i>

#### Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
<i>Hyperion Solar Development 1, Northern Cape Province</i>	<i>Hyperion Solar Development 1</i>	<i>EAP</i>
<i>Hyperion Solar Development 2, Northern Cape Province</i>	<i>Cyraguard</i>	<i>EAP</i>
<i>Hyperion Solar Development 3, Northern Cape Province</i>	<i>Nomispank</i>	<i>EAP</i>
<i>Hyperion Solar Development 4, Northern Cape Province</i>	<i>Nomispan</i>	<i>EAP</i>
<i>Allepad PV One, Northern Cape Province</i>	<i>ILEnergy Development</i>	<i>EAP</i>

<i>Allepad PV Two, Northern Cape Province</i>	<i>ILEnergy Development</i>	<i>EAP</i>
<i>Allepad PV Three, Northern Cape Province</i>	<i>ILEnergy Development</i>	<i>EAP</i>
<i>Allepad PV Four, Northern Cape Province</i>	<i>ILEnergy Development</i>	<i>EAP</i>

### Screening Studies

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Pre-feasibility desktop screening and fatal flaw analysis for a solar PV project near Hotazel, Northern Cape Province</i>	<i>ABO Wind</i>	<i>EAP</i>
<i>Pre-feasibility desktop screening and fatal flaw analysis for a solar PV project near Vryburg, North West Province</i>	<i>ABO Wind</i>	<i>EAP</i>

### Geographical Information Systems (GIS)

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Sol Invictus PV 1, Aggeneys, Northern Cape</i>	<i>Cyraclox</i>	<i>GIS</i>
<i>Sol Invictus PV 2, Aggeneys, Northern Cape</i>	<i>Cyracraft</i>	<i>GIS</i>
<i>Sol Invictus PV 3, Aggeneys, Northern Cape</i>	<i>Cyrafusion</i>	<i>GIS</i>
<i>Sol Invictus PV 4, Aggeneys, Northern Cape</i>	<i>Cyralex</i>	<i>GIS</i>
<i>Pre-feasibility desktop screening and fatal flaw analysis for a solar PV project near Hotazel, Northern Cape Province</i>	<i>ABO Wind</i>	<i>GIS</i>
<i>Pre-feasibility desktop screening and fatal flaw analysis for a solar PV project near Aggeneys, North West Province</i>	<i>ABO Wind</i>	<i>GIS</i>
<i>Moeding Solar PV Facility, North West Province</i>	<i>Moeding Solar</i>	<i>GIS</i>
<i>Hyperion Solar Development 1, Northern Cape Province</i>	<i>Hyperion Solar Development 1</i>	<i>GIS</i>
<i>Hyperion Solar Development 2, Northern Cape Province</i>	<i>Cyraguard</i>	<i>GIS</i>
<i>Hyperion Solar Development 3, Northern Cape Province</i>	<i>Nomispank</i>	<i>GIS</i>
<i>Hyperion Solar Development 4, Northern Cape Province</i>	<i>Nomispan</i>	<i>GIS</i>
<i>Allepad PV One, Northern Cape Province</i>	<i>ILEnergy Development</i>	<i>GIS</i>
<i>Allepad PV Two, Northern Cape Province</i>	<i>ILEnergy Development</i>	<i>GIS</i>
<i>Allepad PV Three, Northern Cape Province</i>	<i>ILEnergy Development</i>	<i>GIS</i>
<i>Allepad PV Four, Northern Cape Province</i>	<i>ILEnergy Development</i>	<i>GIS</i>

### Renewable power generation projects: Wind Energy Facilities

#### Environmental Impact Assessments and Environmental Management Programmes

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Hartebeest WEF, Moorreesburg, Western Cape</i>	<i>Hartebeest Wind Farm</i>	<i>EAP</i>

#### Environmental Permitting & WUL Applications

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Karusa WEF WUL Application, Northern Cape</i>	<i>ACED</i>	<i>EAP</i>
<i>Soetwater WEF WUL Application, Northern Cape</i>	<i>ACED</i>	<i>EAP</i>

### **Geographical Information Systems (GIS)**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Hartebeest WEF, Moorreesburg, Western Cape</i>	<i>Hartebeest Wind Farm</i>	<i>GIS</i>
<i>Karusa WEF WUL Application, Northern Cape</i>	<i>ACED</i>	<i>GIS</i>
<i>Soetwater WEF WUL Application, Northern Cape</i>	<i>ACED</i>	<i>GIS</i>

### **Renewable Power Generation Projects: Concentrated Solar Facilities (CSP)**

#### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Ilanga CSP 9, Northern Cape</i>	<i>Emvelo Holdings</i>	<i>EAP</i>
<i>Noupoort CSP, Northern Cape</i>	<i>CRESCO Energy</i>	<i>EAP</i>

### **Geographical Information Systems (GIS)**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Noupoort CSP, Northern Cape</i>	<i>CRESCO Energy</i>	<i>GIS</i>

### **Renewable Power Generation Projects: Hydroelectrical Power Generation Facilities**

#### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Kruisvallei Hydroelectric Power Generation Scheme</i>	<i>Zevobuzz</i>	<i>EAP</i>

### **Geographical Information Systems (GIS)**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Kruisvallei Hydroelectric Power Generation Scheme</i>	<i>Zevobuzz</i>	<i>GIS</i>

### **Environmental Permitting & WUL Applications**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>WULA for the Kruisvallei Hydroelectric Power Generation Scheme</i>	<i>Zevobuzz</i>	<i>EAP</i>
<i>GA for the power line associated with the Kruisvallei Hydroelectric Power Generation Scheme</i>	<i>Zevobuzz</i>	<i>EAP</i>

### **Steam Generation Projects:**

#### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Clayville Thermal Plant, Gauteng</i>	<i>Bellmall Energy</i>	<i>EAP</i>

### **Screening Studies**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Fatal flaw analysis for the Clayville Thermal Plant, Gauteng</i>	<i>Bellmall Energy</i>	<i>EAP</i>

### **Geographical Information Systems (GIS)**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Clayville Thermal Plant, Gauteng</i>	<i>Bellmall Energy</i>	<i>GIS</i>

## Grid Infrastructure Projects

### Basic Assessments

Project Name & Location	Client Name	Role
<i>Gunstfontein Switching Station and Power Line, Northern Cape</i>	<i>ACED</i>	<i>EAP</i>
<i>Zonnebloem Switching Station and Power Lines, Mpumalanga</i>	<i>Eskom SOC Ltd</i>	<i>EAP</i>

### Geographical Information Systems (GIS)

Project Name & Location	Client Name	Role
<i>Zonnebloem Switching Station and Power Lines, Mpumalanga</i>	<i>Eskom SOC Ltd</i>	<i>GIS</i>

## Mining Sector Projects

### Environmental Permitting & WUL Applications

Project Name & Location	Client Name	Role
<i>S53 for Steynsrus PV 1, Western Cape</i>	<i>Cronimet Power Solutions</i>	<i>EAP</i>
<i>S53 for Steynsrus PV 2, Western Cape</i>	<i>Cronimet Power Solutions</i>	<i>EAP</i>
<i>S53 for Heuningspruit PV 1, Western Cape</i>	<i>Cronimet Power Solutions</i>	<i>EAP</i>

### Geographical Information Systems (GIS)

Project Name & Location	Client Name	Role
<i>S53 for Steynsrus PV 1, Western Cape</i>	<i>Cronimet Power Solutions</i>	<i>GIS</i>
<i>S53 for Steynsrus PV 2, Western Cape</i>	<i>Cronimet Power Solutions</i>	<i>GIS</i>
<i>S53 for Heuningspruit PV 1, Western Cape</i>	<i>Cronimet Power Solutions</i>	<i>GIS</i>

## Infrastructure Development Projects (bridges, pipelines, roads, waste etc)

### Basic Assessments

Project Name & Location	Client Name	Role
<i>MN73 Road Realignment, Northern Cape</i>	<i>Northern Cape Department of Roads and Public Works</i>	<i>EAP</i>
<i>S24G for the unlawful commencement of activities within a watercourse, Honeydew, Gauteng</i>	<i>Soror Language Services cc</i>	<i>EAP</i>
<i>Access Roads and Watercourse Crossings for the Iziduli Emoyeni Wind Energy Facility</i>	<i>Emoyeni Wind Farm Renewable Energy</i>	<i>EAP</i>
<i>Access Roads and Watercourse Crossings for the Msenge Emoyeni Wind Energy Facility</i>	<i>Amakhala Emoyeni Renewable Energy</i>	<i>EAP</i>
<i>Masetjaba Water Reservoir and Elevated Tower, Gauteng</i>	<i>City of Ekurhuleni Metropolitan Municipality</i>	<i>EAP</i>

### Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
<i>S24G for the operation of a Aluminium, Alumino-thermic, Briquetting, Separation and Manganese Plant, Gauteng Province</i>	<i>GfE-MIR Alloys and Minerals SA</i>	<i>EAP</i>

**Geographical Information Systems (GIS)**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>MN73 Road Realignment, Northern Cape</i>	<i>Northern Cape Department of Roads and Public Works</i>	<i>GIS</i>
<i>S24G for the unlawful commencement of activities within a watercourse, Honeydew, Gauteng</i>	<i>Soror Language Services cc</i>	<i>GIS</i>
<i>Access Roads and Watercourse Crossings for the Iziduli Emoyeni Wind Energy Facility</i>	<i>Emoynei Wind Farm Renewable Energy</i>	<i>GIS</i>
<i>Access Roads and Watercourse Crossings for the Msenge Emoyeni Wind Energy Facility</i>	<i>Amakhala Emoyeni Renewable Energy</i>	<i>GIS</i>
<i>S24G for the operation of a Aluminium, Alumino-thermic, Briquetting, Separation and Manganese Plant, Gauteng Province</i>	<i>GfE-MIR Alloys and Minerals SA</i>	<i>GIS</i>
<i>Masetjaba Water Reservoir and Elevated Tower, Gauteng</i>	<i>City of Ekurhuleni Metropolitan Municipality</i>	<i>GIS</i>
<i>Wilmar Vegetable Oil Pipeline, KwaZulu-Natal</i>	<i>Wilmar Processing</i>	<i>GIS</i>
<i>Desktop Screening Assessment for a Vegetable Oil Pipeline, KwaZulu-Natal</i>	<i>Wilmar Processing</i>	<i>GIS</i>
<i>Kriel Power Station Lime Plant Upgrade, Mpumalanga</i>	<i>Eskom Holdings SOC</i>	<i>GIS</i>

## CURRICULUM VITAE OF JO-ANNE THOMAS

<b>Profession:</b>	Environmental Management and Compliance Consultant; Environmental Assessment Practitioner
<b>Specialisation:</b>	Environmental Management; Strategic environmental advice; Environmental compliance advice & monitoring; Environmental Impact Assessments; Policy, strategy & guideline formulation; Project Management; General Ecology
<b>Work experience:</b>	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 Association 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

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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



<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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	Sublanary 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

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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 Lephallale, Limpopo	Axia	Project Manager & EAP
Transalloys Coal-fired Power Station, Mpumalanga	Transalloys	Project Manager & EAP
Tshivasho IPP Coal-fired Power Station (with WML), near Lephallale, 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 Lephallale, 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

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

#### **Screening Studies**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
ECO for the Camden Power Station, Mpumalanga	Eskom Holdings	Project Manager

#### **Compliance Advice**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
External Compliance Audit of WUL for the Johannesburg Country Club, Gauteng	Johannesburg Country Club	Project Manager

#### **Environmental Compliance, Auditing and ECO**

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

#### **ENVIRONMENTAL MANAGEMENT TOOLS**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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

## CURRICULUM VITAE OF NICOLENE VENTER

<b>Profession :</b>	Public Participation and Social Consultant
<b>Specialisation:</b>	Public participation process; stakeholder engagement; facilitation (workshops, focus group and public meetings; public open days; steering committees); monitoring and evaluation of public participation and stakeholder engagement processes
<b>Work Experience:</b>	21 years' experience as a Public Participation Practitioner and Stakeholder Consultant

### VOCATIONAL EXPERIENCE

Over the past 21 years Nicolene established herself as an experienced and well recognised public participation practitioner, facilitator and strategic reviewer of public participation processes. She has experience in managing public participation projects and awareness creation programmes. Her experience includes designing and managing countrywide public participation and awareness creation projects, managing multi-project schedules, budgets and achieving project goals. She has successfully undertaken several public participation processes for EIA, BA and WULA projects. The EIA and BA process include linear projects such as the NMPP, Eskom Transmission and Distribution power lines as well as site specific developments such as renewable energy projects i.e. solar, photo voltaic and wind farms. She also successfully managed stakeholder engagement projects which were required to be in line with the Equator Principles.

### SKILLS BASE AND CORE COMPETENCIES

- Project Management
- Public Participation, Stakeholder Engagement and Awareness Creation
- Public Speaking and Presentation Skills
- Facilitation (workshops, focus group meetings, public meetings, public open days, working groups and committees)
- Social Assessments (Stakeholder Analysis / Stakeholder Mapping)
- Monitoring and Evaluation of Public Participation and Stakeholder Engagement Processes
- Community Liaison
- IFC Performance Standards
- Equator Principles
- Minute taking, issues mapping, report writing and quality control

### EDUCATION AND PROFESSIONAL STATUS

#### Degrees:

- Higher Secretarial Certificate, Pretoria Technicon (1970)

#### Short Courses:

- Techniques for Effective Public Participation, International Association for Public Participation, IAP2 (2008)
- Foundations of Public Participation (Planning and Communication for Effective Public Participation, IAP2 (2009)
- Certificate in Public Relations, Public Relation Institute of South Africa, Damelin Management School (1989)



**Professional Society Affiliations:**

- Board Member of International Association for Public Participation (IAP2): Southern Africa

**EMPLOYMENT**

Date	Company	Roles and Responsibilities
<p><b>November 2018 – current</b></p>	<p>Savannah Environmental (Pty) Ltd</p>	<p>Public Participation and Social Consultant</p> <p><u>Tasks include:</u></p> <p><i>Tasks include: Drafting of a Public Participation Plan with key deliverable dates and methodology to be followed, Background Information Document, Letters to Stakeholders and Interested and/or Affected Parties (I&amp;APs) inclusive of key project deliverables and responses to questions / concerns raised; Stakeholder identification; facilitating stakeholder workshops, focus group and public meetings; conduct one-on-one consultation with Community Leaders, Tribal Chiefs, affected landowners, etc.</i></p> <p><i>Managing interaction between Stakeholders and Team Members, liaising with National, Provincial and Local Authorities, managing community consultation and communications in project affected areas, attend to the level of technical information communicated to and consultation with all level of stakeholders involved.</i></p>
<p><b>2016 – October 2018</b></p>	<p>Imaginative Africa (Pty) Ltd (company owned by Nicolene Venter)</p>	<p>Independent Consultant</p> <p>Consulting to various Environmental Assessment Practitioners for Public Participation and Stakeholder Engagements:</p> <p><u>Tasks include:</u></p> <p><i>Tasks include: Drafting of a Public Participation Plan with key deliverable dates and methodology to be followed, Background Information Document, Letters to Stakeholders and Interested and/or Affected Parties (I&amp;APs) inclusive of key project deliverables and responses to questions / concerns raised; Stakeholder identification; facilitating stakeholder workshops, focus group and public meetings; conduct one-on-one consultation with Community Leaders, Tribal Chiefs, affected landowners, etc.</i></p> <p><i>Managing interaction between Stakeholders and Team Members, liaising with National, Provincial and Local Authorities, managing community consultation and communications in project</i></p>

		<p>affected areas, attend to the level of technical information communicated to and consultation with all level of stakeholders involved</p> <p><u>Clients:</u> SiVEST Environmental, Savannah Environmental, Baagi Environmental; Royal Haskoning DHV (previously SSI)</p>
<b>2013 - 2016</b>	<p>Zitholele Consulting</p> <p>Contact person: Dr Mathys Vosloo Contact number: 011 207 2060</p>	<p>Senior Public Participation Practitioner and Project Manager</p> <p><u>Tasks included:</u> Project managed public participation process for EIA/BA/WULA/EAL projects. Manages two Public Participation Administrators. Public Participation tasks as outlined as above and including financial management of public participation processes.</p>
<b>2011 - 2013</b>	<p>Imaginative Africa (Pty) Ltd (company owned by Nicolene Venter)</p>	<p>Independent Consultant Consulting to various Environmental Assessment Practitioners for Public Participation and Stakeholder Engagements</p> <p><u>Tasks included:</u> Drafting of a Public Participation Plan with key deliverable dates and methodology to be followed, Background Information Document, Letters to Stakeholders and Interested and/or Affected Parties (I&amp;APs) inclusive of key project deliverables and responses to questions / concerns raised; Stakeholder identification; facilitating stakeholder workshops, focus group and public meetings; conduct one-on-one consultation with Community Leaders, Tribal Chiefs, affected landowners, etc.</p> <p>Managing interaction between Stakeholders and Team Members, liaising with National, Provincial and Local Authorities, managing community consultation and communications in project affected areas, attend to the level of technical information communicated to and consultation with all level of stakeholders involved</p> <p><u>Clients:</u> Bohlweki Environmental, Bembani Sustainability (Pty) Ltd; Naledzi Environmental</p>
<b>2007 – 2011</b>	<p>SiVEST SA (Pty) Ltd</p> <p>Contact person: Andrea Gibb Contact number: 011 798 0600</p>	<p>Unit Manager: Public Participation Practitioner</p> <p><u>Tasks included:</u> Project managed public participation process for EIA/BA projects. Manages two Junior Public Participation Practitioners. Public Participation</p>

		tasks as outlined as above and including financial management of public participation processes.
<b>2005 – 2006</b>	Imaginative Africa (Pty) Ltd (company owned by Nicolene Venter)	<p>Independent Consultant Public Participation and Stakeholder Engagement Practitioner</p> <p><u>Tasks included:</u> Drafting of a Public Participation Plan with key deliverable dates and methodology to be followed, Background Information Document, Letters to Stakeholders and Interested and/or Affected Parties (I&amp;APs) inclusive of key project deliverables and responses to questions / concerns raised; Stakeholder identification; facilitating stakeholder workshops, focus group and public meetings; conduct one-on-one consultation with Community Leaders, Tribal Chiefs, affected landowners, etc.</p> <p>Managing interaction between Stakeholders and Team Members, liaising with National, Provincial and Local Authorities, managing community consultation and communications in project affected areas, attend to the level of technical information communicated to and consultation with all level of stakeholders involved.</p> <p><u>Clients:</u> Manyaka-Greyling-Meiring (previously Greyling Liaison and currently Golder Associates)</p>
<b>1997 - 2004</b>	Imaginative Africa (Pty) Ltd (company owned by Nicolene Venter)	<p>Independent Consultant: Public Participation Practitioner.</p> <p><u>Tasks included:</u> Drafting of a Public Participation Plan with key deliverable dates and methodology to be followed, Background Information Document, Letters to Stakeholders and Interested and/or Affected Parties (I&amp;APs) inclusive of key project deliverables and responses to questions / concerns raised; Stakeholder identification; facilitating stakeholder workshops, focus group and public meetings; conduct one-on-one consultation with Community Leaders, affected landowners, etc.</p> <p>Managing interaction between Stakeholders and Team Members, liaising with National, Provincial Local Authorities, managing community consultation and communications in project affected areas, attend to the level of technical</p>

		<p>information communicated to and consultation with all level of stakeholders involved.</p> <p><u>Clients:</u>  Greyling Liaison (currently Golder Associates);  Bembani Sustainability (Pty) Ltd; Lidwala Environmental; Naledzi Environmental</p>
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## PROJECT EXPERIENCE

### RENEWABLE POWER GENERATION PROJECTS: PHOTOVOLTAIC SOLAR ENERGY FACILITIES

#### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Lichtenburg PVs (3 PVs) & Power Lines (grid connection), Lichtenburg, North West Province	Atlantic Energy Partners EAP: Savannah Environmental	Project Manage the Public Participation Process Facilitate all meetings Consultation with Government Officials, Key Stakeholders, Landowners & Community Leaders
Allepad PVs 4 PVs) & Power Lines (grid connection), Upington, Northern Cape Province	IL Energy EAP: Savannah Environmental	
Hyperion Solar PV Developments (4 PVs) and Associated Infrastructures, Kathu, Northern Cape Province	Building Energy EAP: Savannah Environmental	
Aggeneys Solar PV Developments (2 PVs) and Associated Infrastructures, Aggeneys, Northern Cape Province	Atlantic Energy Partners and ABO Wind EAP: Savannah Environmental	

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<p>Tlitseng PV, including Substations &amp; Power Lines, Lichtenburg, North West Province</p> <p>Sendawo PVs, including Substations &amp; Power Lines, Vryburg, North West Province</p> <p>Helena Solar 1, 2 and 3 PVs, Copperton, Northern Cape Province</p>	<p>BioTherm Energy EAP: SiVEST</p>	<p>Public Participation, Landowner and Community Consultation</p>
<p>Farm Spes Bona 23552 Solar PV Plants, Bloemfontein, Free State Province</p> <p>De Aar Solar Energy Facility, De Aar, Northern Cape Province</p> <p>Droogfontein Solar Energy Facility, Kimberley, Northern Cape Province</p> <p>Kaalspruit Solar Energy Facility, Loeriesfontein, Northern Cape Province</p> <p>Platsjambok East PV, Prieska, Northern Cape Province</p>	<p>Surya Power EAP: SiVEST</p> <p>South Africa Mainstream Renewable Power Developments EAP: SiVEST</p>	<p>Public Participation, Landowner and Community Consultation</p>
Renosterburg PV, De Aar, Northern Cape Province	Renosterberg Wind Energy Company EAP: SiVEST	Public Participation, Landowner and Community Consultation

19MW Solar Power Plant on Farm 198 (Slypklip), Danielskuil, Northern Cape Province	Solar Reserve South Africa EAP: SiVEST	Public Participation, Landowner and Community Consultation
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**Basic Assessments and Environmental Management Programmes – Located within the Renewable Energy Development Zones (REDZ)**

Project Name & Location	Client Name	Role
Moeding Solar PV Solar Energy Facility, Vryburg, North West Province	Kabi Solar EAP: Savannah Environmental	Project Manage the Public Participation Process Facilitate all meetings Consultation with Government Officials, Key Stakeholders, Landowners & Community Leaders
Sirius Solar PV Solar Energy Facility, Upington, Northern Cape Province	SOLA Future Energy EAP: Savannah Environmental	

**RENEWABLE POWER GENERATION PROJECTS: WIND ENERGY FACILITIES**

**Environmental Impact Assessments and Environmental Management Programmes**

Project Name & Location	Client Name	Role
Aletta Wind Farm, Copperton, Northern Cape Province	BioTherm Energy EAP: SiVEST	Public Participation
Eureka Wind Farm, Copperton, Northern Cape Province		
Loeriesfontein Wind Farm, Loeriesfontein, Northern Cape Province	South Africa Mainstream Renewable Power Developments EAP: SiVEST	Public Participation
Droogfontein Wind Farm, Loeriesfontein, Northern Cape Province		
Four Leeuwberg Wind Farms, Loeriesfontein, Northern Cape Province		
Noupoort Wind Farm, Noupoort, Northern Cape Province		
Mierdam PV & Wind Farm, Prieska, Northern Cape Province		
Platsjambok West Wind Farm & PV, Prieska, Northern Cape Province		

**Basic Assessments and Environmental Management Programmes – Located within the Renewable Energy Development Zones (REDZ)**

Project Name & Location	Client Name	Role
Nama Wind Energy Facility, Northern Cape Province	Genesis ECO EAP: Savannah Environmental	Project Manage the Public Participation Process Facilitate all meetings Consultation with Government Officials, Key Stakeholders, Landowners & Community Leaders
Zonnequa Wind Energy Facility, Northern Cape Province		

**Environmental Authorisation Amendments**

Project Name & Location	Client Name	Role
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Beaufort West 280MW Wind Farm into two 140MW Trakas and Beaufort West Wind Farms, Western Cape	South Africa Mainstream Renewable Power Developments EAP: SiVEST	Public Participation
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## **RENEWABLE POWER GENERATION PROJECTS: CONCENTRATED SOLAR FACILITIES (CSP)**

### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Upington Concentrating Solar Plant and associated Infrastructures, Northern Cape Province	Eskom Holdings EAP: Bohlweki Environmental	Public Participation

## **GRID INFRASTRUCTURE PROJECTS**

### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Pluto-Mahikeng Main Transmission Substation and 400kV Power Line (Carletonville to Mahikeng), Gauteng and North West Provinces	Eskom Holdings EAP: Baagi Environmental	
Thyspunt Transmission Lines Integration Project, Eastern Cape Province	Eskom Holdings EAP: SiVEST	Public Participation, Landowner and Community Consultation
Westrand Strengthening Project, Gauteng Province		Public Participation,
Mookodi Integration Project, North-West Province		
Transnet Coallink, Mpumalanga and KwaZulu-Natal Provinces		
Delarey-Kopela-Phahameng Distribution power line and newly proposed Substations, North-West Province		Public Participation, Landowner and Community Consultation
Invubu-Theta 400kV Eskom Transmission Power Line, KwaZulu-Natal Province	Eskom Holding EAP: Bembani Environmental	

## **Facilitation**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Meeting Type</b>
Bloemfontein Strengthening Project, Free State Province	Eskom Holdings EAP: Baagi Environmental	Public Meetings
Moidraai-Smitkloof 132kV Power Line and Substation, Northern Cape Province	Eskom Holdings EAP: SSI	Focus Group Meetings
Aggeneis-Oranjemond 400kV Eskom Transmission Power Line, Northern Cape Province	Eskom Holdings EAP: Savannah Environmental	Focus Group Meetings & Public Meetings
Ariadne-Eros 400kV/132kV Multi-Circuit Transmission Power Line (Public Meetings)	Eskom Holdings EAP: ACER Africa	Public Meetings
Majuba-Venus 765kV Transmission Power Lines, Mpumlanaga Province		Public Meetings

## **Basic Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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Melkhout-Kudu-Grassridge 132kV Power Line Project (project not submitted to DEA), Eastern Cape Province	Eskom Holdings EAP: SiVEST	Public Participation, Landowner and Community Consultation
Tweespruit-Welroux-Driedorp-Wepener 132Kv Power Line, Free State Province		Public Participation, Landowner and Community Consultation
Kuruman 132Kv Power Line Upgrade, Northern Cape Province	Eskom Holdings EAP: Zitholele	Public Participation, Landowner and Community Consultation
Vaalbank 132Kv Power Line, Free State Province		Public Participation, Landowner and Community Consultation
Pongola-Candover-Golela 132kV Power Line (Impact Phase), KwaZulu-Natal Province		Public Participation, Landowner and Community Consultation
Ndumo-Geziza 132kV Power Line, KwaZulu-Natal Province		Public Participation, Landowner and Community Consultation
		Public Participation, Landowner and Community Consultation

#### Screening Studies

Project Name & Location	Client Name	Role
Potential Power Line Alternatives from Humansdorp to Port Elizabeth, Eastern Cape Province	Nelson Mandela Bay Municipality EAP: SiVEST	Social Assessment

### CONVENTIONAL POWER GENERATION PROJECTS (COAL, GAS AND ASSOCIATED INFRASTRUCTURE)

#### Stakeholder Engagement

Project Name & Location	Client Name	Role
Determination, Review and Implementation of the Reserve in the Olifants/Letaba System	Department of Water and Sanitation	Secretarial Services
Orange River Bulk Water Supply System	Golder Associates	
Levuvu-Letaba Resources Quality Objectives		

#### Facilitation

Project Name & Location	Client Name	Meeting Type
Thabametsi IPP Power Station, Limpopo Province	Thabametsi Power Company EAP: Savannah Environmental	Focus Group Meeting & Public Meeting

#### Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Richards Bay Combined Cycle Power Plant, Richards Bay, Kwa-Zulu Natal Province (Impact Phase)	Eskom Holdings EAP: Savannah Environmental	Public Participation
Medupi Flue Gas Desulphurisation Project (up to completion of Scoping Phase), Limpopo Province	Eskom Holdings SOC Ltd EAP: Zitholele Consulting	Public Participation, Landowner and Community Consultation
Kendal 30-year Ash Disposal Facility, Mpumalanga Province		
Kusile 60-year Ash Disposal Facility, Mpumalanga Province		

Camden Power Station Ash Disposal Facility, Mpumalanga Province		
Tutuka Fabric Filter Retrofit and Dust Handling Plant Projects, Mpumalanga Province	Eskom Holdings SOC Ltd EAP: Lidwala Environmental	Public Participation, Landowner and Community Consultation
Eskom's Majuba and Tutuka Ash Dump Expansion, Mpumalanga Province		Public Participation, Landowner and Community Consultation
Hendrina Ash Dam Expansion, Mpumalanga Province		Public Participation, Landowner and Community Consultation

### **INFRASTRUCTURE DEVELOPMENT PROJECTS (BRIDGES, PIPELINES, RAILWAY LINES, ROADS, WATER RESOURCES, STORAGE FACILITIES, ETC)**

#### **Facilitation**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Meeting Type</b>
Determination, Review and Implementation of the Reserve in the Olifants/Letaba System	Department of Water and Sanitation Golder Associates	Secretarial Services
Orange River Bulk Water Supply System	Department of Water and Sanitation Golder Associates	Secretarial Services
Levuvu-Letaba Resources Quality Objectives	Department of Water and Sanitation Golder Associates	Secretarial Services
SmancorCR Chemical Plant (Public Meeting), Gauteng Province	Samancor Chrome (Pty) Ltd EAP: Environmental Science Associates	Public Meeting
SANRAL N4 Toll Highway Project (2 <sup>nd</sup> Phase), Gauteng & North West Provinces	Department of Transport EAP:	Public Meetings

#### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Transnet's New Multi-Products Pipeline traversing Kwa-Zulu Natal, Free State and Gauteng Provinces	Transnet EAP: Bohlweki Environmental	Public Participation

#### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Realignment of the Bulshoek Dam Weir near Klawer and the Doring River Weir near Clanwilliam, Western Cape Province	Dept of Water and Sanitation EAP: Zitholele	Public Participation

### **MINING SECTOR**

#### **Environmental Impact Assessment and Environmental Management Programme**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Zero Waste Recovery Plant at highveld Steel, Mpumalanga Province	Anglo African Metals EAP: Savannah Environmental	Public Participation
Koffiefontein Slimes Dam, Free State Province	Petra Diamond Mines EAP: Zitholele	Public Participation



<i>Baobab Project: Ethenol Plant, Chimbanje, Middle Sabie, Zimbabwe</i>	<i>Applicant: Green Fuel EAP: SiVEST</i>	<i>Public Participation &amp; Community Consultation</i>
<i>BHP Billiton Energy Coal SA's Middelburg Water Treatment Plant, Mpumalanga</i>	<i>BHP Billiton Group EAP: Jones &amp; Wagener</i>	<i>Public Participation</i>



## Short CV/Summary of Expertise – Simon Todd

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 <p><b>SIMON TODD CONSULTING</b></p> <p><b>ECOLOGICAL SPECIALIST SERVICES</b></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 &amp; 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)

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### *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.

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## SHORT CV/SUMMARY OF EXPERTISE

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 <p><b>3Foxes Biodiversity Solutions</b> <b>ECOLOGICAL SPECIALIST SERVICES</b> Assessment/Management/Research</p>	<p>Simon Todd <a href="#">Pr.Sci.Nat</a> Director &amp; Principle Scientist C: 082 3326502 O: 021 782 0377 <a href="mailto:Simon.Todd@3foxes.co.za">Simon.Todd@3foxes.co.za</a>  60 Forrest Way <a href="#">Glencairn</a> 7975</p>	<p>Ecological Solutions for People &amp; the Environment</p>
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### Eric Herrmann

Eric Herrmann is an avifaunal specialist with over 15 years of experience in biodiversity research and conservation in the Northern Cape. He completed a B.Tech Degree in Nature Conservation (1997) at the Cape Technikon, followed by a Masters in Conservation Ecology at the University of Stellenbosch (2004). He has worked as a research assistant for the Endangered Wildlife Trust (1999-2001) in the Kgalagadi Transfrontier Park, and then for the Percy FitzPatrick Institute of African Ornithology (University of Cape Town) as project manager of a field research centre near Kimberley (2003 to 2006). In 2006 he joined the provincial Department of Environment and Nature Conservation (DENC) in Kimberley as a faunal scientist until 2012. Since 2016 he has been working independently as an avifaunal specialist largely on wind and solar energy projects in the Western and Northern Cape.

#### *Tertiary Education:*

- 1994 - 1997 – National Diploma: Nature Conservation (cum laude), Cape Technikon
- 1998 - 1999 – B.Tech Degree: Nature Conservation (cum laude), Cape Technikon
- 2000 - 2004 – MFor: Conservation Ecology (cum Laude), University of Stellenbosch

#### *Employment History*

- 2016 - Present – Independent contractor, avifaunal specialist for renewable energy projects.
- 2006 - 2012 – Senior Conservation Scientist, Department of Environment and Nature Conservation, Kimberley.
- 2003 - 2006 – Research Assistant and Field Projects Manager, Percy Fitzpatrick Institute of African Ornithology, Cape Town
- 2001 - 2002 – Field Researcher, Deciduous Fruit Producers Trust, Stellenbosch.
- 1999 - 2001 – Research Assistant, Endangered Wildlife Trust, Johannesburg.

Recent Specialist Avifaunal Studies include the following:

- Dassieklip Wind Facility. Avifaunal post-construction monitoring. BTE Wind Pty (Ltd). 2018/19.
- Excelsior Wind Facility. Avifaunal pre-construction monitoring. BTE Wind Pty (Ltd). 2018/19.
- Kathu Hyperion Solar PV Facility, Kathu. Fauna and Flora EIA Process. Cape EAPrac 2018.
- Gaetsewe Solar PV Facility, Kathu. Avifaunal Scoping Report. Cape EAPrac 2018.
- Mogara Solar PV Facility, Kathu. Avifaunal Scoping Report. Cape EAPrac 2018.

- Mamre Wind Facility. Avifaunal pre-construction monitoring. Mulilo Renewable Project Developments. 2017.
- Soventix Solar PV Facility (De Aar). Avifaunal Specialist Scoping and EIA Reports. Ecoleges. 2017.
- Olifantshoek-Emil 132kV power line, Olifantshoek. Fauna and Flora BA process. Savannah Environmental 2017.
- Klondike (Vryburg) Solar PV Facility. Ecological Specialist Report for EIA. Cape EAPrac 2016.

## CURRICULUM VITAE OF SHAUN TAYLOR

<b>Profession :</b>	Environmental and Permitting Lead Consultant
<b>Specialisation:</b>	Environmental Impact Assessments; Strategic Environmental Assessments; Environmental permitting compliance, advice & assurance; Water Use Licenses; Project Management; Wetland Assessments.
<b>Work Experience:</b>	Eleven (11) years' experience in the environmental field

### OCATIONAL EXPERIENCE

Shaun's highest qualification is a Master of Science Degree in Aquatic Health. Shaun has an in-depth understanding of environmental and water related South African legislation. Applicable legislation includes the National Environmental Management Act, 1998 (Act No. 107 of 1998), the Environmental Impact Assessment (EIA) Regulations (2006, 2010 and 2014, as amended) and the National Water Act, 1998 (Act No. 36 of 1998). Over and above a number of other projects, Shaun has successfully conducted and obtained environmental approvals for numerous renewable energy (wind and solar) developments as well as for infrastructure (roads, water pipeline and power line) related projects. Shaun has excellent experience in dealing with the entire environmental authorization (EA) process from beginning to end i.e. submission of applications, undertaking Environmental Impact Assessments and Basic Assessments (BAs), conducting EA amendments, extension applications and compiling Draft and Final Environmental Management Programmes (EMPrs). Shaun is well acquainted and experienced in dealing with the key provincial and national environmental authorities, other organs of state as well as any other key stakeholders.

Within the water field, Shaun has completed numerous water use license applications (WULAs), General Authorisations (GAs), Risk Assessments and WULA compliance monitoring for various developments. Shaun is also specialised in wetland ecology and operates as a wetland specialist. Shaun has undertaken and completed numerous wetland and riparian assessments for renewable energy, linear projects as well as site specific projects. Shaun has also undertaken a wetland offset plan and several wetland rehabilitation plans for various developments.

### SKILLS BASE AND CORE COMPETENCIES

- Environmental Project Management
- Environmental Impact Assessments and Basic Assessments
- Environmental Management Programmes
- Environmental Compliance Monitoring
- Environmental Amendments
- Strategic Environmental Assessments
- Environmental Management
- Public and Stakeholder Engagement
- Water Use License Applications
- General Authorisations

- Risk Assessment Matrix
- Wetland Delineation, Functional and Impact Assessments
- Geographic Information Systems (GIS)

## EDUCATION AND PROFESSIONAL STATUS

### Degrees:

- M.Sc. Aquatic Health, University of Johannesburg, Johannesburg (2011)
- B.Sc (Hons) Geography and Environmental Studies, University of Witwatersrand, Johannesburg (2010)
- B.A Geography and Environmental Science, Monash University, Johannesburg (2008)

### Short Courses:

- National Training and Development Buffer Zone Workshop, Eco-pulse (2015)
- Integrated Water Resources Management (IWRM), the National Water Act (NWA), and Water Use Authorisations, focusing on Water Use License Applications – Procedures, Guidelines, Integrated Water and Waste Management Plan (IWWMP), Carin Bosman Sustainable Solutions (2014)
- Grass identification short course, Bushveld Eco Services (2010)
- Wildflower identification short course, Bushveld Eco Services (2010)
- Veld management short course, Bushveld Eco Services (2010)
- Short course and certification in Wetland Delineation and Rehabilitation Training Course from the School of Continuing Education, University of Pretoria (2008)

### Professional Society Affiliations:

- Member of the South African Wetland Society (SAWS) (Current)
- Registration pending with the South African Council for Natural Scientific Professions as a Professional Natural Scientist: Environmental Scientist (Current)

### Other Relevant Skills:

- Project Management Course, SiVEST (2017)

## EMPLOYMENT

Date	Company	Roles and Responsibilities
<b>June 2018 - Current:</b>	Savannah Environmental (Pty) Ltd	Environmental and Permitting Lead Consultant <i>Tasks include: undertaking strategic environmental assessments, environmental impact assessments, basic assessments, environmental management programmes (EMPrs), environmental amendments, environmental screening and due diligence assessments, water use license applications, wetland assessments and rehabilitation plans. Ensuring environmental compliance on permitting processes. Client liaison and relationship management.</i>
<b>November 2010 – May 2018</b>	SiVEST South Africa (Pty) Ltd	Environmental Scientist <i>Tasks included: conducting environmental impact assessments, basic assessments and water use license application processes, undertaking amendment and exemption</i>



<b>Date</b>	<b>Company</b>	<b>Roles and Responsibilities</b>
		<i>applications, general project management, report writing, marketing and proposal writing, client liaison and relationship management, invoicing, conducting specialist riparian/wetland delineation and functional assessments, environmental and water related compliance monitoring and auditing.</i>
<b>October 2009 – March 2010</b>	<i>Envirokey cc</i>	Junior Environmental Consultant and GIS support <i>Tasks included: being responsible for managing basic assessments, report writing, conducting specialist wetland assessments, auditing procedures and GIS mapping.</i>
<b>August 2007 – September 2009</b>	Holgate Meyer and Associates Environmental Management Services	Junior Environmental Consultant <i>Tasks included: being responsible for managing basic assessments, report writing, conducting specialist wetland assessments, environmental auditing procedures and GIS mapping.</i>

## **PROJECT EXPERIENCE**

Project experience includes environmental approvals for numerous renewable energy (wind and solar) developments as well as for infrastructure (roads, water pipeline and power line) related projects. Within the water field, project experience includes numerous water use license applications, general authorisations, risk assessments and compliance monitoring for various developments. In terms of wetland assessments, project experience includes numerous wetland and riparian delineation, functional and impact assessments for renewable energy, linear projects and site-specific projects. The wetland experience also includes a wetland offset plan and several wetland rehabilitation plans (various types of developments).

## **RENEWABLE POWER GENERATION PROJECTS: SOLAR ENERGY FACILITIES**

### ***Environmental Impact Assessments and Environmental Management Programmes***

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Loeriesfontein Photovoltaic (PV) Plant, Northern Cape Province</i>	<i>Mainstream Renewable Power South Africa</i>	<i>Environmental consultant, public participation, wetland specialist</i>
<i>Renosterberg PV Plant near De Aar, Northern Cape Province</i>	<i>Renosterberg Wind Energy Corporation (RWEC) &amp; Industrial Development Corporation (IDC) of South Africa</i>	<i>Environmental consultant, public participation, wetland specialist</i>
<i>Droogfontein II - 70MW Solar Photovoltaic Power Plant near Kimberley, Northern Cape Province</i>	<i>Mainstream Renewable Power South Africa</i>	<i>Environmental consultant, wetland specialist</i>
<i>Construction of a Concentrated PV/ PV Plant in De Aar, Northern Cape</i>	<i>Mainstream Renewable Power South Africa</i>	<i>Environmental consultant, wetland specialist</i>

### Basic Assessments

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Proposed development of a 19MW Photovoltaic Solar Power Plant near Kimberley, Northern Cape Province	SolarReserve South Africa (Pty) Ltd	Environmental consultant, public participation, wetland specialist
Proposed development of a 19MW Photovoltaic Solar Power Plant near Danielskuil, Northern Cape Province	SolarReserve South Africa (Pty) Ltd	Environmental consultant, public participation, wetland specialist
Loeriesfontein 70MW PV Plant, Northern Cape Province	Biotherm Energy	Environmental consultant
Droogfontein II - 70MW Solar Photovoltaic Power Plant near Kimberley, Northern Cape Province	SunEdison	Project leader, environmental consultant

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

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Integrated Water Use License Application for the Construction of a Concentrated PV/ PV Plant in De Aar, Northern Cape Province	Mainstream Renewable Power South Africa	Environmental consultant, wetland specialist
Proposed Construction of the De Wildt Solar Photovoltaic Power Plant, General Authorisation and Risk Assessment, Gauteng Province	SunEdison	Project leader, environmental consultant, wetland specialist
Loeriesfontein Photovoltaic (PV) Plant Vegetation Permits, Northern Cape Province	Mainstream Renewable Power South Africa	Environmental consultant
Droogfontein II 70MW Solar Photovoltaic Power Plant near Kimberley Vegetation Permits, Northern Cape Province	SunEdison	Environmental consultant

### RENEWABLE POWER GENERATION PROJECTS: WIND ENERGY FACILITIES

#### Environmental Impact Assessments and Environmental Management Programmes

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Noupoort Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Environmental consultant & public participation
Loeriesfontein Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Environmental consultant, public participation, wetland specialist
Khobab Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Environmental consultant, public participation, wetland specialist
Renosterberg Wind Farm near De Aar, Northern Cape Province	Renosterberg Wind Energy Corporation (RWECC) & Industrial Development Corporation (IDC) of South Africa	Environmental consultant, public participation, wetland specialist
Ithemba Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Environmental consultant, public participation, wetland specialist
Harte Beeste Leegte Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Environmental consultant, public participation, wetland specialist

Gras Koppies Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Environmental consultant, public participation, wetland specialist
Xhal Boom Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Environmental consultant, public participation, wetland specialist

#### Screening Studies

Project Name & Location	Client Name	Role
Environmental Constraints Analysis Report for the establishment of four Wind Farms in the Northern and Eastern Cape Provinces	Mainstream Renewable Power South Africa	Environmental consultant, wetland specialist

#### Compliance Advice and ESAP reporting

Project Name & Location	Client Name	Role
Noupoort Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Environmental advisor

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

Project Name & Location	Client Name	Role
Water Use License for the Dwarsrug Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Environmental consultant, wetland specialist
Water Use License for the Victoria West Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Environmental consultant, wetland specialist
Khobab Wind Farm Vegetation Permits, Northern Cape Province	Mainstream Renewable Power South Africa	Environmental consultant
Loeriesfontein Wind Farm Vegetation Permits, Northern Cape Province	Mainstream Renewable Power South Africa	Environmental consultant

#### RENEWABLE POWER GENERATION PROJECTS: CONCENTRATED SOLAR FACILITIES (CSP)

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

Project Name & Location	Client Name	Role
Integrated Water Use License Application for the Construction of a CPV/ PV Plant in De Aar, Northern Cape Province of South Africa	Mainstream Renewable Power South Africa	Environmental consultant, wetland specialist
Water Use License for the Rooipunt Concentrated Solar Power Project, Northern Cape Province	SolarReserve South Africa (Pty) Ltd	Environmental consultant, wetland specialist
Water Use License for the Limestone Concentrated Solar Power Project, Northern Cape Province	SolarReserve South Africa (Pty) Ltd	Environmental consultant, wetland specialist

#### CONVENTIONAL POWER GENERATION PROJECTS (COAL)

#### Basic Assessments

Project Name & Location	Client Name	Role
Proposed Installation of a 500m <sup>3</sup> Bulk Storage Fuel Oil Tank at Grootvlei Power Station, Mpumalanga Province	Eskom Generation	Environmental consultant, wetland specialist

### **Environmental Compliance, Auditing and ECO**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Water Use License Compliance Auditing for Grootvlei Power Station, Mpumalanga Province, South Africa	Eskom Generation	Project leader, environmental auditor, wetland specialist
Kusile Power Station Armcor Water Use License Compliance Audit, Mpumalanga Province	Eskom Generation	Project leader, environmental auditor, wetland specialist
Kusile Power Station Ash Dump Water Use License Compliance Audit, Mpumalanga Province	Eskom Generation	Project leader, environmental auditor, wetland specialist
Kusile Power Station Pollution Dams Water Use License Compliance Audit, Mpumalanga Province	Eskom Generation	Project leader, environmental auditor, wetland specialist
Kusile Power Station Stream Diversion and Water Pipeline Crossings Water Use License Compliance Audit, Mpumalanga Province	Eskom Generation	Project leader, environmental auditor, wetland specialist
Kusile Power Station Geotechnical Water Use License Compliance Audit, Mpumalanga Province	Eskom Generation	Project leader, environmental auditor, wetland specialist

### **GRID INFRASTRUCTURE PROJECTS**

#### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Mookodi Integration Project Environmental Impact Assessment, North West Province	Eskom Distribution	Environmental consultant, wetland specialist
Eskom Thyspunt Nuclear Integration Project – Transmission and Substation Infrastructure (Northern and Southern Corridor), Eastern Cape Province	Eskom Transmission	Environmental consultant, wetland specialist

#### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Frankfort Strengthening Project: 88kV Power Line from Heilbron (via Frankfort) to Villiers, Free State Province	Eskom Distribution	Project leader, environmental consultant, wetland specialist
Wilger 132kV Overhead Distribution Power Line, Northern Cape Province	SolarReserve South Africa (Pty) Ltd	Project leader, environmental consultant, wetland specialist
Limestone 1 – 132kV Overhead Distribution Power Line, Northern Cape Province	SolarReserve South Africa (Pty) Ltd	Environmental consultant, wetland specialist
Limestone 2 – 132kV Overhead Distribution Power Line, Northern Cape Province	SolarReserve South Africa (Pty) Ltd	Environmental consultant, wetland specialist
Proposed Tweespruit to Welroux Power Line and Substations, Free State Province	Eskom Distribution	Project leader, environmental consultant, wetland specialist
Proposed Construction of a 132kV Power Line and Associated Infrastructure for the evacuation of power from the proposed 200MW Concentrated	SolarReserve South Africa (Pty) Ltd	Project leader, environmental consultant, wetland specialist

Solar Power (CSP) Plant on the Farm Rooipunt Number 617 near Upington, Northern Cape Province		
Loeriesfontein 132kV Power Line, Northern Cape Province	Biotherm Energy	Project leader, environmental consultant, wetland specialist
Proposed Construction of a 132kV Power Line and Associated Infrastructure for the evacuation of power from the Kalkaar Concentrating Solar Thermal Power Project on the Remainder of Portion 1 of the Farm Kalkaar 389 near Jacobsdal, Free State and Northern Cape Provinces	SolarReserve South Africa (Pty) Ltd	Project leader, environmental consultant, wetland specialist
Droogfontein II – 132kV power line and substation near Kimberley, Northern Cape Province	SunEdison	Project leader, environmental consultant
Mookodi Integration Project II – 132kV Power Line, Havelock Loop-in/Loop-out, Ganyesa Substation, North West Province	Eskom Distribution	Project leader, environmental consultant, wetland specialist

#### **Environmental Compliance, Auditing and ECO**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Environmental Compliance Auditing for the Nigel Substation to Jameson Park (Inland Terminal 2) 88kV power lines	Eskom Distribution	Environmental auditor
Ga-rankuwa 11kV Underground Power Cable Water Use License Compliance Audit, Gauteng Province	Eskom Distribution	Project leader, environmental auditor

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

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Water Use License / General Authorisation for Ga-rankuwa Substation, Gauteng Province	Eskom Distribution	Project leader, environmental consultant, wetland specialist
Water Use License / General Authorisation for Klevebank to Dalkieth 88kV Power Line, Gauteng Province	Eskom Distribution	Project leader, environmental consultant, wetland specialist
Water Use License Application for the Frankfort Strengthening Project: 88kV Power Line from Heilbron (via Frankfort) to Villiers, Free State Province	Eskom Distribution	Project leader, environmental consultant, wetland specialist
Water Use License / General Authorisation Proposed Tweespruit to Welroux Power Line and Substations, Free State Province	Eskom Distribution	Project leader, environmental consultant, wetland specialist

#### **MINING SECTOR PROJECTS**

##### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Karowe Diamond Mine Environmental Management Plan Review and Update, Boteti District, Botswana	Karowe Diamond Mine	Environmental consultant

**Environmental Compliance, Auditing and ECO**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Post-rehabilitation Assessment of Three Wetland Crossing Sites for the Re-working of a Tailings Dam Project near Stilfontein, North West Province	Chemwes (Pty) Ltd	Environmental auditor

**TRANSPORT SECTOR PROJECTS****Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Polokwane Integrated Rapid Public Transport Network, Limpopo Province	City of Polokwane	Environmental consultant, wetland specialist

**Environmental Compliance, Auditing and ECO**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Transnet Rail Water Use License Compliance Audit, Northern Cape Province	Hatch-Goba / Transnet	Environmental auditor

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

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Water Use Licensing for the Polokwane Integrated Rapid Public Transport Network, Limpopo Province	City of Polokwane	Environmental consultant, wetland specialist
General Authorisation for the proposed eThekweni Integrated Rapid Public Transport Network (IRPTN) - BRT Phase 1: Route C1A, General Authorisation and Risk Assessment, Kwa-Zulu Natal Province	Nako Iliso	Environmental consultant, wetland specialist

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

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Sir Lowry's Pass River Flood Alleviation Project, Western Cape Province	City of Cape Town	Environmental consultant

**Environmental Compliance, Auditing and ECO**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Wetland Post-rehabilitation Assessment of the Inland New Multi-Purpose Pipeline in the Mpumalanga and Gauteng Provinces	Transnet SOC Ltd	Wetland specialist

**HOUSING AND URBAN PROJECTS****Screening Studies**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Social Housing Projects in Sasolburg and Secunda, Gauteng Province	Provincial Department of Human Settlements	Environmental consultant, wetland specialist

## **INDUSTRIAL PROJECTS**

### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
SPAR Distribution Centre, Port Elizabeth, Eastern Cape Province	SPAR Group Ltd	Project leader, environmental consultant, wetland specialist

### **Environmental Compliance, Auditing and ECO**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Environmental Compliance Auditing for the Meadow Feeds Standerton Broiler Feed Mill, Mpumalanga Province	Meadow Feeds	Environmental consultant, wetland specialist

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

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Water Use License for the SPAR Distribution Centre, Port Elizabeth, Eastern Cape Province	SPAR Group Ltd	Project leader, environmental consultant, wetland specialist
Water Use License for the Proposed Tissue Manufacturing Capacity at the Kliprivier Operations Base, General Authorisation and Risk Assessment, Gauteng Province	Twinsaver Group	Project leader, environmental consultant, wetland specialist

## **ENVIRONMENTAL MANAGEMENT TOOLS**

### **Strategic Environmental Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Molemole Local Municipality Strategic Environmental Assessment, Limpopo Province	Capricorn District Municipality	Environmental consultant, wetland specialist
Blouberg Local Municipality Strategic Environmental Assessment, Limpopo Province	Capricorn District Municipality	Environmental consultant, wetland specialist

## **SPECIALIST STUDIES**

### **Wetland and Riparian Delineation, Functional and Impact Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Surface Water Assessment for the Construction of a Wind Farm in Prieska, Northern Cape Province	Mainstream Renewable Power South Africa	Wetland specialist
Surface Water Assessment for the Construction of a Wind Farm in Loeriesfontein, Northern Cape Province	Mainstream Renewable Power South Africa	Wetland specialist
Surface Water Assessment for the Construction of a 132KV Distribution Line from the Kudu Substation to Dorstfontein Substation in Mpumalanga Province	Eskom Distribution	Wetland specialist
EIA for the Thyspunt Transmission Lines Integration Project: Surface Water Impact Assessment Report – EIA – Northern Corridor: Eastern Cape Province	Eskom Transmission	Wetland specialist
EIA for the Thyspunt Transmission Lines Integration Project: Surface Water Impact Assessment Report – EIA – Southern Corridor: Eastern Cape Province	Eskom Transmission	Wetland specialist

Surface Water Assessment for the Construction of a CSP and a CPV/ PV Plant in De Aar, Northern Cape Province	Mainstream Renewable Power South Africa	Wetland specialist
Environmental Management Framework for the Mogale City Local Municipality Surface Water Report – Desired State Report: Gauteng Province	Mogale City	Wetland specialist
Surface Water Assessment for the Proposed Township Development on the Remainder of Portion 27 of the Farm Middelburg and Townsland 287 JS, Mpumalanga Province	Steve Tshwete Local Municipality	Wetland specialist
Surface Water Assessment for the Construction of a CSP and a CPV/ PV Plant in De Aar, Northern Cape Province	Mainstream Renewable Power South Africa	Wetland specialist
Surface Water Assessment for the Construction of a CSP and a CPV/ PV Plant in Kimberley, Northern Cape Province, South Africa	Mainstream Renewable Power South Africa	Wetland specialist
Surface Water Assessment for the Westrand Strengthening Project from Westgate Substation to Hera Substation and Westgate Substation Extension, Gauteng Province	Eskom Distribution	Wetland specialist
Mookodi Integration Project 2 Basic Assessment Surface Water Impact Assessment, North West Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Construction of a Gabion Structure at Waterval Substation in the Midrand Area, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Construction of a Single 400kV Power Line from Borutho to Nzhlele, North West Province	Eskom Transmission	Wetland specialist
Surface Water Assessment for the Proposed Construction of an 88kv Power Line at Palmridge in the Ekurhuleni Metropolitan Municipality, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Construction of a 19MW Photovoltaic Solar Power Plant near Danielskuil, Northern Cape Province	SolarReserve South Africa (Pty) Ltd	Wetland specialist
Surface Water Assessment for the Proposed Rebuilding of an 88kV Power Line from Henneman Substation to Serfontein Substation near Kroonstad, Free State Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Deconstruction and Construction of an 11kV Power Line near Delmas, Mpumalanga Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Construction of a Solar Photovoltaic Power Plant near De Aar, Northern Cape Province, South Africa	Renosterberg Wind Energy Corporation (RWEC) & Industrial Development Corporation (IDC) of South Africa	Wetland specialist
Surface Water Assessment for the Proposed Construction of a Wind Farm near De Aar, Northern Cape Province	Renosterberg Wind Energy Corporation (RWEC) & Industrial Development	Wetland specialist



	Corporation (IDC) of South Africa	
Surface Water Assessment for the Proposed Construction of a Low-Cost Housing Development in the Soutpan area of Tshwane, Gauteng Province	Makole Property Development	Wetland specialist
Surface Water Assessment for the Proposed Construction of a 132kV Power Line near Kimberley, Northern Cape Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Extension of Delmas Substation and Associated Power Lines, Mpumalanga Province, South Africa	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Construction of a Substation in the Midrand area of Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Construction of an 88kV Power Line at Lochvaal Kudu in the Emfuleni Municipality, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed construction of an 88kV Power Line from Klevebank Substation to Dalkeith Substation, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Construction of an 88kV Power Line from Heilbron Substation to Villiers Substation, Free State Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Construction of a 132kV Power Line, Substation and the Extension of Homestead Substation Associated with the 75MW Concentrating Photovoltaic (CPV) / Photovoltaic (PV) Plant (PV 3) on the Farm Droogfontein in Kimberley, Northern Cape Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Moddershaft Underground to Overhead Cable Replacement of an 11kV Power Line from Moddershaft Substation to a Minisub near Anzac, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Construction of an 11kV Underground Power Cable from Civic Centre to Zola Substation, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Construction of a Substation on Portion 265 Randjesfontein 405-JR, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Re-build of a Section of the Mathibestad Danhauser 33kV Power Line Network, North West Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Re-build of a Section of the Existing 33kV Mathibestad-Danhauser Power Line Network, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Re-build of a Section of the Existing 33kV Mothutlung North Power Line Network, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Re-build of a Section of the Existing 33kV Mothutlung South Power Line Network, Gauteng Province	Eskom Distribution	Wetland specialist

Surface Water Assessment for the Proposed Re-build of a Section of the Existing 33kV Nonyane Madidi North Power Line Network, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Re-build of a Section of the Existing 33kV Nonyane Swartdam Power Line Network, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Rebuild of a Section of the Existing 33kV Pelly Klipdrift Network, Gauteng and North West Provinces	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Re-build of a Section of the Existing 33kV Zonderwater Kraal Power Line Network, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Re-build of a Section of the Existing 33kV Hammanskraal Lusthof Power Line Network, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Re-build of a Section of the Existing 33kV Klipgat Circle Power Line Network, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Re-build of Sections of the Existing 33kV Erasmus Aviva Power Line Network, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Construction of an 11kV Underground Power Cable at the Ga-Rankuwa Substation, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Mamatwan Manganese Mine, Northern Cape Province	Groundwater Consulting Services (Pty) Ltd	Wetland specialist
Surface Water Assessment for the Dwarsrug Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Wetland specialist
Surface Water Assessment for the Manzimtoti Sewer Line Project, Kwa-Zulu Natal Province	Environmental Planning and Design cc	Wetland specialist
Surface Water Assessment for the Compensation Flats Development, Kwa-Zulu Natal Province	Tongaat Hulett	Wetland specialist
Surface Water Assessment for the Tinley Manor South Road Development, Kwa-Zulu Natal Province	Tongaat Hulett	Wetland specialist
Surface Water Assessment for the Ntuzuma Sewer Line Project, Kwa-Zulu Natal Province	Environmental Planning and Design cc	Wetland specialist
Surface Water Assessment for the Esphiva Sewer Line Project, Kwa-Zulu Natal Province	Environmental Planning and Design cc	Wetland specialist
Frankfort 132kV Power Line Wetland Walk-down Assessment, Free State Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Esphiva Water Pipeline near Ulundi, KwaZulu-Natal Province	Environmental Planning and Design cc	Wetland specialist
Surface Water Assessment for the Grootvlei Power Station, Mpumalanga Province	Eskom Generation	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Embangweni and Bhekabantu Irrigation Schemes, KwaZulu-Natal Province	Nzingwe Consultancy	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Nondabuya and Khwehle	Nzingwe Consultancy	Wetland specialist

Primary Agriculture Schemes, KwaZulu-Natal Province		
Surface Water Assessment for the Proposed Expansion of the Makhathini Irrigation Scheme, KwaZulu-Natal Province	Nzingwe Consultancy	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Mbaliyezwe Irrigation Schemes, KwaZulu-Natal Province	Nzingwe Consultancy	Wetland specialist
Surface Water Assessment for the Proposed Mixed Use Development on the Remainder of Portion 27 of the Farm Middelburg Town and Townlands 287 JS, Steve Tshwete Local Municipality in the Mpumalanga Province	Steve Tshwete Local Municipality	Wetland specialist
Surface Water Assessment for the Proposed Construction of Two Power Lines and Two Substations for the Mainstream Wind Facilities near Beaufort West, Western Cape Province	Mainstream Renewable Power South Africa	Wetland specialist
Surface Water Assessment for the Proposed eThekweni Integrated Rapid Transport Network (IRPTN) – Bus Rapid Transport (BRT) Phase 1: Route C1A, KwaZulu-Natal Province	Nako Iliso	Wetland specialist
Surface Water Assessment for the Proposed Coal Railway Siding at the Welbedacht Marshalling Yard and associated Milder Road Upgrade near Springs, Gauteng Province	Canyon Coal	Wetland specialist
Surface Water Assessment for the Proposed Development of a 22kV Medium Voltage Power Line in Mofofutso, North West Province	Eskom Distribution	Wetland specialist
Wetland Walk-down Assessment for the Mookodi Integration Power Line Project, North West Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Construction of a Coal Loading Facility within the existing Bronkhorstspuit Railway Siding near Bronkhorstspuit, Gauteng Province	Canyon Coal	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Two 75MW Tlisitseng Solar Photovoltaic Energy Facilities near Lichtenburg, North West Province	Biotherm Energy	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Two 75MW Sendawo Solar Photovoltaic Energy Facilities near Lichtenburg, North West Province	Biotherm Energy	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Sendawo Solar Substation and associated 400kV Power Line near Lichtenburg, North West Province	Biotherm Energy	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Helena 1, 2 & 3 Photovoltaic Energy Facilities near Copperton, Northern Cape Province	Biotherm Energy	Wetland specialist
Surface Water Assessment for the Proposed Construction of a 70MW Photovoltaic Facility and	Mainstream Renewable Power South Africa	Wetland specialist

132kV Power Line near Loeriesfontein, Northern Cape Province		
Surface Water Assessment for the Proposed Expansion of the Tissue Manufacturing Capacity at the Kliprivier Operations Base, Gauteng Province	Twinsaver Group	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Eureka West 140MW Wind Farm near Copperton, Northern Cape Province	Biotherm Energy	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Eureka East 140MW Wind Farm near Copperton, Northern Cape Province	Biotherm Energy	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Eureka 132kV Power Line near Copperton, Northern Cape Province	Biotherm Energy	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Aletta 140MW Wind Farm near Copperton, Northern Cape Province	Biotherm Energy	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Ithemba Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Harte Beeste Leegte Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Gras Koppies Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Xha! Boom Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Wetland specialist
Surface Water Assessment for the Proposed Expansion of the Mountain Valley "A" Grade Chicken Abattoir on the Remainder of Subdivision of Portion 17 (of 16) of the Farm Leeuw Poort 1120 FT, KwaZulu-Natal Province	Shangoni Management Services (Pty) Ltd	Wetland specialist
Surface Water Assessment for the Proposed Construction of a Linking Station, Power Lines and Substations for the Mainstream Wind Energy Facilities near Beaufort West, Western Cape Province	Mainstream Renewable Power South Africa	Wetland specialist
Surface Water Assessment for the Proposed Construction 132kV Power Lines and a Substation for Tsakane Ext 10 and 22, Gauteng Province	Eskom Distribution	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Harte Beeste Leegte Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Ithemba Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Gras Koppies Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Wetland specialist

Surface Water Assessment for the Proposed Construction of the Xha! Boom Wind Farm, Northern Cape Province	Mainstream Renewable Power South Africa	Wetland specialist
Surface Water Assessment for the Proposed Construction of the SPAR Distribution Centre, Port Elizabeth, Eastern Cape Province	SPAR Group Ltd	Wetland specialist
Surface Water Assessment for the Proposed Construction of a 140MW Wind Farm and Associated Infrastructure near Hutchison, Northern Cape Province	Mainstream Renewable Power South Africa	Wetland specialist
Surface Water Assessment for the Proposed Maintenance of the Water Pipeline in Parys, Ngwathe Local Municipality, Free State Province	Gedezar Consulting	Wetland specialist
Surface Water Assessment for the Proposed Construction of the Rietkuil Coal Railway Siding near Bronkhorstspuit, Gauteng Province	Canyon Coal	Wetland specialist
Surface Water Assessment for the Proposed Construction of a 75MW Solar Photovoltaic Power Plant near Dennilton, Limpopo Province	Nokukhanya Energy (Pty) Ltd	Wetland specialist
Surface Water Assessment for the Proposed Construction of a 9.9 MW Solar Photovoltaic (PV) Energy Facility on the Farm Wildebeestkuil near Leeudoringstad, North West Province	Leeudoringstad Solar Plant (Pty) Ltd	Wetland specialist
Surface Water Assessment for the Proposed Construction of up to a 5MW Solar Photovoltaic (PV) Energy Facility on Portion 37 of the Farm Leeuwbosch No. 44 near Leeudoringstad, North West Province	Leeudoringstad Solar Plant (Pty) Ltd	Wetland specialist
Surface Water Assessment for the Proposed Construction of the De Wildt Solar Photovoltaic Power Plant, Gauteng Province	SunEdison	Wetland specialist

#### **Wetland and Riparian Rehabilitation Plans**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Wetland and River Rehabilitation Plan for the Fourways 22kV Feeder Cable, Gauteng Province	Eskom Distribution	Wetland specialist
Wetland and Riparian Rehabilitation Plan for the Proposed eThekweni Integrated Rapid Transport Network (IRPTN) – Bus Rapid Transport (BRT) Phase 1: Route C1A, KwaZulu-Natal Province	eThekweni Metropolitan Municipality	Wetland specialist
Wetland Rehabilitation Plan for the Delmas Pedestrian Bridge, Mpumalanga Province	Canyon Coal	Wetland specialist
Wetland Remediation Plan for the Graspan Colliery Extension on the Remaining Extent of Portion 31 on the Farm Elandspruit 291 JS, Mpumalanga Province	GIBB	Wetland specialist

#### **Wetland Offset Plans**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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*Wetland Offset Plan for the Proposed Construction of the SPAR Distribution Centre, Port Elizabeth, Eastern Cape Province*

*SPAR Group Ltd*

*Wetland specialist*



## CURRICULUM VITAE OF GIDEON RAATH

<b>Profession :</b>	Environmental and Permitting Consultant
<b>Specialisation:</b>	Environmental Impact Assessments, Water Use Licencing, Waste Licencing, Environmental Compliance Officer, Ecological Specialist, Wetland Specialist, GIS, MPRDA permitting
<b>Work Experience:</b>	4.5 years' experience in environmental management, National Water Act, Mineral and Petroleum Resources Development Act, ECO and compliance auditing, wetland and ecological specialist reporting

### VOCATIONAL EXPERIENCE

Gideon holds an MSc (Geography and Environmental Management; SU), a BSc Honours (Ecology and Environmental Studies - Cum laude; Wits) and a BSc (Geography and Environmental Management; UJ). His MSc thesis focused on the hydrological impact on the spatial distribution of invasive Eucalyptus trees along the Breede River, while his honours thesis evaluated ethnobotanical relationships around the Rio Tinto copper mine in Phalaborwa. Most recently he has worked as an Environmental Consultant at EOH Coastal and Environmental Services (EOH CES), conducting environmental authorisations applications (NWA, NEMA, MPRDA), Public Participation Processes, GIS specialisation as well as Ecological and Wetland specialist studies. Previously, Gideon worked as the Monitoring & Evaluation Project Manager for the City of Cape Town's invasive species unit (Environmental Resources Management Department).

Gideon's GIS background includes the management of the City of Cape Town invasive species GIS database, involving the storage, management, recall and quality control off all sightings, clearance visits and known infestations. Further experience include mapping for various consulting projects, boundary verification through ground-truthing and the spatial mapping and delineation component of this MSc research. Gideon has further attended public participation workshops, and has been involved with IAP identification, translation, public meetings and engagement for a variety of projects, mainly within the Afrikaans speaking Northern Cape. Gideon is interested in invasion ecology, treatment of groundwater pollution through phytoremediation, botanical and wetland specialist studies, GIS application for ecology and environmental management, and the EIA processes in general.

### SKILLS BASE AND CORE COMPETENCIES

- Environmental Management
- GIS data manipulation, storage, management and mapping
- EIA Impact Assessments and Basic Assessment
- Environmental Management Programmes
- Environmental Compliance Monitoring
- Mining Rights, Mining Permits, Prospecting Rights (and renewal) applications (MPRDA & NEMA)
- Public and Stakeholder Engagement (NEMA)
- Ecological/Botanical Specialist Studies

- Wetland Delineation, Functional and Impact Assessment studies
- Water Use Licence Applications (NWA)
- General Authorisations (NWA)

## EDUCATION AND PROFESSIONAL STATUS

### Degrees:

- M.Sc. Geography and Environmental Science (2014), Stellenbosch University (2014)
- B.Sc. (Hons) Ecology, Environment and Conservation (Cum Laude), University of the Witwatersrand (2011)
- B.Sc. Life and Environmental Sciences, University of Johannesburg (2010)

### Short Courses:

- GroundTruth SASS5 competency course, GroundTruth Aquatic Consulting (2017)
- DWS 21C&I GA training workshop, Department of Water and Sanitation (2016)
- IAIAAsa Public Participation Process Workshop, IAIA South Africa (2016)
- EIA Theory and application, EOH Coastal and Environmental Services (2015)
- Water Safety Training, City of Cape Town Environmental Resources Department (2014)
- Herbicide safety and application for weed control, City of Cape Town Environmental Resources Department (2014)
- Snake awareness training, City of Cape Town Environmental Resources Department (2014)
- Habitable Planet Workshop, Applied Centre for Climate & Earth Systems Science, Cape Town (2011)

### Professional Society Affiliations:

- Golden Key International Honour Society – University of the Witwatersrand Chapter
- South African Council for Scientific Natural Professionals (SACNASP): Certified Natural Scientist – Pr.Sci.Nat. (Membership No.: 117178)
- IAIAAsa (Membership No.: 3619)

### Other Relevant Skills:

- GPS use, spatial data capturing and ground truthing

## EMPLOYMENT

Date	Company	Roles and Responsibilities
October 2018 - Current:	Savannah Environmental (Pty) Ltd	<p>Environmental and Permitting Consultant</p> <p><u>Tasks include:</u> Undertaking environmental impact assessments, basic assessments, environmental management programmes (EMPrs), environmental amendments, water use license applications, general authorisations, wetland assessments, botanical/ecological assessments, mining rights and permit applications, prospecting rights applications, environmental compliance officer audits and reporting, Ensuring environmental compliance on permitting processes, client liaison and relationship management.</p>



Date	Company	Roles and Responsibilities
<b>February 2015 – September 2018</b>	EOH Coastal and Environmental Services (Pty) Ltd	Senior Environmental Consultant  <u>Tasks included:</u> Undertaking environmental impact assessments, basic assessments, environmental management programmes (EMPrs), environmental amendments, water use license applications, general authorisations, wetland assessments, botanical/ecological assessments, mining rights and permit applications, prospecting rights applications, environmental compliance officer audits and reporting, Ensuring environmental compliance on permitting processes, client liaison and relationship management, public participation processes for environmental authorisations.
<b>March 2014 – February 2015</b>	Invasive Species Unit (ISU), Environmental Resources Management Department (ERMD), City of Cape Town	Professional Officer  <u>Tasks included:</u> Managed the Monitoring & Evaluation project portfolio, entailing the establishment of an invasive species monitoring & evaluation system for the ISU, as well as GIS database management, quality assurance and reporting thereof. Position required managing a small staff compliment (dealing directly with GIS database management), managing time and budgets for the monitoring division, conducting monitoring trials and research, writing species management plans as well as handling the GIS database, quality control, verification and integrity for the ISU.
<b>January 2012 – March 2014</b>	University of Stellenbosch	Departmental Assistant  <u>Tasks included:</u> Technical editing of academic reports. Formatting of PhD and MSc reports on a weekly basis, with short turnaround time and good quality feedback.
<b>January 2011 – January 2012</b>	University of the Witwatersrand	Departmental Assistant  <u>Tasks included:</u> Responsible for practical tutorials and marking of 1st year medical students. Included zoology and botany.
<b>January 2006 – November 2010 (part time)</b>	Codeon Networking CC	Co-founder and web developer  <u>Tasks included:</u> Small business owner, responsible for all facets of the business. Self-taught HTML, CSS, PHP and MySQL. Won and produced two medium enterprise websites serving the gaming community. Websites required user profiles & permissions, CMS system and automated payment options as functionality. Development

Date	Company	Roles and Responsibilities
		and maintenance of a user database and account management system.

## PROJECT EXPERIENCE

Project experience includes project management, EIA, BA and EMPr documentation development, integrated water use license applications, general authorisations, specialist botanical and ecological impact assessments, specialist wetland delineation and impact assessments, GIS applications and mapping, compliance auditing and monitoring, vegetation rehabilitation and monitoring plans, integrated waste management plans and waste licencing, mining right & permits, as well as prospecting rights applications.

Industry experience includes the waste sector (IWMP's and waste licencing), road and rail infrastructure (BAR, S&EIR, WUL/GA, Waste Licence), ports and harbours (management plans), private sector clients across varying industries (various permits), mining sector (BAR, S&EIR, mining permits and rights, prospecting rights), conservation sector (biodiversity plans), renewable energy industry (BAR, S&EIR) as well as the gas and oil industry (biodiversity reports).

## RENEWABLE POWER GENERATION PROJECTS: SOLAR ENERGY FACILITIES

### Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
Enel Paleisheuwel Solar compliance auditing, Paleisheuwel, Northern Cape	Enel Green Power RSA (EGP RSA)	Environmental consultant

## RENEWABLE POWER GENERATION PROJECTS: WIND ENERGY FACILITIES

### Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
G7 Brandvalley S&EIR, Matjiesfontein, Northern Cape	G7 Renewable Energy (Pty) Ltd	Environmental consultant
G7 Rietkloof S&EIR, Matjiesfontein, Northern Cape	G7 Renewable Energy (Pty) Ltd	Environmental consultant

### Basic Assessments

Project Name & Location	Client Name	Role
G7 Renewable Energy 132kV BAR & EMPr, Matjiesfontein, Northern Cape	G7 Renewable Energy (Pty) Ltd	Project Manager, Environmental consultant, Public Participation

### Compliance Advice and ESAP reporting

Project Name & Location	Client Name	Role
Biotherm Energy Golden Valley Wind Energy Facility ESAP, Bedford, Eastern Cape	Biotherm Energy Pty Ltd	Environmental consultant

### Amendments

Project Name & Location	Client Name	Role
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Mosselbay Energy EA Amendment, Mosselbay, Western Cape	Mosselbay Energy IPP (Pty) Ltd	Environmental consultant
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## **GAS PROJECTS**

### **Screening Studies**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
iGas integrated biodiversity screening, Saldanha, Western Cape	Central Energy Fund - iGas (subsidiary)	Environmental consultant, Faunal specialist (assistant)

## **MINING SECTOR PROJECTS**

### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Triton Minerals Limited Ancuabe and Nicanda Hills EPDA, Ancuabe, Cabo Del Gado Province, Mozambique	Triton Minerals Ltd	Environmental consultant
Ancuabe graphite mine Environmental and Social Impact Assessment (ESIA), Cabo Del Gado Province, Mozambique	Grafex Limitada Mozambique	Environmental consultant

### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
SANRAL material sourcing BAR (DMR), Hendrina, Mpumalanga Province	SANRAL SOC Ltd & Leo consulting engineers	Project Manager, Environmental consultant, Public Participation
SANRAL Bierspruit R510 Borrow Pit authorisation, Thabazimbi, Limpopo Province	SANRAL SOC Ltd & Royal HaskoningDHV South Africa	Project Manager, Environmental consultant, Ecological specialist, Public Participation
Almenar tin prospecting BAR, Carnarvon, Northern Cape	Almenar Property Investments (Pty) Ltd	Environmental consultant

### **Rehabilitation Studies**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Ancuabe baseline vegetation monitoring assessment and programme, Ancuabe, Cabo Del Gado Province, Mozambique	Grafex Limitada Mozambique	Botanical specialist
Prospecting pit rehabilitation programme, Ancuabe, Cabo Del Gado Province, Mozambique	Grafex Limitada Mozambique	Botanical specialist, Environmental consultant
Mayfield Quarry rehabilitation plan, Grahamstown, Eastern Cape	Mayfield Quarry	Environmental consultant

### **Environmental Compliance, Auditing and ECO**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Construction monitoring and DMR environmental authorisation, Hendrina, Mpumalanga Province	SANRAL SOC Ltd & Leo consulting engineers	Project Manager, ECO,
SANRAL Caledon N2 Section 3 road upgrade ECO Audits and Reporting, Caledon, Western Cape Province	JG Afrika Engineering	Project Manager, ECO

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

Project Name & Location	Client Name	Role
VMC Mining permit renewal application, Rust De Winter, Gauteng	Vergenoeg Mining Company (Pty) Ltd	Environmental consultant
Zirco Resources Kamiesberg heavy mineral sand mine water use licence, Kamiesberg, Northern Cape	Zirco Roode Heuwel (Pty) Ltd	Environmental consultant

**INFRASTRUCTURE DEVELOPMENT PROJECTS (BRIDGES, PIPELINES, ROADS, WATER RESOURCES, STORAGE, ETC)****Environmental Impact Assessments and Environmental Management Programmes**

Project Name & Location	Client Name	Role
S&EIR authorisation for the SANRAL Zandkraal-Windburg N1 road upgrade, Windburg, Free State Province	SANRAL SOC Ltd & SMEC Consulting Engineers	Project Manager, Environmental consultant, Public Participation
Thabazimbi Local Municipality Integrated Waste Management Plan, Thabazimbi, Limpopo Province	Thabazimbi Local Municipality & Anglo American Plc	Environmental consultant, Public Participation

**Basic Assessments**

Project Name & Location	Client Name	Role
SANRAL Masekwaspoort N1 Road Upgrade BA, Louis Trichardt, Limpopo Province	SANRAL SOC Ltd & Knight Piésold Consulting	Project Manager, Environmental consultant, Public Participation
SANRAL Polokwane N1 Ring Road Upgrade Basic Assessment, Polokwane, Limpopo Province	SANRAL SOC Ltd & KBK Engineers	Environmental consultant
Boshoek Loop Rail Upgrade BAR, Rustenburg, North-West Province	Transnet SOC Ltd	Project Manager, Environmental consultant, Wetland specialist, Public Participation
Heysterkrand Loop Rail Upgrade BAR, Rustenburg, North-West Province	Transnet SOC Ltd	Project Manager, Environmental consultant, Public Participation
SANRAL Bierspruit R510 road upgrade Basic Assessment, Thabazimbi, Limpopo Province	SANRAL SOC Ltd & Royal HaskoningDHV South Africa	Project Manager, Environmental consultant, Ecological specialist, Public Participation
Barberton IAPS Waste Water Treatment Works development BAR, Barberton, Mpumalanga Province	Umjindi Local Municipality and Rhodes University	Project Manager, Environmental consultant, Public Participation
SANRAL Caledon N2 Section 3 road upgrade project Basic Assessment, Caledon, Western Cape Province	JG Afrika Engineering	Project Manager, Environmental consultant, Ecological specialist, ECO

**Environmental Compliance, Auditing and ECO**

Project Name & Location	Client Name	Role
Construction Monitoring and DMR environmental authorisation, Hendrina, Mpumalanga Province	SANRAL SOC Ltd & Leo consulting engineers	Project Manager, Environmental consultant, ECO

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

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Water use licence for the SANRAL Zandkraal-Windburg N1 road upgrade and quarrying, Windburg, Free State Province	SANRAL SOC Ltd & SMEC Consulting Engineers	Project Manager, Environmental consultant, Public Participation
SANRAL Masekwaspoort N1 road upgrade water use licence application, Louis Trichardt, Limpopo Province	SANRAL SOC Ltd & Knight Piésold Consulting	Project Manager, Environmental consultant, Public Participation
Boshoek Loop Rail Upgrade water use licence application, Rustenburg, North-West Province	Transnet SOC Ltd	Project Manager, Environmental consultant, Wetland specialist, Public Participation
SANRAL Bierspruit R510 road water use licence, Thabazimbi, Limpopo Province	SANRAL SOC Ltd & Royal HaskoningDHV South Africa	Project Manager, Environmental consultant, Ecological specialist, Public Participation
Barberton IAPS Waste Water Treatment Works water use licence and SASS 5 assessment, Barberton, Mpumalanga Province	Umjindi Local Municipality and Rhodes University	Project Manager, Environmental consultant, Aquatic specialist, Public Participation
SANRAL Caledon N2 Section 3 road upgrade water use licence and specialist reports, Caledon, Western Cape Province	JG Afrika Engineering	Project Manager, Environmental consultant, Ecological specialist, Public Participation

## **HOUSING AND URBAN PROJECTS**

### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Scoping and EIR authorisation, Water Use Licence, for the Ganspan tourism facility development, Jan Kempdorp, Northern Cape	Frances Baard Local Municipality	Project Manager, Environmental consultant, Public Participation

### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Basic Assessment for the office complex development within the Pretoria National Botanical Gardens, Pretoria, Gauteng	South African National Biodiversity Institute (SANBI)	Project Manager, Environmental consultant, Public Participation, ECO
Corner Berg and Drooge Street township development BAR, Zeerust, North-West Province	Ramotshere Moiloa Local Municipality	Project Manager, Environmental consultant, Public Participation
Corner Kort and Bree Street township development BAR, Zeerust, North-West Province	Ramotshere Moiloa Local Municipality	Project Manager, Environmental consultant, Public Participation
Hope Village township development BAR, Johannesburg, Gauteng	Door of Hope Charity Organisation	Project Manager, Environmental consultant, Public Participation
ACSA Jones Road Filling Station Basic Assessment, Johannesburg, Gauteng	Airports Company South Africa SOC Ltd	Project Manager, Environmental consultant, Public Participation

### Screening Studies

Project Name & Location	Client Name	Role
Kibler Park Church Development ecological assessment, Johannesburg, Gauteng	Riverside Community Church	Project Manager, Ecological specialist
DEA Quoin Point dune specialist assessments, Gansbaai, Western Cape	Department of Environmental Affairs (national)	Project Manager, Environmental consultant

### Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
Transnet Depot and Siding compliance auditing programme, Johannesburg, Gauteng & Rustenburg, North-West Province	Transnet SOC Ltd	ECO
Environmental compliance monitoring for the office complex development within the Pretoria National Botanical Gardens, Pretoria, Gauteng	South African National Biodiversity Institute (SANBI)	Project Manager, Environmental consultant, Public Participation, ECO

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

Project Name & Location	Client Name	Role
Atmospheric Emissions Licence, Section 24G for the ER Galvanizing plant and operations, Johannesburg, Gauteng	ER Galvanizers Pty Ltd	Project Manager, Environmental consultant, Public Participation
City of Johannesburg nature reserve proclamation (Phase II), Johannesburg, Gauteng	City of Johannesburg SOC Ltd	Project Manager, Environmental consultant, Public Participation, Botanical specialist
Hope Village township development water use licence, Johannesburg, Gauteng	Door of Hope Charity Organisation	Project Manager, Environmental consultant, Public Participation
Diamond Park Township Development Section 24G, Kimberley, Northern Cape	Sol Plaatje Local Municipality	Project Manager, Environmental consultant, Public Participation
Boschendal Wine Estate hydro-electric power station Water Use Licence and S24G application, Stellenbosch, Western Cape	Boschendal Wine Estate	Environmental consultant
City of Johannesburg nature reserve proclamation boundary verification (Phase I), Johannesburg, Gauteng	City of Johannesburg SOC Ltd	Environmental consultant
PRDW Cape Town harbour breakwater rehabilitation EMPr, Cape Town, Western Cape	PRDW Engineering	Project Manager, Environmental consultant
PRDW Bushman's Estuary dune encroachment project management, Kenton-on-sea, Eastern Cape	PRDW Engineering	Environmental consultant
Corner Berg and Drooge Street township development water use licence application, Zeerust, North-West Province	Ramotshere Moiloa Local Municipality	Project Manager, Environmental consultant
Corner Kort and Bree Street township development water use licence, Zeerust, North-West Province	Ramotshere Moiloa Local Municipality	Project Manager, Environmental consultant
Bloekombos (Kraaifontein) hospital water use licence application, Cape Town, Western Cape	Western Cape Provincial Government (PGWC)	Project Manager, Environmental consultant, Botanical specialist, Wetland specialist

**SPECIALIST STUDIES**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Boshoek Loop Rail Upgrade BAR and Water Use Licence, Rustenburg, North-West Province	Transnet SOC Ltd	Wetland specialist
City of Johannesburg nature reserve proclamation (Phase II), Johannesburg, Gauteng	City of Johannesburg SOC Ltd	Botanical specialist
SANRAL Bierspruit R510 road upgrade Water Use Licence, Basic Assessment, Thabazimbi, Limpopo Province	SANRAL SOC Ltd & Royal HaskoningDHV South Africa	Ecological specialist
Kibler Park Church Development Ecological Assessment, Johannesburg, Gauteng	Riverside Community Church	Ecological specialist
Barberton IAPS Waste Water Treatment Works development BAR, water use licence and SASS 5 assessment, Barberton, Mpumalanga Province	Umjindi Local Municipality and Rhodes University	Aquatic specialist
Wijnberg Trust Dam 2 expansion Aquatic Impact Assessment	Wijnberg Trust	Aquatic specialist
SANRAL Caledon N2 Section 3 road upgrade project Basic Assessment, Water Use Licence and Specialist reports, Caledon, Western Cape Province	JG Afrika Engineering	Ecological specialist
City of Johannesburg nature reserve proclamation boundary verification (Phase I), Johannesburg, Gauteng	City of Johannesburg SOC Ltd	GIS specialist
iGas integrated biodiversity screening, Saldanha, Western Cape	Central Energy Fund - iGas (subsidiary)	Faunal specialist (assistant)
Bloekombos (Kraaifontein) botanical baseline and impact assessment, Cape Town, Western Cape	Western Cape Provincial Government (PGWC)	Wetland specialist Botanical specialist

## **CURRICULUM VITAE: D G Paterson**

**SURNAME:** PATERSON  
**FIRST NAME(S):** David Garry  
**KNOWN AS:** Garry  
**DATE OF BIRTH:** 25-08-1959 in Bellshill, Scotland  
**NATIONALITY:** South African  
**I.D. No.:** 5908255258088  
**LANGUAGE PROFICIENCY:** English, Afrikaans (both fluent), French (poor)  
**MARITAL STATUS:** Married, one son

**ADDRESS:** Institute for Soil, Climate and Water      **TEL.:** (012) 310 2601  
Private Bag X79      083 556 2458  
Pretoria 0001  
Republic of South Africa      **FAX:** (012) 323 1157

**E-MAIL ADDRESS:** garry@arc.agric.za

### **ACADEMIC QUALIFICATIONS:**

- Matriculated: 1976, Dalziel High School, Motherwell, Scotland
- BSc (Hons) Geography, 1980, University of Strathclyde, Glasgow, Scotland
- MSc (Soil Science) *cum laude*, 1998, University of Pretoria
- PhD (Soil Science), 2014, University of Pretoria

### **PROFESSIONAL CAREER:**

- 1981-1987: Soil Scientist: Soil and Irrigation Research Institute, Pretoria
- 1987-1992: Senior Soil Scientist: Soil and Irrigation Research Institute, Pretoria
- 1992-present: Senior Soil Scientist: ARC-Institute for Soil, Climate & Water

### **FIELDS OF SPECIALITY AND COMPETENCE:**

- Soil classification and mapping
- Soil interpretations
- Soil survey project management
- Environmental assessment
- Soil survey and land capability course presentation
- Ground penetrating radar



**PUBLICATIONS (see attached list):**

- Three refereed articles (S.A. Journal of Plant and Soil)
- Nine Congress papers/posters
- S.A. Soil Classification (1991) (Member of working group)
- Seven 1:250 000 Land Type Maps
- Three Land Type Memoirs
- More than 200 soil survey reports and/or maps

**COURSES COMPLETED:**

- Course in Project Management (University of Stellenbosch)
- Course in Junior Personnel Management (Dept of Agriculture)
- Course in Handling of Grievances and Complaints (Dept of Agriculture)
- Course in Marketing (ARC-ISCW)
- Course in National Qualifications Framework Assessment, ARC-CO
- Training Course in Ground Penetrating Radar (GSSI, USA)
- Introduction to ArcGIS 8, GIMS, 2004

**PROFESSIONAL STATUS:**

- Registered Natural Scientist: Soil Science (SA National Council for Natural Scientific Professions) – registration number 400463/04
- Member of South African Soil Classification Working Group, 1990-present
- Convenor of South African Soil Classification Working Group, 2013-
- Member of Soil Science Society of South Africa (1982-present)
- President of Soil Science Society of South Africa (2005-2007)
- Member of South African Soil Survey Organisation (2000-present)
- Council Member of South African Soil Survey Organisation (2002-2003)
- Member of International Erosion Control Association
- Scientific Referee, S.A. Journal for Plant and Soil
- External Examiner, University of Pretoria, University of Witwatersrand, University of Venda

**AWARDS:**

Best article on Soil Science, South African Journal for Plant and Soil, 2011

**MISCELLANEOUS:**

- Editor, Soil Science Society newsletter, 1993-present
- Member, Clapham High School (Pretoria) Governing Body 1998-2002
- Member, Northern Gauteng Football Referee's Association
- Committee Member, Rosslyn Golf Club (Club Champion 2002 and 2007)

**INTERESTS:**

Sport, especially golf and soccer; wildlife; reading; music

**REFEREES:**

Mr T.E. Dohse, ARC-Institute for Soil, Climate and Water.  
Tel: 082 324 5389

Prof Robin Barnard, ARC-Institute for Soil, Climate and Water  
Tel: 012 310 2549

Prof M.C. Laker (retired), (012) 361-2900; 082 785 5295

## PUBLICATIONS LIST:

### *Refereed Articles:*

**BÜHMANN, C., KIRSTEN, W.F.A., PATERSON, D.G. & SOBCZYK, M.E.**, 1993. Pedogenic differences between two adjacent basalt-derived profiles. 1. Textural and chemical characteristics. *S. Afr. J. Plant & Soil*, 10: 155-161

**BÜHMANN, C., KIRSTEN, W.F.A., PATERSON, D.G. & SOBCZYK, M.E.**, 1994. Pedogenic differences between two adjacent basalt-derived profiles. 2. Mineralogical characteristics. *S. Afr. J. Plant & Soil*, 11: 5-11

**PATERSON, D.G. & LAKER, M.C.**, 1999. Using ground penetrating radar to investigate spoil layers in rehabilitated mine soils. *S. Afr. J. Plant & Soil*, 16:131-134.

**PATERSON, D.G., BÜHMANN, C., PIENAAR, G.M.E. & BARNARD, R.O.**, 2011. Beneficial effect of palm geotextiles on inter-rill erosion in South African soils and mine dam tailings: a rainfall simulator study. *S. Afr. J. Plant & Soil*, 28: 181-189.

**PATERSON, D.G. & BARNARD, R.O.**, 2011. Beneficial effect of palm geotextiles on inter-rill erosion in South African soils. *S. Afr. J. Plant & Soil*, 28: 190-197.

**BHATTACHARYA, R., FULLEN, M.A., BOOTH, C.A., KERTESZ, A., TOTH, A., SZALAI, Z., JAKAB, G., KOZMA, K., JANKAUSKAS, B., JANKAUSKIENE, G., BÜHMANN, C., PATERSON, D.G., MULIBANA, N.E., NELL, J.P., VAN DER MERWE, G.M.E., GUERRA, A.J.T., MENDONCA, J.K.S., GUERRA, T.T., SATHLER, R., BEZERRA, J.F.R., PERES, S.M., ZHENG YI, LI YONGMEI, TANG LI, PANOMTARANICHAGUL, M., PEUKRAI, S., THU, D.C., CUONG, T.H., TOAN, T.T.**, 2011. Effectiveness of biological geotextiles for soil and water conservation in different agro-environments. *Land Degradation and Development*, 22: 495-504.

**FULLEN, M.A., SUBEDI, M., BOOTH, C.A., SARSBY, R.W., DAVIES, K., BHATTACHARYA, R., KUGAN, R., LUCKHURST, D.A., CHAN, K., BLACK, A.W., TOWNROW, D., JAMES, T., POESEN, J., SMETS, T., KERTESZ, A., TOTH, A., SZALAI, Z., JAKAB, G., JANKAUSKAS, B., JANKAUSKIENE, G., BÜHMANN, C., PATERSON, D.G., MULIBANA, N.E., NELL, J.P., VAN DER MERWE, G.M.E., GUERRA, A.J.T., MENDONCA, J.K.S., GUERRA, T.T., SATHLER, R., BEZERRA, J.F.R., PERES, S.M., ZHENG YI, LI YONGMEI, TANG LI, PANOMTARANICHAGUL, M., PEUKRAI, S., THU, D.C., CUONG, T.H., TOAN, T.T., JONSYN-ELLIS, F., SYLVA, J.T., COLE, A., MULHOLLAND, B., DERALOVE, M., CORKILL, C. & TOMLINSON, P.**, 2011. Utilising biological geotextiles: introduction to the Borassus Project and global perspectives. *Land Degradation and Development*, 22: 453-462.

**SMETS, T., POESEN, J., BHATTACHARYA, R., FULLEN, M.A., SUBEDI, M., BOOTH, C.A., KERTESZ, A., SZALAI, Z., TOTH, A., JANKAUSKAS, B., JANKAUSKIENE, G., GUERRA, A.J.T., BEZERRA, J.F.R., ZHENG YI, PANOMTARANICHAGUL, M., BÜHMANN, C. & PATERSON, D.G.**, 2011. Evaluation of biological geotextiles for reducing runoff and soil loss under various environmental conditions using laboratory and field data. *Land Degradation and Development*, 22: 480-494.

**NETHONONDA, L.O., ODHIAMBO, J.J.O. & PATERSON, D.G.**, 2012. Indigenous knowledge of climatic conditions for sustainable crop production under resource-poor farming conditions using participatory techniques. *Sustainable Agriculture Research*, 2 (1), 26-31.

**NETHONONDA, L.O., ODHIAMBO, J.J.O. & PATERSON, D.G.**, 2012. Assessment of spatial

variability of selected soil chemical properties in a communal irrigation scheme under resource-poor farming conditions in Vhembe District of Limpopo Province, South Africa. *African J. Agric. Res.* 7 (39), 5445-5492.

**PATERSON, D.G., SMITH. H.J. & VAN GREUNEN, A.,** 2013. Evaluation of soil conservation measures on a highly erodible soil in the Free State province, South Africa. *S. Afr. J. Plant & Soil*, 30: 213-217.

**PATERSON, D.G., TURNER, D.P., WIESE, L.D., VAN ZIJL, G.M., CLARKE, C.E. & VAN TOL, J.,** 2014. Spatial soil information in South Africa – situational analysis, limitations and challenges. *S. Afr. J. Science* (in press).

#### ***Books:***

**PATERSON, D.G. & MUSHIA, N.M.,** 2012. Chapter 32. Soil databases in Africa. *In: Handbook of Soil Science: Resource Management and Environmental Impacts (2<sup>nd</sup> Edn)*. Eds. P.M. Huang, Y Li & M.E. Sumner. CRC Press, Boca Raton FL.

**SOIL CLASSIFICATION WORKING GROUP\***, 1991. Soil classification. A taxonomic system for South Africa. Institute for Soil, Climate & Water, Pretoria.

\* Co-author as member of Working Group

#### ***Theses:***

**PATERSON, D.G.,** 1998. The use of ground penetrating radar to investigate subsurface features in selected South African soils. Unpublished MSc Thesis, University of Pretoria.

**PATERSON, D.G.,** 2014. The use of palm leaf mats in soil erosion control. Unpublished PhD Thesis, University of Pretoria.

#### ***Congress Papers:***

**PATERSON, D.G.,** 1987. The relationship between geology and soil type in the northern Kruger National Park. 14<sup>th</sup> Congress of the Soil Science Society of S.A. Nelspruit, 14-17 July 1987.

**PATERSON, D.G.,** 1990. A study of black and red clay soils on basalt in the northern Kruger National Park. 16<sup>th</sup> Congress of the Soil Science Society of S.A. Pretoria, 9-12 July 1990.

**PATERSON, D.G.,** 1992. The potential of ground penetrating radar as an aid to soil investigation. 17<sup>th</sup> Congress of the Soil Science Society of S.A. Stellenbosch, 28-30 Jan. 1992.

**PATERSON, D.G.,** 1995. The complex soil mantle of South Africa. ARC Wise Land Use Symposium, Pretoria, 26-27 Oct. 1995

**PATERSON, D.G. & LAKER, M.C.,** 1998. Locating subsoil features with ground penetrating radar. 21<sup>st</sup> Congress of the Soil Science Society of S.A. Alpine Heath, 20-22 Jan. 1998.

**PATERSON, D.G.,** 2000. Mapping rehabilitated coal mine soils in South Africa using ground penetrating radar. Eighth International Conference on Ground Penetrating Radar, Gold Coast, Australia, 23-26 May 2000.

**PATERSON, D.G. & VAN DER WALT, M.,** 2003. The soils of South Africa from the Land Type Survey. 24<sup>th</sup> Congress of the Soil Science Society of S.A., Stellenbosch, 20-24 Jan. 2003.

### ***Land Type Maps:***

**PATERSON, D.G.**, 1990. 1:250 000 scale land type map 2230 Messina. Dept. Agriculture, Pretoria.

**PATERSON, D.G. & HAARHOFF, D.**, 1989. 1:250 000 scale land type map 2326 Ellisras. Dept. Agriculture, Pretoria.

**PATERSON, D.G., PLATH, B.L. & SMITH, H.W.**, 1987. 1:250 000 scale land type map 2428 Nylstroom. Dept. Agriculture, Pretoria.

**PATERSON, D.G. & ROSS, P.G.**, 1989. 1:250 000 scale land type map 2330 Tzaneen. Dept. Agriculture, Pretoria.

**PLATH, B.L. & PATERSON, D.G.**, 1987. 1:250 000 scale land type map 2426 Thabazimbi. Dept. Agriculture, Pretoria.

### ***Land Type Memoirs:***

**PATERSON, D.G., PLATH, B.L. & SMITH, H.W.**, 1988. Field Investigation. In: *Land types of the maps 2426 Thabazimbi & 2428 Nylstroom. Mem. Agric. Nat. Res. S. Afr.* No. 10. Dept. Agriculture, Pretoria.

**PATERSON, D.G., SCHOEMAN, J.L., TURNER, D.P., GEERS, B.C. & ROSS, P.G.**, 1989. Field Investigation. In: *Land types of the maps 2330 Tzaneen & 2430 Pilgrim's Rest. Mem. Agric. Nat. Res. S. Afr.* No. 12. Dept. Agriculture, Pretoria.

**PATERSON, D.G.**, 1999. 1:250 000 land type survey of the former Ciskei (Unpublished). ISCW Report GW/A/99/24.

### ***Also:***

**PATERSON, D.G.**, 1992. Ground penetrating radar applications in USA and South Africa. Report on an official study tour to USA, 13-29 July, 1991. ISCW Report GW/A/92/8.

**PATERSON, D.G.**, 2000. Report on official overseas visit to GPR2000 Conference, Broadbeach, Australia, 23-26 May, 2000. ISCW Report GW/A/2000/40.

Plus ARC-ISCW Reports on:

- Ground penetrating radar investigations in: Kruger National Park; Enseleni, Natal; Weatherly, Maclear; Kleinkopje Mine
- Soil survey investigations at: Roodeplaat, Kathu, Steelpoort River, Palala River, Zeekoegat (Roodeplaat), Limpopo River, Lydenburg, Kendal, Clewer Sand (Witbank), Botha Sand (Witbank), Balmoral Colliery, Bafokeng (Rustenburg), Towoomba (Warmbaths), Hoefeld Stene (Middelburg), Quality Bricks (Witbank), Visagie Sand (Middelburg), Rosslyn, Coalbrook (Sasolburg), Stewart Coal (Delmas), Forzando Coal (Hendrina), Vaalgro (Vereeniging), Ratanda (Heidelberg), Elspark (Boksburg), Thorncliffe Mine (Steelpoort), Jan Smuts Quarry (Boksburg), Ennerdale (Phase I & II), Thokoza, North Riding, Natalspruit (Alberton), Arnot, Kroondal (Phase I & II), Ga-Rankuwa, Hartebeespoort Dam,

Kosmos, Assen, Grasmere, Magalies Moot (Pretoria), Valpre (Paulpietersburg), Cargo Carriers (Sasolburg), Waterval (Rustenburg), Rayton, Bronkhorstspuit, Zwavelpoort (Pretoria), Pietersburg, Trojan Mine (Steelpoort), Platinum Highway (Rustenburg), Moutse, Centurion, Salique (Klaserie), Northam, Greenside Colliery (Witbank), South Deep Mine (Westonaria), Bank Colliery, Steelpoort Platinum, Gautrain Route (Pta/Jbg), Rietspruit Mine (Ogies), Potgietersrus Platinum, Atok Mine (Lebowa), Blue Ridge Mine (Groblersdal), Ngodwana, Estancia (Breyton), Twickenham Mine (Steelpoort), Marikana.



## ENVIRONMENTAL PLANNING AND DESIGN

**Name** JONATHAN MARSHALL  
**Nationality** British  
**Year of Birth** 1956  
**Specialisation** Landscape Architecture / Landscape & Visual Impact Assessment / Environmental Planning / Environmental Impact Assessment.

**Qualifications**

Education Diploma in Landscape Architecture,  
Gloucestershire College of Art and Design,  
UK (1979)  
Environmental Law, University of KZN  
(1997)

Professional Registered Professional Landscape Architect (South Africa)  
Chartered Member of the Landscape Institute (UK)  
Certified Environmental Assessment Practitioner of South Africa.  
Member of the International Association of Impact  
Assessment, South Africa

**Languages**

<u>English</u> -	Speaking	-	Excellent
-	Reading	-	Excellent
-	Writing	-	Excellent

**Contact Details**

Post: PO Box 2122  
Westville  
3630  
Republic of South Africa

Phone: +27 31 2668241, Cell: +27 83 7032995

### **Key Experience**

Jon qualified as a Landscape Architect at Cheltenham (UK) in 1979. He has been a Chartered Member of the Landscape Institute (UK) since 1986. He is also a registered Landscape Architect and Environmental Assessment Practitioner of South Africa.

During the early part of his career (1981 – 1990) he worked with Clouston (now RPS) in Hong Kong and Australia. During this period he was called on to undertake visual impact assessment input to numerous environmental assessment processes for major infrastructure projects. This work was generally based on photography with line drawing superimposed to illustrate the extent of development visible.

He worked in the United Kingdom (1990 – 1995) for major supermarket chains including Sainsbury's and prepared CAD based visual impact assessments for public enquiry for new store development. He also prepared the VIA input to the environmental statement for the Cardiff Bay Barrage for consideration by the UK Parliament in the passing of the Barrage Bill.

His more recent VIA work in Africa (1995 to present) includes a combination of CAD and GIS based work for a new international airport to the north of Durban, new heavy industrial operations, overhead electrical transmission lines, mining operations, a number of commercial and residential developments as well as numerous renewable energy projects.

VIA work undertaken during the last twelve months includes assessments for several proposed Eskom power lines / substations and numerous solar and wind energy projects.

## **Relevant Landscape & Visual Impact Assessment (LVIA) Projects**

1. **Paulputs CSP Power Tower project** – LVIA for a 200MW CSP power tower facility near Pofadder in the Northern Cape.
2. **Karoshok Solar Valley** – LVIA for nine CSP projects including power tower and parabolic trough projects in the Karoshok Solar Valley near Upington in the Northern Cape.
3. **Noupoort CSP** – LVIA for two CSP parabolic trough facilities close to Noupoort in the Northern Cape.
4. **Sol Invictus Solar** – LVIA for four 150MW photovoltaic solar arrays near Aggeneys in the Northern Cape for a private client
5. **Tshivhaso Power Station** – LVIA for a proposed new 600MW power station including associated infrastructure and dumps near Lephalale in the Limpopo Province for a private client.
6. **Woodhouse Solar** – LVIA for two 100MW photovoltaic solar arrays near Vryburg in the North West Province for a private client.
7. **Saldanha Eskom Network Strengthening Project** – LVIA for major improvements to Eskom's electrical infrastructure between Langebaan and Saldanha in the Western Cape for Eskom.
8. **Albany Solar Array** – LVIA for two 75MW photovoltaic solar arrays near Upington in the Northern Cape.
9. **Mpophomeni Shopping Centre** – LVIA for a proposed new shopping center to the south of Midmar Dam in KwaZulu Natal for a private client.
10. **Gunstfontein Wind Farm** – LVIA for a 200MWnd farm near Sutherland in the Northern Cape for a private client.
11. **Hennenman Solar Array** – LVIA for a proposed solar array in the Free State for a private client.
12. **Moorreesburg Wind Farm** – LVIA for a proposed wind energy project in the Western Cape for a private client.
13. **Lethabo Solar Array** – LVIA for a proposed solar array at the Lethabo Power Station in the Free State for Eskom.
14. **Tutuka Solar Array** – LVIA for a proposed solar array at the Tutuka Power Station in Mpumalanga for Eskom.
15. **Majuba Solar Array** – LVIA for a proposed solar array at the Majuba Power Station in Mpumalanga for Eskom.
16. **Isundu 765 / 400Kv Sub Station** - LVIA for a proposed major substation in KwaZulu Natal for Eskom.
17. **Bhangazi Lake Tourism Development** – Visual impact assessment for a proposed lodge development within the Isimangaliso Wetland Park World Heritage Site. This work is ongoing.
18. **Quarry Development for the Upgrade of Sani Pass** – Visual Impact Assessments for two proposed quarry developments on the edge of the uKhalamba-Drakensburg World Heritage Site.
19. **Mtubatuba to St Lucia Overhead Power Line** – Visual Impact Assessment for a proposed power line bordering on the Isimangaliso Wetland Park World Heritage Site for



Eskom.

20. **St Faiths 400/132 kV Sub-Station and Associated Power Lines** - Visual Impact Assessment for a proposed new major sub-station and approximately 15km of overhead power line for Eskom.
21. **Clocolan to Ficksburg Overhead Power Line** – Visual Impact Assessment for a proposed power line for Eskom.
22. **Solar Plant Projects including Photovoltaic and Concentrating Solar Power Plants** – Numerous projects for Eskom and private clients in the Northern Cape, Limpopo, Mpumalanga and the Free State.
23. **Moorreesburg Wind Farm.** Visual impact assessment for a proposed new wind farm in the Western Cape.
24. **AngloGold Ashanti, Dokyiwa (Ghana)** – Visual Impact Assessment for proposed new Tailings Storage Facility at a mine site working with SGS as part of their EIA team.
25. **Camperdown Industrial Development** - Visual Impact Assessment for proposed new light industrial area to the north of Camperdown for a private client.
26. **Wild Coast N2 Toll Highway** – Peer review of VIA undertaken by another consultant.
27. **Gamma to Grass Ridge 765kv transmission line** – Peer review of LVIA undertaken by another consultant.
28. **Gateway Shopping Centre Extension (Durban)** – Visual Impact Assessment for a proposed shopping centre extension in Umhlanga, Durban.
29. **Kouroussa Gold Mine (Guinea)** – Visual impact assessment for a proposed new mine in Guinea working with SGS as part of their EIA team.
30. **Mampon Gold Mine (Ghana)** - Visual impact assessment for a proposed new mine in Ghana working with SGS as part of their EIA team.
31. **Telkom Towers** – Visual impact assessments for numerous Telkom masts in KwaZulu Natal
32. **Dube Trade Port, Durban International Airport** – Visual Impact Assessment for a new international airport.
33. **Sibaya Precinct Plan** – Visual Impact Assessment as part of Environmental Impact Assessment for a major new development area to the north of Durban.
34. **Umdloti Housing** – Visual Impact Assessment as part of Environmental Impact Assessment for a residential development beside the Umdloti Lagoon to the north of Durban.
35. **Tata Steel Ferrochrome Smelter** - Visual impact assessment of proposed new Ferrochrome Smelter in Richards Bay as part of EIA undertaken by the CSIR.
36. **Diamond Mine at Rooipoort Nature Reserve near Kimberley** – Visual impact assessment for a proposed diamond mine within an existing nature reserve for De Beers.
37. **Durban Solid Waste Large Landfill Sites** – Visual Impact Assessment of proposed development sites to the North and South of the Durban Metropolitan Area. The project utilised 3d computer visualisation techniques.
38. **Hillside Aluminium Smelter, Richards Bay** - Visual Impact Assessment of proposed extension of the existing smelter. The project utilised 3d computer visualisation techniques.
39. **Estuaries of KwaZulu Natal Phase 1 and Phase 2** – Visual character assessment and GIS mapping as part of a review of the condition and development capacity of eight

- estuary landscapes for the Town and Regional Planning Commission. The project was extended to include all estuaries in KwaZulu Natal.
40. **Signage Assessments** – Numerous impact assessments for proposed signage developments for Blast Media.
  41. **Signage Strategy** – Preparation of an environmental strategy report for a national advertising campaign on National Roads for Visual Image Placements.
  42. **Zeekoegatt, Durban** - Computer aided visual impact assessment. Acted as advisor to the Province of KwaZulu Natal in an appeal brought about by a developer to extend a light industrial development within a 60 metre building line from the National N3 Highway.
  43. **La Lucia Mall Extension** - Visual impact assessment using three dimensional computer modelling / photo realistic rendering and montage techniques for proposed extension to shopping mall for public consultation exercise.
  44. **Redhill Industrial Development** - Visual impact assessment using three dimensional computer modelling / photo realistic rendering and montage techniques for proposed new industrial area for public consultation exercise.
  45. **Avondale Reservoir** - Visual impact assessment using three dimensional computer modelling / photo realistic rendering and montage techniques for proposed hilltop reservoir as part of Environmental Impact Assessment for Umgeni Water.
  46. **Hammersdale Reservoir** - Visual impact assessment using three dimensional computer modelling / photo realistic rendering and montage techniques for proposed hilltop reservoir as part of Environmental Impact Assessment for Umgeni Water.
  47. **Southgate Industrial Park, Durban** - Computer Aided Visual Impact Assessment and Landscape Design for AECI.
  48. **Sainsbury's Bryn Rhos (UK)** - Computer Aided Visual Impact Assessment/ Planning Application for the development of a new store within the Green Wedge North of Swansea.
  49. **Ynyston Farm Access (UK)** - Computer Aided Impact Assessment of visual intrusion of access road to proposed development in Cardiff for the Land Authority for Wales.
  50. **Cardiff Bay Barrage (UK)** - Concept Design, Detail Design, Documentation, and Visual Input to Environmental Statement for consideration by Parliament in the debate prior to the passing of the Cardiff Bay Barrage Bill. The work was undertaken for Cardiff Bay Development Corporation.
  51. **A470, Cefn Coed to Pentrebach (UK)** - Preparation of frameworks for the assessment of the impact of the proposed alignment on the landscape for The Welsh Office.
  52. **Sparkford to Ilchester Bye Pass (UK)** - The preparation of the landscape framework and the draft landscape plan for the Department of Transport.
  53. **Green Island Reclamation Study (Hong Kong)** - Visual Impact Assessment of building massing, Urban Design Guidelines and Masterplanning for a New Town extension to Hong Kong Island.
  54. **Route 3 (Hong Kong)** - Visual Impact Assessment for alternative road alignments between Hong Kong Island and the Chinese Border.
  55. **China Border Link (Hong Kong)** - Visual Impact Assessment and initial Landscape Design for a new border crossing at Lok Ma Chau.
  56. **Route 81, Aberdeen Tunnel to Stanley (Hong Kong)** - Visual Impact Assessment for alternative highway alignments on the South side of Hong Kong Island.



*Curriculum Vitae*

**Jayson David John Orton**

**ARCHAEOLOGIST AND HERITAGE CONSULTANT**

### **Contact Details and personal information:**

**Address:** 6A Scarborough Road, Muizenberg, 7945  
**Telephone:** (021) 788 8425  
**Cell Phone:** 083 272 3225  
**Email:** jayson@asha-consulting.co.za

**Birth date and place:** 22 June 1976, Cape Town, South Africa  
**Citizenship:** South African  
**ID no:** 760622 522 4085  
**Driver's License:** Code 08  
**Marital Status:** Married to Carol Orton  
**Languages spoken:** English and Afrikaans

### **Education:**

SA College High School	Matric	1994
University of Cape Town	B.A. (Archaeology, Environmental & Geographical Science)	1997
University of Cape Town	B.A. (Honours) (Archaeology)*	1998
University of Cape Town	M.A. (Archaeology)	2004
University of Oxford	D.Phil. (Archaeology)	2013

\*Frank Schweitzer memorial book prize for an outstanding student and the degree in the First Class.

### **Employment History:**

Spatial Archaeology Research Unit, UCT	Research assistant	Jan 1996 – Dec 1998
Department of Archaeology, UCT	Field archaeologist	Jan 1998 – Dec 1998
UCT Archaeology Contracts Office	Field archaeologist	Jan 1999 – May 2004
UCT Archaeology Contracts Office	Heritage & archaeological consultant	Jun 2004 – May 2012
School of Archaeology, University of Oxford	Undergraduate Tutor	Oct 2008 – Dec 2008
ACO Associates cc	Associate, Heritage & archaeological consultant	Jan 2011 – Dec 2013
ASHA Consulting (Pty) Ltd	Director, Heritage & archaeological consultant	Jan 2014 –

### **Professional Accreditation:**

Association of Southern African Professional Archaeologists (ASAPA) membership number: 233

CRM Section member with the following accreditation:

- Principal Investigator: Coastal shell middens (awarded 2007)  
Stone Age archaeology (awarded 2007)  
Grave relocation (awarded 2014)
- Field Director: Rock art (awarded 2007)  
Colonial period archaeology (awarded 2007)

Association of Professional Heritage Practitioners (APHP)

- Accredited Professional Heritage Practitioner

### ➤ **Memberships and affiliations:**

South African Archaeological Society Council member	2004 –
Assoc. Southern African Professional Archaeologists (ASAPA) member	2006 –
UCT Department of Archaeology Research Associate	2013 –
Heritage Western Cape APM Committee member	2013 –
UNISA Department of Archaeology and Anthropology Research Fellow	2014 –
Fish Hoek Valley Historical Association	2014 –
Kalk Bay Historical Association	2016 –
Association of Professional Heritage Practitioners member	2016 –

### ➤ **Fieldwork and project experience:**

Extensive fieldwork as both Field Director and Principle Investigator throughout the Western and Northern Cape, and also in the western parts of the Free State and Eastern Cape as follows:

#### Phase 1 surveys and impact assessments:

- Project types
  - Notification of Intent to Develop applications (for Heritage Western Cape)
  - Heritage Impact Assessments (largely in the Environmental Impact Assessment or Basic Assessment context under NEMA and Section 38(8) of the NHRA, but also self-standing assessments under Section 38(1) of the NHRA)
  - Archaeological specialist studies including Phase 1 test excavations (historic & prehistoric sites)
  - Archaeological research projects
- Development types
  - Mining and borrow pits
  - Roads (new and upgrades)
  - Residential, commercial and industrial development
  - Dams and pipe lines
  - Power lines and substations
  - Renewable energy facilities (wind energy, solar energy and hydro-electric facilities)

#### Phase 2 mitigation and research excavations:

- ESA open sites
  - Duinefontein, Gouda
- MSA rock shelters
  - Fish Hoek, Yzerfontein, Cederberg, Namaqualand
- MSA open sites
  - Swartland, Bushmanland, Namaqualand
- LSA rock shelters
  - Cederberg, Namaqualand, Bushmanland
- LSA open sites (inland)
  - Swartland, Franschhoek, Namaqualand, Bushmanland
- LSA coastal shell middens
  - Melkbosstrand, Yzerfontein, Saldanha Bay, Paternoster, Dwarskersbos, Infanta, Knysna, Namaqualand
- LSA burials
  - Melkbosstrand, Saldanha Bay, Namaqualand, Knysna
- Historical sites
  - Franschhoek (farmstead and well), Waterfront (fort, dump and well), Noordhoek (cottage), variety of small excavations in central Cape Town and surrounding suburbs
- Historic burial grounds
  - Green Point (Prestwich Street), V&A Waterfront (Marina Residential), Paarl

## *Curriculum Vitae*

### **JOHN E. ALMOND Ph.D. (Cantab)**

**Natura Viva cc, PO Box 12410 Mill Street, CAPE TOWN 8010, RSA  
tel: (021) 462 3622 e-mail: naturaviva@universe.co.za**

- **Honours Degree in Natural Sciences (Zoology)**, University of Cambridge, UK (1980).
- **PhD in Earth Sciences (Palaeontology)**, University of Cambridge, UK (1986).
- **Post-doctoral Research Fellowships** at University of Cambridge, UK and Tübingen University, Germany (Humboldt Research Fellow).
- **Visiting Scientist** at various research institutions in Europe, North America, South Africa and fieldwork experience in all these areas, as well as in North Africa.
- **Scientific Officer, Council for Geoscience, RSA** (1990-1998) – palaeontological research and fieldwork – especially in western RSA and Namibia.
- **Managing Member, Natura Viva cc** – a Cape Town-based company specialising in broad-based natural history education, tourism and research – especially in the Arid West of Southern Africa (2000 onwards). *Natura Viva cc* produces **technical reports** on palaeontology, geology, botany and other aspects of natural history for public and private nature reserves.
- **Current palaeontological research** focuses on fossil record of the Precambrian / Cambrian boundary (especially trace fossils), and the Cape Supergroup of South Africa.
- **Registered Field Guide for South Africa and Namibia**
- **Member of the A-team, Botanical Society of SA** (Kirstenbosch Branch) – involved in teaching and training leaders for botanical excursions. Invited leader of annual Botanical Society excursions (Kirstenbosch Branch) to Little Karoo, Cederberg, Namaqualand and other areas since 2005.
- **Professional training of Western and Eastern Cape Field Guides** (FGASA Level 1 & 2, in conjunction with *The Gloriosa Nature Company*) and of Tourist Guides in various aspects of natural history.
- Involved in **extra-mural teaching in natural history** since the early 1980s. Extensive experience in **public lecturing**, running **intensive courses** and leading **field excursions for professional academics as well as enthusiastic amateurs** (e.g. Geological Society / Archaeological Society / Friends of the SA Museum / Cape Natural History Club / Mineral Club / Botanical Society of South Africa / SA Museum Summer & Winter School Programmes / UCT Summer School)
- **Development of palaeontological teaching materials** (textbooks, teachers guides, palaeontological displays) and **teacher training** for the new school science curriculum (GET, FET).
- Former long-standing member of **Archaeology, Palaeontology and Meteorites Committee for Heritage Western Cape (HWC)**. Advisor on palaeontological conservation and management issues for the Palaeontological Society of South Africa (PSSA), HWC and SAHRA (including APM Permit Committee at HWC). Compilation of **technical reports on provincial palaeontological heritage of Western, Northern and Eastern Cape** for SAHRA and HWC. Accredited member of PSSA and APHP (Association of Professional Heritage Practitioners, Western Cape).
- **Palaeontological impact assessments for developments in the Western Cape, Eastern Cape, Northern Cape, Free State, Northwest Province, Mpumalanga, Gauteng.**

- Several hundred **palaeontological heritage desktop studies and field assessments** completed over the past few years. Examples of recent larger projects include:
  - (1) Several major alternative energy projects (wind / solar) in the Prieska, De Aar, Sutherland and Cookhouse / Middleton areas (N. Cape, E. Cape)
  - (2) Palaeontological heritage survey of the Coega IDZ (E. Cape)
  - (3) On-going survey of borrow pits in the Western Cape
  - (4) Palaeontological heritage assessments for the Transnet 16 mtpa railway development, Hotazel to Coega IDZ (N. Cape, E. Cape)
  - (5) Eskom transmission line developments such as Gamma-Omega and Gamma Perseus projects (N. Cape, W. Cape, Free State)
  - (6) Mining exploration studies on the Great Karoo
  - (7) Strategic Environmental Assessment Specialist Report – Heritage (palaeontological component) For National Wind and Solar PV, Shale Gas in the Karoo, Square Kilometre Array
- **Reviews of fossil heritage** related to new 1: 250 000 geological maps published by the Council for Geoscience (Geological Survey of SA) – e.g. Clanwilliam, Loeriesfontein, Alexander Bay sheets.



## Dr. Neville Bews & Associates – Johannesburg, South Africa

### EDUCATION

- *B.A. (Soc), University of South Africa, 1980*
- *B.A. (Soc) (Hons), University of South Africa, 1984*
- *The Henley Post Graduate Certificate in Management, Henley Management College, United Kingdom*
- *M.A. (Cum Laude), Rand Afrikaans University, 1999*
- *D. Litt. et Phil., Rand Afrikaans University, 2000*

Dr Neville Bews is a senior social scientist and human resource professional with 36 years' experience. He consults in the fields of Social Impact Assessments and research, and human resource management. He has worked on a number of large infrastructure, mining and water resource projects. He at times lectures at both the Universities of Pretoria and Johannesburg and is a Senior Fellow in the Centre for Sociological Research, Department of Sociology, University of Johannesburg.

## EMPLOYMENT HISTORY

### ***Dr Neville Bews & Associates, Johannesburg, South Africa***

*Social Impact Assessment consultant and part-time lecturer, 2001 – date.*

Leads social impact assessments, provides strategic social management advice to clients, acts as reviewer and mentor to young social scientists.

### ***S A Eagle Company Ltd, Johannesburg, South Africa***

*Employee Relations Manager, 1992 - 2001*

Human Resource management and administration; industrial relations; human resource related research projects; designing and leading implementation of research strategies; disciplinary and grievance hearings; negotiating with unions; corporate social responsibility.

### **Status Management Services**

Human Resources Consultant, 1986 – 1992

Management training; employee assistance programmes; industrial relations; recruitment; disciplinary and grievance hearings; negotiating with unions; job evaluation.

### **City of Johannesburg**

Professional Officer - Human Resources, 1977 - 1986

Industrial relations; disciplinary and grievance hearings; negotiating with unions; recruitment, selection and placement; management training; job evaluation.

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## EXPERIENCE – EXAMPLES

### Water resources and regional planning Social Impact Assessments

**Department of Water Affairs and Forestry**

**South Africa**

Social impact assessment for the Mokolo and Crocodile River (West) Water Augmentation Project for increased and assurance of water supply. Research socio-economic circumstances, data analysis, assessment, authored report.

**The Aveng (Africa) Group Limited (Grinaker LTA)**

**South Africa**

Assisting the construction company with the social management of the Mokolo and Crocodile River (West) Water Augmentation Project. Consult and mediate between contractors and affected parties advise on strategies to reduce tensions between contractors and the public.

**Department of Water Affairs and Forestry**

**South Africa**

Ncwabeni Off-Channel Storage Dam for security of water supply in Umzumbe, KwaZulu-Natal. Research socio-economic circumstances, data analysis, assessment, authored report.

**Sedibeng District Municipality**

**South Africa**

Social impact assessment for the Environmental Management Plan for the Sedibeng District, on behalf of Felehetsa Environmental (Pty) Ltd. Research socio-economic circumstances, data analysis, assessment, authored report.

**Felehetsa Environmental (Pty) Ltd**

**South Africa**

Social Impact Assessment for Waterfall Wedge housing and business development situated in Midrand Gauteng. Research socio-economic circumstances, data analysis, assessment, authored report.

**NEMAI Consulting Environmental & Social Consultants**

**South Africa**

Ncwabeni: Off-Channel Storage Dam, KwaZulu-Natal. Research socio-economic circumstances, data analysis, assessment, authored report.

**Department of Water and Sanitation**

**South Africa**

Mzimvubu Water Project Eastern Cape. Research socio-economic circumstances, data analysis, assessment, authored report.

### Social Assessments for mining clients

**Vale**

**Mozambique**

Socio-economic impact assessment of proposed Moatize power plant, Tete. Research socio-economic circumstances, data analysis, assessment, authored report.



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**Exxaro Resources Limited** **South Africa**  
Social impact assessment for the social and labour plan for Leeuwpan Coal Mine, Delmas. Research socio-economic circumstances, data analysis, assessment, authored report.

**Exxaro Resources Limited** **South Africa**  
Social impact assessment for the social and labour plan for Glen Douglas Dolomite Mine, Henley-on-Klip. Research socio-economic circumstances, data analysis, assessment, authored report.

**Exxaro Resources Limited** **South Africa**  
Social impact assessment for the social and labour plan for Grootegeluk Open Cast Coal Mine, Lephalale. Research socio-economic circumstances, data analysis, assessment, authored report.

**Exxaro Resources Limited** **South Africa**  
Social and labour plan for the Paardekraal Project, Belfast. Research socio-economic circumstances, data analysis, assessment, authored report.

**Exxaro Resources Limited** **South Africa**  
Social impact assessment for the Paardekraal Belfast Project Belfast. Research socio-economic circumstances, data analysis, assessment, authored report.

**Kumba Resources Ltd** **South Africa**  
Social Impact Assessments for the Sishen Iron Ore Mine in Kathu Northern Cape. Research socio-economic circumstances, data analysis, assessment, authored report.

**Kumba Resources Ltd** **South Africa**  
Social Impact Assessments for the Sishen South Project in Postmasburg, Northern Cape. Research socio-economic circumstances, data analysis, assessment, authored report.

**Kumba Resources Ltd** **South Africa**  
Social Impact Assessments for the Dingleton resettlement project at Sishen Iron Ore Mine Kathu, Northern Cape. Research socio-economic circumstances, data analysis, assessment, authored report.

**Gold Fields** **South Africa**  
Social Impact Assessment for the Gold Fields West Wits Project. Research socio-economic circumstances, data analysis, assessment, authored report.

**Anglo Coal** **South Africa**  
Review of social impact assessment for the proposed Waterberg Gas 37-spot coalbed methane (CBM) bulk yield test project.

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**Sekoko Mining**

**South Africa**

Sekoko Wayland Iron Ore, Molemole Local Municipalities in Limpopo Province. Research socio-economic circumstances, data analysis, assessment, authored report.

**Memor Mining (Pty) Ltd**

**South Africa**

Langpan Chrome Mine, Thabazimbi, Limpopo. Research socio-economic circumstances, data analysis, assessment, authored report.

**Prescali Environmental Consultants (Pty) Ltd**

**South Africa**

Vlakpoort Open Cast Mine – Thabazimbi, Limpopo. Research socio-economic circumstances, data analysis, assessment, authored report.

**Afrimat Ltd**

**South Africa**

1. Marble Hall Lime Burning Project: Social Impact Assessment – Limpopo.
2. Glen Douglas Lime Burning Project: Social Impact Assessment - Henley-on Klip, Midvaal

**Social assessments for regional and linear projects**

**Gautrans**

**South Africa**

Social impact for the Gautrain Rapid Rail Link, Pretoria to Johannesburg and Kempton Park. Managed a team of 10 field workers, research socio-economic circumstances, data analysis, assessment, and co-authored report.

**South African National Road Agency Limited**

**South Africa**

Social Impact of tolling the Gauteng Freeway Improvement Project. Research socio-economic circumstances, data analysis, assessment, authored report.

**South African National Road Agency Limited**

**South Africa**

Social Impact of the N2 Wild Coast Toll Highway. Managed a team of three specialists. Research socio-economic circumstances, data analysis, assessment, co-authored report.

**South African National Road Agency Limited**

**South Africa**

SIA for the N3 Keversfontein to Warden (De Beers Pass Section). Research socio-economic circumstances, data analysis, assessment, authored report.

**Transnet**

**South Africa**

Social impact assessment for the Transnet New Multi-Product Pipeline Project (555 km) (Commercial Farmers). Research socio-economic circumstances, data analysis, assessment, authored report.

**Eskom Holdings Limited**

**South Africa**

Social Impact Assessment for the Ubertas 88/11kV Substation in Sandton, Johannesburg. Research socio-economic circumstances, data analysis, assessment, authored report.

**Eskom Holdings Limited**

**South Africa**

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Nuclear 1 Power Plant. Assisted with the social impact assessment consulting to Arcus GIBB Engineering & Science. Peer review and adjusted the report and assisted at the public participation feedback meetings.

**Eskom Holdings Limited, Transmission Division** **South Africa**

Social impact assessment for Eskom Holdings Limited, Transmission Division's Neptune-Poseidon 400kV Power Line in the Eastern Cape. Research socio-economic circumstances, data analysis, assessment, authored report.

**Eskom Holdings Limited, Transmission Division** **South Africa**

Social Impact assessment for Eskom Holdings Limited, Transmission Division, Forskor-Mernsky 275kV±130km Powerline and Associated Substation Works in Limpopo Province. Research socio-economic circumstances, data analysis, assessment, authored report.

**MGTD Environmental** **South Africa**

Social impact assessment for a 150MW Photovoltaic Power Plant and Associated Infrastructure in Mpumalanga. Research socio-economic circumstances, data analysis, assessment, authored report.

**MGTD Environmental** **South Africa**

10MWp Photovoltaic Power Plant & Associated Infrastructure, North West Province. Research socio-economic circumstances, data analysis, assessment, authored report.

**eThekwini Municipality** **South Africa**

Social impact assessment for the proposed infilling of the Model Yacht Pond at Blue Lagoon, Stiebel Place, Durban. Research socio-economic circumstances, data analysis, assessment, authored report.

**MGTD Environmental** **South Africa**

ABC Prieska Solar Project; Proposed 75 MWp Photovoltaic Power Plant and its associated infrastructure on a portion of the remaining extent of ERF 1 Prieska, Northern Cape. Research socio-economic circumstances, data analysis, assessment, authored report.

**MGTD Environmental** **South Africa**

ABC Prieska Solar Project; Proposed 75 MWp Photovoltaic Power Plant and its associated infrastructure on a portion of the remaining extent of ERF 1 Prieska, Northern Cape;

**Assessments for social projects and social research**

**Australia – Africa 2006 Sport Development Program** **South Africa**

To establish and assess the impact of the Active Community Clubs Initiative on the communities of NU2 (in the township of Mdantsane)\* and Tshabo (a rural village). Lead researcher social, data collection and analysis, assessment.

**United Nations Office on Drugs and Crime** **South Africa**

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Evaluation of a Centre for Violence Against Women in Upington. Research socio-economic circumstances, data analysis, assessment, co-authored report.

**University of Johannesburg**

**South Africa**

Research into research outputs of academics working in the various departments of the university.  
Research socio-economic circumstances, data analysis, assessment, authored report.

**Human Resource and management training**

**Various national companies**

**South Africa**

Developed and run various management courses such as, recruitment selection & placement; industrial relations / disciplinary hearings; team building workshops; multiculturalism workshop.

1986-2007

**University of South Africa, Department of Industrial Psychology**

**South Africa**

Developed the performance development study guide for industrial psychology 3.

2000

**Authored Chapters in HR books**

**South Africa**

In Slabbert J.A. de Villiers, A.S. & Parker A (eds.). Managing employment relations in South Africa.

Teamwork within the world-class organisation.

2005

In Muchinsky, P. M. Kriek, H. J. & Schreuder, A. M. G. Personnel Psychology 3rd Edition

Chapter 9 – Human resource planning.

Chapter 10 – The changing nature of work.

2005.

In Rossouw, G. J. and van Vuuren, L. Business Ethics - Made in Africa 4th Edition.

Chapter 11 – Building Trust with Ethics.

**South African Management Development Institute (SAMDI) Democratic Republic of the Congo**

Developed a course on Strategic Human Resource Planning for SAMDI and the Democratic Republic of the Congo as well as trainer's manuals for this course.

2006.

**Competition Tribunal**

**South Africa**

Developed a Performance Management System and Policy for the Competition Tribunal South Africa.

2006

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## PUBLICATIONS

Bews, N. & Martins, N. 2002. An evaluation of the facilitators of trustworthiness. SA Journal of Industrial Psychology. 28(4), 14-19.

Bews, N. Martins, N. & von der Ohe, H. 2002. Editorial. SA Journal of Industrial Psychology. 28(4), 1.

Bews, N. & Rossouw, D. 2002. Contemporary organisational change and the importance of trust. SA Journal of Industrial Psychology. 28(4), 2-6.

Bews, N. & Uys, T. 2002. The impact of organisational restructuring on perceptions of trustworthiness. SA Journal of Industrial Psychology. 28(4), 21-28.

Bews, N & Rossouw, D. 2002. A role for business ethics in facilitating trustworthiness. Journal of Business Ethics. 39: 377-390.

Bews, N. 2009. A matter of trust – Gaining the confidence of the public and client. IAIA Newsletter Forthcoming (Spring 2009).

Bews, N. 2009. Does he who pays the bill call the shots? Sitting astride client and public interest – the dilemma of maintaining credibility in impact assessments. IAIA Newsletter Winter – 2009.

Bews, N. 2002. Reducing your company's risk of sexual harassment claims. HR Future. (2) 2 10-11.

Bews, N. & Martins, N. von der Ohe, H. 2002. Organisational change and trust: Experiences here and abroad. Management Today, (18) 8 34-35.

Martins, N. Bews, N. & von der Ohe, H. 2002. Organisational change and trust. Lessons from Europe and South African organisations. HR Future, (2)9 46-47.

Rossouw, D. & Bews, N. 2002. The importance of trust within a changing business environment. Management Today. 18(2) 26-27.

Bews, N. 2001. You can put a value to trust in the new economy. HR Future, (1)1 48-49.

Bews, N. 2001. Maintaining trust during organisational change. Management Today, (17) 2 36-39.

Bews, N. 2001. Business ethics, trust and leadership: how does Africa fare? Management Today, (17) 7 14-15.

Rossouw, D & Bews, N. 2001. Trust is on the decline in the workplace, yet it's vital for modern organisational success. People Dynamics. (18) 6 28-30.

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Bews, N. & Uys, T. 2001. The effects of restructuring on organisational trust. *HR Future*, (1)8 50-52.

Rossouw, G. J. & Bews, N. F. 2010. Building Trust with Ethics. In Rossouw, G. J. and van Vuuren, L. *Business Ethics - Made in Africa 4th Edition*. Cape Town: Oxford University Press.

Bews N. 2005. Teamwork within the world-class organisation. In Slabbert J.A. de Villiers, A.S. & Parker A (eds.). *Managing employment relations in South Africa*. Durban : Butterworths.

Bews, N. F. 2005. Human resource planning. In Muchinsky, P. M. Kriek, H. J. & Schreuder, A. M. G. 2005. *Personnel Psychology 3rd Edition*. Cape Town; Oxford University Press.

Bews, N. F. 2005. The changing nature of work. In Muchinsky, P. M. Kriek, H. J. & Schreuder, A. M. G. 2005. *Personnel Psychology 3rd Edition*. Cape Town; Oxford University Press.

Bews, N. F. 2005. Chapter 9 & 13. In Muchinsky, P. M. Kriek, H. J. & Schreuder, A. M. G. 2005. *Instructor's Manual. Personnel Psychology 3rd Edition*. Cape Town; Oxford University Press.

Bews, N. F., Schreuder, A. M. G. & Vosloo, S. E. 2000. *Performance Development. Study guide for Industrial Psychology 3*. Pretoria: University of South Africa.

Uys, T. and Bews, N. 2003. "Not in my Backyard": Challenges in the Social Impact Assessment of the Gautrain. Department of Sociology Seminar, RAU. 23 May 2003.

Bews, N. 2002. The value of trust in the new economy. Industrial Relations Association of South Africa (Irasa). Morning seminar 21 August 2002.

Bews, N. 2002. The issue of trust considered. Knowledge Recourses seminar on Absenteeism. The Gordon Institute of Business. 27 August 2002.

Bews, N. & Uys, T. 2001. The impact of organisational trust on perceptions of trustworthiness. South African Sociological Association Conference. Pretoria.

Bews, N. 2001. Business Trust, Ethics & Leadership:- Made in Africa. International Management Today/Productivity Development Conference. Hosted by Productivity Development (Pty) Ltd & Management Today. Best Knowledge in Leadership Practice Conference 23-24 July 2001.

Bews, N. 2001. Charting new directions in leading organisational culture and climate change. Workplace Transformation and Organisational Renewal. Hosted by The Renaissance Network. November 2001.

Bews, N. 2000. Towards a model for trust. South African Sociological Association Conference. Saldanha.

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Bews, N. 2003. 'Social Impact Assessments, theory and practice juxtaposed – Experience from a South African rapid rail project.' New Directions in Impact Assessment for Development: Methods and Practice Conference. University of Manchester, Manchester, England.

### **MEMBERSHIP OF PROFESSIONAL BODIES**

Member of South African Affiliate of the International Association for Impact Assessment (IAIASa).

Membership Number: 2399

Registered on database for scientific peer review of iSimangaliso GEF project outputs

## SPECIALIST EXPERTISE

### ANDREW CLEGHORN

**Profession:** Civil Engineer  
**Position in Firm:** Regional Head – Western Cape, Shareholder, Principal Civil Engineer  
**Qualifications:** PrEng 20030171, MEng (Civil)  
**Years of Experience:** 17 years

**Summary of Experience:** Andrew Cleghorn has more than 17 years engineering experience. Andrew obtained his Master of Engineering degree in 2016 from the University of Stellenbosch. Andrew was recently promoted to the position of Regional Head of the Western Cape Transport and Infrastructure branch. Andrew has technical and professional skills in pavement engineering, non-motorised transport planning, design and development of transport systems, project planning and management and construction monitoring.

#### Specialist Experience:

##### 2017- Current Project:

#### **N2 Wildcoast Highway, Section 20 from Miskaba River Bridge to the Mtentu River Bridge**

**Position:** Project Leader, Lead Designer  
**Description:** Design and Construction supervision of 18km of Greenfields portion of the N2  
**Activities Performed:** Project Leader and Design Specialist  
**Project Value:** R 1 bn

##### 2011-2016

**Project:** **N2 Upgrades Myddleton near Caledon**  
**Position:** Project Leader and Lead Designer  
**Description:** Road Rehabilitation and Improvements  
**Activities Performed:** Project Management and Lead Designer, Pavement Engineering  
**Project Value:** R 40 000 000.00 (Construction)

##### 2011-2016

**Project:** **Cape Town Northern Areas Road Rehabilitation**  
**Position:** Project Leader and Lead Designer  
**Description:** Road Rehabilitation and Improvements  
**Activities Performed:** Project Management and Lead Designer, Pavement Engineering  
**Project Value:** R 110 000 000.00 (Construction cost)

##### 2011-2012

**Project:** **Phillipi Plaza Shopping Complex**  
**Position:** Project Leader and Lead Designer  
**Description:** Parking and roads to new shopping complex  
**Project Value:** R 12 000 000.00 (Construction)



<b>2008-2011</b>	<b>Project:</b>	<b>Bredasdorp Main Road Rehabilitation</b>
	<b>Position:</b>	Project Leader and Lead Designer
	<b>Description:</b>	Road Rehabilitation and Improvements
	<b>Activities Performed:</b>	Project Management and Lead Designer, Pavement Engineering
<b>2007-2018</b>	<b>Project:</b>	<b>Muizenberg Main Road Phase 1 2 3</b>
	<b>Position:</b>	Lead Designer
	<b>Description:</b>	Road Rehabilitation and Civil Engineering Services
	<b>Activities Performed:</b>	Lead Designer
	<b>Project Value:</b>	R 600 000 000.00 (Construction)

**Name** Stephen Burton

**Profession** Environmental Scientist

**Name of Firm** SiVEST SA (Pty) Ltd

**Present Appointment** Environmental Scientist:  
Environmental Division

**Years with Firm** 11 Years

**Date of Birth** 12 January 1979

**ID Number** 7901125138083

**Nationality** South African



### Education

Matric Exemption (Natal Education Department)  
Maritzburg College, PMB, KZN (1991 – 1996)

### Professional Qualifications

B.Sc. (Zoology 2002), University of Natal PMB, KZN  
B.Sc. Honours (Zoology 2003), University of Natal PMB, KZN  
M.Sc. (Zoology 2006), University of KwaZulu-Natal PMB, KZN  
Pr.Sci.Nat. Registration No. 117474

### Years of Experience

12 Years

### Membership to Professional Societies

International Association for Impact Assessment South Africa (IAIASa)  
South African Council for Natural Scientific Professions (SACNASP) Pr. Sci. Nat. Reg No. 117474

### Employment Record

April 2008 – present SiVEST SA (Pty) Ltd: Environmental Division - Environmental Scientist  
May 2007 – March 2008 UDIDI Project Development Company: Environmental Planner

### Language Proficiency

LANGUAGE	SPEAK	READ	WRITE
English	Fluent	Fluent	Fluent
Afrikaans	Good	Good	Good

### Key Experience

Field of Specialisation in Environmental Science, Zoology (specifically Ornithology and Mammology), Entomology and Wetland Ecology. Stephen is skilled in the following fields:-

- Evaluation of Biodiversity

- Management Recommendations
- Scoping Reports and Environmental Impact Assessments
- Bird Identification
- Grass Identification
- Tree Identification
- Mammal Identification
- Wetland Ecology
- Wetland Delineation
- Wetland Functionality Assessments
- Wetland Rehabilitation Plans
- GIS Package Skills, particularly ESRI products
- Statistical Package Skills, particularly STATISTICA, PDAP and R-Statistics.

Stephen has completed a Bachelor of Science Degree with a Zoology Major (University of Natal, PMB), as well as a Bachelor of Science (Honours) in Zoology (University of Natal, PMB). Stephen has also completed a Master of Science Degree in Zoology (University of KwaZulu-Natal, PMB). This post-graduate degree was fieldwork and lab based and provided practical experience in conceptualising, planning, modelling and executing of a project.

Stephen has been involved in consulting since May 2007, which included scoping reports, environmental management plans, integrated management plans, rezoning applications, development facilitation act applications, basic assessment reports, environmental impact reports and strategic environmental assessments. He has been involved in a number of faunal assessments for developments ranging from power lines and water pipelines, to housing developments and light industrial developments. In addition, Stephen has undertaken a number of wetland assessments, and wetland rehabilitation plans, for developments ranging from pipelines through housing and industrial developments.

Since joining SiVEST Environmental Division in April 2008, Stephen has been involved in a number of projects ranging from Environmental Management Planning for Eskom Power lines to the writing up of scoping reports and environmental impact reports for various projects, and the auditing of Eskom Power lines, district roads and Umgeni Water pipelines and dams. In addition, he has developed specialist skills in faunal and wetland assessments for a range of development types.

## Projects Experience

### April 2008 – present

#### **POWERLINE/ROADS PROJECTS**

- D1562 Road Upgrade
- Franklin Overhead Power Line
- Eskom Grassridge Melkhout Power Line Rebuild
- Bulwer-Lamington Power Line
- Lukhanyeni and Maduna Access Roads, Umzimkhulu, Basic Assessment Class Application
- D1131 and D1137 Roads in Msunduzi
- Harvard-Soutdrift Power Line (Solar Reserve South Africa)
- Lengau Sub-Station & Switching Yard (Solar Reserve South Africa)
- Eskom Corinth-Mzongwana
- Eskom Ndwedwe to Appelsbosch
- Eskom Empangeni-Mandeni / Fairbreeze
- SpoorNet Coal Link Upgrade
- Eskom Eros to Port Edward 132kV distribution lines
- Eskom Royal Substation
- Eskom Corinth-Lamington

## DEVELOPMENT PROJECTS

- Shemula Water Treatment Works Expansion
- Mooi River Industrial Park Development, EIA
- MiddelFontein Housing Development, Kokstad, EIA
- Thanda Integrated Management Plan Development
- Ladysmith Extension 15 Development EIA
- Ladysmith Shopping Mall EIA
- Ladysmith Pedestrian Bridges BA
- Peacetown Taxi Rank BA
- Crookes Brothers EMF – Analysis Report

## WATER PROJECTS

- Swayimane Community Water Supply Scheme
- Mooi-Mgeni Water Transfer System – Phase 2 (Trans-Caledon Tunnel Authority)
- Middeldrift Phase 2 Community Water Supply Scheme
- Shemula Water Treatment Works Expansion and Rising Main
- Richmond Pipeline, Umgeni Water
- Imvutshane Dam, Umgeni Water
- Shemula Water Treatment Works Expansion
- Bulwer Dam EIA
- Hazelmere Pipeline, Umgeni Water
- Sundumbilli Community Water Supply Scheme
- Bulwer Farm Community Water Supply Scheme
- Umhlumayo Phase 4 (Fitty Park) Water Supply Scheme
- Raisethorpe Canal

## ENVIRONMENTAL AUDITING / ENVIRONMENTAL CONTROL OFFICER (ECO)

- Mooi-Mgeni Water Transfer System – Phase 2 (Trans-Caledon Tunnel Authority)
- Zimbali Golf Course Estate Development
- Middeldrift Phase 2 Community Water Supply Scheme
- Shemula Water Treatment Works Expansion and Rising Main
- Zwelethu - Port Edward Power Line
- Richmond Pipeline, Umgeni Water
- Imvutshane Dam, Umgeni Water
- Hazelmere Pipeline, Umgeni Water
- Mpumulanga Town Centre Precinct, Shopping Centre Development
- Lukhanyeni and Maduna Access Roads, Umzimkhulu Environmental Auditing
- Rainbow Farms Broiler Houses (B17/B18)
- Ludeke-Zwelethu Power Lines, Port Edward
- Sundumbilli Community Water Supply Scheme
- Eros to Kokstad Power Line
- Roads in the Msunduzi Municipality
- Raisethorpe Canal
- Eskom Empangeni-Mandeni / Fairbreeze(Obanjeni) Power Line
- Eskom Mandeni-Dlangezwa Power Line
- Brewitt Park Housing Development, Escourt

## GIS INPUT MAPPING

- Arcelor-Mittal Newcastle Vegetation Assessment – Mapping & Desktop Assessment
- Normandien Farms – Mapping & Desktop Assessment

- Zimbali Lakes and Golf Course Estate - Mapping
- Cornubia Industrial Development Zone - Mapping
- Mshwathi Pipeline - Mapping
- Porritt Access Road Dispute, Snowdon Farm Trust - Mapping
- SNA Roads - Mapping & Desktop Assessment
- Ballito Flats - Mapping & Desktop Assessment
- DOW Veterinary Quarantine - Mapping & Desktop Assessment
- Farm Isonti - Mapping
- Hawaan CT - Mapping
- Izinga Phase 3 EIA - Mapping
- Ellingham Estate - Mapping
- Motala Housing - Mapping
- Ndundula Road - Mapping & Desktop Assessment
- Okhahlamba Landfill and Cemetery Project - Mapping & Desktop Assessment
- SNA Roads - Mapping & Desktop Assessment
- Woodridge Estate - Mapping
- Umgeni Water Ngcebo Biodiversity - Mapping
- Alton Warehouse - Mapping & Desktop Assessment
- Shell Hans Dettman - Mapping & Desktop Assessment
- Lower Tugela Bulk Water Supply Scheme Extension - Mapping & Desktop Assessment

#### **WETLAND ASSESSMENTS AND REHABILITATION PLANS**

- Rockdale Wetland Assessment
- Tooverberg Wind Energy Farm
- Sibaya Node 5 Development
- Transnet Wetland Functionality and Biodiversity Assessment for Port of Richards Bay
- Cornubia Rem 68 Development
- Dube Tradeport State of the Environment Report
- Eshowe SSA1 Bulk Water Supply Scheme
- Umgeni Water Waste Water Treatment Plant Offsets
- Osizweni Industrial Development
- Bishopstowe Strategic Environmental Assessment
- Ezaheni D Housing Development
- Izinga Phase 3 Residential Development Amendment
- Dannhauser Bulk Water Supply
- Transnet Richards Bay Port Wetland Assessment
- Raisethorpe Canal Phase 2
- Mimosadale Bulk Water Supply
- Greater Edendale EMF
- Shemula Phases 2-6 Pipeline
- Sumitomo New Rubber Plant
- Riverside Cemetery Development
- DTP Support Zone 2 Development
- Wosiyane/Swayimane Pipeline
- IRPTN Corridor 4 Development
- Sibaya Development
- Cornubia North Development
- Tinley Manor North Development
- Izinga Phase 3 Development
- Nonoti-Zinkwazi Development
- Zimbali Estate Properties
- Mthandeni Irrigation Scheme

- Strode Property Development
- Ethekewini Integrated Rapid Public Transport Network Corridor 9
- D1562 Road Upgrade
- Cornubia Phase 2 Development
- Compensation Flats Development
- Zimbali Estate Development
- Mandeni Cemetery
- Fairmont Hotel
- Tinley Manor South Development
- Maidstone Mill Development
- Mnambithi Substation and Powerline
- Nquthu Town Erf 16 & 17 Development
- Goswell Platform Development - Cato Ridge
- Driefontein Pipeline Route - Ladysmith
- Blaaubosch Housing Development - Newcastle
- Madadeni Housing Development - Newcastle
- Hyde Park Country Estate
- Newcastle Municipality New Cemetery Sites

#### **FAUNAL ASSESSMENTS**

- Umlaas Gate Faunal Assessment
- Ntunjambili Bulk Water Supply Scheme
- In-depth specialist studies (including faunal) for Port of Richards Bay
- Kassier Road North Mixed Use Development
- Transnet Richards Bay Port Faunal Assessment
- Greater Edendale EMF
- Shemula Phase 2-6 Pipeline
- Milky Way Shopping Centre Development
- Dudley Pringle Development
- Lindokuhle Housing Development
- Shongweni Bulk Water Pipeline
- Ethekewini Integrated Rapid Public Transport Network Corridor 1
- Ethekewini Integrated Rapid Public Transport Network Corridor 3
- Ethekewini Integrated Rapid Public Transport Network Corridor 9
- Newcastle Municipality New Cemetery Sites
- Shongweni Mixed-Use Development
- Nonoti Beach Tourism Development
- Proposed Shoprite & Checkers Distribution Centre Development, Marianhill
- Proposed Cornubia Development, Umhlanga
- Lower Tugela Bulk Water Supply Scheme Extension
- Proposed Redcliffe Housing Development in Ethekewini Municipality

#### **AVI- FAUNAL ASSESSMENTS**

- Proposed High Voltage Powerline to Cygnus Substation, Empangeni
- Proposed High Voltage Powerline between Corinth and Lamington Substations, Underberg
- Proposed High Voltage Powerline between Corinth and Mzongwana Substations