
CURRICULUM VITAE
RAVISHA AJODHAPERSADH

Profession : Environmental Consultant at Savannah Environmental
Specialisation : Environmental Management
Years experience : Six

KEY RESPONSIBILITIES

- Providing consulting services to clients for Environmental-related matters.
- Conducting Environmental Impact Assessment (EIA) processes.
- Preparation of EIA reports.
- Environmental Compliance Auditing and Environmental Control Officer (ECO) services.
- Project management.

SKILLS BASE AND CORE COMPETENCIES

- EIA Reporting
- Site Investigations
- Environmental Auditing and compliance monitoring
- Co-ordination and management of project teams
- Co-ordinating and conducting Public Involvement processes.
- Administrative tasks (minutes of meetings)
- Research

EDUCATION AND PROFESSIONAL STATUS

Degrees:

- B Soc Sci (Environmental Management) obtained from the University of Natal in 2005.
- (Hons) (BSc) (Environmental Management) obtained from the University of South Africa in 2010.

Courses:

- Certified Safety, Health and Environmental Officer
- Certified Entry Level EMS Auditor
- Attended an EIA training course conducted by Dekra Norisko in 2008.
- Attended a Wetlands Course by the WESSA and the Department of Water Affairs and Forestry in 2008.

EMPLOYMENT

1. September 2009 – Present

Name of Employer: Savannah Environmental

Position: Environmental Consultant

2. May 2009 – August 2009

Name of Employer: Environmental Impact Management Services

Position: Environmental Control Officer

3. June 2007 – April 2009

Name of Employer: Nemai Consulting

Position: Environmental Consultant

PROJECT EXPERIENCE: ENVIRONMENTAL IMPACT ASSESSMENTS

1. **Scoping Report** for the Proposed Flagging Trees Wind Energy Facility, near Middelburg, Eastern Cape Province.
2. **Scoping, EIA Report & EMP** for the Proposed Suurplaat Wind Energy Facility, near Sutherland Western and Northern Cape Provinces.
3. **Scoping, EIA Report & EMP** for the West Coast One Wind Energy Facility, Western Cape.
4. **Scoping, EIA Report & EMP** for the Rheboksfontein Wind Energy Facility, Western Cape.
5. **Scoping Report** for the Uyekraal Wind Energy Facility near Vredenburg, Western Cape.
6. **Scoping, EIA Report & EMP** for the Hidden Valley Wind Energy Facility, Northern Cape.
7. **Scoping Report** for a Wind Energy Facility near Britannia Bay, Western Cape.
8. **Scoping, EIA Report & EMP** for a Photovoltaic Solar Plant near Upington, Northern Cape.
9. **Scoping, EIA Report & EMP** for the Kleinbegin Photovoltaic Solar Plant near Groblershoop, Northern Cape.
10. **Scoping, EIA Report & EMP** for the Morgenzon Photovoltaic Solar Plant, Northern Cape.
11. **Scoping, EIA Report & EMP** for the Hertzogville Photovoltaic Solar Plant, Free State.
12. **Scoping, EIA Report & EMP** for the Hartebeestpan Photovoltaic Solar Plant near Christiana, North-West.
13. **Scoping, EIA Report & EMP** for the Springfontein Wind Energy Facility, Free State Province
14. **Scoping, EIA Report & EMP** for the Poffadder Renewable Energy Facility (Wind and Solar), Northern Cape Province.
15. **Scoping Study** for the Proposed IPP Waterberg Coal-Fired Power Station near Lephalale, Limpopo Province.
16. **Scoping Study** and EIA for the Proposed Expansion of the Sekoko Waterberg Colliery near Lephalale, Limpopo Province.
17. Basic Assessment Process for the Khobab Substation and Power Line, Eastern Cape Province.
18. Basic Assessment Process for the Tollie Photovoltaic Solar Plant near Noupoot, Eastern Cape.
19. Basic Assessment Process for the Dida Photovoltaic Solar Plant near Noupoot, Eastern Cape.
20. Basic Assessment Process for Wind Monitoring Masts, near Britannia Bay, Western Cape Province.
21. Basic Assessment Process for the Amakhala Emoyeni Wind Monitoring Masts, between Bedford and Cookhouse, Eastern Cape Province.
22. Basic Assessment Process for Wind Monitoring Masts, near Vredenburg, Western Cape Province.
23. Basic Assessments for Sections (Section 1, Section 2 & Section 10 – Soweto) of the Rea Vaya Bus Rapid Transit System and road upgrade (under Nemai Consulting) for the Johannesburg Development Agency (2008-2009).
24. Waste Licencing for Transnet Freight Rail for the Remediation of Asbestos Contaminated Land at Railway Stations in Limpopo and Mpumalanga.

ENVIRONMENTAL COMPLIANCE AUDITING AND ECO

1. **Environmental Control Officer** (monthly audits) undertaking environmental monitoring for the Waterval Water Care Works on behalf of ERWAT (2010 – current).
2. **Environmental Control Officer** (full time, daily auditing) for Transnet's New Multi-Product Pipeline, duties include environmental auditing, preparing daily reports, weekly reports and monthly reports (2009) under IEMS.
3. **Environmental Control Officer** (weekly auditing) for the rehabilitation of Blaauwpan Dam due to aviation fuel spillages from O.R Tambo Airport on behalf of the Airports Company of South Africa (2010).

PUBLIC PARTICIPATION AND ENVIRONMENTAL EDUCATION / AWARENESS PROGRAMMES

1. Assisted in conducting the EIA for the Neptune-Poseidon 300KV Transmission Lines, for Eskom (2008-2009).
2. Conducted the **public participation process** for the Fischer-Tropsch Wax Expansion Project, for Sasol (Ltd) (2007-2008).
3. Implemented and managed the Klipspruit River and Wetlands Cleanup, for the Gauteng Department of Agriculture Conservation and Environment. Responsibilities included managing 87 employees, preparation of annual, quarterly and monthly reports, and hosting monthly community and stakeholder meetings (2007 – 2008).
4. Implemented and managed the Bertrams Environmental Education Programme, for the Johannesburg Development Agency. Responsible for the project operations, report writing, event co-ordination, training and capacity building of employees, conducting waste audits and stakeholder engagement (2007- 2008).
5. Implemented and managed the Rehabilitation of illegal dumpsites: **Waste Education Programme** in Soweto, for Pikitup. Duties entailed training and managing the waste awareness team, conducting site visits, dumpsite rehabilitation monitoring and mapping on GIS (2009).
6. Conducted a **feasibility study** for the development of a recycling centre in Alexandra, Jhb for Pikitup. Duties entailed extensive research, conducting a survey, waste audit, analyzing social and environmental dimension of the proposed project and compiling the report. (2008-2009).
7. Assisted in the **Development and Implementation of the Integrated Environmental Management Series**, for the Department of Water Affairs and Forestry (DWAF). Project included developing training manuals, user friendly documents, presentations and launching an environmental decision support system for DWAF (2007- 2009).
8. Undertook the **public participation** for the Sasol's Integrated Waste Management Programme (2008). Key responsibilities included co-ordination of an Open day event, preparation of presentations, invitations, minute taking and technical aspects of the events and compiling a Public Participation report (2007).

WATER USE LICENCES

1. Undertook Water Use Licence for Section 1 (Klipspruit Valley Road) of the Rea Vaya Bus Rapid Transit System and road upgrade (under Nema Consulting) for the Johannesburg Development Agency (2008-2009).
2. Water Use Licence for culverts at road crossings for the Suurplaat wind energy facility, Northern Cape Province.
3. Water Use Licence for the West Coast one Wind Energy Facility, Western Cape Province

CURRICULUM VITAE

JO-ANNE THOMAS

Profession : Environmental Consultant
Specialisation : Environmental Management; Strategic environmental advice;
Environmental compliance advice & monitoring; Environmental Impact
Assessments; Policy, strategy & guideline formulation; Project
Management; General Ecology
Years experience : Twelve (12) years in the environmental field

KEY RESPONSIBILITIES

Provide technical input for projects in the environmental management field, specialising in Strategic Environmental Advice, Environmental Impact Assessment studies, 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; 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

Courses:

Environmental Impact Assessment, *Potchefstroom University*, 1998

Environmental Law, *Morgan University*, 2001

Professional Society Affiliations:

Professional Natural Scientist (Registration No 400024/00).

EMPLOYMENT

Current: Director of Savannah Environmental (Pty) Ltd. Independent specialist environmental consultant

October 1997-November 2005: Bohlweki Environmental (Pty) Ltd: Senior Environmental Scientist; Environmental Management and Project Management

January to July 1997: Junior Science Teacher, Sutherland High School, Pretoria

PROJECT EXPERIENCE

Current projects include:

Electricity Sector Projects: Wind Energy

- Project manager for the proposed Klipheuwel/Dassiesfontein wind energy facility and associated infrastructure at a site within the Overberg area of the Western Cape (for BioTherm Energy)
- Project manager for the proposed Suurplaat wind energy facility and associated infrastructure at a site within the Western Cape (for Moyeng Energy)
- Project manager for the proposed West Coast One wind energy facility and associated infrastructure at a site within the Western Cape (for Moyeng Energy)
- Project manager for the proposed Rheboksfontein wind energy facility and associated infrastructure at a site within the Western Cape (for Moyeng Energy)
- Project manager for the proposed EXXARO West Coast wind energy facility and associated infrastructure at a site within the Western Cape (for EXXARO Resources)
- Project manager for the proposed Oyster Bay wind energy facility, Eastern Cape Province (for Renewable Energy Resources Southern Africa)
- Project manager for the proposed Spitskop Bay wind energy facility, Eastern Cape Province (for Renewable Energy Resources Southern Africa)
- EIA and EMP for the proposed wind energy facility and associated infrastructure at a site within the Western Cape (for Eskom Generation)
- EIA and EMP for the proposed wind energy facility and associated infrastructure at a site near Hopefield, Western Cape Province (for Umoya Energy)

Electricity Sector Projects: Solar Energy

- Project manager for the EIA and EMP for the proposed Waterberg PV plant, Limpopo Province (for Thupela Energy)
- Project manager for the EIA and EMP for the proposed Project Ilanga (125MW CSP facility) near Upington, Northern Cape Province (for Ilangethu Energy)
- Project manager for the EIA and EMP for PV sites within the Northern Cape Province (for MedEnergy Global)
- Project manager for the Basic Assessment and EMP for PV sites within 4 ACSA airports within South Africa (for ACSA PV)
- Project manager for the Basic Assessment and EMP for a PV site near Rustenburg, North-West Province (for Momentous Energy)

Electricity Sector Projects: Eskom

- Project manager for the EIA and EMP for the proposed Mokopane Integration Project, Limpopo Province (for Eskom Transmission)
- Project manager for the proposed transmission lines from the Koeberg-2 Nuclear Power Station site, Western Cape Province (for Eskom Transmission)
- Project manager for the proposed Tshwane strengthening project, Phase 1, Gauteng Province (for Eskom Transmission)
- Project manager for the EIA and EMP for the proposed Kyalami Strengthening Project, Gauteng Province (for Eskom Transmission)
- Project manager for the EIA and EMP for the proposed Steelpoort Integration Project, Limpopo Province (for Eskom Transmission)
- Project manager for the EIA and EMP for the proposed conversion of the existing Open Cycle Gas Turbine (OCGT) Ankerlig Power Station (located in Atlantis Industria) to a Combined Cycle Gas Turbine (CCGT) power station, and the associated 400 kV transmission power line between Ankerlig Power Station and the Omega Substation (for Eskom Generation)
- Project manager for the EIA and EMP for the proposed conversion of the existing Open Cycle Gas Turbine (OCGT) Gourikwa Power Station (located near Mossel Bay) to a Combined Cycle Gas Turbine (CCGT) power station, and the associated 400 kV transmission power line between Gourikwa Power Station and the Proteus Substation (for Eskom Generation)
- Basic Assessment for proposed wind monitoring masts on a site north of Koekenaap, Western Cape Province (for EXXARO Resources)
- Basic Assessment for proposed wind monitoring masts on a site in the Overberg area, Western Cape Province (for BioTherm Energy)
- Basic Assessment for proposed wind monitoring masts on a site near Beaufort West, Western Cape Province (for Umoya Energy)
- Basic Assessment for proposed wind monitoring masts on a site near Laingsburg, Western Cape Province (for Umoya Energy)

Compliance Monitoring

- ECO compliance monitoring for the construction of the De Hoop Dam and the deviation of the R555, Limpopo Province
- Project manager – ECO compliance monitoring for the rehabilitation of Blaauwpan Dam, Gauteng Province
- Project manager – ECO compliance monitoring for the expansion of Waterval WCW, Gauteng Province
- Project manager - ECO compliance monitoring for the Mine Water Recovery Project at Duvha Power Station, Mpumalanga Province

Strategic and Regional Assessments

- Strategic Assessment for the location of wind energy facilities within the Western Cape Province (for Western Cape Department of Environmental Affairs and Development Planning)
- Regional Assessments for wind energy developments within identified areas in the Overberg Area of the Western Cape Province (for BioTherm Energy)
- Regional Assessment for wind energy developments within an identified area in the Sutherland Area of the Northern and Western Cape Province (for Investec Bank Limited)
- Regional Assessment for wind energy developments within an identified area on the West Coast of the Western Cape Province (for Investec Bank Limited)
- Regional Assessment for wind energy developments within an identified area on the West Coast of the Western Cape Province (for Eskom Holdings Limited)

Environmental Management Tools

- Review the effectiveness and efficiency of the environmental impact management (EIA) system in South Africa on behalf of the Department of Environmental Affairs and Tourism
- Development of a comprehensive site-specific EMP for the construction and operation of the Eskom Braamhoek Integration Project, Free State and KwaZulu-Natal Provinces
- Compilation of Provincial Guidelines for off-road routes within the Western Cape Province
- Water use permit applications for water use at Tiffindell Ski Resort, Eastern Cape Province
- Water use permit applications for various properties within the Olifants West Game Reserve, Limpopo Province
- Environmental Risk Analysis for Salbro Property Holdings, Gauteng Province
- Project integration and compilation of a Strategy for Sustainable Development for Gauteng Province
- Advice regarding environmental compliance of existing and future development at Tiffindell Ski, Eastern Cape Province
- Advice regarding environmental compliance at Salberg factory, Gauteng Province

Peer Review

- Review of EIAs submitted in terms of the ECA for the Northern Cape Department of Tourism, Environment and Conservation, including:
 - * EIA for a new wastewater treatment works in Warrenton
 - * EIA for chicken layer houses in Kimberley
 - * EIAs for the upgrading of petrol stations in Kimberley
 - * EIA for a new up-market residential development in Kathu
 - * EIA for residential development in Kimberley
- Review of EIA and EMP for the proposed Waterfall Wedge development, Gauteng Province

Infrastructure Projects

- Project manager for the EIA and EMP for the proposed bridge across the Ngotwane River located on the border of South Africa and Botswana

Mining Sector Projects

- Environmental Impact Assessment and Environmental Management Programme in terms of the MPRDA for the proposed Elitheni Coal Mine near Indwe, Eastern Cape Province
- Environmental Management Programmes for three borrow pits associated with the proposed Groot Letaba River Development Project, Limpopo Province

Water resources projects

- Project manager for the EIA and EMP for the proposed modification of the existing Hartebeestfontein Water Care Works, Gauteng Province (for ERWAT)
- Project manager for the EIA and EMP for the proposed expansion of the existing Welgedacht Water Care Works, Gauteng Province (for ERWAT)

Projects undertaken on behalf of Bohlweki Environmental include:

Specialist projects

- Development of an Environmental Policy for the Ekurhuleni Metropolitan Municipality
- Development of an Integrated Environmental Policy for the City of Tshwane Metropolitan Municipality Environmental Opportunities and Constraints Assessment for the Wonderboom Airport
- Review of the State of the Environment Report for the North West Province

Transport sector projects

- Environmental Impact Assessment and Environmental Management Plan for the proposed N2 Wild Coast Toll Road between East London (Eastern Cape) and Durban (KwaZulu-Natal)
- Environmental input to the Denneboom Local Integrated Transport Plan
- Environmental input to the Ekurhuleni transportation corridors study
- Environmental Impact Assessment for the proposed Platinum Highway from Warmbaths via Pretoria to Skilpadhek (on the South Africa-Botswana border), including obtaining all environmental permits required.
- Environmental Scoping Study and public participation process for the upgrading of Provincial Main Road 100 between the intersection with Main Road 521 and Ndwedwe
- Environmental Management Plan for repairs of portions of the N3 and N1, Gauteng
- Environmental Scoping Study and public participation process for the Kingsway Relief Road in Maseru, Lesotho

Electricity Sector projects

- Project manager for the undertaking of an EIA and compilation of an EMP for the proposed Open Cycle Gas Turbine (OCGT) Power Station and associated 400 kV Transmission lines and substation at Atlantis, Western Cape Province
- Environmental Scoping Study for a new coal-fired power station in the Lephalale area, Limpopo Province
- Project manager for the undertaking of Environmental Scoping Study and compilation of an Environmental Management Plan for various 132 kV Sub-Transmission lines and substations within the Mpumalanga Province
- Project manager for the undertaking of an EIA for the proposed 765 kV Transmission line between the existing Hydra Substation (near De Aar) and the proposed Gamma Substation (near Victoria West), Northern Cape Province
- Detailed Environmental Scoping Study and public participation for the proposed Capacity Increase Project at Arnot Power Station, Mpumalanga Province
- Project manager for the undertaking of an Environmental Scoping Study and EMP for the proposed 132 kV sub-Transmission line between the GaRankuwa and Dinaledi substations, North West Province

- EIA & public participation for the proposed new Ikaros Substation and associated 400 kV Transmission line infrastructure, North West Province
- Environmental Scoping Study public participation for the Establishment of Eskom Infrastructure for Power Supply to the C-Cut Development at Premier Mine, Cullinan, Gauteng Province
- EIA & public participation for the proposed 3rd 400 kV Transmission line between the Poseidon and Grassridge Substations in the Eastern Cape Province
- EIA & public participation for the proposed new 400 kV Transmission line between Matimba Substation (near Lephalale) and Witkop Substation (near Polokwane), Limpopo Province
- Environmental Impact Study and public participation for the proposed 2nd 400 kV Transmission line between the Grassridge Substation and the Poseidon Substation in the Eastern Cape.
- Public Participation Process for the proposed Return-to-Service of the Camden Power Station, Mpumalanga Province
- Detailed Environmental Scoping Study and public participation for the Breyten Strengthening Project: proposed new Breyten Substation and associated 88 kV Distribution line, Mpumalanga Province
- Environmental Pre-Scoping Study for the proposed Concentrating Solar Plant, in the Northern Cape Province
- Environmental Impact Assessment public participation for the proposed new nine 132 kV power lines between the Grassridge Substation and the Coega Industrial Development Zone, Eastern Cape Province

Pipelines

- Environmental Impact Assessment for the proposed Petronet New Multi-Products Pipeline (NMPP) between Durban and Gauteng Province
- Exemption application for the construction of a gas pipeline between Majuba Mine and Majuba Power Station, Mpumalanga Province.
- Exemption application for the construction of an emergency water supply pipeline from Mamelodi to Ekandustria via Cullinan, Gauteng Province.
- Environmental Scoping Study for the installation of a new water supply pipeline from Centurion to Diepsloot, Gauteng Province.

EIAs for Technology projects

- Environmental Impact Assessment for the proposed Alternative Fuels and Resources Project at Alpha's ULCO Plant near Kimberley in the Northern Cape Province
- Environmental Impact Assessment for the proposed Alternative Fuels and Resources Project at Dudfield Plant, North West Province
- Environmental Impact Assessment for the proposed Blending Platform to be established within the Gauteng Province
- Investigation of possible alternative Scrap tyre collection and disposal strategies in Gauteng, South Africa

Mining sector projects

- Environmental Management Programme Report (EMPR) for the proposed small-scale kaolin clay mine near Ndwedwe, KwaZulu-Natal Province
- Environmental Management Programme Report (EMPR) for prospecting activities within the Premier Mine Game Farm, Cullinan for De Beers Consolidated Mines Limited

- Environmental Management Plan for the Proposed C-Cut Development at Premier Mine, Cullinan
- Environmental Management Programme Report for the Proposed C-Cut Development at Premier Mine, Cullinan
- Environmental Impact Assessment and public participation process for the Proposed C-Cut Development at Premier Mine, Cullinan

Development projects

- A detailed Environmental Scoping Study and public participation process for the Thaba ya Batswana Development on portions of the Farm Rietvlei 101 IR, Gauteng
- Environmental Scoping Report and public participation process for the development of a Community Safety Centre in Khutsong-South, Carletonville

Water resources projects

- A detailed Environmental Impact Assessment of new regional water care infrastructure in the DD5A sub-drainage district in Eastern Gauteng (adjacent to the Blesbokspruit Ramsar Site) for the East Rand Water Care Company (ERWAT)



UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

At a congregation of the University

held on 24 April 1997

Jo-Anne Aingworth

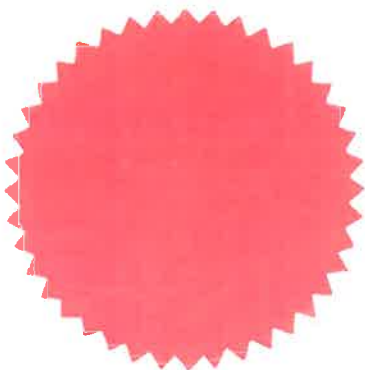
was admitted to the Degree of

Master of Science

Dean, Faculty of Science

Vice-Chancellor and Principal

Registrar (Academic)



**CURRICULUM VITAE
CHEDA SHEILA MUNIONGO**

Profession : Environmental Consultant
Specialisation : Environmental Management
Years experience : 2 years

KEY RESPONSIBILITIES

- Providing consulting services to clients for Environmental-related matters.
- Conducting Environmental Impact Assessment (EIA) processes.
- Preparation of EIA reports.
- Creation of maps for various EIA projects

SKILLS BASE AND CORE COMPETENCIES

- Report Writing
- Site Investigation
- Project Management
- Co-ordinating and conducting Public Involvement processes.
- Preparing maps (using ArcGIS)

EDUCATION AND PROFESSIONAL STATUS

- BSc (Geography & Environmental Management) obtained from the University of Johannesburg in 2008.
- (Hons) (BSc) (Environmental Management) obtained from the University of South Africa in 2010.

EMPLOYMENT

1. June 2008 – January 2011

Name of Employer: Shango Solution

Position: GIS Consultant

2. February 2011 – May 2012

Name of Employer: Fourth Element Consulting

Position: Assistant EIA and GIS Practitioner

3. September 2009 – Present

Name of Employer: Savannah Environmental

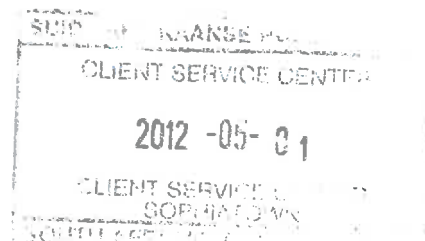
Position: EIA and GIS Consultant

PROJECT EXPERIENCE

- BA for Hillside 132kV substation and power line project, near Middelburg Mpumalanga Province
- BA for Simthabi 132kV substation and power line project, near Thabazimbi Limpopo
- BA for Thabatsipi 132kV substation and power line project, near Thabazimbi Limpopo
- EIA for Roodepoort Strengthening 400kV substation 400kV power lines, near Roodepoort Gauteng
- BA for Avalon Cemetery Extension, in Soweto Gauteng
- BA for Dinaledi-Spitskop Deviation 400kV power line project, near Mogwase North West Province
- EIA for proposed Merapi Solar Energy Facility, near Excelsior Free State
- EIA for proposed Sannaspos Solar Energy Facility, near Bloemfontein Free State



Unit
01745760 lieutenant
Kater Mathele



We certify that

Cheda Sheila Muniongo

having complied with the requirements of the Higher Education Act

and the Institutional Statute, was admitted to the degree of

HONOURS BACHELOR OF SCIENCE

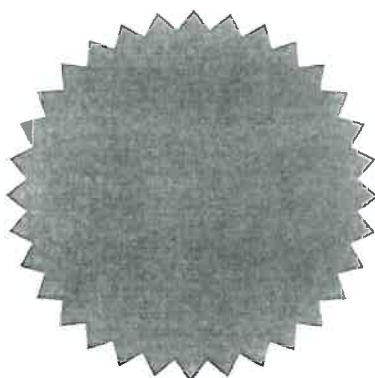
in Environmental Management

at a congregation of the University

on 17 May 2010

Vice-Chancellor

University Registrar



Executive Dean



CURRICULUM VITAE

Name : **KELLOCK, DAVID JOHN**

Date of Birth : 24 October 1952

Marital Status : Married

Profession/Specialisation : Traffic Engineering; Transportation Planning;
Road Design; Municipal Engineering; Contract
Documentation; Project Management;

Years with Firm : 2 years

Nationality : South African

Years Experience : 36 years



KEY QUALIFICATIONS

Mr Kellock is a Professional Engineer with Aurecon in KwaZulu-Natal specialising in Traffic Engineering and Transportation Planning. He has been involved in all types of traffic, transportation and infrastructure projects predominantly in KwaZulu-Natal but also in Cape Town, Windhoek, Port Elizabeth and East London. His project experience ranges from regional transportation studies for national governments to local traffic impact assessments for private developers.

With his extensive experience in traffic and transportation he currently project manages several large transportation planning and infrastructure projects in KwaZulu-Natal.

EMPLOYMENT RECORD

2009 to date	Aurecon - Professional Engineer
2008 - 2009	Ingérop - Regional Manager KZN
2002 - 2008	Umbilo Tyre & Exhaust - Sole Proprietor/Owner
1992 - 2002	VKE Engineers - Director
1986 - 1992	VKE Engineers - Associate
1979 - 1986	VKE Engineers - Engineer
1976 - 1979	Municipality of Port Elizabeth - Engineer
1975 - 1976	Murray & Stewart – Site Engineer

EXPERIENCE RECORD

Traffic Impact Assessments of numerous developments and changes in land use throughout Southern Africa.

Project Engineer and Project Manager – Various Clients

CURRICULUM VITAE

uShukela Mixed Use Precinct Traffic Planning

Planning and preparing traffic impact assessment for a 130 ha development consisting of offices, showrooms, service retail, hotels, light industry, warehousing, distribution, manufacturing and conference centre. Calculating total trips generated (>6 000 veh/h) and distributing them onto the road network. Assessing access requirements and security control systems – Dube Tradeport/Tongaat Hulett Developments JV.

Dube City Support Precinct 1 Transport Planning

Transport planning for a precinct of offices, hotels and retail land uses adjacent to new international airport. Prepared traffic impact assessment and micro simulation model. – Virtual Consulting

5-year Update of Integrated Transport Plan (ITP) for eThekweni Municipal Area.

Edited and updated 14 chapter report on all aspects of people and goods transport involving roads, rail, bus/taxi, airways and pipelines – eThekweni Transport Authority

Rehabilitation of 40km of single carriageway, National Route 2-32 from Pongola to KZN border. Value of contract – R243 million in 2008.

Tender Evaluation. Quality Manager – SA National Roads Agency.

St Wendolins sewer reticulation - Installation of 15km of uPVC sewer pipes within existing residential township.

Tender Evaluation. The Engineer for the Contract - Ethekeeni Water and Waste.

NATMAP 2050

Editing and compiling 2 Provincial reports, each of 10 chapters, each produced by different consultants – SA Department of Transport.

Cato Manor Transport Planning

Worked in multi-disciplinary team to prepare Structure Plan for Cato Manor. Produced preliminary designs for road and public transport networks – Cato Manor Development Agency.

ICC Durban Traffic Engineering

Access roads and underground parking design for International Convention Centre seating 1 200 persons – Ethekeeni Municipality.

Gateway Shopping Centre Traffic Engineering

Guided Architects on design of parking and accesses for Regional shopping centre of 120 000m² - Old Mutual Properties.

Umhlanga New Town Centre Traffic, Civil, Municipal Engineering

Planning, design, implementation of a significant new town centre/city in a Multi-disciplinary team - Tongaat Hulett Properties

Transportation Study for the City of Windhoek

Transportation modelling and development of a future road network including testing of alternatives and economic evaluations thereof – City of Windhoek.

De La Rey Street

Road design, drawing preparation for 3 km of urban dual carriageway – Parow Municipality.

CURRICULUM VITAE

Church Street Woodstock

Road design, contract documentation, partial supervision of construction - Transnet.

Cape Metropolitan Transportation Study

Assisted MTAB with Metropolitan Transportation modelling. Carried out Origin/destination surveys on all modes. Carried out traffic and passenger counts on roads and public transport modes – City of Cape Town.

Highway Capacity Studies

Undertook capacity studies on all elements of major Metropolitan freeways and arterials using Highway Capacity Manual techniques – Cape Province Department of Transport.

Khayelitsha New Town Structure Plan

Provided Transportation and Civil Engineering input to a multi-disciplinary planning team to create a Structure Plan for a new “greenfields” town to house 1 000 000 residents - Development and Services Board.

Khayelitsha New Town Road Infrastructure

Planning, design, tender documentation, tender adjudication and implementation of numerous major roads in the developing town of Khayelitsha - Development and Services Board.

Parking Requirements Study

Desktop study of worldwide parking standards to develop a Code of Practice for the provision of on-site parking with new developments – Port Elizabeth Municipality.

Baakens Parkway Feasibility Study

Feasibility study of 4 alternative routes for an east-west arterial route – Port Elizabeth Municipality.

N2 East London by pass

Supervising the installation of stormwater drainage & sub soil drainage – Murray & Stewart

EDUCATION

1975 : B Sc Civil Engineering, Dundee College of Technology, Scotland

PROFESSIONAL AFFILIATIONS

Member – SA Institution of Civil Engineers
ECOSA – Pr. Eng No 820366, South Africa

LANGUAGES

	Reading	Writing	Speaking
English	Excellent	Excellent	Excellent
French	Fair	Fair	Fair



642b Corinne st
Garsfontein East
0081

Cell: 082 – 565 4059
Tel: 012 – 993 2165
Fax: 086 – 621 0292
E-mail: morne@menco.co.za
morne@eares.co.za

Morné de Jager

Personal Data

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

Short Resumé

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

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

Since leaving the Department of Water Affairs, Morné has been in private consulting for the last 10 years, managing various projects for the mining and industrial sector, private developers, business, other environmental consulting firms as well as the Department of Water Affairs. During that period he has been involved in various projects, either as specialist, consultant, trainer or project manager, successfully completing these projects within budget and timeframe.

He has been interested in acoustics as from school days, doing projects mainly related to loudspeaker design. Interest in the matter brought him into the field of Environmental Noise Measurement, Prediction and Control. He has been doing work in this field for the past 5 years, and was involved with the following projects in the last few years:

Project Experience – Acoustics

Wind Energy Facilities	<i>Zen (Savannah Environmental – SE), Goereesoe (SE), Springfontein (SE), Garob (SE), Project Blue (SE), ESKOM Kleinzee (SE), iNca Gouda (Aurecon SA), Kangnas (Aurecon), Walker Bay (SE), Oyster Bay (SE), Hidden Valley (SE), Happy Valley (SE), Deep River (SE), Saldanha WEF (Terramanzi), Loeriesfontein (SiVEST), Noupoot (SiVEST), Prieska (SiVEST), Plateau East and West (Aurecon), Saldanha (Aurecon), Veldrift (Aurecon), Tsitsikamma (SE), AB (SE), West Coast One (SE), Namakwa Sands (SE), Dorper (SE), VentuSA Gouda (SE), Amakhala Emoyeni (SE), Klipheuwel (SE), Cookhouse (SE), Cookhouse II (SE), Canyon Springs (Canyon Springs), Rheboksfontein (SE), Suurplaat (SE), Karoo Renewables (SE), Outeniqua (Aurecon), Koningaas (SE), Eskom Aberdene (SE), Spitskop (SE), Rhenosterberg (SiVEST)</i>
Mining and Industry	<i>BECSA – Middelburg (Golder Associates), Kromkrans Colliery (Geovicon Environmental), SASOL Borrow Pits Project (JMA Consulting), Lesego Platinum (AGES), Tweefontein Colliery (Cleanstream), Evraz Vametco Mine and Plant (JMA), Goedehoop Colliery (Geovicon), Hacra Project (Prescali Environmental), Der Brochen Platinum Project (J9 Environment), Delft Sand (AGES), Brandbach Sand (AGES), Verkeerdepans Extension (CleanStream), Dwaalboom Limestone (AGES), Jagdlust Chrome (MENCO), WPB Coal (MENCO), Landau Expansion (CleanStream), Otjikoto Gold (AurexGold), Klipfontein Colliery (MENCO), Imbabala Coal (MENCO), ATCOM East Expansion (Jones and Wagner), IPP Waterberg Power Station (SE), Kangra Coal (ERM), Schoongesicht (CleanStream), EastPlats (CleanStream), Chapudi Coal (Jacana Environmental), Generaal Coal (JE), Mopane Coal (JE), Boshoeck Chrome (JMA), Langpan Chrome (PE), Vlakpoort Chrome (PE), Sekoko Coal (SE), Frankford Power (REMIG), Strahrae Coal (Ferret Mining)</i>
Road and Railway	<i>K220 Road Extension (UrbanSmart), Boskop Road (MTO), Sekoko Mining (AGES), Davel-Swaziland-Richards Bay Rail Link (Aurecon), Moloto Corridor (SiVEST), Postmasburg Housing Development (SE)</i>
Airport	<i>Oudtshoorn Noise Monitoring (AGES), Sandton Heliport (Alpine Aviation), Tete Airport Scoping</i>
Noise monitoring	<i>Peerboom Colliery (EcoPartners), Thabametsi (Digby Wells), Doxa Deo (Doxa Deo), Harties Dredging (Rand Water), Xstrata Coal – Witbank Regional, Sephaku Delmas (AGES), Amakhala Emoyeni WEF (Windlab Developments), Oyster Bay WEF (Renewable Energy Systems), Tsitsikamma WEF (Cennergis and SE), Hopefield WEF (Umoya), Wesley WEF (Innowind), Ncora WEF (Innowind), Boschmanspoort (Jones and Wagner)</i>
Small Noise Impact Assessments	<i>TCTA AMD Project Baseline (AECOM), NATREF (Nemai Consulting), Christian Life Church (UrbanSmart), Kosmosdale (UrbanSmart), Louwlandia K220 (UrbanSmart), Richards Bay Port Expansion (AECOM), Babalegi Steel Recycling (AGES), Safika Slag Milling Plant (AGES), Arcelor Mittal WEF (Aurecon), RVM Hydroplant (Aurecon), Grootvlei PS Oil Storage (SiVEST), Rhenosterberg WEF, (SiVEST), Concerto Estate (BPTTrust), Ekuseni Youth Centre (MENCO), Kranskop Industrial Park (Cape South Developments), Pretoria Central Mosque (Noman Shaikh), Soshanguve Development (Maluleke Investments), Seshego-D Waste Disposal (Enviroxcellence), Zambesi Safari Equipment (Owner), Noise Annoyance Assessment due to the Operation of the Gautrain (Thornhill and Lakeside Residential Estate), Upington Solar (SE), Ilangaletu Solar (SE), Pofadder Solar (SE), Flagging Trees WEF (SE), Uyekraal WEF (SE), Ruuki Power Station (SE), Richards Bay Port Expansion (AECOM), Babalegi Steel Recycling (AGES), Safika Ladium (AGES), Safika Cement Isando (AGES), Natref (NEMAI), RareCo (SE), Struisbaai WEF (SE)</i>
Project reviews and amendment reports	<i>Loperberg (Savannah), Dorper (Savannah), Penhoek Pass (Savannah), Oyster Bay (RES), Tsitsikamma (Cennergis), Amakhala Emoyeni (Windlab), Spreeukloof (Savannah), Spinning Head (Savannah), Kangra Coal (ERM)</i>

Curriculum Vitae

Tony Barbour

ENVIRONMENTAL CONSULTANT AND RESEARCHER

P O Box 1753, Sun Valley, 7975, South Africa
(Tel) 27-21-6837085, (Fax) 27-21-6837085, (Cell) 082 600 8266
(E-Mail) tbarbour@telkomsa.net

My experience as an environmental consultant includes working for ten years as a consultant in the private sector in South Africa followed by four and a half years at the University of Cape Town's Environmental Evaluation Unit. During this time I gained experience and developed skills in a number of areas, including project management, preparation of proposals (technical and financial), report writing, reviewing and editing, environmental, strategic and social impact assessment, waste management, facilitation, teaching and training. My interests as an independent environmental consultant and researcher are linked to social impact assessment, strategic environmental assessment and planning, training, capacity building and review work.

I have also served on the Board of Trustees for the Environmental Monitoring Group, an Environmental Non Government Organisation, for the last 14 years.

PERSONAL DETAILS

Tony Barbour, born on 8 June 1961
Nationality: South African and Irish
Marital Status: Married

EDUCATION

BSc (Geology and Economics) Rhodes, 1984
BEcon (Hons) Rhodes, 1985
MSc (Environmental Science) University of Cape Town, 1992

ADDITIONAL QUALIFICATIONS

Advanced and basic mediation/facilitation skills training course, Centre for Conflict Resolution, University of Cape Town (1999).
Multi-party negotiation and facilitation skills for natural resource management, MEPC/CIDA (1999).

ACADEMIC AWARDS

Schwartz Award, Top Student, Geology III, Rhodes University.
Shell Medal of Excellence, Top student, Masters Course Work, MSc Environmental Science, UCT.

AREAS OF EXPERIENCE AND EXPERTISE

Project management, proposal writing, preparation, review and editing of reports and documents, environmental planning and management, Social Impact Assessment (SIA); Environmental Impact Assessment (EIA); Strategic Environmental Assessment (SEA); waste management, environmental economics, facilitation, public participation, training and teaching. Countries with work experience

include South Africa, Namibia, Botswana, Zambia, Lesotho, Swaziland, Ghana, Mozambique, Mauritius, Kenya, Ethiopia and Oman.

EMPLOYMENT RECORD

- **Private Consultant: November 2004-current.**
- **University of Cape Town: August 2000-October 2004**
Environmental Evaluation Unit (EEU), University of Cape Town. Senior Environmental Consultant and Researcher;
- **Private sector: 1991-August 2000**
1991-1996: Ninham Shand Consulting (Cape Town). Senior Environmental Scientist;
1996-August 2000: Steffen, Robertson and Kirsten (SRK Consulting) – Associate Director, Manager Environmental Section, SRK Consulting, Cape Town.

RELEVANT AREAS OF EXPERIENCE AND EXPERTISE

Social Impact Assessment

Strategic social input into projects

- Social specialist for assessment of large dam developments on the Eastern Nile Basin, specifically the Blue Nile (Abbay River) in Ethiopia and the consequences for the downstream countries of Sudan and Egypt (2012-2013);
- Social specialist for development and design of Decision Support System for the Nile Basin. Input included development of social indicators used to assess water related projects and development scenarios (dams and irrigation schemes) in the Nile Basin (2012);
- Social specialist for the water resource classification of the Olifants/Doorn Catchment Area (Western and Northern Cape Province) (2011-2012).

Renewable energy projects

- SIAs for wind energy facilities: SIAs for over 20 wind energy projects in Western Cape and Eastern Cape Province of South Africa (2009-current);
- SIAs for solar energy facilities: SIAs for over 20 solar energy projects in Western Cape, Northern Cape, Free State, and Limpopo Province of South Africa (2010-current).

Mining and Industrial projects

- SIA Otjizondo Manganese Mine, Namibia (2011);
- SIA for upgrade of PPC Riebeeck cement plant, Western Cape, South Africa (2011);
- SIA for upgrade of PPC Riebeeck cement plant, Western Cape, South Africa (2009);
- SIA for Elitheni Coal Mine, Eastern Cape (2008);
- SIA for Moropule Coal Power Station, Botswana (2007);
- SIA and Resettlement Action Plan (RAP) for Southern Ashanti Gold Mining Project, Ghana (2007);
- SIA for Valencia Uranium Mine, Swakopmund, Namibia (2007);
- SIA for expansion of PPC cement factory, Riebeck West, Western Cape (2007);
- SIA and Social and Labour Plan for Xolobeni Heavy Mineral Sands Project, Eastern Cape, South Africa (2007);
- SIA and Social and Labour Plan for Tormin Heavy Mineral Sands Project, Western Cape, South Africa (2007);

Infrastructure and development projects

- SIA for ESKOM Transmission lines from proposed Bantamsklip Nuclear Power Station, Western Cape (2010). Project put on hold after initial scoping phase;
- SIA for ESKOM Transmission lines from proposed Koeberg Nuclear Power Station, Western Cape (2010);
- SIA Bloubos Road, Somerset West, Western Cape (2010);
- SIA for Boschendal Farm Mixed Use Development, Stellenbosch, Western Cape (current);
- SIA Driftsands Nature Reserve, Cape Town, Western Cape (2009);
- SIA Kidds Beach Golf Estate, East London (2009);
- SIA Swartland Regional Mall, Malmesbury, Western Cape (2009);
- SIA Klipfontein Mixed Use Residential Development, Malmesbury, Western Cape (2009);
- SIA Struisbaai Harbour Development, Struisbaai, Western Cape (2009);
- SIA De Plaat Mixed Use Residential Development, Veldrift, Western Cape (2009);
- SIA Woodlands Golf Estate, East London, Eastern Cape (2009);
- SIA Duttons Cove Residential Development, Herolds Bay, Western Cape (2008);
- SIA Ashton Mixed Use Development, Ashton, Western Cape (2009);
- SIA for Mandela Bay Mixed Development Precinct, Mandela Bay, Eastern Cape (2008);
- SIA for Annandale Mixed Development Precinct, Cape Town, Western Cape (2008);
- SIA for Garden Route Dam development, George, Western Cape (2008);
- SIA for proposed residential development near Stillbaai, Western Cape (2007);
- SIA for proposed residential development near Gansbaai, Western Cape (2007);
- SIA Bulk Water Scheme, City of Cape Town, Western Cape (2007);
- SIA Montague Golf Estate, Western Cape (2006);
- SIA for Schalkenbosch Golf Estate, Tulbagh, Western Cape (2006);
- SIA for 2010 World Cup Stadium on Green Point Common, Cape Town (2006);
- SIA for raising of the Clanwilliam Dam, Western Cape (2005-06);
- SIA Kransvlei Golf Estate, Clanwilliam, Western Cape (2005);
- SIA for road up-grade between Gansbaai and Bredadorp, Southern Cape (2005);
- SIA Zeekoevlei Golf Estate, Somerset West, Western Cape (2005)
- SIA Silwersand Golf and Resort Estate, Robertson, Western Cape (2003)
- SIA Assessment for Valkenberg East Site, Cape Town (2003).
- N2 – Outeniqua Pass by-pass, George, SA. Socio-economic assessment for proposed by-pass options between the N2 and the Outeniqua Pass (1997).
- Social Assessment for Sparrebosch Golf Course, Knysna, SA (1996).
- Social Assessment for Riversonderend Road By-pass (1991).

Waste management projects

- SIA for Stellenbosch Landfill Site (2011);
- SIA for Barka Landfill Site, Barka, Oman (2011);
- SIA Helderberg Waste Transfer Station, Western Cape, (2009);
- SIA for Mare Chicose Landfill Site, Mauritius (2005);
- SIA for Coastal Park Landfill Site (1998).

Social Impact Assessment and Resettlement Guidelines

- Development of Guidelines for Social Impact Assessment for Department of Environmental Affairs and Development Planning, Western Cape, (2007);
- Development of a Social Assessment and Development Framework for Department of Water Affairs and Forestry, South Africa, including development of guidelines for Social Impact Assessment, Conflict Management, Relocation and Resettlement and Monitoring and Evaluation (2005).

Resettlement Action Plans

- SIA and Resettlement Action Plan (RAP) for Southern Ashanti Gold Mining Project, Ghana (2007);
- RAP for Mare Chicose Landfill Site, Mauritius (2005);
- Maguga Dam, Swaziland. Development of socio-economic monitoring and evaluation programme, including indicators, for the resettlement programme, Swaziland (2001).

Strategic Environmental Assessment

- Project Manager SEA for assessment of option to develop biofuels in Northern Namibia (2010-2011);
- Project Manager SEA City of Windhoek, Namibia (2010-2011);
- Project manager for SEA for Phase 2 of the National Roads Strategy for Mozambique (2007).
- Joint project manager for SEA of Cape Town 2004 Olympic Bid, Cape Town, SA (1999).
- Baralink SEA, Johannesburg, SA. Specialist input on socio-economic aspects for Baralink SEA (1998).
- Series of 4 Strategic Environmental Assessment training courses for officials of the Government of Botswana, 2000 & 2001.
- Guest lecturer in SEA for MPhil course in Environmental Management at University of Cape Town, 2000-2004.
- Paper presented at IAIA 98, Christchurch, New Zealand (1998). Strategic Environmental Assessment of the Cape Town 2004 Olympic Bid,

Environmental Assessment

Experience includes developing proposals (technical and financial), liaising with clients, authorities and the public, developing terms of reference for specialist sub-consultants, project management and reviewing reports. Projects include:

- Barka Landfill Site, Barka, Oman (2011);
- Darling Wind Farm, Western Cape, South Africa. Environmental assessment of proposed Wind Farm near the town of Darling (2002).
- Walvis Bay Naval Facility, Walvis Bay, Namibia. Environmental assessment of the proposed naval facilities in Walvis Bay (2001).
- Portnet Saldanha, Western Cape, SA. EIA for the expansion of a bulk iron ore export facility at the Port of Saldanha (2000).
- Coastal Park Waste General Waste Site, Cape Town, SA. EIA, including public participation for a large, general waste site (1998).
- Sanderlings Development Plettenberg Bay, SA. EA, including public participation, for proposed residential development adjacent to the coast (1999).
- Stellenbosch Mountain Golf Course Development, Stellenbosch, SA. EIA, including public participation, for golf course, hotel and residential development (1998).
- Sparrebosch EIA, Knysna, South Africa (SA). EIA, including public participation, for golf course, hotel and residential development (1996).
- Stones Hill by-pass, Grahamstown, SA. EIA, including public participation, of a proposed by-pass near Stones-Hill, Grahamstown (1992).
- Riversonderend N2 by-pass, Riversonderend, SA. EIA, including public participation, of a proposed by pass of the N2 around the town of Riversonderend (1991).

Sustainable Development and Research

While most of the work that I have been involved in includes elements that relate to the concept of Sustainable Development, the projects listed below have had sustainable development as a specific focus.

- Environmental and social specialist for the development of Mozambique Biofuels Strategy (2007).
- Development of strategy for the development of the Environmental Goods and Service Industry in the Western Cape for the Department of Environmental Affairs and Development Planning in the Western Cape (2006).
- Review of the Environmental Goods and Service Industry in South African and development of a strategy for the Department of Trade and Industry, South Africa (2006).
- Chapter on the South African Environmental Goods and Services Industry for study commissioned by the Department of Environmental Affairs and Tourism (2006).
- Integrating Sustainable Development into the Integrated Development Planning Process in South Africa. Review of 4 case studies in SA for the World Summit on Sustainable Development, Johannesburg (2002).
- Development of Integrated Sustainable Transportation Assessment Framework for Transportation

Planning in South Africa. Project Manager for joint project between EEU and Urban Transportation Research Group at UCT (2003).

- Project Manager for South African Cleaner Development Mechanism (CDM) initiative being undertaken by South South North Trust. Project involves the recovery of methane gas from the Bellville South Landfill Site in Cape Town (2004)
- Development of Toolkit for incorporating Sustainable Development in to the Integrated Development Planning Process in South Africa (2004).
- Integrating Sustainable Development into the Eastern Cape Province Provincial Growth and Development Plan, 2004-2020 (2003-2004).
- Department of Housing, South Africa. Assessment of options for the development of energy and water efficient low cost housing in South Africa and an assessment of potential financing mechanisms, South Africa (2000).

Review

- Internal Review of Gamsberg Zinc Mine SIA (Northern Cape Province, South Africa), March, 2013;
- Internal Review of Waterval Tailings Dam SIA (North West Province, South Africa), March, 2013,
- Review of SIA for the proposed N1-N2 Winelands Toll Road Project as part of the City of Cape Town's legal challenge to the proposed project (2011-2012);
- Review of SIA for Nuclear 1 (3 conventional nuclear power plants) located along the western and south eastern coasts of South Africa (2009);
- Review of SIA for proposed PMBR Plant at Koeberg, Western Cape (2008);
- Review of specialist reports for the Groot Letaba Dam EIA, Mpumalanga, South Africa (2008).
- External Review Consultant for SIA component of N2 Wild Coast Toll Road EIA (2008).
- Internal Review Consultant for Golder Associates on Namakwa Sands Heavy Mineral Mining EIA, Western Cape (2006);
- Review of EIA for Palm Valley Golf Course Estate, Durbanville, Western Cape (2005);
- Review of EIA for Zeekoevlei Golf Course Estate, Somerset West, Western Cape (2005);
- Review of EIA for Oostenberg Waste Transfer Station, Brackenfell, Western Cape (2004);
- Review of Socio-Economic Study undertaken for the R300 Toll Road EIA, Cape Town, Western Cape (2004);
- Review of EIA for proposed establishment of Toll booths on Chapman's Peak Drive, Cape Town, Western Cape (2003);
- Review of EIA for Cell Phone Mast, Cedeberg, Western Cape (2003);
- Review of EIA for Hotel and Conference Center, Durbanville, Western Cape (2003);
- Review of EIA for N7 Road Up-grade, Clanwilliam, Western Cape (2002);
- Review of EIA for Up-grade of Sewage Works, Western Cape (2002).

Environmental Planning

- Development of a Rehabilitation and Land Use Plan for the Alexkor Mining Area in the Richtersveld in the Northern Cape Province (2003-2007). This formed part of a land claim for the Richtersveld Community and included acting as an expert witness for the community in the associated court case.
- Southern Cape Spatial Development Framework (SCSDF), Southern Cape Region, SA. Environmental opportunities and constraints assessment for SCSDF study (2000).
- Stellenbosch Rivers Management Plan, Stellenbosch, SA. Integrated management plan for the urban river systems in Stellenbosch (1998).
- Wetton-Lansdowne corridor project, Cape Town, SA. Habitat conservation and biodiversity study to inform planning proposals for the Wetton-Lansdowne corridor (1998).
- Tygerberg Spatial Development Framework, City of Tygerberg, Cape Town, SA. Environmental baseline study for the spatial development framework study for the City of Tygerberg (1999).
- Protea Valley development options, City of Tygerberg, Cape Town, SA. Assessment and identification of suitable land use development options for Protea Valley (2000).

Waste Management

- Project Manager, Al Wusta Regional Waste Site Investigation, Oman (2011).

- Project Manager, Al Batinah Regional Waste Site Investigation, Oman (2011);
- Project Manager, Barka Landfill Site EIA, Muscat, Oman (2010);
- Mare Chicose Landfill, Mauritius. SIA and Compensation and Relocation Plan for proposed expansion of the current landfill site (2005).
- Robertson Waste Site, Robertson, SA. EA, including public participation, for the identification of a new waste site (2000).
- Project Manager, Coastal Park General Waste Site, Cape Town, SA. EIA for proposed expansion of a large, general waste site (1998).
- Project Manager, Windhoek general and hazardous waste site, Windhoek, Namibia. Investigation to identify new general and hazardous waste disposal site for Windhoek (1997).
- Project Manager, Walvis Bay general and hazardous waste site, Walvis Bay, Namibia. Investigation to identify new general and hazardous waste disposal site for Walvis Bay (1998).
- Project Manager, Port Elizabeth Waste Site, Port Elizabeth, SA. Environmental Assessment for permit application (1998).
- Project Manager, Brackenfell general waste site, Cape Town, SA. Permit application report and environmental assessment for Brackenfell waste site (1995).
- Project Manager, Ceres general waste site, Ceres, SA. Permit application report and environmental assessment for Ceres waste site (1995).
- Project Manager, Caledon general waste site, Caledon, SA. Permit application report and environmental assessment for Caledon waste site (1996).
- Project Manager, Wellington general waste site, Wellington, SA. Permit application report and environmental assessment for Wellington waste site (1996).
- Project Manager, Greyton general waste site, Greyton, SA. Permit application report and environmental assessment for Greyton waste site (1999);

Environmental Training Courses

Experience includes design of training courses, development of training manuals and running courses for both the private and public sector. Courses include:

- 2 X 5 day course on Resource Economics for Coastal Managers and Government Officials, Namibian Government (2009).
- 5 day course on EIA and Environmental Management course for Swaziland Local Authorities, 2004.
- Integrated Coastal Management course for Department of Marine and Coastal Management, 2004.
- 5 regional Social Assessment Training Workshops for officials from the South African Department of Water Affairs and Forestry, 2004.
- EIA training course for officials of the South African National Parks, Kruger National Park, 2003.
- Environmental Management course for Shell South Africa, 2003.
- 10 Local Agenda (LA) 21 training courses for provincial and local government departments in South Africa during period 2000-2002.
- Resource Economics Workshop for South African Department of Water Affairs and Forestry, 2002.
- Conflict Resolution Workshop for subsistence fishermen, Kwa-Zulu Natal, 2002.
- Integrating the principles of LA 21 into Integrated Development Planning. Course presented at World Summit on Sustainable Development, Johannesburg, 2002.
- Environmental facilitation, mediation and conflict management. Training course for Independent Mediation Services in South Africa (IMSSA) facilitators, 1998, 1999 and 2000.
- Series of 4 Strategic Environmental Assessment training courses for officials of the Government of Botswana, 2000 & 2001.
- EIA training course for officials of the Government of Lesotho, 2000 and 2001.
- EIA training courses for local government officials in Cape Town, 2000.

Lecturing and Teaching

I have been involved in the lecturing and teaching at an under and post-graduate level since 1990. The areas of interest include Environmental Economics, General Environmental Issues, EIA, SEA, SIA and Waste Management.

- Lecturer in Environmental Economics for the MPhil course in Environmental Management at

University of Cape Town from 1990 –2006.

- Guest lecturer in SIA, EIA and SEA for MPhil course in Environmental Management at UCT, 2000-2004.
- Coordinator and lecturer in Environmental Economics at Cape Technikon, 1999.
- Coordinator and lecturer of waste management course, Peninsula Technikon in 1998.
- Guest lecturer at Peninsula Technikon for waste management, 1994 – 1998.
- Moderator for Peninsula Technikon waste management course, 1994-2002.
- Environmental Management for senior managers, module on a business management course for AngloVaal Management run by Prof John Simpson of UCT, 2000 and 2001.
- Guest lecturer on SIA and EIA for Geography and Environmental Science Honours, UCT. 2000-2004.
- Presenter and coordinator on annual Integrated Environmental Management Short Course run by the Environmental Evaluation Unit at UCT (2000-2006).
- Presenter on Integrated Coastal Management course run by Environmental Evaluation Unit at UCT 2005-2006.

Public Participation

Experience includes designing public participation processes and facilitating public meetings and workshops. Projects include:

- Green Point Common, Cape Town. Public participation and facilitation processes for development of new market area for informal traders (2005);
- Chapman's Peak Drive. Managed and facilitated the public participation processes for looking at the technical and funding options for re-opening Chapman's Peak Drive on the Cape Peninsula as a toll road (2001).
- Visserhok Hazardous waste disposal sites, Cape Town City Council and Wastetech, Cape Town, SA. Managed and facilitated the public participation processes for the permit application for two hazardous waste sites located at Visserhok (1994).
- Grand West Casino, Cape Town. Public participation processes for proposed establishment of the Grand West Casino at the Cape Show Grounds, Cape Town (1997).
- Coastal Park waste site, Cape Town, SA. Managed and facilitated public participation processes for the permit application for the Coastal Park general waste site (1998).
- Managed and facilitated public participation processes associated with EIA's listed above.

Environmental Management Plans and Rehabilitation Reports

- Development of rehabilitation programme and cost estimate for damage caused by 80 years of alluvial diamond mining between Alexander Bay and Port Nolloth, West Coast, South Africa (current). This project is linked to the Richtersveld Land Claim and involved acting as an expert witness in the associated court case.
- Corridor Sands Heavy Mineral Project, Mozambique. Development of an Environmental Management Plan (EMP) for the construction phase of the project (2001).
- Walvis Bay Naval facilities, Walvis Bay, Namibia. EMP for the construction phase of the project (2001).
- APC cement factory, Otjiwarongo, Namibia. Operational management plan for up-grade to meet the legislative requirements (2000).
- Sparrebosch golf course, hotel and residential development, Knysna, SA. Environmental Management Plan (EMP) for the construction phase (1997).
- M3 highway up-grade, Johannesburg, SA. EMP for the design and construction phase of the M3 (1995).
- Trunk Road 46, Grahamstown-Port Alfred, Eastern Cape, SA. EMP for the construction phase (1994).
- Trunk Road 46, Grahamstown to Port Alfred, Eastern Cape, SA. Rehabilitation proposals for borrow pits, quarries, cuts, fills and road surfaces (1993).
- Trunk Road 19, Maclear to Halcyon Drift, Eastern Cape, SA. Rehabilitation proposals for borrow pits and quarries (1992).
- Namakwa Sands, Heavy Mineral Mining Operation, West Coast SA. Conceptual Rehabilitation Plan (1991).

Environmental Management Systems and Audits

- APC Cement Factory, Otjiwarongo, Namibia. Operational audit of APC cement factory to assess compliance with Namibian legislation (2000).
- Vodacom, SA. Conceptual Development of an Environmental Policy and outline for an Environmental Management System for Vodacom, SA (1998).
- Marine Oil, SA, initial site audit (1999).
- Rose Foundation, SA. Audit of 15 waste oil-recycling facilities in SA (1997).
- Zambian Copper Belt, Zambia. Pre-acquisition audit of 20 electrical transformer stations (1997).

Supervision of Students

- 1994-2006: Supervision of the thesis component of MPhil in Environmental Management for a number of students. Usually requested to act as supervisor for at least one or two students per year.
- Internal and external examiner for a number of theses submitted in fulfillment of the MPhil Environmental Management at UCT.

PUBLICATIONS AND PAPERS

Environmental Publications and Guidelines

- Principal Author of Health, Safety and Environmental Guidelines for Bitumen and Coal Tar Products, prepared for the SA Bitumen Association (Sabita), in 1994 and revised in 1998.
- Co-author of document outlining an integrated Waste Management Strategy for the Western Cape, SA, produced in 1995;
- Principal Author of Guidelines for Waste Management in South Africa, a handbook for local authorities, produced by Ninham Shand in 1993.

Papers and Articles

The majority of the articles aimed at the layperson as opposed to journal articles.

1. SOWMAN, M R, GLAZEWSKI, J I, FUGGLE, R F, BARBOUR, A (1990) "Planning and legal responses to sea-level rise in South Africa", South African Journal of Science, v 86, 1990.
2. BARBOUR, T (1992) 'Addressing the social impacts of waste disposal by incorporating permit applications into the latest Integrated Environmental Management (IEM) procedures', Paper presented at Wastecon '92, 3 – 5 November 1992.
3. BARBOUR, T (1992) "Internalising externalities: An attempt to address social costs", paper presented at a workshop on the Economy and Environment, 25 November 1992.
4. BARBOUR, T (1993) "The importance of taking waste disposal seriously", IMIESA, v 18 no 7 July 1993.
5. BARBOUR, T (1993) "Community based waste collection", Earthyear 5th edition, winter 1993.
6. BARBOUR, T (1993) "Guidelines for waste management in South Africa", Ninham Shand, 1993.
7. BARBOUR, T (1994) "Quarry Rehabilitation Reports: Are they effective working documents or merely legal requirements?", EPM, v 5, no 2, February 1994.
8. BARBOUR, T (1994) "Environmental factors relating to site selection for dams", Paper presented at SAICE one-day seminar on earth dam design, 3 June 1994.
9. BARBOUR, T (1994) "Environmental Economics", Earthyear 7th edition, Summer 1994.
10. BARBOUR, T (1996) "Lessons learnt from Vissershok for public participation and landuse planning", Paper presented at Wastecon 96, Durban, South Africa.
11. BARBOUR, T and COLEMAN, A (1996) "Towards an integrated waste management strategy for the Western Cape", Paper presented at Wastecon 96, Durban, South Africa.
12. BARBOUR, T (1998) Strategic Environmental Assessment of the Cape Town 2004 Olympic Bid", paper presented at IAIA 98, Christchurch, New Zealand.
13. BARBOUR, T (2000) Robertson Waste Site: A Case Study, paper presented at Wastecon 2000, Somerset West, SA.
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