



CURRICULUM VITAE

Name of Firm:	Aurecon South Africa (Pty) Ltd
Name of Staff:	Patrick James Killick
First Language:	English
Profession:	Environmental Practitioner
Year of Birth:	1980
Years with Firm:	10
Years' experience:	10
Nationality:	South African (Born South West Africa)
Key Qualification:	MPhil Environmental Management

Patrick Killick has significant on-site experience relating to the supervision, hands-on management and monitoring of construction related environmental impacts and occupational health and safety associated with the construction of dams, roads, pipelines, underground works, weirs, and residential villages, which he gained mostly whilst employed on the Berg Water Project. Patrick then moved into an environmental consulting role and gained seven years' experience in the impact assessment field whilst undertaking a number of environmental impact studies and other regulatory and planning processes for various developments across Southern Africa. Project experience is primarily focused on the areas of municipal bulk water supply and wastewater treatment infrastructure (Including seawater desalination), bulk thermal power generation and open cast mining and associated mining infrastructures. With a keen interest in the technical aspects of his projects, Patrick's core competency is seated in the compilation and implementation of construction and operational phase Environmental Management Plans.

PROJECT EXPERIENCE:

EMP Specialist 2014-07 to 2014-09	Construction of a second bridge over the Niger River, Nigeria: Review of a life-cycle environmental management plan for the construction and operation of an 11.9km long toll road and bridge (~1.6km six lane) across the River Niger between Onitsha in Delta State and Asaba in Anambra State.
Team member 2013-08 to 2013-08	Strategic Environmental Assessment for the Awoja catchment area, Uganda: Compile an SEA for the Awoja catchment area identifying key social and environmental issues requiring detailed consideration in developing a catchment management plan.
Specialist 2013-08 to 2014-06	Eden Bulk Water supply options analysis: Appointed by Eden District Municipality to investigate suitable integrated or separate bulk water supply options for the Bitou and Knysna Municipalities.
Project manager 2013-08 to Ongoing	Wolf Wind Farm: Appointed by Juwi Renewable Energies (Pty) Ltd to conduct an environmental impact assessment process in terms of the National Environmental Management Act for a ~80MW Wind Energy Facility (WEF) near Wolwefontein in the Eastern Cape.
Project manager 2013-03 to Ongoing	Outeniqua Wind Farm: Appointed by Juwi Renewable Energies (Pty) Ltd to conduct an environmental impact assessment process in terms of the National Environmental Management Act for a 39MW Wind Energy Facility (WEF) near Uniondale in the Western Cape.
EMP Specialist 2012-05 to 2012-06	Construction of the Bulk Water Supply Scheme to the town of Aussenkehr, Namibia: Compilation of a life-cycle environmental management plan for the bulk water supply scheme for the town of Aussenkehr
EMP Specialist 2012-04 to 2012-05	Environmental and Socio-Economic Impact Assessment for a coal-fired power station in the Erongo Region, Namibia: Appointed to compile an EIA and EMP for a 150MW, 300MW or 800MW coal fired power station located in the Erongo Region of Namibia. The preferred site located at the town of Arandis.
Lead consultant & EMP Specialist 2012-02 to 2012-05	Mineral Exploration environmental Management Plan for License Areas No 3450L and 3451L, Moatize District: Compilation of an Environmental Management Plan for mineral exploration drilling (Diamond core and percussion drilling) in Licence Area no's 3450L and 3451L of the Moatize coal fields.
EMP Specialist 2011-08 to 2011-09	450 MW Khanyisa coal fired power station; Compilation of construction and operations phase Environmental Management Programmes for a 450 MW coal-fired power station and associated infrastructure, including ash disposal dumps.
Project manager 2010-05 to 2012-06	15Mℓ/d Emergency Desalination Plant, Mossel Bay: Compilation of a Section 24G application in terms of the National Environmental Management Act for an emergency 15Mℓ/d seawater reverse osmosis plant as a result of more than 1:150 year drought situation in the Southern Cape, inclusive of a construction phase Environmental Management Plan and Environmental Control Officer services. Winner of CESA Engineering Excellence Award, 2011.
Lead consultant 2010-02 to 2010-06	New Sulphuric Acid Storage Tank at the Rössing Uranium Mine: Commissioned by Rössing Uranium to compile of a Social and Environmental Management Plan for the proposed new 15Kt Sulphuric Acid Storage Tank located within the mine precinct.
Lead consultant 2009-12 to Ongoing	2Mℓ/d Emergency Desalination Plant, Plettenberg Bay: Compilation of a Section 24G application in terms of the National Environmental Management Act for an emergency 2Mℓ/d seawater reverse osmosis plant as a result of more than 1:150 year drought situation in the Southern Cape, inclusive of a construction phase Environmental Management Plan and Environmental Control Officer services
Lead consultant 2009-11 to 2011-12	Upgrading the Keurbooms Pumpstation, Abstraction Works and Rising Main: Appointed by the Bitou Municipality to compile an EMP associated with the proposed urgent upgrading of the Keurbooms Pump station, abstraction works and a 650 m length of 500 mm diameter steel rising raw water main. Appointed by the Bitou Municipality to compile an EMP associated with the proposed urgent upgrading of the Keurbooms Pump station, abstraction works and a 650 m length of 500 mm diameter steel rising raw water main.

Lead consultant 2009-10 to 2009-11	Emergency upgrading of Keurbooms rising main and pumps: Appointed by the Bitou Municipality to undertake an Emergency application for the upgrading of a 295m section of perished pipeline, with 500 mm diameter steel pipe and the upgrading of pump impellers to increase abstractions from 100ℓ/s to 120ℓ/s out of the Keurbooms River. Appointed by the Bitou Municipality to compile an EMP and to function as the ECO for the Emergency application and subsequent upgrading of a 295m section of perished pipeline, with 500 mm diameter steel pipe and the upgrading of pump impellers to achieve a greater abstraction rate.
Lead consultant 2009-06 to 2011-06	Decommissioning of the Sonae Novobord fibreboard factory Appointed by the Sonae Novobord to compile an Environmental Management Plan and act as the Environmental Control Officer for the decommissioning of their factory in George Industria, with a focus on the recovery and handling of salvageable materials and the lawful recovery and disposal of hazardous wastes and contaminated soil.
Project manager 2009-05 to 2009-10	Upgrading of the Merweville Wastewater Treatment Works: Appointed by the Beaufort West Municipality to undertake waste license application involving the compilation of a Basic Assessment Report and a construction, operation and decommissioning phase Environmental Management Plan for the upgrading of the Merweville Wastewater Treatment Works.
Environmental Control Officer 2009-02 to 2011-03	Pipeline for Reclamation of Water from Wastewater Treatment Works: Appointed by Water and Wastewater Engineering to facilitate the requisite environmental process, including Environmental Management Plan for the implementation of a Waste Water Reclamation Plant for Beaufort West Municipality.
Lead consultant 2008-11 to 2010-04	Social and Environmental Management for Mineral Exploration Drilling Plan: Commissioned by Rössing Uranium Limited to compile a Social and Environmental Management Plan for the proposed exploration drilling activities within the Namib-Naukluft Park and mine licence area.
Lead consultant 2008-04 to 2009-12	Social and Environmental Management Plan for a bulk sulphur handling facility: Commissioned by Rössing Uranium to compile of a Social and Environmental Management Plan for the proposed bulk sulphur importation, stockpiling and handling facility in the port of Walvis Bay.
Team member 2008-04 to 2009-08	Environmental & Socio-Economic Impact Assessment for proposed NamPower coal-fired power station: Appointment as lead consultant for the Environmental & Socio-Economic Impact Assessment for proposed NamPower coal-fired power station at Walvis Bay that includes a site screening and selection process, scoping study and ESEIA, supported by an EMP.
Lead consultant & Environmental Control Officer 2008-04 to 2009-07	40 Mℓ Off-channel Dam in Karatara: Compiled the construction phase environmental management plan for a 40,000m ³ off channel reservoir, in channel abstraction works and associated pipe work. Also appointed as Environmental Control Officer to supervise the implementation of the EMP and undertake compliance monitoring and reporting.
Team member 2008-04 to 2008-08	Paratus Emergency Generation Facility: Assisted in the environmental process management and compilation of documentation in relation to a proposed 50MW Heavy Fuel Oil emergency generation facility located in the industrial port area.
Team member 2008-03 to 2011-12	Phase II Mine Life Extension for the Rössing Uranium Mine, Namibia: Compilation of a Social and Environmental Management Plan for various activities associated with the life extension of the Rössing Uranium Mine, including, the extension of the open pit operations, acid manufacturing plant, ore sorting plant, extended waste rock disposal areas and tailings facilities.
Team member 2007-09 to 2008-06	Review of the biodiversity components of municipal Spatial Development Frameworks in the C.A.P.E domain, and to prioritisation of SDFs & IDPs requiring input to improve these components: Appointed by SANBI to provide an overview of the requirements for biodiversity in SDFs, and an assessment of the current status of biodiversity in these SDFs. Appointed by SANBI to undertake the review as Phase I of a process to improve the input of biodiversity priorities in Spatial Planning documents and processes.
Team member 2007-08 to 2007-12	Relocation of the Sedgfield Water Treatment and Supply Infrastructure: Conduct a Basic Assessment process for the construction of a 4.5Mℓ water treatment works, a 1.8km, 300mm rising raw water pipeline and the decommissioning and upgrading of the Ruigtevlei water treatment works into a pump station. Compilation of the Construction, Operational and Decommissioning Phase EMPs for the construction of a 4.5Mℓ water treatment works, a 1.8km 300mm rising raw water pipeline and the decommissioning and upgrading of the Ruigtevlei water treatment works into a pump station.
Team member 2007-06 to 2010-03	Outeniqua Pale (Pty) Ltd Creosote and CCA Timber pole treatment facility: Assisting in the undertaking of an environmental impact assessment for the decommissioning of Outeniqua Pale creosote and CCA pole treatment facility in Groot Brak and its re-establishment on a new site in Albertinia. Appointed by Outeniqua Pale (Pty) Ltd to compile of a construction, operation and decommission phase Environmental Management Plan for a Creosote and CCA pole treatment facility in conjunction with a NEMA Basic Assessment process
Team member 2007-06 to 2008-03	Phase I Mine Life Extension for the Rössing Uranium Mine, Namibia: Compilation of a Social and Environmental Impact Assessment for various activities associated with the life extension of the Rössing Uranium Mine, including, a sulphuric acid manufacturing plant with associated sulphur storage on the mine, and the transport of sulphur from the Port of Walvis Bay; a radiometric ore sorter plant; and mining of an ore body known as SK4;
Lead consultant 2007-06 to 2007-11	Chemical storage & distribution facility: Conduct a Section 24G retrospective application for authorisation of illegal activities, relating to the storage of various hazardous chemicals used in water purification industry, and the development of an associated Operational Phase EMP for incorporation into an ISO 14001 EMS.
Team member 2007-03 to 2008-02	Overhead power lines between Ha Lejone and the Lqhobong and Kao diamond mines: Assisted in the compilation of an Environmental Impact Assessment for a 38km, 132kV overhead power line and associated step-up and step-down substations.

Lead consultant & Environmental Control Officer 2007-01 to 2011-12	Keurbooms River Raw Water Pipeline, Plettenbergbay: Appointed by the Bitou municipality to provide <i>ad hoc</i> environmental planning and undertake routine audits and compliance monitoring of the implementation of the EMP and ROD conditions of approval for the installation of a 9km, raw water pipeline and the rehabilitation of the construction servitude on completion.
Team member 2007-01 to 2009-02	Independent review of EIA applications: Appointed by Department of Environmental Affairs and Tourism to assist in the review of various Section 22 EIA applications in terms of the Environmental Conservation Act (Act 73 of 1989) for the Department of Economic Affairs, Environment & Tourism (DEAET).
Team member 2006-05 to 2007-06	Alien Vegetation Eradication and Rehabilitation Plan Fancourt Golf Estate: Appointed by Fancourt Golf and Country Estate to formulate an alien vegetation eradication and rehabilitation plan (Afromontane Forest) for their landholding on the Malgas River.
Team member 2004-03 to 2007-03	Berg Water Project, Franschhoek, South Africa: Construction of a bulk water supply infrastructure to service the greater Cape Town Metropolitan area which is comprised of the Berg River Dam, large diameter water transfer pipelines, two heavy duty pump stations, scheme control centre, balancing dam, several gauging weirs, diversion weir, asphalt access road and an eighty unit residential village and associated bulk services. Personal responsibilities included: <ul style="list-style-type: none"> • Construction supervision • Environmental monitoring and reporting, • Review and assistance with construction method statements, • Monitoring health and safety aspects and legal compliance, and • Investigating and advising internal and external entities on environmental issues.

EMPLOYMENT RECORD:

2009 to date	Senior Environmental Practitioner, Aurecon, George, South Africa: Assisting with the compilation of Environmental Impact Assessments (EIA's) and Environmental management Plans (EMP's). Other duties include the compiling project proposals, compilation of construction phase Environmental Management Plans, compliance monitoring and ad hoc environmental regulatory processes and planning.
2007 - 2009	Junior Environmental Practitioner, Ninham Shand, George, South Africa: Assisting with the compilation of Environmental Impact Assessments (EIA's) and Environmental management Plans (EMP's). Other duties include construction phase Environmental Management Plan compliance monitoring and ad hoc environmental regulatory processes and planning.
2004 - 2007	Contract Environmental Practitioner, Berg River Consultants, Cape Town, South Africa: Environmental manager for the Berg Water Project entailing the construction phase related environmental management, monitoring and supervision. Experience was gained in report writing, data capture and assessment, environmental monitoring techniques, contract administration and general ad hoc problem solving.
2003 - 2003	Student lecturer at PE Technikon, Saasveld Campus: Lectured first year forestry students on the history of forestry in South Africa.
2002 - 2002	Silvicultural surveyor and research assistant, Government of Manitoba, Manitoba, Canada: Conducting Forest Regeneration and Free-to-Grow surveys in replanted forest areas and later, undertaking stem-rot surveys, assessments and data collection for pockets of indigenous boreal forest. During this period, experience was gained in surveying and mapping techniques, general orienteering involving the use of maps, compasses, GPS's, satellite and aerial imagery.
2002 - 2002	Trainee Forester, Jonkersberg Plantation, SAFCOL / MTO (South African Forestry Company Limited / Mountain to Ocean), Western Cape, South Africa: Exposure to most aspects of plantation management with a focus on borrow-area rehabilitation planning and herbicide research on Pampas Gras (<i>Cortaderia selloana</i>).
2000 - 2000	Trainee Forester, Jessievale Plantation, SAFCOL, Lothair, Mpumalanga, South Africa: General plantation management, with a particular focus on silvicultural and harvesting operations in pine, saw-timber stands. Broader experience was also gained in the areas of fire protection, prevention and combat, as well as occupational health and safety management (NOSA) within the forestry context.

EDUCATION:**Tertiary education:**

- 2005: M-Phil (Environmental Management), University of the Free State
- 2003: B-Tech (Forestry) P.E. Technikon, Saasveld, George, South Africa
- 2002: N-Dip (Forestry), P.E. Technikon, Saasveld, George, South Africa

Research projects:

- Killick. P. 2005. "An investigation into the control of sedimentation of the Berg River as a result of construction activities through the optimisation of settling ponds located within the dam basin and the use of chemical flocculants". Mini-dissertation submitted in partial fulfilment of the requirements for the degree of Masters of Philosophy, University of the Free State, Bloemfontein, South Africa.

Short courses:

- 2013: Susop® Level 1 Participant Training
- 2012: Workshop on creative and constructive conflict resolution
- 2009: Basic Principles of Ecological Rehabilitation and Mine Closure

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

- Member of the International Association for Impact Assessment South African Affiliate (IAIAAsa)
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COUNTRIES OF WORK EXPERIENCE:

- Canada
 - Lesotho
 - Malawi
 - Mozambique
 - Namibia
 - Nigeria
 - South Africa
 - Tanzania (Zanzibar)
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LANGUAGES:

Language	Speaking proficiency	Reading proficiency	Writing proficiency
English	Excellent	Excellent	Excellent
Afrikaans	Fair	Fair	Fair