

RAWS CONSULTING ENGINEERS CC **SUMMARY COMPANY PROFILE**

Socio Economic Services



Township
Surveying & Planning



Township Services
& Conveyancing



Community Services,
Schools & Other



Land Use Planning
& Irrigation



Water Supply



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1. INTRODUCTION TO RAWS CONSULTING ENGINEERS CC

RAWS Consulting Engineers was established in 2005, consisting of three members, of which one has HDI status, resulting in 44% Black Empowerment. The aim of the company is to provide long-term quality service in the Consulting Engineering field, namely:

R: Design and Management of Road projects

A: Design and Management of Agricultural projects.

W: Design and Management of Water and Waste water projects.

S: Design and Management of Stormwater, Sanitation and Structural projects.

The head office of RAWs Consulting Engineers is in Kwa-Zulu Natal Vryheid. The following are the Close Corporation's professional members:

| Flip Krugel: (B.Eng. Pr. Eng) | 28% (Professional Engineer) |
|--|------------------------------------|
| ECSA Registration | Reg. no.910142 dated 1991-03-22 |
| S.A. Institute of Civil Engineers | Reg. no.094624 dated 1994-11-3 |
| S.A. Institute of Agricultural Engineers | Reg. no.93029 dated 1993-08-13 |
| S.A. Irrigation Institute | Reg. no. 2094 dated 1993-08-16 |
| NHBRC | Reg. no.1851 dated 2004-12-01 |

| George van Rooyen: (Pr.Tech Eng, PMP) | 28% (Pr. Tech) |
|---|-----------------------|
| ECSA | Reg No. 200870316 |
| SACPCMP | Reg No. D/1205/2006 |
| PMI | Reg No. 1357097 |
| NQF 7 | Reg No 114913 |

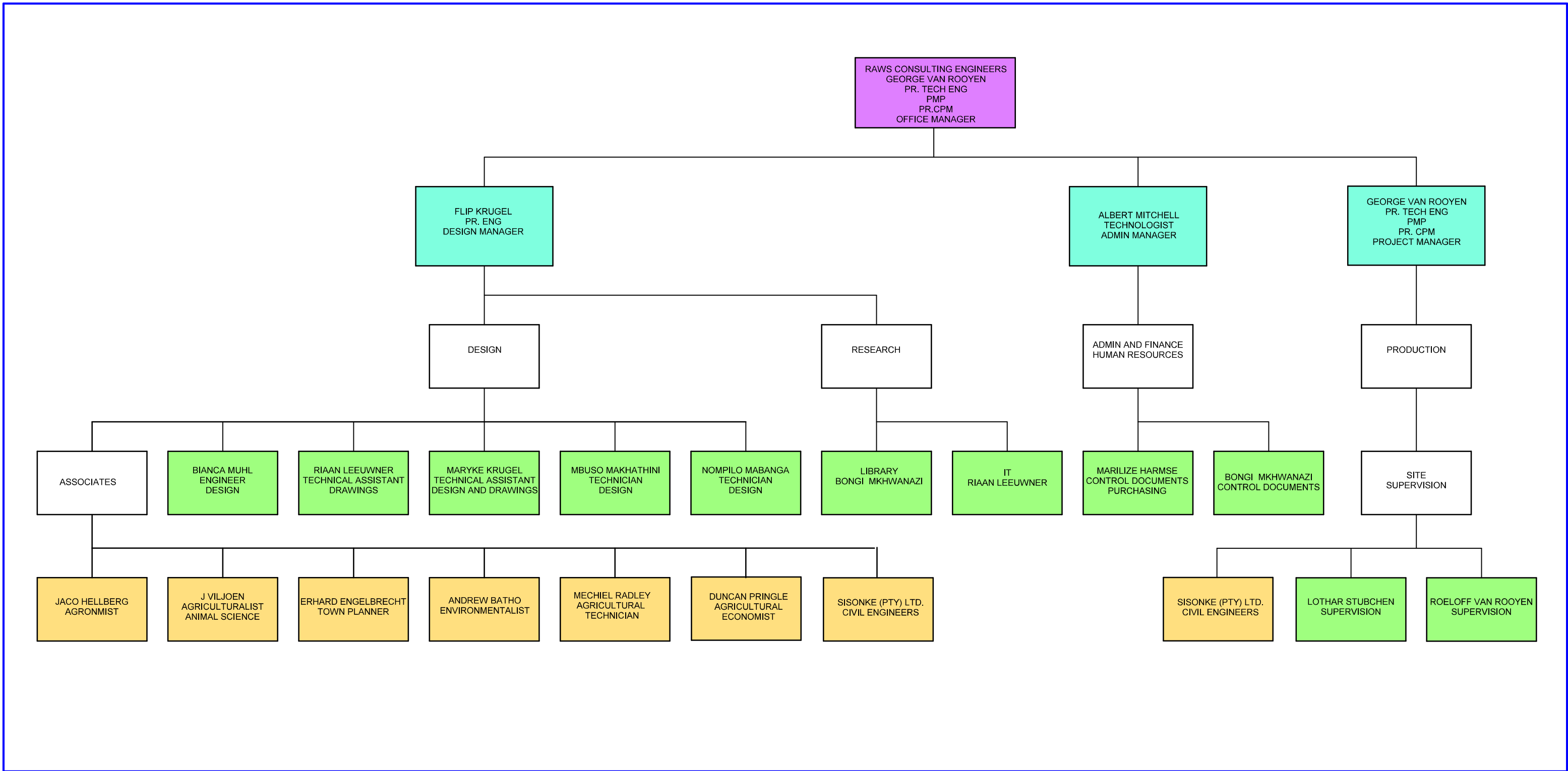
| Albert Mitchell (PDI): (T5 Civil Engineering) | 44% (Technologist) |
|---|---------------------------------|
| NQF5 | Reg. No. 577 dated 2007-11-29 |
| NQF 7 | Reg. No. 5P5350 dated 2009-12-7 |

| | |
|----------------------------------|--------|
| Company CESA registration | No 872 |
|----------------------------------|--------|

2. EXPERTISE AND EXPERIENCE

2.1 FIELDS OF SPECIALIZATION: (Refer to detailed CV's of staff)

1. Project Management
2. Roads and storm water
3. Water- bulk supply and reticulation
4. Sanitation
5. Irrigation, canals, storm water drainage
6. Dams and weirs: (Category 1 and 2)
7. Plant hire projects
8. Structures and Buildings
9. Soil, Land Capabilities, Irrigability Surveys
10. Economical Analysis
11. Land use planning
12. Surface water Management
13. Hydrology, floodlines, water balance.
14. Hydraulics (Open Channels, Spillways and Grassed waterways)
15. Soil Conservation
16. Draughting of Master/Business plans:
17. Animal handling facilities
18. Sports fields, Cemeteries, Landfill sites
19. Labour Intensive Projects:
20. Community halls, schools, crèches
21. Managing of water and wastewater plants
22. Storm water management for mines, discard dump design, Pollution Control dams
23. Water balance
24. Pipe line Surge Analysis



2.3 SELECTED PROJECTS



Weir for rural domestic water supply near Paulpietersburg.

Balancing dam at Pongola for irrigation scheme for emerging farmers.



Bulk water supply scheme at Mkuze. 1,4m diameter 7km GRP pipe including 640kw pump station and 50 000 m³ balancing dam.

225 kw Pump station at Pongola. Fully automatic with telemetry, pump control valves, surge valves and low water protection.



Electric saw and elevator for a creosote treatment plant at Zoekmekaar.



400kw Pumpstation at Pongola for emerging farmers. Fully automatic system comprising telemetry, pump control valves, surge valves and automatic priming.

Creosote treatment plant at Zoekmekaar comprising:

- Cranes.
- Boiler.
- Heat exchangers.
- Coolers.
- Winches.
- Automatic fire extinguisher.





Solar panel powered pump for rural domestic water supply in the Zululand District Municipality area.

Balancing dam at Pongola with telemetry and low level switches.



Thrust block shuttering for 7km 1,4m diameter GRP pipe at Mkuze.



Pipe jacking of 1,4m diameter concrete pipe sleeve under the N2 road, Mkuze.



USUTHU WATER SUPPLY 700mm DUCTILE IRON PIPELINE



USUTHU WATER SUPPLY 600mm DUCTILE IRON PIPELINE



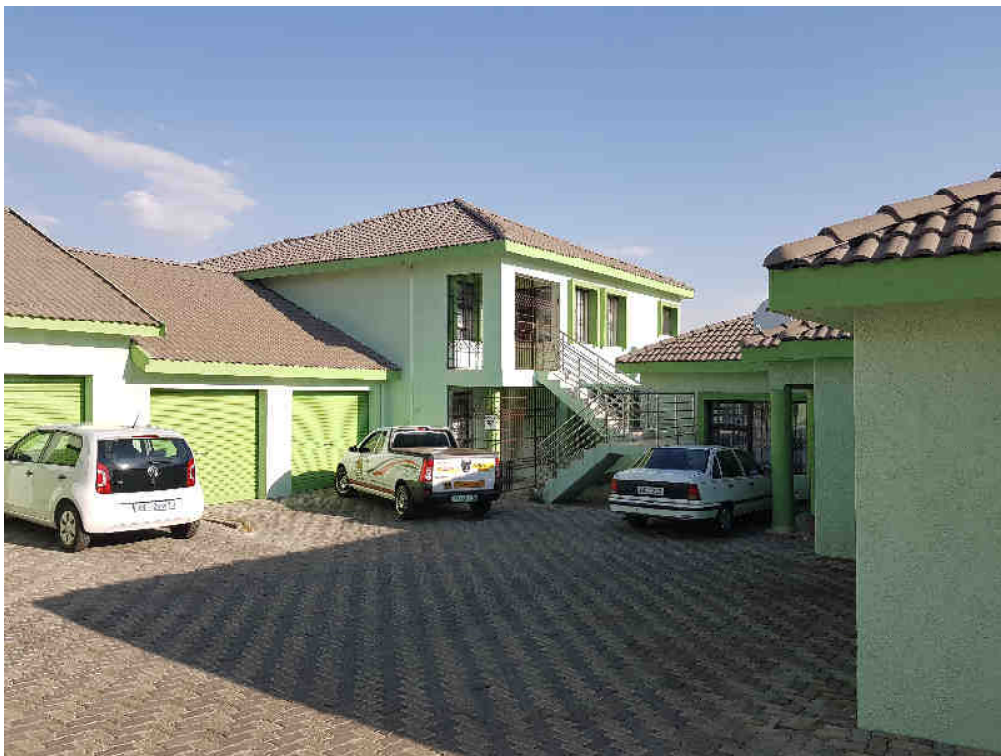
CASHBUILD PONGOLA 2015



VRYHEID SERVICE STATION 2016



UTRECHT STREET VRYHEID SHOPPING CENTRE



TAMBOTI STREET VRYHEID DOUBLE STOREY TOWNHOUSES



DIP TANKS KWAZULU NATAL NORTHERN REGIONS



PALM VILLA PONGOLA : 100 SEMI ECONOMICAL HOUSING UNITS



IRRIGATION PONGOLA 600 HA



TOWN HOUSES WESTVILLE STRATHEARN PLACE



PEDESTRIAN BRIDGE 700M LONG



TIP WALL 9 M HIGH



VEGETABLE GARDEN IRRIGATION



CURRICULUM VITAE: GODFRIED FLIP KRUGEL

CONTACT DETAILS: Tel: 034 982 3425
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 fkrugel@raws.co.za

QUALIFICATION: Pr. Eng. Bachelor of Engineering -Tuks 1986

PROFESSIONAL BODIES:

| | |
|-------|-----------------|
| ECSA | Reg. no. 910142 |
| SAICE | Reg. no. 094624 |
| SAIAE | Reg. no. 92039 |
| NHBRC | Reg. no. 1851 |
| SABI | Reg. no. 1993 |

| | | |
|---------------------------|---|-----------------|
| EMPLOYMENT HISTORY | Engineer - Dept. of Development Aid | 1986 to 1987 |
| | Engineer - Murray Biesenbach & Badenhorst | 1987 to 1989 |
| | Engineer - Eksteen van der Walt & Nissen | 1989 to 1997 |
| | Member - GFK Consulting Engineers | 1998 to Present |
| | Member - RAWS Consulting Engineers | 2005 to Present |

PROFESSIONAL EXPERIENCE - SUMMARY

- Pump stations and pipes for bulk water up to 1400 mm nd and water reticulation R 150 m.
- Dams up to 3 000 000 m³, Pollution Control Dams - R 170 m.
- Irrigation projects - 35 off
- Agricultural projects - 16 off
- Management of plant hire projects - R 105 m.
- Roads, culverts and bridges - R 65 m.
- Project management- R 200 m.
- Boilers, cranes, saws, winches, radiators, hoists, cranes - R 60 m.
- Reinforced concrete & steel structures, buildings - R 180 m.
- Soil and land capabilities, irrigability surveys - R 2 m.
- Economic analysis.
- Stormwater management, waterways, contour banks, Pollution Control Dams -R 50 m.
- Hydrology-yield analysis for dams, open channel hydraulics and flow control.
- Soil conservation structures - R 8 m.
- Pipe line surge analysis.
- Flood line determination.
- Reserve determination.
- Water Balance for mines.
- Pollution Control dams, Slurry dams and Discard Dumps for mines.



CURRICULUM VITAE: GEORGE EDWARD VAN ROOYEN

CONTACT DETAILS: Tel: 034 982 3425
Cell: 083 320 4788
gvanrooyen@raws.co.za

PROFESSION STATUS: Pr. Tech Eng. (Professional Technologist)
Pr. CPM (Professional Construction Project Manager)
PMP (Project Manager Professional)

PROFESSIONAL BODIES: ECSA No. 200870316
SACPCMP No.D/1205/2006
PMI No. 1357097
NQF 7 U 007306 /08 (Labour Intensive projects)

| | | |
|---------------------------|--|-----------------|
| EMPLOYMENT HISTORY | Student technician – McLaren & Eger (Piling) | 1976 to 1978 |
| | Technician – Basil Read construction | 1978 to 1988 |
| | Self employed | 1989 to 1994 |
| | Technical trainer – OCT facilitators | 1994 to 2000 |
| | Technician – DLV Consulting Engineers | 2000 to 2006 |
| | Member - GFK Consulting Engineers | 2006 to present |
| | Member - RAWS Consulting Engineers | 2006 to present |

PROFESSIONAL EXPERIENCE - SUMMARY

- Design and implement bulk water mains up to 300 mm DN - R 35 million
- Design and implement water reticulation Rural and Urban - R 375 million
- Project management- R 1.2 billion
- Design waste water ponds & wetlands for Crocodile farm
- Design and implement water purification works – R 50 million
- Design and implement extraction works for the Usuthu RWSS. – R 35 million
- Labour intensive projects – R 45 million
- Business plan for Usuthu regional water supply – R 1.5 billion



CURRICULUM VITAE: ALBERT SHERLOCK MITCHELL

CONTACT DETAILS: Tel: 034 982 3425
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amitchell@raws.co.za

QUALIFICATION: Master's Diploma in Technology (Civil Engineering: Road and Transport) – Peninsula Technikon

ADDITIONAL QUALIFICATIONS: NQF 5 Reg. no. 577 dated 2007-11-29
NQF 7 Reg. no. 5P5350 dated 2009-12-07

| | | |
|---------------------------|---|-----------------|
| EMPLOYMENT HISTORY | Technician – Hawkins, Hawkins & Osborn | 1984-1989 |
| | Technologist – HHO Consulting Engineers | 1989-1994 |
| | Technologist – HKS Law Gibb | 1994-1995 |
| | Technologist – Ulundi Municipality | 1995 – 2004 |
| | Technologist – Zululand District | 2004 – 2006 |
| | Member – RAWS Consulting Engineers | 2006 to present |
| | Member- GFK Consulting Engineers | 2006 to present |

PROFESSIONAL EXPERIENCE - SUMMARY

- Management of CMIP & MIG Programme & Projects – R 124 million per annum.
- Management of ISRDO Programme & Projects – R 100 million per annum.
- Management of Town Planning and Building Inspectorate.
- Managing municipal functions and services of Ulundi Municipality & various other towns.
- Design and Construction Management of National Roads (N2) – R 120 million.
- Determine Route Locations for New Roads.
- Determine Catchment Areas and Run-offs.
- Feasibility Study of New Route Locations.
- Preliminary and Detail Design of Roads & Storm Water.
- Project Management and Construction Management of Roads, Bridges, Various Water Supply Projects, Sport fields and Community Facilities.
- Project Management and Construction Management of Agricultural R 50 M



CURRICULUM VITAE: NOMPILO PORTIA MABANGA

| | | |
|----------------------|--|-----------------|
| CONTACT DETAILS: | Tel: 034 982 3425 Cell: 076 630 0980 nmabanga@raws.co.za | |
| QUALIFICATION: | National Diploma Civil - 2008 Post Graduate Diploma in Project Management -2016 | |
| PROFESSIONAL BODIES: | NQF 5 Reg. no. SP-ND-CM-5E-1-8 | |
| EMPLOYMENT HISTORY | Technician - GFK Consulting Engineers | 2006 to Present |
| | Technician - RAWS Consulting Engineers | 2006 to Present |

PROFESSIONAL EXPERIENCE - SUMMARY

- Water supply
- Dams
- Roads
- Reinforced concrete
- Soil conservation structures
- Pollution Control Dams
- Coal discard Co- Disposal Dump
- Project management
- Buildings



CURRICULUM VITAE: BIANCA MUHL

CONTACT DETAILS: Tel: 034 982 3425
Cell: 073 511 0930
bianca@raws.co.za

QUALIFICATION: B.Eng (Civil) – University of Pretoria 2016

PROFESSIONAL BODIES: ECSA Reg. no. 201650763 (Candidate Engineer)
SAICE Reg. no. 201600378

EMPLOYMENT HISTORY ECA Consulting Engineers (Vacation work) 2013-2015
Engineer – RAWS Consulting Engineers 2015-present

PROFESSIONAL EXPERIENCE - SUMMARY

- Structural design – double story house.
- Hydrology - flood determination, yield analysis for dams, open channel hydraulics.
- Flood line determination.
- Water balance for mines.
- Pollution control dams and discard dumps for mines.
- Slope stability analysis, dam break analysis - Category II Dam



CURRICULUM VITAE: MBUSO MAKHATHINI

CONTACT DETAILS: Tel: 034 982 3425
Cell: 082 783 1720
mbuso@raws.co.za

QUALIFICATION: National Diploma: Engineering: Civil (S4) (2011)
Btech: Engineering: Civil: Water (2014-present)

PROFESSIONAL BODIES: SAICE Reg. no. 2010412 (Student Member)

EMPLOYMENT HISTORY Student – Zululand District Municipality 2010-2011
Technician – RAWS Consulting Engineers 2011-present

PROFESSIONAL EXPERIENCE - SUMMARY

- Water Reticulation R 120 M
- Bulk Water Supply R 20 M
- Rudimentary water supply R 12 M
- Buildings and sports fields R 5 M



CURRICULUM VITAE: MARYKE KRUGEL

CONTACT DETAILS: Tel: 034 982 3425
Cell: 073 741 5719
maryke@raws.co.za

QUALIFICATION: National Diploma: Engineering: Civil (S3) (Presently S4)

EMPLOYMENT HISTORY: RAWS Consulting Engineers 2010-Present

PROFESSIONAL EXPERIENCE - SUMMARY

- Water reticulation R 35
- Bulk water supply R 100 M
- Buildings R 30 M
- Roads R 40 M



CURRICULUM VITAE: RIAAN LEEUWNER

CONTACT DETAILS: Tel: 034 982 3425
Cell: 076 349 4254
riaan@raws.co.za

QUALIFICATION: Architectural Draughts Person (Student)

WORK EXPERIENCE: GFK Consulting Engineers: July 2012 - Present
RAWS Consulting Engineers: July 2012 – Present

PROFESSIONAL EXPERIENCE SUMMARY

- Steel structures: Layouts and cross sections of tension members, compression members, beam members, open web steel joists and trusses.
- Concrete structures: Layouts and cross sections of beams, columns, culverts and slabs including reinforcing complying to SANS 282
- Timber roofs and reinforcing.
- Layout and cross sections of dams.
- Cashbuild Pongola: Layout, plan and structural details.
- Vryheid Junction: Layout, plan and structural details.
- Msinga Infrastructure Project: Layout, plan and structural details of Msinga Sales yard.
- Khambi Regional Scheme: Layout, plan and structural details of 200kl reservoir.
- Ncome Prison: Layout, plan and structural details of two security steel structures.
- Dynamic Cone Penetrometer testing
- Concrete impact hammer testing.