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Background

Pro-Plan Consulting Engineers (Pty) is a multi-disciplinary company with specialist expertise in various disciplines of engineering, with Black Empowerment shareholding.

The company is an experienced, capable, and innovative firm with a record of effective participation and leadership amongst its members in vitally important and complex projects.

Pro-Plan has demonstrated management competence, broad engineering and architectural understanding by designing, detailing and co-ordinating diverse engineering and architectural disciplines to effect optimum results in adhering to completion schedules, high quality, safe design and economical construction methods.

The company is qualified to cover the whole spectrum of civil, structural, electrical and mechanical engineering, architectural, quantity surveying, town planning, surveying, design & construction in dolomitic subsoils and project management from preliminary studies to implementation. The range of projects involved with are wide, both in scale and complexity.

Pro-Plan personnel is also qualified to design and manage Labour Intensive Projects and both senior engineers have obtained their NQF7 qualification. Site personnel has NQF 5 (Labour Intensive Construction) qualifications.

Pro-Plan strives to redress the imbalances of the past while simultaneously retaining and extending world-class technical competence.





Social Responsibility

Pro-Plan Consulting Engineers social investment program is
 primarily focused on uplifting the historically disadvantaged
 youth of South Africa, who represent the future of our country.
 Pro-Plan aims to fund sustainable and visible charitable projects primarily through professional expertise, bursaries and
 monetary sponsorships. It is also a priority of Pro-Plan to sponsor individuals that require financial assistance to achieve life
 and education goals. These activities are mainly focused on the
 communities that we serve. Pro-Plan's main areas of focus are
 as follows: Education; Sport; Community Projects and Charity.

- Relocation of farm workers on Plot 46 Elandsdrift. Full project design and management including construction of 12 new housing units, all done free of charge.
- Compilation of Business Plan, requesting funding for the Upgrading and Alterations to Bekkersdal Multi-Purpose Community Centre. Funding was successfully obtained from Sports& Recreation.
- Financial assistance to Rev. NJ Tshawane, Founding President of the Martin Luther King Jnr. Albert Luthuli Transformation Centre (KLTC) of South Africa to attend an international symposium in America.
- Application and Business Plan for additional funding for Tarlton Clinic, Aids Haven and Early Childhood Development Centre-Free of charge.
- R 14 000-00 Bursary awarded to Ms. Gugulethu Z. Dladla to complete her second year Tourism and Marketing at RAU in year 2004.
- Sponsoring Bianca du Toit for the year 2004 at the Harvest
 Aid Child Sponsorship program.

- Providing Financial assistance to the Family of Mohau Leboko when he suddenly past away.
- Kagiso Housing Support Centre Structural design and implementation – Free of charge.
- A sponsor of Charity Children's' Day held by the Mayor of Mogale City.
- Donation (R 3000-00) to SAFA Southern Gauteng Super Cup Competitions for senior Leagues held in July 2004.
- Sponsoring Thato Segatlhe to take part in the Impi Hockey Challenge Tournament held at Hilton College 12 -19 December 2004.
- Sponsoring a table at Hamlet Foundation for Intellectually Challenged Youth Jubilee Function (R10 000-00).
- Financial donation (R50 000-00) to Mogale City Local Municipality for the commissioning and unveiling of the King Mogale statue.
- A Sponsor of the State of Environment Management Framework Launch in June 2004.
- Sponsor of the Mayoral Golf day to raise funds for the sports development program of the Mogale Foundation.
- Providing employment to Ms. P P Mathe, second year engineering student from Technikon Kwa-Zulu Natal to work her required practical year at our head office. A bursary of R8 370-00 was also awarded to complete her third year studies in 2005 at the University of Tshwane.
- Providing computer equipment to Mogale Department of Housing to create a more productive environment.

- Financial Assistance for Rural Schools Netball Coaching Clinics 27 –29 April 2005 at Bekkersdal High School.
- Sponsoring Thalo Segathle to attend the International Hockey Festival in Potchefstroom 3 – 6 August 2005.
- Sponsoring Mr. Motha & Mrs. Grobler to attend a Seminar on Waste Treatment and Recycling in Munich Bavaria, Germany in March/April 2006.
- Sponsoring Municipal Officials to attend the Waste Management Seminar in Germany (R23 808-00).
- Financial assistance to Sasolburg Scholar Thabiso Harry Mofokeng (R 10 000-00) in 2006.
- Sponsoring Merafong City Mayoral Golf Day for charity in 2007.
- Regular donations to the Mond & Voetskilder (Edms) Bpk on a yearly basis.
- Sponsoring an individual learner annually on the Harvest
 Aid Child Sponsorship.
- Sponsorship of R 25 000-00 of the Mayoral Golf day to raise funds for different charities in 2007.
- Providing professional engineering design and project management services free of charge to MCLM Water & Sanitation Department to assist with the completion of the Pine Haven Sewer Project (Est. Prof Fees R260 000-00).
- Department of water affairs sponsorship. Ministerial golf day to raise funds for different charities 2013.

Mission, Core Values & Vision

The directors and employees of the firm are dedicated to the proper and due fulfilment of all commissions to the full satisfaction of the employer/client, while at the same time maintaining the highest levels of professionalism and technical standard compatible with the type of project.

Execution of the project within the time and budget constraints laid down at the time of conception is of prime importance. The directors of the firm are Registered Professional Engineers with the Engineering Council of South Africa (ECSA) and are bound to the ethical codes of conduct as laid down in terms of the Engineering Professions Act of South Africa. When aspects of the project fall outside the fields of expertise of the directors, it is the declared policy of the firm to employ Professional Specialists to assist with such tasks.

The core values of the company include the upholding of integrity, acquisition and transfer of knowledge, pursuit of innovation and providing the best service possible to clients, staff and communities.

The vision of the company is to be a leader in the art of engineering, architectural and development solutions.

Services offered by Pro-Plan Consulting Engineers (Pty) Ltd. are:

- Civil & Structural Engineering
- Electrical & Mechanical Engineering
- Contract Administration
- Project Management
- Architectural Services
- Town Planning
- Quantity Surveying





Office Capacity

Pro-Plan is a firm supporter of Continued Professional Education (CPD) thereby ensuring that our client always receive the best possible services. All our staff is required to further their education on a regular basis. Our Engineers have completed their NQF 7 Labour Intensive Training. All our personnel attend regular computer software course in order to familiarize them with new programs and updates.

Our staff include:	Presentation
Professional Registered Engineers	
Professional Architects	Contract Adn
Junior engineers	
Registered civil & structural draughts persons	
Architectural draughts persons	
Admin personnel	Financial Sof
Office Manager	
Financial & HR Managers	
Admin Manager	Software de
Quantity Surveyors	
Clerk of Works and Project Co-ordinators	PROKON
We also contract specialist staff as and when a project requiremented for size or a factor of the second for th	lire HYDROSIM
and Surveyors.	WADISO 3
	CIVIL DESIGN
The following software are being used in our offices:	
Technical & Drawing Software: AUTC CA	CAD MS OFFICE
PRC Google Sket	KON AUTOCAD
	Revit CFS – Cold

			3DS Max Design	ALLYCAD
	Quality Surveying Soft	ware:	WinQS	CSIR – TIMBER
ze	Office/Admin Software		MS Office MS Projects	INTERNET
			Acrobat CivilSoft	CIVIL SOFT BILL
	Presentation Software		CorelDraw Photo shop	MS PROJECTS
	Contract Administratio	on Software:	Merkels Billcost Specifile	BILL COST
	Financial Software:		QuickBooks	BENTLEY
	Software description	1:		
	PROKON	Structural Design Pack	kage	
2	HYDROSIM	Storm water Design		
	WADISO 3	0 3 Water Design		
	CIVIL DESIGNER	IL DESIGNER Roads, Water, Sewer, Surveying and Earthworks		
AD DIE	MS OFFICE	General Administratio Calculations	n & Mathematical	
er DN	AUTOCAD	Drawing and Design Package		
vit	CFS – Cold	Formed Steel Design F	Package	

	Drawing and Design Package
	Design Package
	Corresponding with local and interna- tional firms
-	Schedule of Quantities and Claims Administration
	Construction Program and resource allocation and analysis
	Program that assists in cost estimates together with Merkels Product Pricing Schedule
	Roads, Water, Sewer, Surveying and Earthworks



Project Experience

The joint turnkey experience of the directors and personnel in
the building industry includes all commonly employed con-
struction methods and materials. Structural Projects designed
include steel-framed reinforced concrete, composite (steel &
concrete), and timber and masonry commercial, industrial and
residential structures.4.

Many of the projects have included a study phase where a variety of structural systems were evaluated in order to establish the system which best-satisfied strength, cost, and aesthetic criteria.

Coinciding with design engineering and architectural knowledge is a familiarity with a variety of codes (SABS 0400, 0100, 0160, 0162, 0163, 1200, etc), standards, construction methods and equipment. Most structural and civil analysis is performed on computer using a relevant design package whereby large projects can be analysed both for static and dynamic loads.

Our approach in handling projects is normally divided into seven stages. These stages are listed and explained below:

- 1. Fact-Finding whereby we establish the goals and parameters of a project by liaising with the client.
- 2. Design Criteria Is determined and used to lay a basic foundation for the Schematic design. This is a very important step when designing structures and civil services in dolomitic subsoils.
- Schematic Design Is the phase wherein several global structural framing Options are evaluated and analysed. New ideas and innovations are developed here as appropriate. Specific local details and alternatives are evaluated for Constructibility and Economy.

- Design Development Is the stage where we define major elements as to type, size and location with specific detail to identify, locate and solve problems.
- 5. Cost Estimates Prepared to provide the client with an accurate cost Implication.
- 6. Construction Documentation Is the major phase during where plans, specifications, schedule of quantities and documentation are prepared for tendering
- Construction Administration This is the final stage where we support the construction process by reviewing shop drawings, making periodic site visits, inspections and working with the contractor to support the construction process



Structural Engineering

Experience amongst our directors and associates has also been The various partners experience in Civil Engineering pertaining gained in the following areas of structural and architectural services pertaining to building projects:

Additions to Existing structures

Space limitations and structural constraints imposed by the existing structure often require innovative designs and construction methods to achieve the vision of the designer or client.

Rework of Existing Structure

Existing conditions are analysed to determine the effects of new loadings or the or the best way to accomplish desired modifications to the structure.

Engineering Reports

Review of structural concerns and preparing a report of findings, this report will include recommendations and cost implications.

Evaluation of Existing Structures

Performing of basic structural evaluations based on visual observations. More detailed investigation normally require both on site as well as laboratory testing of soils, concrete, welds and materials.

Construction Assistance

Ensuring that the project is completed according to design specifications by offering site assistance during the construction phase. This includes the reviewing of shop drawings, making observations and recommendations at the job site as well as answering any questions that may arise.

Construction-dolomitic areas

Experience has been gained in construction of structures in dolomitic areas as well as maintenance of structures especially schools. Our engineers have been involved in the design and implementation of projects in dolomitic subsoils since 1994 while our senior engineering associate has been actively involved since 1978.

to building projects incorporate earthworks, drainage, water and sewerage but also minor studies and analysis of regional systems:

Civil Services

Involve conceptual studies for various development scenarios for drainage, water and sewer systems. This work includes computer modelling of the various systems, both dynamic and static analysis as well as demand studies. The details usually assist in town planning.



Civil Engineering

Pro-Plan Consulting has extensive experience in Civil Engineer- a standard dumping level or theodolite. Information is then ing projects:

Experience in Water & Sewage Systems

Involve pipe sizing, valves, pressure zone and regulation, flood- Two senior engineers and 1 junior engineer has completed line determination, water storage reservoirs, pump stations tation flow networks. Experience in computer analysis of water projects. systems involves utilization of both dynamic and static models, which take into account varying pressure head requirements and systems, pressure. Relief and regulation valves as well as the time simulation for various demands. This work includes analysing the ultimate system under phased construction to account for possible over sizing of intermediate pipes due to lack of looping in the system until later phases.

Experience in Earthworks

Involves planning the site in order to minimise the grading effort and accomplish the client's requirements to provide positive drainage relief to the project. We will utilize computerized earthwork analysis programmes to minimise the grading volume. Some of our projects involve earthwork volumes up to 30 000 cubic metres.

Transportation Engineering Experience

Involves horizontal and vertical alignment of streets and roadways, including super elevation analysis. Cross sections are computer generated as well as related geometric properties. We have also been involved with the design of traffic, and design speeds, both horizontal and vertical site distances. This work ranges from residential roads to arterial design, including culverts.

Surveying Experience

Experience has mainly been in topographic surveying using

manually entered, edited and generated on computer to provide contour data at a specified interval.

Labour Intensive Construction Design and Management

their NQF7 training to be able to do labour intensive designs and analysis of fire flow capability, oxidations ponds and gravi- and project management on water, sewer, roads and structural



Electrical & Hydro Electrical

Pro-Plan Consulting has a dedicated and experienced Electrical • Hotels Engineering Team that has the ability to create and establish Industrial Projects infrastructure:

Lighting

- Specific lighting requirements for partitioned offices and/ or open plan office space (workstations)
- Special uplight/downlighting effects at entrance foyers etc
- Create special effects with uplighting on building facade

Power Distribution

• Power distribution methods to partitioned offices and open plan office space (I,e. distribution via access floor, in ceilings or in powerskirting etc.)

Hydro-Electrical

- Generation
- Control Systems
- Protection
- Distribution and transmission
- Operations

Emergency Power Requirements

• Emergency supply to specific area's and equipment as per clients requirements

Uninterrupted Power Supply

• Uninterrupted power supplies to computer or sensitive equipment

Building Management And Energy Saving

Implementation of Building Management and Energy Saving Systems in the overall designs in order to obtain cost effective designs in:

- Corporate Head Offices
- Shopping Centres
- Office Blocks
- Schools and Colleges
- Hospital

Macro-electrical infrastructures

- EHV and HV bulk supply points
- EHV and HV overhead transmission lines
- EHV substations

Micro Electrical Infrastructures

- MV bulk substations
- MV overhead transmission lines
- MV underground cable reticulation networks
- MV/LV step down and miniature substations
- LV underground or overhead consumer reticulation networks
- High mast and street lighting
- By-laws and tariffs



Mechanical Engineering

Pro-Plan's Mechanical Engineering team is experienced in:

Water treatment plant

- Pumping station construction, installation and commissioning
- Pump efficiency and potential head control
- Pipes fitting and construction
- Valves replacement and repairs
- Sedimentation and Clarifies construction and maintenance

Civil Engineering

- De-watering
- Concrete repairs
- Waterproofing, Crack Sealing and Injection, Joint Sealing
- Concrete Coring and Cutting
- Property Maintenance
- Refractory Linings
- Gunite & Shotcreting work, Grouting
- Structural Construction and Investigation
- Concrete Luring and Cutting, Ceramics and Rubber Lining
- Road Repairs and Construction
- Domestic and Industrial Building Construction
- Structural earthworks and concrete construction, i.e. including storm water and canal design and construction
- Concrete dam construction, dam safety and flood hydrology

Electrical

- Transmission and distribution line construction
- Electrical maintenance, i.e. Switchgear, circuit breakers, panel
 installation, transformers and generators

Process Control

- Telecommunication construction, installation, maintenance and services Fibre Optic Transmission installation and services Pneumatics process control installation and maintenance
- Process control



Quantity Surveying

Pro-Plan Consulting has an experienced Quantity Surveying Team headed by a registered professional. Our registered Quantity Surveyors have also extensive experience in arbitration.

- Civil engineering projects
- Structural engineering projects
- Electrical engineering projects
- Mechanical engineering projects

Following is a summary of quantity surveying projects:

Shopping Centres

- Marula Sun Shopping Centre
- New Woolworths Blairgrowie Plaza

High & Primary Schools, Clinics, Recreation Centres, Librar-

ies

- Upgrade Lusaka Sport ComplexNew Pavilion and Changeroom
- New Pavilion and Changeroom for Rietondale School
- ACCRA International Hospital, Ghana

Housing Projects

- Various up market single housing projects
- Ifafi Town House Project

Government Buildings

- American Embassy Pretoria
- Old Mint conversion to Museum Project
- Ga Rankuwa Police Station
- New Equestrian Centre Metro Police
- Multi-Purpose Community Centre (MPCC)
- Sports-hub
- Sport Complex
- Municipal Libraries
- Schools
- Clinics
- Hospitals
- Early Childhood Development centres (ECD)

Quantity Surveying experience has also be gained in:

- Multi-Storey Parking Garages
- Upgrading of Hostels
- Churches
- Warehouses



Project Management

Our experience range from engineering peer review of plans, General Construction: and cost estimates, to administrating activities as the client's agent. Clients include the public and private sector where doc- • General layout umentation, construction administration and quality control are provided:

Pre-construction experience include:

- 1. Planning, specifications, Design and cost estimate review.
- 2. Overview of construction and Tender Documentation.
- 3. Co ordination between various parties involved.

4. Contract Review:

- Review tender documentation, general conditions, insurance, Sureties, quality control, and client's requirements. Verifying that t he client/ consultant has control over the performance and the quality of work.
- Verify that the owner has protection from liability and / or losses from the contractor's negligence or poor quality work. Apply mechanism and retain earning to protect the client from any possible losses.
- 5. Individual Sections:
- Defining scope of work
- Providing Co-ordination
- Defining execution of work
- Note regulatory requirements
- Providing Quality Assurance measures
- Specify construction requirements
- Specify clean up
- Note payment procedures
- 6. Drawing Review:

- Co-ordinate with site plan
- Demolition
- General notes

Civil & Site Work:

- Demolition and Grading
- Underground utility work

Technical Specifications:

• Review procedure, materials, executions, submittals and clarify all technical specifications

Prepare and advertise tender documentation

Construction Administration

Prepare and advertise tender documentation:

- Schedule of Quantities for tenders as well as priced Bills for estimates and planning
- Claims and quality assurance
- Pre-tender meetings
- Final contract negotiation and agreement with qualified contractor
- Construction Administration
- Construction programmed reviews and updates
- Co-ordination with owners and facility operators
- Payment certificate review and processing
- Variation order administration
- Final construction acceptance and retention payment
- Subcontractor payment (nominated)
- Surety, Insurance and bonds
- Weekly construction progress meetings (Formal and Technical)





Current & Completed Projects

Buildinas

Emfuleni Local Municipality

Traffic Precinct Buildings

Airports Company of South Africa (ACSA)

- Ramp Staff Handling Facilities OR Thambo International Airport (ORTIA)
- Airside Canteen OR Thambo International Airport (OR-TIA)
- Super South Security Facilities OR Thambo International
 Simunye Wellness Centre Airport (ORTIA)
- Charlie Gate Security Facility OR Thambo International Airport (ORTIA)

Mogale City Local Municipality

- Bob van Reenen Sport Complex Re-development
- Coronation Park Park Development
- Ga Mohale Sport Facilities .
- Green Hostel Refurbishment
- Johanna Botha Park
- Kagiso Multi-Purpose Community Centre
- Kagiso Sport Complex
- Kagiso Early Childhood Development Centre
- Low Cost Housing
- Lusaka Library
- Lusaka Sport Facilities .
- Munsieville Multi-Purpose Community Centre
- Munsieville Early Childhood Development Centre
- President Building Refurbishments
- Munsieville Sport Hub

Westonaria Local Municipality

- Cemetery Ablution Upgrade
- Bekkersdal Extensions
- Bekkersdal Gvm
- Council Chambers

- Hawkers Facilities
- Lodge & Community Hall
- New Taxi Rank
- Paul Nell Community Hall
- Council Office Renovations
- Simunve Community Hall
- Simunye Library
- Simunve MPCC (Park)
- Sport Complex- Palisade Fence
- Westonaria Sport
- Zuurbekom Multi-Purpose Sport and Recreational Community Centre

Moses Kotane Local Municipality

Civic Centre Renovations

Randfontein Local Municipality

- Mohlakeng Early Childhood Development Centre
- Riebeeck Lake Development

Gauteng Department of Education

- Dalpark Secondary School; Finetown Primary School & Rus-ter-Vaal Secondary School (Mobile Units)
- Evaton West Primary School & Lawley Primary School (Mobile Units)
- Mobile Units at Various Schools
- Munsieville School & Ingayizivele Secondary School (Mobile Units)
- Nellmapius Primary School & Individual Mobile Placements
- New Heidelberg Secondary School & Ratanda Ext 23 Primary School (Mobile Units)
- Tamaho Primary School (Mobile Units)
- Technical Schools Workshop Assessment (61 Schools)
- Tsakane Ext 8 Secondary School (Mobile Units)

Cemeteries

Mogale City Local Municipality

Kagiso Cemetery

Westonaria Local Municipality

- Bekkersdal Cemeterv
- Simunye Cemetery

Randfontein Local Municipality

Greenhills Cemetery

City of Joburg

Olifantsvlei Cemetery

Electrical

Westonaria Local Municipality

- Electrical Equipment
- Low Voltage Panels
- Street Light Reticulation

Mangaung Metropolitan Municipality

Bloemfontein Airport Node - All Electrical Infrastructure

Housing

Merafong Local Municipality

- Khutsong Housing 1500 units
- Khutsong Housing 4000 units

Mogale City Local Municipality

- Kagiso X13 Housing
- Mogale City Low Cost Housing

Infrastructure

Mangaung Metropolitan Municipality

Bloemfontein Airport Node

Roads

Merafona Local Municipality

- Khutsong South Bulk Roads
- Khutsong South Internal Roads
- Khutsong Southong South P89/1 Interchange

SAA - Technical Services

- Aircraft Hard Stand
- Aircraft Tow Lines

Mogale City Local Municipality

- Pavement Management System
- PR 02 Rietvallei Ext 2
- PR 03 Kagiso Ext 13
- PR 05 Rietvallei Ext 5
- PR 09 Ga-Mohale
- PR 10 Rietvallei Ext 1
- PR 15 Western Rural Rds PR 16 - Sinaobile
- Stormwater Management System

Westonaria Local Municipality

- Access Road N12
- M Ghandi Road
- Matimba Road
- Simunye Internal Roads
- Thomas Road
- Zuurbekom Roads

Sanitation

Merafong Local Municipality

- Welverdiend Waste Water Treatment Plant
- Khutsong South Waste Water Treatment Plant
- Kokosi Waste Water Treatment Plant
- Khutsong South Bulk Sewer
- Khutsong South Internal Sewer

Mogale City Local Municipality

- Magalies Waste Water Treatment Plant
- Mulderdrift Sewer
- Munsieville Ext 5 Sewer
- Flip Human WWTP Sludge Handling Flip Human Waste Water Treatment Plant - Refurbishment

Westonaria Local Municipality

- Mohlakeng Emergency Intervention
- Sanitation Masterplan
- Venterspost Sewer
- Zuurbekom Sewer
- Zuurbekom Waste Water Treatment Plant
- Hannes van Niekerk Waste Water Treatment Plant
- Hannes van Niekerk Waste Water Treatment Plant Refurbishment

Structures

Merafong Local Municipality

- Khutsong South Pedestrain bridge 1
- Khutsong South Pedestrain bridge 2
- Khutsong South Traffic Bridge
- Khutsong South Palisade

Mangaung Metropolitan Municipality

Airport Node Access Bridges

Stormwater

Westonaria Local Municipality

- Bekkersdal Stormwater
- Khutsong South Bulk Stormwater

Support

Mogale City Local Municipality

- Muldersdrift Master Plan
- Mogale City Water Laboratory

Waste Management

Emfuleni Local Municipality

Transfer Stations

Mogale City Local Municipality

Luipaardsvlei Landfill

Merafong Local Municipality

- Fochville Landfill
- Fochville Transfer Station
- Rooipoort Landfill
- Wedela Transfer Station

Westonaria Local Municipality

- Libanon Landfill
- Libanon Landfill Electrical
- Libanon Landfill Waste Processing Plant
- Libanon Transfer Station

Current & Completed Projects

Water Supply

Mogale City Local Municipality

- Elandsdrift Water Supply
- Lammersmoor Water Supply
- Muldersdrift Bulk Water Main
- Muldersdrift Reservoir
- Muldersdrift Reservoir Pipeline
- Rural Water Supply
- Tarlton Water Supply
- Water Targets 2008

Merafong Local Municipality

- Khutsong South Bulk Water
- Khutsong South Internal Water

Westonaria Local Municipality

- Glenharvie Pipeline
- Pre-Paid Meters
- Simunye 114 Stands
- Venterspost Water
- Water Management
- Waterpan Water Supply

Moses Kotane Local Municipality

- Ntsweng Water Supply
- Ward 31 Water Supply

Department of Water Affairs

- Elandsdrift Tunnel
- Mzimvubu Water Scheme Dam and Hydro-electrical
 Power Station

Magalies Water Board

Ground Water Optimisation

Parks and Recreation

Johannesburg City Parks

- Freedom Corridors Park re-development
- Randjiesfontein Farm
- Vredefort Game Farm
- Golden Harvest Park







Labour Intensive Construction

Pro-Plan Consulting Engineers has on its staff several staff members that have been involved with Labour Intensive Projects as early as 1995. These members were part of the design team on the Muldersdrift Bulk Water pipeline that was executed with labour intensive construction methods as well as managing the training for the local labour.

Since the inception of MIG projects that requires the use of Labour Intensive Construction methods Pro-Plan has designed several civil & structural engineering projects employing LI construction methods:

- Simunye Park Development
- Simunye Internal Roads
- Bekkersdal Stormwater Projects
- Kokosi WWTP
- Upgrading of Khutsong WWTP
- Rangeview Reservoir
- Muldersdrift Bulk Supply pipeline
- Upgrading Johanna Botha Park Sport Complex
- Simunye Cemetery Development
- Upgrading Lusaka Sport Complex Phase 1 & 2
- Luipaardsvlei Landfill site Internal & External Road Construction

- Upgrading of Libanon Landfill Site Phase 1; 2 & 3
- Venterspost Gravity Outfall Sewer & New Pump station
- Muldersdrift / Rangeview Reservoir Reservoir and Supply- & Distribution Pipeline
- Munsieville & Kagiso MPCC's

Two of our senior engineers have completed their NQF7-LI qualification and were found competent. Our site personnel has experience in managing LI projects and all has NQF5 and 7 qualifications.

Our office has submitted several designs for LI construction and has prepared several LI tender documents based on CIDB guidelines. Several new Project Specification Methods Statements have been created specifically to assist LI contractors in the execution of the projects. All our Schedule of Quantities are LI compliant in accordance with CIDB guidelines.

We have also evaluated several tenders along CIDB guidelines and have implement several LI projects as can be seen from the above list. We are familiar with MIG and EPWP requirements and monthly progress reports.

Pro-Plan Consulting Engineers has also assisted several Municipalities in compiling MIG Business Plans for the successful application of funding for Labour Intensive Projects.



Aviation

Roy Govender holds a Bachelor of Science in Mechanical Engineering. He will soon complete his Bachelor of Commerce. He is a member of the South African Institute of Mechanical Engineers. He is an Affiliate with the Royal Aeronautical Society based in London and the Aeronautical Society of South Africa.

Presently, he is the Managing Director of Pro-Plan Consulting Engineers. He is the President and CEO of Pro-Plan Aviation Consulting, a Division within the Group. He is the President and CEO of BENVEROY (Pty)Ltd which focuses on smart energy for aviation.

He was the General Manager of Velvet Sky Airlines, The Chief Operating Officer of RwandAir, Head of Heavy Maintenance and Freighter Conversions SAA Technical, Senior Manager of Narrow body D-Checks, Senior Manager of Aircraft workshops (aircraft Paint, Trimming, safety Equipment, aircraft Structures, Composite Interior) at SAA Technical. He was responsible for the Project Management of a Multi-purpose aircraft docking station for heavy maintenance checks of the B747 series, A340 series, A330 series and MD11 air-crafts.

1. Aircraft Repaints

A good aircraft repaint results in the following advantages:

The Passenger gets confident and creates a long lasting perception that the whole aircraft structure, pilots and cabin crew are likely to be in good order. This helps with the branding of the airline.

The Aircraft owner is confident that the planned remaining life of the paint work will be achieved due to good corrosion protection. This is an important input to his long term planning for the next heavy check and repaint. An extremely undesirable position would be created when the aircraft is grounded earlier than usual for a repaint.

The owner is also confident that the new paint work does not carry additional weight from excessive paint and hence not increase the fuel burn per flight hour.

2. Turnaround Time

A B747-400 D3 Check with a work-scope that can vary between 45000 man hours and 60 000 man hours can be done by MRO facilities in different parts of the world ranging from 38 -80 calendar days. Why is there such a disparity?

There are many reasons of which some are peculiar to the • country, continent, culture, location etc. What about the • Basic common denominator" called Planning and Process • Optimisation?

Our Project Management team will reduce the turnaround time for Heavy Maintenance Checks by recommending and implementing detailed proposals regarding:

- Manpower resourcing and Productivity planning
- Infrastructure planning
- Materials and stock planning
- Identification and removal of wastage
- Implementation of project management principles
- Project Management Gant Chart improvement
- Supply Chain Management productivity improvement
- Analysis and recommendation of shift patterns
- Effective and accurate reporting on the status of the project
- Perform a cost benefit analysis

3. Aircraft Acceptance

If you have acquired a new or used aircraft, we are ready to manage your project:

- Facilitate and liaise between you and the seller
- On time delivery of the aircraft
- Daily report on the status of the delivery "process"
- Project Manage from client perspective the delivery check
 if required
- Ensure that your expectation is met regarding the Interior, Exterior, Paint, compliance with agreed inspections and updates
- Operation of cabin and cockpit equipment
- Thorough execution of the Documentation Pack traceable to birth
- Liaise with client to assist client fulfil his/her responsibility
- Participating in acceptance flight
- Planning of delivery flight

4. Start-Up Airlines

Some of the key issues addressed shall be:

- Formulation of a Business Plan
- Airplane selection and sourcing
- Airline branding
- Marketing and Distribution plan
- Network planning
- Route feasibility study
- Pilots and cabin crew recruiting
- Airport Stations and satellite offices
- Aircraft Maintenance Planning
- Organisational planning including HR, Finance, Flight Operations, Commercial, Ground Handling, Catering and Engineering
- IOSA certification (IATA Operational Safety Audit).
- Compliance to Local, Regional and International Regulatory Authorities



Hydrological Engineering

Hydrological engineering, sometimes called hydro-logic engineering or hydrology, is an engineering specialty that focuses on water resources.

Hydrology has been a subject of investigation and engineering for millennia. For example, about 4000 B.C. the Nile was dammed to improve agricultural productivity of previously barren lands.

Mesopotamian towns were protected from flooding with high earthen walls. Aqueducts were built by the Greeks and Ancient Romans, while the history of China shows they built irrigation and flood control works.

What Is Hydrological Engineering?

Hydrological engineering, also called water resources engineering, is a civil engineering specialty. Hydrological engineering is chiefly concerned with the flow and storage of water in dams and reservoirs. This commonly includes urban drainage, water supply, wastewater treatment, river management and coastal protection. • Earth-fill dams

Hydrological engineering also focuses on preventing floods and lessening the effects of floods, droughts and other natural disasters. Hydrological engineering include water cycle management, flood control, soil physics, probability and numerical analysis.

What Is Dam Engineering?

Dams engineering requires understanding and control of the enormous forces and potential energy of water. From foundation and seismic assessments through to Geo-technical, hydrological, hydraulic, mechanical and structural design, projects demand indepth skills and a coordinated, client-focussed approach.

A dam is a barrier that impounds water or underground streams. Dams generally serve the primary purpose of retaining water,

while other structures such as floodgates or levees (also known as dikes) are used to manage or prevent water flow into specific land regions.

Hydro-power and pumped-storage hydroelectricity are often used in conjunction with dams to generate electricity. A dam can also be used to collect water or for storage of water which can be evenly distributed between locations.

Dam Engineering Services

We recognise our clients' needs for solutions that harness indepth knowledge with forward thinking to produce innovative, safe and cost-effective outcomes. We have successfully delivered through all methods of project delivery, from the conventional approach to design and construct, alliances and Engineering Procurement and Construction Management (EPCM).

Pro-Plan Consulting Engineers provides services for the following dam types and appurtenant structures:

- Earth and rock-fill dams
- Concrete or membrane-faced rock-fill dams
- Concrete gravity dams
- Roller-compacted concrete dams
- Concrete arch and multiple barrel arch dams
- Concrete buttress (including diamond-head) dams
- Tailings and mining dams
- Gated and ungated spillways
- Intake and outlet works
- Hydro-mechanical installations

The services we provide in dams engineering include:

Investigations and appraisals

- Proiect identification
- Geo-technical site investigations
- Engineering geological assessments
- Stream gauging, flood assessments and reservoir yield studies

Studies

- Feasibility studies
- Hydrological analysis and review
- Hydraulic design, analysis and assessment

Design

- Embankment zoning and slope stability analysis
- Construction materials assessment and investigation
- Concrete dam stability and structural analysis

Tender and construction phase services

- Construction phase project management
- Construction phase technical management
- Materials management and guality control

Operational support

- Asset management services
- Asset valuations and condition assessments
- Dam safety training

Dam safety and risk assessment

- Dam safety inspections
- Dam surveillance and safety reviews
- Dam failure impact assessments and hazard/consequence classification

Owner's Engineer and review panels

- Specialist technical advice across all disciplines
- Project and design review
- Procurement advice



Architecture

Our service encompass all stages of projects from pre-appoint- These aspects combine to provide a sound basis for the ment advice, initial conceptual designs, feasibility studies, presentation and marketing documents, detail design, technical documentation, contract administration, inspections and post contract administration.

We currently operate a large network of Autocad workstations supported where necessary with other suitable, supporting software packages to enhance the production of our presenta- and enjoyable environment. tion and technical documents.

Design Mission

The architectural design of each project is shaped by a number of important criteria:

- Our pursuit and passion for good quality and well resolved design
- Commercial Viability
- Flexibility in use
- Low maintenance and valued engineered
- Designs that are a positive contribution and responsible to our socio-political context.

At the root of the success achieved by Pro-Plan in such a short period of time, lies the philosophy of quality service to our clients.

The Pro-Plan team is defined by some of the most respected accomplished individuals across a complementary range of skills in the fields of Architecture, Urban Design, Urban Development Strategies, Services Design, Information Technology and Town Planning, together sharing ideas in a stimulating and well-organized work environment.

company to maintain the highest professional standards from design excellence to client collaboration and in so doing, to create a built environment which stands as a legacy now and will for generations hereafter.

From the outset, our primary focus is upon sensitive and practical design that facilitates ease of use and creates an inviting

With an impressive portfolio of completed projects combined with a solid reputation, Pro-Plan is well positioned to deliver turnkey solutions. Offering a full range of services and professional expertise, Pro-Plan is fully capable of taking large-scale local and international developments from inception to final completion.

Contact Information

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