

# CONSTRUCTION CONSULTANT



## AVAILABLE COURSES

### **BASIC ROAD CONSTRUCTION PRINCIPLES**

A 2-day course on sustainable road construction procedures, new technologies and material mechanics.

### **ROAD MAINTENANCE & REHABILITATION**

A 2-day course on practical road maintenance, pavement rehabilitation and the maintenance of storm water infrastructures.

### **ROAD CONSTRUCTION & MAINTENANCE**

A 3-day course following the whole process from start to finish of building a road and then maintaining it.

### **BASIC CONTRACT ADMINISTRATION**

A 2-day course on the various aspects of the management of a government contract and the administrative procedures required.

### **GCC 2010**

A 2-day course for understanding and working with General Conditions of Contract 2010.

### **BASIC BUSINESS PRINCIPLES for SMMEs**

A very basic 3-day course for the development of SMME contractors. Emphasis on tenders, certificates, specifications, conditions of contract and quality assurance.

## BENEFITS INCLUDE:

- LEARN FROM A RECOGNISED EXPERT WITH CROSS INDUSTRY EXPERIENCE
- COMPREHENSIVE COURSE DOCUMENTATION TO USE AS REFERENCE MANUAL
- PARTICIPATION IN AN INTERACTIVE, ACCELERATED LEARNING WORKSHOP
- PRACTICAL ACTIVITIES TO ENSURE EFFECTIVE APPLICATION IN THE WORKPLACE
- UNDERSTANDING THE TERMINOLOGY, PROCESSES AND TECHNOLOGIES
- GREAT REFRESHER FOR EXPERIENCED ENGINEERS
- AN ENVIRONMENT FOR NETWORKING AND EXCHANGING OF IDEAS
- CERTIFICATE OF ATTENDANCE
- CPD ACCREDITATION



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# Basic Road Construction Principles

## COURSE OUTLINE

### WHO SHOULD ATTEND

- CONTRACTORS
- CONSULTING ENGINEERS
- CLIENTS
- JUNIOR TO SENIOR ENGINEERS
- TECHNICIANS
- TECHNOLOGISTS

### PARTICULARS

- 2 DAY COURSE
- 2 CPD POINTS
- COURSES QUOTED AS PER CLIENT'S NEEDS
- COURSE DATES TO BE BOOKED AND CONFIRMED THROUGH CONSTRUCTION CONSULTANT OFFICE

#### Introduction to Road Building

- Brief History of Engineering
- Types of Engineering
- Disciplines of Civil Engineering
- Brief history of Road Building

#### Road Building Fundamentals

- Role players in Civil Projects in South Africa
- Preconditions for Road Building
- Assessments and Valuation
- Design Criteria
- Tender Phase & Documentation
- Contract Basics – from a cidb Best Practice Guide

#### Planning & Contract Management

- Phases of a Contract & Administration
- Establishment and P&G
- Planning
- Programming
- Labour Employment
- Duties of CE, PSC and CLO

#### Health, Safety and Security on Site

- OH & S Policies and Procedures
- Communications in the Work Place
- Security of People and Equipment
- Materials Handling and Storage
- Traffic Management
- Accident and Incident Reporting Procedures
- Disposal of Toxic / Non-Toxic Materials
- Environmental Impact

#### Technical Aspects of Road Building

- Terminology and Standard Units
- Types of Materials
- Basic Material Mechanics
- Quality Assurance and Testing
- Modern Technology
- Effect of Weather on Roads

#### Survey in Construction

- Basic Surveying Methods
- Basic Setting Out and Levelling
- Quantity Surveying
- Soils Surveying
- Equipment Used in Surveying

#### The Construction Process – Execution

- Reading from Plans and Drawings
- Visual Assessment
- Clearing and Grubbing
- Earthworks
- Layer Works
- Services
- Confined Areas
- Water Handling
- Subsoil Drains

#### Surfacing of Roads

- Types of Surfaces
- Wearing Course
- Surface Defects
- Rehabilitation and Reconstruction
- Pothole Repairs
- Crack Sealing

#### Operation of Plant and Equipment

- Small Plant and Tools
- Earthmoving Equipment
- Operators & Drivers
- Safety Specifications

#### Road Furnishing and Ancillary works

- Road Signs: Types, Specifications and Installation
- Kerbing and Paving for Sidewalks
- Minor Concrete Structures
- Drainage
- Erosion Protection

#### Finances and Economics

- Pricing of Tenders and Quotations
- Productivity and Profit
- Site Costing



# Road Maintenance & Rehabilitation

## WHO SHOULD ATTEND

- CONTRACTORS
- CONSULTING ENGINEERS
- CLIENTS
- JUNIOR TO SENIOR ENGINEERS
- TECHNICIANS
- TECHNOLOGISTS

## PARTICULARS

- 2 DAY COURSE
- 2 CPD POINTS
- COURSES QUOTED AS PER CLIENT'S NEEDS
- COURSE DATES TO BE BOOKED AND CONFIRMED THROUGH CONSTRUCTION CONSULTANT OFFICE



## COURSE OUTLINE

### Introduction

- Lists of TRH, TMH and UTG Documents
- Glossary & Abbreviations

### Road Safety and OHS Act

- Safety Issues
- OH & S Policies and Procedures
- Materials
- Design Considerations
- Traffic Management

### Road Management & Maintenance

- Asset Management
- The Laffer curve
- Project and Network Levels
- Management Considerations
- Pavement Management System (PMS)
- Maintenance Types
- Maintenance of Gravel Roads

### Pavement Assessment, Investigation and Analysis

- Field Investigations
- Soil Profile and Mapping
- Compilation of Data
- Analysis
- Traffic Loading
- Pavement Evaluation
- Economic Analysis

### Principles of Practical Pavement Design and Philosophy

- Fundamental Principles and Philosophy
- Design Considerations
- Pavement Types
- Pavement Design Standards

### Pavement Materials, Identification and Basic Principles

- Types of Materials
- Material Properties and Technical Characteristics

### Road Surfacing

- Surface Seals
- Other Surface Types
- Reseal

### Distress Identification, Treatments and Repairs

- Distress Types
- Cracks
- Crack Sealing and Repairs
- Potholes and Patches
- Deformations
- Other Rigid Defects
- Surface Enrichment Treatments (Rejuvenation)
- Shoulder Maintenance

### Rehabilitation and Reconstruction

- Rehabilitation Design
- Recycling
- Rehabilitation of Gravel Roads
- Stabilisation
- Rehab of Old Concrete Roads

### Drainage & Maintenance of Structures

- Stormwater Maintenance
- Stormwater Design
- Hydraulic Structures
- Erosion Protection
- Subsoil Drains





# Road Construction & Maintenance

## COURSE OUTLINE

### Introduction to Roads

- Brief History of Road Building
- Preconditions for Road Building and Maintenance
- Lists of TRH, TMH and UTG Documents
- Glossary and Abbreviations

### Roads - Fundamentals

- Role Players in Civil Projects in South Africa
- Design Process and Considerations

### Road Management

- Asset Management
- The Laffer Curve
- Pavement Management Sstem
- Maintenance Types

### Pavement Assessments & Investigations

- Field Investigations
- Compilation of Data
- Analysis

### Types of Plant and Equipment

- Small Plant and Tools
- Earthmoving Equipment

### Technical Aspects of Roads

- Terminology and Standard Units
- Types of Materials for Construction and Maintenance
- Safety Aspects of Materials
- Basic Material Mechanics
- Quality Assurance and Testing
- Effect of Weather on Roads

### The Construction Process – Execution

- Reading from Plans and Drawings
- Visual Assessment
- Clearing and Grubbing
- Earthworks
- Layer Works
- Services
- Confined & Restricted Areas
- Water Handling
- Subsoil Drains

### Surfacing of Roads

- Introduction
- Surface Seals
- Other Surface Types
- Reseal

### Distress Identification, Treatment & Repairs

- Distress Types
- Cracks
- Crack Sealing
- Potholes and Patches
- Deformation
- Rigid Defects
- Surface Enrichment Treatments
- Shoulder Maintenance

### Road Furnishing and Ancillary Works

- Road Signs
- Kerbing and Paving
- Minor Concrete Structures
- Drainage
- Erosion Protection
- Guard Rails & Finishing
- Drainage Maintenance
- Structure Maintenance
- Traffic Facilities Maintenance
- Road Reserve Maintenance

### Road Safety and OHS-Act

- Safety issues
- Policies and procedures
- Traffic management

### New Technology & Sustainability

- New Technology
- Sustainability
- Rehabilitation and Recycling

## WHO SHOULD ATTEND

- CONTRACTORS
- SUB CONTRACTORS
- CONSULTING ENGINEERS
- CLIENTS
- JUNIOR TO SENIOR ENGINEERS
- TECHNICIANS
- TECHNOLOGISTS

## PARTICULARS

- 3 DAY COURSE
- 3 CPD POINTS
- COURSES QUOTED AS PER CLIENT'S NEEDS
- COURSE DATES TO BE BOOKED AND CONFIRMED THROUGH CONSTRUCTION CONSULTANT OFFICE



# Basic Contract Administration

## WHO SHOULD ATTEND

- CONTRACTORS
- CONSULTING ENGINEERS
- CLIENTS
- JUNIOR ENGINEERS
- NEW COMERS TO THE INDUSTRY
- TECHNICIANS
- TECHNOLOGISTS

## PARTICULARS

- 2 DAY COURSE
- 2 CPD POINTS
- COURSES QUOTED AS PER CLIENT'S NEEDS
- COURSE DATES TO BE BOOKED AND CONFIRMED THROUGH CONSTRUCTION CONSULTANT OFFICE

## COURSE OUTLINE

### Introduction

- Project Cycle
- Administration and Filing
- Terminology

### Role Players

- Role Players in Engineering
- Client
- Engineer / Consultant
- Contractor
- Project Manager
- Subcontractor
- Project Steering Committee
- Community Liaison Officer
- SAICE, CESA, CIDB

### Procurement & Tendering

- What is Tender and Procurement?
- Procurement Process
- Work Ethics
- Tender Deviations
- Tender Evaluation
- Construction Contract
- Procurement Documentation
- Standard Specifications
- Summary of Procurement
- Reading from Plans and Drawings
- Site Inspection

### Specifications & Standards

- Standards in Procurement
- Standards in Forms of Contract
- Selecting an Appropriate Form of Contract
- Pricing and Contracting Strategies
- Design Standards
- Standard Specifications for Construction

### Overview of GCC 2004/2010

- GCC 2004
- GCC 2010

### Monthly Activities

- Contract Commencement
- Establishment and Preliminary & General (P&G)
- Planning
- Programming
- Labour Employment
- Local Resources
- Community Participation
- Plant
- Guarantee and Insurance
- Site Instructions
- Monthly Payment Certificate
- Variations Order
- Delays
- Contractor's Claims
- Site Meetings and Minutes
- Environmental Reports
- Site Documents

### Health, Safety & Security

- Safety & Applicable Act
- Policy & Procedures
- Talking about Safety in the Workplace
- Security
- Control of Tools, Plant and Materials
- Traffic Management
- Accident and Incident Reporting
- Environmental Impact

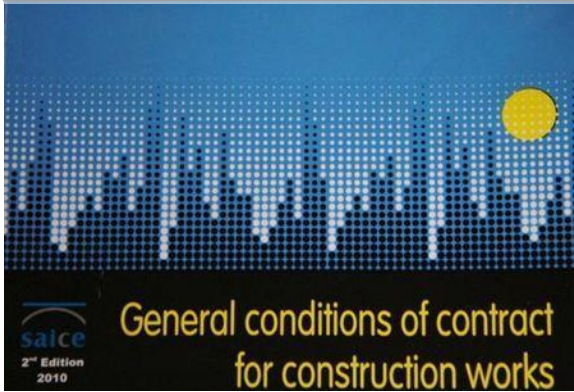
### Quality Assurance

- Quality Control
- Material Performance
- Laboratory Testing
- Materials
- Instruments
- Quantity Survey Formulas

### Completion of the Project

- Practical Completion
- Certificate of Completion
- Late Completion
- Defects Liability Period
- Final Approval





# GCC 2010

## COURSE OUTLINE

### WHO SHOULD ATTEND

- CONTRACTORS
- PROJECT MANAGERS
- CONSULTING ENGINEERS
- CLIENTS
- JUNIOR TO SENIOR ENGINEERS
- LEGAL REPRESENTATIVES
- GOVERNMENT OFFICIALS
- TECHNICIANS
- TECHNOLOGISTS

### PARTICULARS

- 2 DAY COURSE
- 2 CPD POINTS
- COURSES QUOTED AS PER CLIENT'S NEEDS
- COURSE DATES TO BE BOOKED AND CONFIRMED THROUGH CONSTRUCTION CONSULTANT OFFICE

#### Introduction to GCC 2010

- Evolution of GCC
- Structure of GCC 2010
- What's new in GCC 2010?
- Objectives of GCC 2010
- Relevance of GCC 2010

#### Relevant Procedures and Approaches

- The Construction Contract
- Standards and Uniformity
- Forms of Contract
  - FIDIC
  - JBCC
  - ECC
  - Selecting appropriate form of Contract
  - Pricing strategies
- Key Role Players
- Tendering and Procurement
  - The Procurement Process
  - Procedures for Correcting Tenders
  - Errors
  - Tender Evaluation

#### Understanding GCC 2010 (Detailed look at Clauses 1-10)

- Clauses 1-5
  - General
  - Basis of Contract
  - Engineer
  - Contractor's General Obligations
  - Time and Related Matters
  - Examples
  - Case Studies
  - Court Cases

#### Understanding GCC 2010 (Detailed look at Clauses 1-10)

- Clauses 6-10
  - Payment and Related Matters
  - Quality and Related Matters
  - Risks and Related Matters
  - Termination of Contract
- Claims
- Disputes and Resolutions
  - Arbitration
  - Mediation
  - Amicable Settlement
  - Litigation
  - Examples
  - Case Studies
  - Court Cases

#### Closure

- Supplementary Documents
  - CPA
  - ABR
  - FOA
  - Performance Guarantee
  - Adjudication Board Agreement
  - Practical Completion
  - Payment Certificates
  - Engineer's Duties
- Pro Formas



# Basic Business Principles for SMMEs

## WHO SHOULD ATTEND

- SMME CONTRACTORS AND SUB-CONTRACTORS

## PARTICULARS

- 3 DAY COURSE
- COURSES QUOTED AS PER CLIENT'S NEEDS
- COURSE DATES TO BE BOOKED AND CONFIRMED THROUGH CONSTRUCTION CONSULTANT OFFICE
- ON-SITE TRAINING AVAILABLE



## COURSE OUTLINE

### Good Practices for a Successful Business

- Business Skills
- Administration and Filing
- Business Ethics
- Guarantee and Insurance
- Resources
- Good Business Practice Checklist

### Role Players in Civil Engineering

- Major Role Players in Civil Projects
- Second Level Role Players

### Mathematical Concepts and Drawings

- Standard Units
- Basic Mathematical Concepts
- Reading from Plans and Drawings

### Tendering Processes

- The Procurement Process
- Procurement Documentation
- Pricing of Tenders and Quotations

### Programming and Time Management

- Planning
- Programming

### Basic Conditions of Contract

- The Construction Contract
- Standards in Forms of Contract

### Survey Concepts

- Survey Concepts
- Basic Setting Out and Levelling

### Specifications

- Standard Specifications for Construction

### Safety

- Safety Procedures
- Security
- Traffic Management
- Accident and Incident Reporting

### General Activities

- Contract Administration
- Establishment and Preliminary & General (P&G)
- Labour Employment
- Site Instructions
- Site Meetings and Documents

### Certificates and Finances

- Monthly Payment Certificate
- Variations Order
- Productivity and Profit
- Site Costing



## ABOUT YOUR FACILITATOR:

Theuns Eloff graduated with a B.Ing Degree (Civil) from the Rand Afrikaans University (University of Johannesburg) and started his Engineering career at Raubex Construction as a Civil Contractor where he was involved in the construction, maintenance and rehabilitation of various National and Provincial roads. He then joined Patula Construction where he spent 9 years gaining experience in all fields of the business, working on major earthworks, dams, open canals, water reticulation, rehabilitation, construction and resurfacing, projects across the country.

He resigned as Contracts Director and Shareholder in the company to start Construction Consultant in 2007. The main purpose of Construction Consultant is to help develop the SMME bracket of the industry and facilitate quality work in the Civil Engineering sector. He has since been involved as Projects/Contracts Manager for a number of clients, both governmental and private.

Theuns has been utilised by organisations such as SAICE, Candidate Academy, EHI and ABC as presenter and facilitator for various courses throughout Southern Africa. Since 2009, Theuns has presented more than 100 courses and has been a speaker at the 2011 African Roads Maintenance Seminar.



expert training solutions

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