

# Getting acquainted with Basic Stormwater Design

A two-day course to help attendees understand the fundamentals of stormwater systems, with emphasis on designing stormwater collection systems in urban environments.



## Attend this course and learn about:

- Policies, guidelines and community requirements which must be considered when designing stormwater systems and associated infrastructure
- The composition of complete stormwater systems, including the conveyance network, sustainable drainage systems and associated infrastructure
- The selection of appropriate stormwater management systems and the challenges associated with operations and maintenance
- The design of urban stormwater networks, including kerb inlet design, selection of pipes and the parameters to be considered when laying pipes

## Benefits include:

- Participation in an interactive workshop
- Various practical activities to equip attendees to handle projects effectively when back in the workplace
- A comprehensive document that will serve as a reference manual
- CPD credits (ECSA)

## Presenter:

Andrew Brodie, Pr Eng

## COURSE DATES & VENUES

Scheduled courses are offered online and face-to-face around the country based on demand.

Please contact Lizéle du Preez for more information on upcoming courses: [Lizelle@saicepdp.org](mailto:Lizelle@saicepdp.org) / 011 476 4100

TIMES: 08:00 for 08:30 to 16:30

## REGISTRATION

To register, visit [www.candidateacademy.co.za](http://www.candidateacademy.co.za)  
OR email [Academy@saicepdp.org](mailto:Academy@saicepdp.org)

## WHO SHOULD ATTEND

The course helps graduates to apply for their theoretical training in practice. It is therefore recommended for:

- Staff involved in the design of stormwater management and conveyance networks
- Staff employed in local government and involved in the planning, design, operations and maintenance of stormwater conveyance networks or about to become involved in the field
- Candidate engineers, technologists and technicians
- Experienced personnel looking for a refresher in stormwater design

## COURSE CONTENT

### INTRODUCTION AND APPLICABLE LEGISLATION

- Introduction
- Objectives of Stormwater Management
- Overview of SA Legislation

### PLANNING CONSIDERATIONS

- General Planning For Stormwater Systems
- Stormwater Management Plans
- The Dual Stormwater Drainage System
- Environmental Considerations in Stormwater Design

### OVERVIEW OF SUSTAINABLE DRAINAGE SYSTEMS

- Rainwater Harvesting
- Permeable Pavements
- Soakaways
- Swales
- Infiltration Trenches
- Bio-Retention Areas
- Detention Ponds and Retention Ponds
- Constructed Wetlands
- Litter Traps

### HYDROLOGY AND RUNOFF

- Risk Philosophy and Selection of Suitable Flood Return Period
- Flood Runoff Calculations

### STORMWATER RETICULATION DESIGN

- Design Methodology Overview
- Survey Data For Design Area
- Soils/ Ground Investigation
- Typical Urban Stormwater Reticulation Design Specifications
- Stormwater Reticulation Design Methodology
- Hydraulic Design
- Kerb Inlet Design
- Rigid Pipe Loading Calculations & Selection of Pipe Class

### OPERATION AND MAINTENANCE ASPECTS

- Introduction To Stormwater Infrastructure Maintenance Aspects
- Fundamentals of Maintenance
- Typical Stormwater Infrastructure Maintenance Programme

## ABOUT YOUR FACILITATOR

**Andrew Brodie** graduated with a National Higher Diploma in Civil Engineering in 1993 and a Bachelor of Science Degree in Civil Engineering in 1998. He has over 20 years of experience in design, project management and supervision of civil, structural and geotechnical projects. He has worked in both the municipal and private engineering sectors and has significant experience in the design and implementation of urban and rural engineering services. He is a registered Professional Engineer and a member of SAICE.

In-house and dedicated online courses are also available to suit individual company needs.

Contact Lizéle at [lizelle@saicepdp.org](mailto:lizelle@saicepdp.org) for further information.

### WHAT TO BRING TO THE COURSE

- Scale ruler
- Pencil and eraser
- Scientific calculator



The Candidate Academy's philosophy is to support candidates on their road to registration with ECSA, by helping them through the transition from theoretical training to the 'how' of engineering projects and processes. The Academy offers practical, hands-on training relevant to experiences in the workplace.

**candidate  
academy**  
the road to registration – tower above the rest