



Lessons from development of design standards in South Africa

Jan A WIUM

Professor
Department of Civil
Engineering
Stellenbosch University
South Africa
janw@sun.ac.za

Jan Wium, born 1957,
received his civil engineering
degree from the Univ. of
Pretoria in 1979

Johan RETIEF

Professor
Department of Civil
Engineering
Stellenbosch University
South Africa
jvr@sun.ac.za

Johan Retief, born 1940,
received his civil engineering
degree from the Univ. of
Pretoria in 1962.

Celeste VILJOEN

Senior Lecturer
Department of Civil
Engineering
Stellenbosch University
South Africa
cbarnardo@sun.ac.za

Celeste Viljoen, born 1979,
received her civil engineering
degree from Stellenbosch
University in 2001.

Summary

Structural design standards form the basis for the provision of sustainable infrastructure. Traditionally some South African concrete design standards have been based on British Standards. However, South African reference standards ceased to exist with the withdrawal of British Standards BS 8110 (concrete design for buildings) and BS 8007 (concrete water retaining structures).

A revision of South African building design standards commenced with the publication of a loading code for buildings, based on the Eurocode, but adapted for South African conditions and preferences. A revised concrete code is an adopted version of the Eurocode, with modifications only in the National Annex, whilst the standard for concrete water retaining structures is an adapted version of the Eurocode, augmented with extracts from BS8007. This paper provides background to the different approaches, and describes salient aspects of the revision of these standards.

Keywords: Design standards, loading code, concrete, water retaining structures, code development

1. Introduction

Structural design standards form the basis for the provision of sustainable infrastructure. Traditionally South African concrete design standards have been based on British Standards. However, South African reference standards ceased to exist with the withdrawal of British Standards BS 8110 (concrete design for buildings)[1] and BS 8007 (concrete water retaining structures) [2] to be replaced by the Eurocodes.

South Africa is not a member country of the EU, and therefore not bound by the need to adopt Eurocodes for structural design standards. On the other hand, the country does not have the resources, nor the expertise available to develop its own national standards. It would only be logical to base revisions of local standards on other reference standards.

A revision of South African building design standards commenced with the publication of a loading code for buildings [3], based on the Eurocode, but adapted for South African conditions and preferences. The paper gives an overview of the process.

Whereas the loading code is an *adapted* version of the Eurocode, the concrete code is an *adopted* version, with modifications only in the National Annex. This paper reports on the modifications required for the South African Annex, taking into consideration that the full suite of Eurocodes has not been adopted in South Africa.

Having recognized that relevant information on the design of water retaining structures may have been lost in the UK with the replacement of BS8007 by EN-1992-3 [4], the South African approach is once again an *adapted* version of the Eurocode, by augmenting the contents with extracts from BS8007. The process for the development of the code involved industry participants, and it was shown that by having a specific target for a practical document, the usual lengthy process of code development can be