

## 6. REFERENCES

ASAMOAH, J., DYER, L. and ROBILLAND, P., 2005. *Department of Minerals and Energy, Pretoria: Capacity Building in Energy Efficiency and Renewable Energy: Energy Efficiency: Energy and Demand Efficiency for Commercial Buildings – Draft Final Report: 29 July 2005*. Pretoria: Department of Minerals and Energy Affairs.

BALLANTYNE, A., 2002. *What is Architecture?* London: Taylor & Francis Inc.

BANHAM, R., 1984. *The Architecture of the well-tempered Environment*. London: Architectural Press.

BERGER, A., 1991. *Encyclopedic Dictionary of Roman Law (1953)*. Philadelphia: American Philosophical Society.

BEVIS, L. MISSELBROOK, D., 1997. *Home Builder's Handbook on the National Building Regulations*. Western Cape: Juta & Co., Ltd.

BIERMAN, B.E., 1955. *Boukuns in Suid-Afrika: 'n Beknopte oorsig van ons boustyle en bouwyse*. Kaapstad: Balkema.

BOTES, J., 2007 - last update. Basic design principles for first time builders [Homepage of JB Concepts design & media group], [Online]. Available: [http://www.dreamhouses.co.za/guide1\\_design.htm](http://www.dreamhouses.co.za/guide1_design.htm) [1 July 2010].

CASTLE OF GOOD HOPE, 2010 - last update. Castle of Good Hope [Homepage of Castle Control Board], [Online]. Available: <http://www.castleofgoodhope.co.za/images/image4.jpg> [24 May 2010].

CIB, 2011. Around the Task Groups and Working Commissions TG79 - Building Regulations and Control in the Face of Climate Change. Introducing New Task Group, [Online]. Available: <http://www.cibworld.nl/site/news/newsletter.html?year=2010&number=5> [1 June 2010].

CIDB and UNEP SBCI, [2008]. *South African Report on Greenhouse Gas Emission Reduction Potentials from Buildings: A Discussion Document*. [Pretoria]: CIDB.

[COETZEE, L.] 2011 - last update. Specifile on-line: Infexion media [Online]. Available: <http://www.specifile.co.za/AboutUs.asp> [14 May 2011].

COMMITTEE FOR RESEARCH ETHICS & INTEGRITY, 2007. Policy and procedures for responsible research: Document No. S 4083/00 (amended), [Online]. Available: [http://www.google.co.za/#hl=en&source=hp&biw=1341&bih=643&q=UNIVERSITY+OF+PRETORIA++COMMITTEE+FOR+RESEARCH+ETHICS+AND+INTEGRITY++POLICY+AND+PROCEDURES+FOR+RESPONSIBLE+RESEARCH+Document+no+S+4083/00+\(amended\)+\(Amendments+approved+July+2007\)&btnG=Google+Search&aq=f&aqi=&aqj=&aqk=&aqm=&aqn=&aql=&aqs=&aqz=&fp=dcdcfb3619f54d31d](http://www.google.co.za/#hl=en&source=hp&biw=1341&bih=643&q=UNIVERSITY+OF+PRETORIA++COMMITTEE+FOR+RESEARCH+ETHICS+AND+INTEGRITY++POLICY+AND+PROCEDURES+FOR+RESPONSIBLE+RESEARCH+Document+no+S+4083/00+(amended)+(Amendments+approved+July+2007)&btnG=Google+Search&aq=f&aqi=&aqj=&aqk=&aqm=&aqn=&aql=&aqs=&aqz=&fp=dcdcfb3619f54d31d). Pretoria: University of Pretoria. [1 August 2010].

COWAN, H.J., 1978. *Science and building: Structural and environmental design in the Nineteenth and Twentieth centuries*. New York: Wiley.

COWAN, H.J., 1985. *The Master Builders: A history of structural and environmental design form Ancient Egypt to the Nineteenth century*. Reprint edn. New York: Wiley.

- CURTIS, [?], 2010 - last update. The primitive hut, [Online]. Available: [http://nouns.archiporn.com/Primitive\\_Hut](http://nouns.archiporn.com/Primitive_Hut) [17 February 2010].
- DAVID, R., 2003. *The pyramid builders of Ancient Egypt, a modern investigation of Pharaoh's workforce*. London: Routledge.
- DAVIES, N. and JOKINIEMI, E., 2008. *Dictionary of Architecture and Building Construction*. 1<sup>st</sup> edn. Oxford: Architectural Press.
- DE BOSDARI, C., 1953. *Cape Dutch houses and farms: Their architecture and history together with a note on the role of Cecil John Rhodes in their preservation*. Cape Town/Amsterdam: AA Balkema.
- DE JAGER, E. (WISOPS: Educational Desk). Personal communication, 22 March 2011. *Information on annual rainfall average of South Africa*. Johannesburg: [Author].
- DE LILLY, A., (Editor), 2009. *Sustainable Cities Report 2009*. Braamfontein: South African Cities Network (SACN).
- DESSLER, A. and PARSON, E., 2006. *The Science and Politics of Global Climate Change*. Cambridge: Cambridge University Press.
- DME, 2010 - last update. Renewable energy [Homepage of Department of Mineral and Energy Affairs], [Online]. Available: [http://www.dme.gov.za/energy/renew\\_solar.stm](http://www.dme.gov.za/energy/renew_solar.stm) [3 June 2010].
- EARTHTRENDS, 2010 - last update. EARTHTRENDS [Online]. Available: <http://earthtrends.wri.org/> [30 January 2010].
- FELLOWS, R. and LIU, A., 2003. *Research Methods of Construction*. 2<sup>nd</sup> edn. Oxford: Blackwell Publishing.
- FIELD, A., 2009. *Discovering Statistics Using SPSS (and sex drugs and rock 'n' roll)*. 3<sup>rd</sup> edn. London: Sage.
- FISHER, R.C., 1992. *An ecosystemic role for architectural style: Bearing the 'plan' in 'mind'*. Pretoria: University of Pretoria.
- FUAD-LUKE, A., (Editor), 2004. *The eco-design handbook: A complete sourcebook for the home and office*. New edn. London: Thames & Hudson.
- GLAZEWSKI, J., 2000. *Environmental Law in South Africa*. 1<sup>st</sup> edn. Durban: Butterworths.
- GOVERNMENT GAZETTE, NO. 31084, 30 May 2008. *National Building Regulations and Building Standards Act, 1977: National Building Regulations: Notice No R. 574*. South Africa: Government Gazette.
- GOVERNMENT GAZETTE, NO. 33265, 11 June 2010. *National Building Regulations and Building Standards Act, 1977: National Building Regulations: Notice No R. 504*. South Africa: Government Gazette.
- GREEN BUILDING COUNCIL OF SA, 2011 - last update. *Green Building Council of South Africa* [Homepage of the GBCSA], [Online]. Available: <http://www.gbcsa.org.za/greenstar/ratingtools.php> [5 May 2011].

- GROÁK, S., 1992. *The Idea of Building: thought and action in the design and production of buildings*. London: E & FN Spon.
- GUTHEIM, F., (Editor), 1941. *Frank Lloyd Wright on architecture: Selected writings (1894 - 1940)*. New York: Grosset & Dunlap.
- HARTLEY, W., 2010. SALGA imperils poll changes, Published in: *BusinessDay*, [Online]. Available: <http://www.businessday.co.za/Articles/Content.aspx?id=121004> [15 September 2010]
- HARTDEGEN, P., (Editor), 1988. *Our building heritage: An illustrated history*. Johannesburg: Ryll.
- HERSKOVITS, M.J., 1960. *Man and his works: The science of cultural anthropology*. New York: Knopf.
- HOLDEN, R.M., 2006 - last update. Building plans approval, [Online]. Available: [http://www.joburg-archive.co.za/2007/pdfs/building\\_plans\\_approval.pdf](http://www.joburg-archive.co.za/2007/pdfs/building_plans_approval.pdf) [22 June 2010].
- HOOKER, R. and KING, L.W., 1999 - last update. The Code of Hammurabi, [Online]. Available: <http://www.wsu.edu/~dee/MESO/CODE.HTM> [24 May 2010].
- ISELIN, C., 2011 - last update. Law Code of Hammurabi, king of Babylon – Near Eastern Antiquities. Louvre Museum, [Online]. Available: [http://www.louvre.fr.axime.com/llv/oeuvres/detail\\_notice.jsp?CONTENT<>cnt\\_id=10134198673226487&CURRENT\\_LL\\_V\\_NOTICE<>cnt\\_id=10134198673226487&FOLDER<>folder\\_id=9852723696500800&bmLocale=en](http://www.louvre.fr.axime.com/llv/oeuvres/detail_notice.jsp?CONTENT<>cnt_id=10134198673226487&CURRENT_LL_V_NOTICE<>cnt_id=10134198673226487&FOLDER<>folder_id=9852723696500800&bmLocale=en) [25 May 2010].
- KING, L.W., (translator), and HORNE, C., (Commentator), 2006 - last update. Babylonian Law: The Code of Hammurabi [Homepage of Encyclopaedia Britannica], [Online]. Available: <http://www.ancienttexts.org/library/mesopotamian/hammurabi.html> [24 May 2010].
- KLITZKE, R.A., 2011 - last update. Roman Building Ordinances Relating to Fire Protection, Published in: JSTOR: The American Journal of Legal History, Vol. 3, No. 2 (April 1959), pp. 173-187, [Online]. Available: <http://www.jstor.org/pss/844284?searchUrl=/action/doBasicSearch?Query=klitzke&acc=off&wc=on&Search.x=9&Search.y=14&Search=yes> [31 May 2010].
- KEUTER, M., 2008 - last update. National Building Regulations and Building Standards Act No. 103 of 1977, [Online]. Available: [http://www.blucubestudio.co.za/download/NBR\\_No.pdf](http://www.blucubestudio.co.za/download/NBR_No.pdf) [7 January 2011]
- KZN DEPARTMENT OF HOUSING, 2011 - last update. Technical Guidelines [Homepage of KZN Department of Housing], [Online]. Available: [www.kznhousing.gov.za/Portals/0/docs/Policy%26Legislation/Policy/Technical%2520Guidelines%2520KZN%25202.pdf](http://www.kznhousing.gov.za/Portals/0/docs/Policy%26Legislation/Policy/Technical%2520Guidelines%2520KZN%25202.pdf) [1 July 2010].
- LAUBSCHER, J., 2010. *Challenges on Uniformity: Presentation at NRCS conference for BCOs on sharing indigenous wisdom*. Lecture notes. Pretoria: Author.
- LEEDY, P.D., 1985. *Practical Research: Planning and Design*. 3<sup>rd</sup> edn. New York: McMillan.

- LIPTON, S., 2003. *Creating Excellent Buildings: A Guide for Clients*. 2010. London: CABE (Commission for Architecture & the Built Environment).
- MALANCA, M., 2010. *Background paper: Conference on Promoting Green Building Rating Systems in Africa*. [Nairobi]: UN-Habitat.
- MARAIS, L., 2009 - last update. The linking role of the National Regulator for compulsory specifications and SARS Customs in South Africa's international trade [Homepage of Jacobsens\_CNB], [Online]. Available: [http://www.customstariff.co.za/articles/THE\\_LINKING\\_ROLE\\_OF\\_THE\\_NRCS\\_AND\\_SARS.html](http://www.customstariff.co.za/articles/THE_LINKING_ROLE_OF_THE_NRCS_AND_SARS.html) [7 August 2009].
- MATHEBULA, K. (NRCS) Personal communication, 3 March 2011. *Contacting the BCOs in South Africa, and extending invitations to the scheduled NRCS conference on 21 September 2010*. Pretoria: [Author].
- MCKENZIE, H. and MCKENZIE, S., 1988. *The Law of Building and Engineering Contracts and Arbitration*. 4<sup>th</sup> edn. Cape Town: Juta & Company Ltd
- MULHOLLAND, C. and MATSHE, L., The Greening of Construction – South Africa [Homepage of Eversheds Publications], [Online]. Available: <http://www.eversheds.co.za/publications/article/environmental/2009/10/12> [22 June 2010].
- NAPIER, A., 2000. *Enviro-friendly methods in small building design for South Africa*. [Durban]: Napier.
- NATIONAL TREASURY, 2007. *Introducing the township renewal challenge: Mobilising and focusing public and private capital expenditure for structural intervention: The case of KwaMashu Town Centre (KMTC)*. 2011. [Durban]: National Treasury.
- NFRC, 2010 - last update. National Fenestration Rating Council: We're changing the way America shops for windows, doors and skylights, [Online]. Available: <http://www.nfrc.org/about.aspx> [21 January 2010].
- NHBRC, 2005. *Centre for Housing Performance Excellence: Assessment of housing products: Does your product comply with the National Building Regulations and Building Control Act Regulations?* [Pretoria]: NHBRC.
- OPPERMAN, R.W. (NRCS) Personal communication, 13 May 2010. *Minutes of meeting with Mr Rudolf Opperman at SABS head office, Pretoria*. Pretoria: [Author].
- OPPERMAN, R.W., 2010. *Building Control Officers Convention September 2010: Sharing Indigenous Wisdom*. Invitation, background, purpose of convention and call for papers/presenters. Pretoria: NRCS.
- OPPERMAN, R.W. and COHEN, A. (NRCS) Personal communication, 7 September 2010. *Evaluating the questionnaire*. Pretoria: [Author].
- OPPERMAN, R.W. (NRCS) Personal communication, 3 March 2011. *Legislative development and amendment of the NBR*. Pretoria: [Author].
- OPPERMAN, R.W. (NRCS) Personal communication, 10 March 2011. *Determining the exact number of BCOs in South Africa*. Pretoria: [Author].

- OSBURN, L., 2010. *Energy performance evaluation of formal low income housing within South Africa*. Scientific paper on a computational model (Energy Plus) applied on different housing constructs edn. Pretoria: CSIR.
- PARKES, L., 2010. *Call for Technical Consultant proposals for Green Star SA Multi Unit Residential tool*. South Africa: SACAP & GBCSA.
- PORTER, T., (Editor), 2004. *Archispeak, an illustrated guide to architectural terms*. London: Spon Press.
- PORTOGESSEHI, P. and YOUNG, E.G., (Translator), 2000. *Nature and Architecture*. 1<sup>st</sup> edn. Milan: Skira Editore S.p.A.
- RAIN HARVESTING SYSTEMS, 2010 - last update. Rain Harvesting Systems [Homepage of Rain Harvesting Systems (Pty) Ltd], [Online]. Available: [http://www.rainharvesting.co.za/item.php?i\\_id=46](http://www.rainharvesting.co.za/item.php?i_id=46) [5 July 2010].
- RAS, A.C., 1959. *Die Kasteel en ander vroeë Kaapse vestingwerke 1652-1713*. Kaapstad: Tafelberg.
- RIORDAN, J., 1995. *Stone: The Controversies, Excesses, and Exploits of a Radical Filmmaker*. New York: Hyperion.
- REYNOLDS, L., 2009. Improving energy efficiency in buildings: SANS 204, Published in. *Civil Engineering Sivili Enjeneereng*, 17(2), pp. 58-59.
- ROSEN, M., 1984. *Hegel's Dialectic and its criticism*. Cambridge: Cambridge University Press.
- ROWLAND, I.D. and HOWE, T.N., 2001. *Vitruvius: Ten Books on Architecture*. Cambridge: Cambridge University Press.
- SABS, 2008a. *SANS 204-1:2008 South African National Standard: Energy efficiency in buildings Part 1: General requirements*. 1<sup>st</sup> edn. Pretoria: SABS.
- SABS, 2008b. *SANS 204-2:2008 South African National Standard: Energy efficiency in buildings Part 2: The application of the energy efficiency requirements for buildings with natural environmental control*. 1<sup>st</sup> edn. Pretoria: SABS.
- SABS, 2008c. *Standards Bulletin: June 2008*. Pretoria: SABS.
- SABS, 2010a. *SANS 0400-1990: Code of Practice for The application of the National Building Regulations: SANS 10400*. 2<sup>nd</sup> edn. Pretoria: SABS<sup>61</sup>.
- SABS, 2010b. *DSS: SANS 10400-XA: 2010 The application of the National Building Regulations Part X: Environmental sustainability Section A: Energy usage in buildings*. Pretoria: SABS.

---

<sup>61</sup> Including the following documents:

- SABS, *SANS10400-F:2010 3<sup>rd</sup> edn. South African national standard: The application of the National Building Regulations: Part F: Site operations*. Pretoria: SABS.
- SABS, *SANS10400-F:2010 3<sup>rd</sup> edn. South African national standard: The application of the National Building Regulations: Part N: Glazing*. Pretoria: SABS.

SAIA, 2007. *SA Institute of Architects: Practice Manual*. 1<sup>st</sup> edn. Johannesburg: SAIA.

SEXWALE, T., 2011 - last update. The Human Settlements Budget Vote, National Assembly, Cape Town, 21 April 2010 [Homepage of Parliamentary Monitoring Group], [Online]. Available: <http://www.pmg.org.za/briefing/20100421-human-settlement-ministers-budget-speech> [30 May 2010].

SHIRER, W.L., 1990. *Rise and Fall of the Third Reich*. New York: Simon & Schuster.

[SIGCAU, S.N.], 1999. Policy document on the statutory regulations of the built environment professions: Policy Document No. 81060-03. [Pretoria], [Online]. Available: [www.info.gov.za/view/DownloadFileAction?id=70474](http://www.info.gov.za/view/DownloadFileAction?id=70474) [6 August 2010].

SOUTH AFRICA, 2011. *National Building Regulations and Building Standards Act No. 103 of 1977*. 209<sup>th</sup> issue. Pietermaritzburg: Butterworths.

SPEKKINK, D. and JASUJA, M., 2005. *Performance based design: Bringing Vitruvius up to date: PeBBU Domain 3*. The Netherlands: Performance Based Building Network (PeBBu).

STATS SA, 2009a. *Building statistics, 2007*. Report No. 50-11-01 (2007). Pretoria: Statistics South Africa.

STATS SA, 2009b. *Selected building statistics of the private sector as reported by local government institutions, 2008*. Statistical release P5041.3. Pretoria: Statistics South Africa.

STATS SA, 2010a. *Selected building statistics of the private sector as reported by local government institutions, 2009*. Statistical release P5041.3<sup>62</sup>. Pretoria: Statistics South Africa.

STATS SA, 2010b. *Selected building statistics of the private sector as reported by local government institutions: July 2010 (Preliminary)*. Statistical release P5041.1. Pretoria: Statistics South Africa.

STOCKDALE, N.L., 2005 - last update. Hammurabi's Code [Homepage of Department of History, University of Central Florida], [Online]. Available: <http://chnm.gmu.edu/worldhistorysources/d/267/whm.html> [24 May 2010].

SUSTAINABLE ENERGY AFRICA, 2006. *State of Energy in South African Cities 2006: Setting a Baseline*. [Cape Town]: [Sustainable Energy Africa].

[TAYLOR, J.], 2011 - last update. Water rhapsody, re: thinking water [Homepage of watersense.co.za], [Online]. Available: <http://www.watersense.co.za/rainwater-harvesting/rainwater-harvesting-faq/> [5 July 2010].

THOM, H., 1952. *Journal of Jan van Riebeeck*. Cape Town: AA Balkema.

[THORNE, M.], 2011 - last update. The Pritzker Architecture Prize [Homepage of The Hyatt Foundation], [Online]. Available: <http://www.pritzkerprize.com/laureates/2002/bio.html> [12 March 2011].

---

<sup>62</sup> Author's note: The report number of the statistical release is similar to the one used in STATS SA, 2009b.

- TRICKER, R. and ALGAR, R., 2006. *Building Regulations in Brief*. 4<sup>th</sup> edn. Amsterdam: Elsevier BH.
- UNEP SBCI, 2009. *Buildings and Climate Change: Summary for Decision-Makers*. Paris: United Nations Environment Programme.
- UN-HABITAT, 2010. Nairobi Declaration, *UN Habitat conference on Promoting Green Building Rating Systems in Africa, 4-6 May 2010*, 2010, UN Habitat.
- VAN ROOYEN, H., 17 November, 2009 - last update. Human settlements 'Red Book' [Homepage of CSIR], [Online]. Available: [http://www.csir.co.za/news/2009/11/red\\_book.html](http://www.csir.co.za/news/2009/11/red_book.html) [16 March 2011].
- VAN STRAATEN, J.F., 1967. *Thermal Performance of Buildings*. Amsterdam: Elsevier Publishing Company.
- VAN WYK, L., (Editor), 2009. *Green building handbook: South Africa: A Guide to Ecological Design*. Volume 1. Cape Town: alive2green cc t/a Green Building Media.
- VOSLOO, P.T., 2008. *The determination of pertinent contract document requirements for landscape projects in South Africa*, Published PhD thesis. University of Pretoria, Pretoria.
- WATERMEYER, R.B., 2003. Performance-based building regulations and their usage in South Africa. *Civil Engineering Sivili Enjeneereng*, 11(2), pp. 6-8.
- WATERMEYER, R.B., 2007. Promoting sustainable development in the construction industry through standardization. *ISO Focus*, (June), pp. 25-28.
- WATERMEYER, R. B., [2008]. New SANS 10400: Impact on industry and professionals, Pretoria: [SABS], [Online]. Available: <https://www.sabs.co.za/Corporate/.../PresentationRonWatermeyer.ppt> [11 September 2009].
- WEBER, R., 2004 - last update. The Rhetoric of Positivism Versus Interpretivism: A Personal View [Homepage of MIS Quarterly Vol. 28 No. 1, pp. iii-xii/March 2004], [Online]. Available: <http://www.google.co.za/#hl=en&source=hp&biw=788&bih=657&q=MIS+Quarterly+Vol.+28+No.+1,+pp.+iii-xii/March+2004&btnG=Google+Search&aq=f&aqi=&aql=&oq=&fp=fe2bc42c1149b442> [7 January 2010].
- WEGELIN, H., 2010. *Construction specifications & standards 6.0 for Southern Africa*. Pretoria: Author.
- WORLD GBC, 2010 - last update. World Green Building Council, [Online]. Available: <http://www.worldgbc.org/> [9 June 2010].
- YORK, D., 1997. *In search of lost time*. Canada: CRC Press.

## 7. ADDENDA

The sequence of the different addenda corresponds with the order of discussion in the main document.

### 7.1 ADDENDUM A: CLIMATIC AND ATMOSPHERIC DATA FOR SOUTH AFRICA BY EARTHTRENDS

The country profile of South Africa indicates the extent of energy consumption, and the country's position in comparison with Sub-Saharan Africa and the World. Our local *Per Capita CO<sub>2</sub> Emissions* prove to be significantly higher than that of Sub-Saharan Africa and more than double the world's average for 1998. Construction and manufacturing industries are added in the graph displaying the 1999 figures of *CO<sub>2</sub> Emissions by Sector*. The impact of the built environment could be assumed to include part of *Electricity and Heat Production* and the entire *residential* component (Earthtrends, 2010).

### 7.2 ADDENDUM B: REGULATIONS APPLICABLE TO THE SOUTH AFRICAN BUILT ENVIRONMENT

The different regulations (SAIA, 2007; SABS, 2008c; Wegelin, 2010: 23.1-23.73) applicable to the South African built environment are provided for reference purposes.

### 7.3 ADDENDUM C: THE NATIONAL BUILDING REGULATIONS AND BUILDING STANDARDS ACT, 1977

The current version of Act 103 of 1977 (South Africa, 2011), governing the NBR and the application thereof through the Deemed-to-Satisfy Rules (SABS, 2010a), is provided for reference purposes.

### 7.4 ADDENDUM D: NOTICE R. 574 IN GOVERNMENT GAZETTE NO. 31084

On 30 May 2008, the Minister of the DTI declared that a schedule of regulations had been published in the *Government Gazette* No. 31084 (Government Gazette, No. 31084, 30 May 2008). These regulations were to come into operation on 1 October 2008. Notice R. 574 and the relevant schedule are included for reference purposes.

## **7.5 ADDENDUM E: NOTICE R. 504 IN GOVERNMENT GAZETTE NO. 33265**

On 11 June 2010, the Minister of the DTI invited comments on the proposed introduction of a regulation for the environmental sustainability for buildings in the *Government Gazette* No. 33265 (*Government Gazette* No. 33265, 11 June, 2010). Notice R. 504 and the proposed amendment to the NBR are included for reference purposes.

## **7.6 ADDENDUM F: COMPARING THE REQUIREMENTS OF THE 1990 AND 2008 EDITIONS OF THE NBR**

Although the latest edition (2008) of the NBR is not currently being implemented, the researcher made a detailed comparison of the 1990 (SABS, 2010a) and 2008 editions (*Government Gazette*, No. 33265, 11 June, 2010, Keuler, 2008: 1-127) at the onset of the study. This exercise was necessary to highlight the extent of the envisioned changes and aided in determining the focal areas of the proposed changes. Specifics surrounding the format changes are discussed briefly in the corpus of the document.

## **7.7 ADDENDUM G: SANS 204-1:2008: ENERGY EFFICIENCY IN BUILDINGS: GENERAL REQUIREMENTS**

Part 1 of SANS 204 is provided for reference purposes, and it "...specifies the requirements for the design and operation of energy efficient buildings with artificial or natural environmental control and their sub-systems" (SABS, 2008a: 3). The standard is presented under the headings; Foreword, Scope, Normative references, Definitions, Requirements, and Building electrical power factor correction.

The following aspects are discussed under requirements:

- General
- Building envelope and building fabric
- Electrical installations and appliances
- Heating, ventilation and air conditioning (HVAC) installations
- Hot water installations
- Vertical transport and travelators

- Natural environmental control
- Renewable energy sources
- Operation and maintenance of buildings
- Compliance
- Verification of compliance
- Occupancy
- Inspection and commissioning of the building services systems
- Maximum energy demand and maximum annual consumption

Three annexures are provided as part of the standard, namely:

- Building operation and maintenance
- Pro forma compliance certificate
- Energy efficiency certificate for environmentally controlled buildings

#### **7.8 ADDENDUM H: SANS 204-2:2008: ENERGY EFFICIENCY IN BUILDINGS: THE APPLICATION OF THE ENERGY EFFICIENCY REQUIREMENTS FOR BUILDINGS WITH NATURAL ENVIRONMENTAL CONTROL**

Part 2 of SANS 204 is provided for reference purposes, and it "...specifies the requirements for the design and operation of buildings with natural environmental control systems" (SABS, 2008b: 3). The standard is presented under the following headings: Foreword, Scope, Normative references, Definitions, Requirements, and Operation.

As part of Requirements the following aspects are discussed:

- Town planning
- Site orientation
- Building orientation
- Shading
- Building design
- Building sealing
- Services

Four annexures are provided as part of the standard, namely:

- Building orientation
- Guidelines for the glazing assessment
- General explanatory information on roof and ceiling construction
- General explanatory information on wall construction

### **7.9 ADDENDUM I: SANS 10400-XA: 2010 ENERGY USAGE IN BUILDINGS**

The DSS SANS 10400-XA: 2010 is provided for reference purposes, and it provides the Deemed-to-Satisfy requirements for compliance with part XA (Energy Usage in Buildings) of the NBR (SABS, 2010b). The standard is presented under the following headings: Foreword, Scope, Normative references, Definitions, and Requirements.

As part of Requirements the following aspects are discussed:

- General
- Energy usage and building envelope
- Design assumptions
- Building envelope requirements for buildings

The following two annexures are provided as part of the standard (SABS, 2010b):

- NBR – Part XA: Energy Usage in Buildings
- Climatic zones of South Africa

### **7.10 ADDENDUM J: NAIROBI DECLARATION**

From 4-6 May 2010, the UN Human Settlements Programme (UN-HABITAT, 2010) held a conference on *Promoting Green Building Rating in Africa* in Nairobi, Kenya. On 14 May 2010 the Nairobi Declaration was released placing renewed focus on the urgency to improve the environmental performance and energy efficiency of the built environment (UN-Habitat, 2010). The declaration is included to underline the importance of the study.

### **7.11 ADDENDUM K: ETHICS COMMITTEE APPROVAL**

The application to the ethics committee comprised a background to the study amongst other required documents. This is provided for reference purposes and the notice of approval from the ethics committee is provided for information purposes.

#### **7.12 ADDENDUM L: QUESTIONNAIRE**

The complete questionnaire is provided for reference purposes.

#### **7.13 ADDENDUM M: SURVEY DATA**

The raw data was captured and processed by the UP DoS using SPSS version 17.0. The processed data is presented for ease of reference. This data was converted by the researcher and presented in graphic format, forming the data presented in the main document.

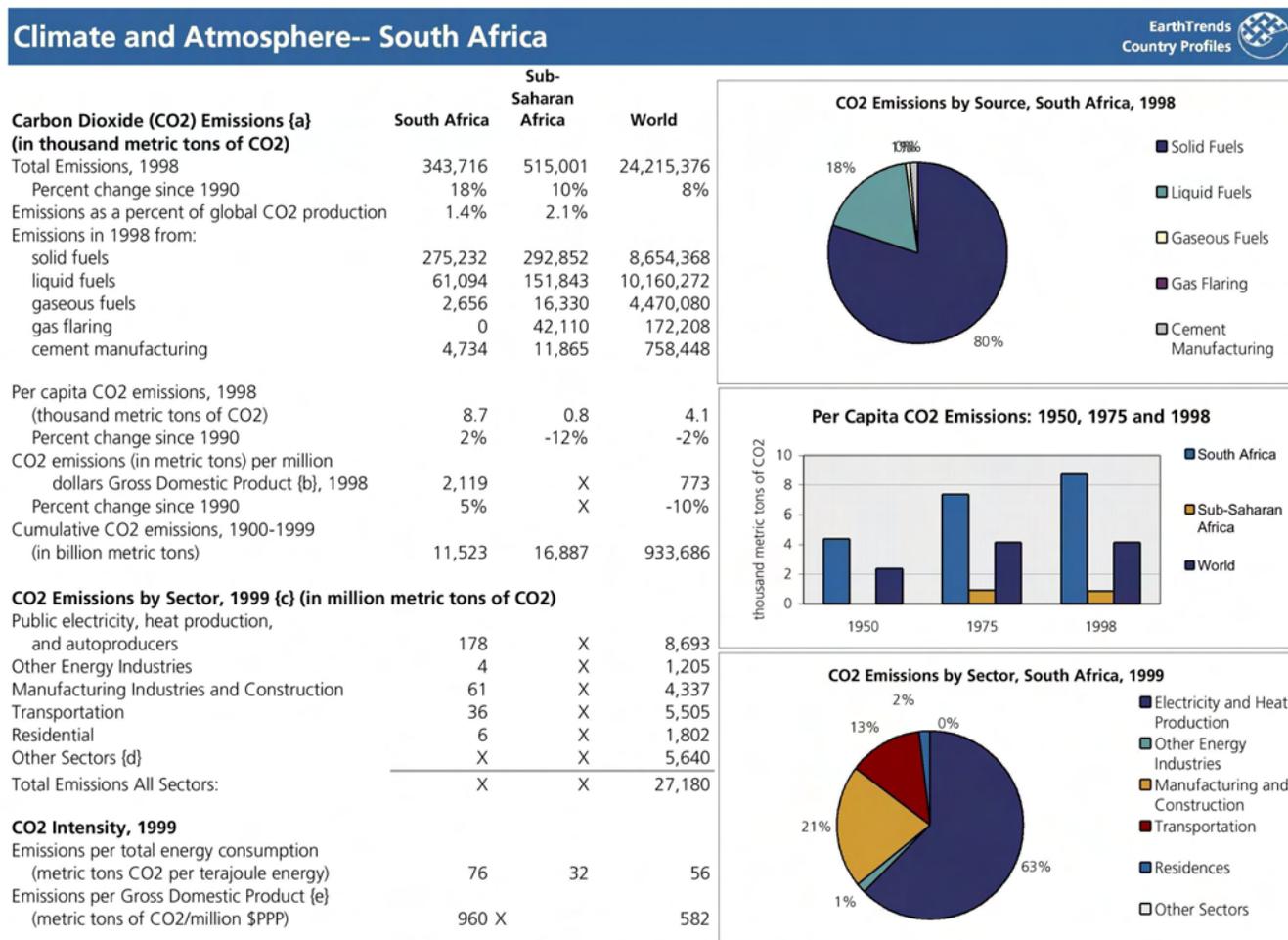
#### **7.14 ADDENDUM N: PROPOSED PRO FORMA APPLICATION FORM FOR BUILDING PLAN APPROVAL**

The proposed pro forma application form for building plan approval consists of seven stages and aims to achieve the consistent implementation of the requirements of the NBR and possibly contribute to a more sustainable built environment in South Africa. It is argued that the pro forma combines the requirements of the existing administrative system used by the LAs and the requirements of Act 103 of 1977 and regulations with passive design requirements.

In the authors' opinion, the pro forma is supported by the study. Nonetheless, it remains a proposal that has not been tested, and is only provided for information purposes.

It should also be noted that in terms of the amended Copyright Act, 98 of 1978, and Intellectual Property Laws Amendment Act, 38 of 1997 of South Africa, an application was made to the UP to have the copyright of **Addendum N** transferred to the author.

## 7.1 ADDENDUM A: CLIMATIC AND ATMOSPHERIC DATA FOR SOUTH AFRICA BY EARTHTRENDS



View more Country Profiles on-line at <http://earthtrends.wri.org>

**Atmosphere and Climate-- South Africa**

	South Africa	Sub-Saharan Africa	World
<b>Non-CO2 Air Pollution, thousand metric tons</b>			
Sulfur dioxide emissions, 1995	1,854	5,345	141,875
Nitrogen oxide emissions, 1995	1,452	9,309	99,271
Carbon monoxide emissions, 1995	8,954	177,268	852,415
Non-methane VOC emissions {f}, 1995	1,068	17,375	159,634

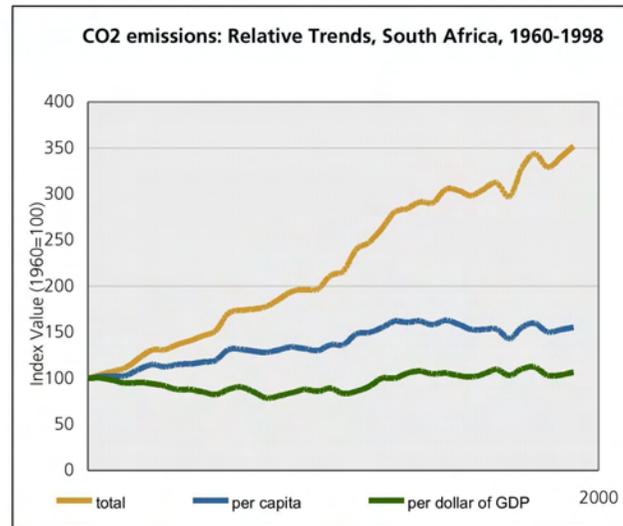
**Multilateral Agreements Status as of September 2002**

Data show the year each country ratified the agreement, unless labeled as "signed only".

Kyoto Protocol	2002
United Nations Framework Convention on Climate Change (UNFCCC)	1997
Vienna Convention	1990

**Other Resources:**

Sustainable Development Country Profile of the Food and Agriculture Organization of the United Nations:  
<http://www.fao.org/countryprofiles/index.asp?subj=2&iso3=>



**Footnotes:**

Some footnotes are not incorporated here. Please refer to the Data Tables section of EarthTrends for a full listing.  
a. Source: Carbon Dioxide Information Analysis Center (CDIAC). b. Constant US dollars. c. Source: International Energy Agency (IEA).  
d. Includes the commercial sector, agriculture, the public service sector, and international bunkers  
e. GDP is in 1995 international dollars, adjusted for Purchasing Power Parity. f. VOC: Volatile Organic Compounds.

View more Country Profiles on-line at <http://earthtrends.wri.org>

## Climate and Atmosphere—Sources and Definitions

---

### Carbon Dioxide (CO<sub>2</sub>) Emissions

**Total CO<sub>2</sub> emissions** represent the mass of CO<sub>2</sub> produced during the combustion of solid, liquid, and gaseous fuels, from gas flaring and the manufacture of cement. These estimates do not include bunker fuels used in international transportation due to the difficulty of apportioning these fuels among the countries benefiting from that transport. Carbon dioxide emissions are often calculated and reported in terms of their content of elemental carbon. For these data, their values were converted to the actual mass of CO<sub>2</sub> by multiplying the carbon mass by 3.664 (the ratio of the mass of CO<sub>2</sub> to that of carbon). The primary difference between Carbon Dioxide Information Analysis Center (CDIAC, reported here) and International Energy Agency (IEA) CO<sub>2</sub> emission estimates (also available from EarthTrends) is that the CDIAC data include emissions from sources other than fossil fuel combustion, primarily cement manufacture. Further differences in methodology are outlined on Web pages listed below.

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=460&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=460&themeid=3)

**CO<sub>2</sub> emissions from solid fuels** represent the mass of carbon dioxide emitted primarily, but not exclusively, from burning coal. View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=461&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=461&themeid=3)

**Carbon dioxide emissions from liquid fuels** are primarily, but not exclusively, from burning of petroleum products. These estimates do not include bunker fuels used in international transportation due to the difficulty of apportioning these fuels among the countries benefiting from that transport. View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=462&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=462&themeid=3)

**Carbon dioxide emissions from gaseous fuels** are primarily, but not exclusively, from burning of natural gas. View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=463&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=463&themeid=3)

**Carbon dioxide emissions from gas flaring** result from the burning of gas released in the process of petroleum extraction. View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=464&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=464&themeid=3)

**CO<sub>2</sub> emissions from cement manufacturing** are produced as cement is calcined to produce calcium oxide. Approximately 0.5 metric tons of carbon is released for each metric ton of cement production. View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=465&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=465&themeid=3)

**Per capita CO<sub>2</sub> emissions** figures are obtained by dividing total emissions of carbon dioxide by the population for a particular country and year. Total CO<sub>2</sub> emissions represent the mass of CO<sub>2</sub> produced during the combustion of solid, liquid, and gaseous fuels, from gas flaring and the manufacture of cement. These estimates do not include bunker fuels used in international transportation due to the difficulty of apportioning these fuels among the countries benefiting from that transport. View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=466&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=466&themeid=3)

**CO<sub>2</sub> emissions per unit of GDP** were calculated by WRI using CO<sub>2</sub> emissions data compiled by CDIAC and GDP data provided by the World Bank. Total CO<sub>2</sub> emissions represent the mass of CO<sub>2</sub> produced during the combustion of solid, liquid, and gaseous fuels, from gas flaring and the manufacture of cement. These estimates do not include bunker fuels used in international transportation due to the difficulty of apportioning these fuels among the countries benefiting from that transport. Gross Domestic Product (GDP) measures the total output of goods and services for final use occurring within the domestic territory of a given country, regardless of the allocation to domestic and foreign claims. To obtain comparable series of constant price data, the World Bank rescales GDP and value added by industrial origin to a common reference year, currently 1995. View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=468&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=468&themeid=3)

**Cumulative CO2 emissions levels** are calculated by WRI based on CDIAC's CO2 emissions data through 1998, supplementing this data with the 1999 estimates from the Energy Information Administration. Total CO2 emissions figures consist of the sum of CO2 produced during the consumption of solid, liquid, and gaseous fuels, and from gas flaring and the manufacture of cement. These estimates do not include bunker fuels used in international transportation due to the difficulty of apportioning these fuels among the countries benefiting from that transport.

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=779&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=779&themeid=3)

#### Sources

Carbon Dioxide Information Analysis Center (CDIAC), Environmental Sciences Division, Oak Ridge National Laboratory: 2001. *Global, Regional, and National CO2 Emission Estimates from Fossil Fuel Burning, Cement Production, and Gas Flaring: 1751-1998*, NDP-030 (Available online at <http://cdiac.esd.ornl.gov/ftp/ndp030/>). CDIAC, Oak Ridge, Tennessee.

Energy Information Administration of the U.S. Department of Energy: 2001. *Carbon Dioxide Emissions from Use of Fossil Fuels*, International Energy Annual 1999. (Available on-line at <http://www.eia.doe.gov/iea/carbon.html>) Washington, DC: EIA.

#### CO2 Emissions by Sector

**Carbon dioxide emissions from public electricity, heat production, and autoproducers** include the sum of emissions from combustion of all fossil fuel types used for public electricity generation, public combined heat and power generation, and public heat plants. Public utilities are defined as those undertakings whose primary activity is to supply the public. Carbon dioxide emissions from unallocated autoproducers include the sum of emissions from combustion of all fossil fuel types used for generation of electricity and/or heat by autoproducers. Autoproducers generate electricity and/or heat wholly or partly for their own use to support their primary activity. Most of these emissions are attributed to the sector that the autoproducer falls within, but some autoproduction cannot be attributed to the end user and is represented here.

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=478&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=478&themeid=3)

**Carbon dioxide emissions from other energy industries** include the sum of emissions from combustion of all fossil fuel types used by energy industries. This includes fuel combusted in petroleum refineries, for the manufacture of solid fuels, coal mining, oil and gas exploration, and other energy-producing industries.

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=480&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=480&themeid=3)

**Carbon dioxide emissions from manufacturing industries and construction** include emissions from combustion of fossil fuels in all industries and construction.

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=476&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=476&themeid=3)

**Carbon Dioxide emissions from all transportation** include emissions from combustion of fossil fuels for road, rail, air, and other forms of transportation, and agricultural vehicles while they are on highways. The emissions include all sectors of the economy, but do not include international aviation or ship emissions, which are accounted for under bunker fuels. Emissions associated with international transport of people and goods are accounted for in the global total emissions and under bunker fuels.

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=471&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=471&themeid=3)

**Carbon dioxide emissions from residential sources** include emissions from combustion of all fossil fuel types in households.

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=477&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=477&themeid=3)

**Carbon dioxide emissions from "other" sectors** include the sum of emissions from combustion of all fossil fuel types used by Includes the commercial, agricultural, and public service sectors, as well as international bunkers.

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=481&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=481&themeid=3)

#### Sources

International Energy Agency (IEA), 2001. *CO2 Emissions from Fossil Fuel Combustion (2001 Edition)*. Electronic database available online at <http://data.iea.org/ieastore/default.asp>. Paris: Organization for Economic Cooperation and Development (OECD).

### CO2 Intensity, 1999

**CO2 emissions per total energy consumption** provides an indicator of how much carbon dioxide is emitted per amount of energy used in a country. This relationship is expressed in metric tons of CO2 per terajoule, and was calculated using the Reference Approach CO2 emissions and total primary energy supply (including biomass and other non-fossil forms of energy). A higher ratio indicates the use of more carbon-intensive fuels such as coal and oil and relative smaller usage of low-carbon fuels such as gas, and renewable energy.

Energy consumption is defined as the total amount of primary energy consumed as opposed to total final consumption. Primary energy includes losses through transportation, friction, heat loss and other inefficiencies. Specifically, consumption equals indigenous production plus imports minus exports plus stock changes minus international marine bunkers. IEA calls this category Total Primary Energy Supply (TPES).

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=605&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=605&themeid=3)

**CO2 emissions per GDP, PPP in 1995 \$ Intl** indicates the amount of carbon dioxide emitted per amount of income generated by the country's economy. Carbon dioxide emissions represent total emissions for each country and are based on the reference approach, which include emissions from combustion of all fossil fuels.

Gross Domestic Product (GDP), PPP in constant 1995 international dollars is gross domestic product converted to international dollars using Purchasing Power Parity (PPP) rates, and rescaled to 1995 to give a common reference year. An international dollar has the same purchasing power in a given country as a United States Dollar in the United States. In other words, an international dollar buys an equivalent amount of goods or services in all countries.

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=606&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=606&themeid=3)

#### Sources

International Energy Agency (IEA), 2001. *CO2 Emissions from Fossil Fuel Combustion (2001 Edition)*. Electronic database available online at <http://data.iea.org/ieastore/default.asp>. Paris: Organization for Economic Cooperation and Development (OECD).

### Non-CO2 Air Pollution

**Sulfur Dioxide**, or SO<sub>2</sub>, is a primary contributor to acid deposition, or acid rain. High concentrations of sulfur dioxide affect breathing and may aggravate existing respiratory and cardiovascular disease. Sulfur dioxide forms when fuel containing sulfur, such as coal and oil, is burned, when gasoline is extracted from oil, or metals are extracted from ore. Petroleum refineries, cement manufacturing, and metal processing facilities, as well as locomotives, large ships, and some nonroad diesel equipment burn high sulfur fuel and release SO<sub>2</sub> emissions to the air in large quantities.

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=812&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=812&themeid=3)

**Nitrogen oxides**, or NO<sub>x</sub>, is the generic term for a group of highly reactive, acidifying gases, all of which contain nitrogen and oxygen in varying amounts. Nitrogen oxides are a precursor to ground-level ozone, which can trigger serious respiratory problems. NO<sub>x</sub> also contributes to acid rain and global warming. It forms when fuel is burned at high temperatures, as in a combustion process. The primary sources of NO<sub>x</sub> are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuels.

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=813&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=813&themeid=3)

**Carbon monoxide**, or CO, is a precursor gas of ground-level ozone, which can trigger serious respiratory problems. When CO enters the bloodstream, it reduces the delivery of oxygen to the body's organs and tissues. Exposure to elevated CO levels can cause impairment of visual perception, manual dexterity,

learning ability and performance of complex tasks. CO is formed when carbon in fuel is not burned completely, and is a component of motor vehicle exhaust. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing), residential wood burning, stoves, and natural sources such as forest fires.

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=814&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=814&themeid=3)

**Non-methane VOCs** (Volatile Organic Compounds) are chemicals that vaporize at room temperature, like benzene, toluene, methylene chloride and methyl chloroform. Common sources that emit VOCs include housekeeping and maintenance products, and building and furnishing materials, such as solvents, paints, and glues. In sufficient quantities, VOCs can have adverse health effects on humans; some are suspected of causing, or are known to cause, cancer. VOCs are also precursors to ground-level ozone, which can trigger respiratory problems.

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=815&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=815&themeid=3)

#### Sources

National Institute for Public Health (RIVM) and Netherlands Organization for Applied Scientific Research (TNO). 2001. The Emission Database for Global Atmospheric Research (EDGAR) 3.2. Precursors:CO (Carbon Monoxide): Aggregated Emissions 1990/1995. Electronic database available online at: <http://arch.rivm.nl/env/int/coredata/edgar/>. The Netherlands: RIVM.

#### Multilateral Agreements, Status as of September 2002

**The Kyoto Protocol** to the United Nations Framework Convention on Climate Change strengthens the international response to climate change, and promotes the Convention's ultimate objective of preventing "dangerous anthropogenic [human-made] interference with the climate system". The Kyoto Protocol, which was adopted by consensus at the third session of the Conference of the Parties (COP-3) in December 1997, contains emission targets for Annex I (developed) countries for the post-2000 period.

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=428&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=428&themeid=3)

**The United Nations Framework Convention on Climate Change (UNFCCC)** refers to the international agreement that targets industrial and other emissions of greenhouse gases such as carbon dioxide. The UNFCCC is the centerpiece of global efforts to combat global warming. Initially adopted in 1992 at the Rio de Janeiro "Earth Summit" (<http://www.un.org/geninfo/bp/enviro.html>), the Convention entered into force on March 21, 1994. The ultimate objective of the UNFCCC is the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic (human-made) interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner."

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=620&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=620&themeid=3)

**The Vienna Convention** refers to the United Nations Environment Program's (UNEP) Convention on the Protection of the Ozone Layer, adopted by the governments of the world in 1985. Through the Vienna Convention on the Protection of the Ozone Layer, governments committed themselves to protect the ozone layer, to cooperate in scientific research, and to improve the understanding of atmospheric processes

Under the Convention, nations agree to take "appropriate measures...to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the Ozone Layer." The measures are unspecified. There is no mention of any substances that might harm the ozone; CFCs appear towards the end of the annex to the treaty, where they are mentioned as chemicals that should be monitored.

View full technical notes on-line at [http://earthtrends.wri.org/searchable\\_db/variablenotes\\_static.cfm?varid=622&themeid=3](http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=622&themeid=3)

#### Sources

United Nations Framework Convention on Climate Change (UNFCCC). 2002. *Kyoto Protocol Status of Ratification*. Bonn: UNFCCC. Available on-line at <http://www.unfccc.int/resource/kpstats.pdf>.

United Nations Framework Convention on Climate Change (UNFCCC). 2001. *UNFCCC Status of Ratification*. Bonn: UNFCCC. Available on-line at <http://unfccc.int/resource/conv/ratlist.pdf>.

Secretariat for the Vienna Convention and the Montreal Protocol . 2002. *Status of Ratification/Accession/Acceptance/Approval of the agreements on the protection of the stratospheric ozone layer*. Nairobi: United Nations Environment Program. Available online at: <http://www.unep.ch/ozone/ratif.shtml>.

## 7.2 ADDENDUM B: REGULATIONS APPLICABLE TO THE SOUTH AFRICAN BUILT ENVIRONMENT

### Current Standard

- |                           |  |
|---------------------------|--|
| 1. <b>SANS 10400:1987</b> | (SABS 0400)The application of the NBR [National Amendment 1990-08-01, National Amendment 1996-05-22] |
| 2. <b>SANS 10401:1989</b> | (SABS 0401) The construction of dwelling houses in accordance with the NBR                           |

### New Standard drafted and circulated for comment

- |                              |   |
|------------------------------|---|
| 1. <b>SANS 10400-A:200X</b>  | The application of the NBR Part A: General principles and requirements        |
| 2. <b>SANS 10400-B:200X</b>  | The application of the NBR Part B: Structural design                          |
| 3. <b>SANS 10400-C:200X</b>  | The application of the NBR Part C: Dimensions                                 |
| 4. <b>SANS 10400-D:200X</b>  | The application of the NBR Part D: Public safety                              |
| 5. <b>SANS 10400-F:200X</b>  | The application of the NBR Part F: Site operations                            |
| 6. <b>SANS 10400-G:200X</b>  | The application of the NBR Part G: Excavations                                |
| 7. <b>SANS 10400-H:200X</b>  | The application of the NBR Part H: Foundations                                |
| 8. <b>SANS 10400-J:200X</b>  | The application of the NBR Part J: Floors                                     |
| 9. <b>SANS 10400-K:200X</b>  | The application of the NBR Part K: Walls                                      |
| 10. <b>SANS 10400-L:200X</b> | The application of the NBR Part L: Roofs                                      |
| 11. <b>SANS 10400-M:200X</b> | The application of the NBR Part M: Stairways                                  |
| 12. <b>SANS 10400-N:200X</b> | The application of the NBR Part N: Glazing                                    |
| 13. <b>SANS 10400-O:200X</b> | The application of the NBR Part O: Lighting and ventilation                   |
| 14. <b>SANS 10400-P:200X</b> | The application of the NBR Part P: Drainage                                   |
| 15. <b>SANS 10400-Q:200X</b> | The application of the NBR Part Q: Non-water-borne means of sanitary disposal |
| 16. <b>SANS 10400-R:200X</b> | The application of the NBR Part R: Stormwater disposal                        |
| 17. <b>SANS 10400-S:200X</b> | The application of the NBR Part S: Facilities for disabled persons            |
| 18. <b>SANS 10400-T:200X</b> | The application of the NBR Part T: Fire protection                            |
| 19. <b>SANS 10400-V:200X</b> | The application of the NBR Part V: Space heating                              |
| 20. <b>SANS 10400-W:200X</b> | The application of the NBR Part W: Fire installation                          |

### Standard withdrawn

- |                               |   |
|-------------------------------|---|
| 1. <b>SABS 020:1951</b>       | Model regulations for farm dairy buildings  |
| 2. <b>SABS 022:1952</b>       | Comprehensive model building regulations Chapter 1: Definitions   |
| 3. <b>SABS 023-1:1954</b>     | Comprehensive model building regulations Chapter 2: Administration Part 1 (for the Cape Province)                     |
| 4. <b>SABS 023-2:1953</b>     | Comprehensive model building regulations Chapter 2: Administration Part 2 (for the Transvaal Province)                |
| 5. <b>SABS 023-3:1957</b>     | Comprehensive model building regulations Chapter 2: Administration Part 3 (for the Province of Natal)                 |
| 6. <b>SABS 023-4:1962</b>     | Comprehensive model building regulations Chapter 2: Administration Part 4 (for the Province of the Orange Free State) |
| 7. <b>SABS 024:1952</b>       | Comprehensive model building regulations Chapter 3: Loads   |
| 8. <b>SABS 025:1952</b>       | Comprehensive model building regulations Chapter 4: Foundations   |
| 9. <b>SABS 025:1955</b>       | Comprehensive model building regulations Chapter 4: Foundations   |
| 10. <b>SABS 026:1958</b>      | Comprehensive model building regulations Chapter 5: Plain and reinforced concrete                                     |
| 11. <b>SABS 027:1952</b>      | Comprehensive model building regulations Chapter 6: Structural steelwork  |
| 12. <b>SABS 028:1951</b>      | Comprehensive model building regulations Chapter 7: Structural timber   |
| 13. <b>SABS 029:1067(sic)</b> | Comprehensive model building regulations Chapter 8: Masonry and walling   |
| 14. <b>SABS 032:1958</b>      | Comprehensive model building regulations Chapter 11: Lighting   |
| 15. <b>SABS 033:1953</b>      | Comprehensive model building regulations Chapter 12: Drainage and water supply  |



- |                            |   |
|----------------------------|---|
| 16. <b>SABS 034:1958</b>   | Comprehensive model building regulations Chapter 13: Ventilation      |
| 17. <b>SABS 035:1960</b>   | Comprehensive model building regulations Chapter 14: Fire protection  |
| 18. <b>SABS 036:1966</b>   | Model building regulations Chapter 15: Public safety requirements     |
| 19. <b>SABS 037:1952</b>   | Comprehensive model building regulations Chapter 16: Urban aesthetics |
| 20. <b>SABS 038:1952</b>   | Comprehensive model building regulations Chapter 17: Advertising      |
| 21. <b>SANS 10400:1990</b> | SABS 0400 The application of the NBR                                  |

#### Other relevant current standards

- |   |  |
|---|--|
| 1. <b>SANS 4: 1979 (2001)</b>             | Locks, latches and associated furniture for doors (domestic type)  |
| 2. <b>SANS 11: 2007</b>                   | uPVC components for external rainwater systems   |
| 3. <b>SANS 14: 1994 / ISO 49:1994</b>     | Malleable cast iron fittings threaded to ISO 7-1   |
| 4. <b>SANS 22: 2005</b>                   | Glazed ceramic wall tiles and fittings   |
| 5. <b>SANS 28: 1986</b>                   | Metal tiles for cavity walls   |
| 6. <b>SANS 32: 1997 / ENV 10240: 1997</b> | Internal and/or external protective coatings for steel tubes – specification for hot dip galvanised coatings applied to automatic plants |
| 7. <b>SANS 38: 2008 (1983)</b>            | Metallic naphthenates for timber preservation  |
| 8. <b>SANS 62:</b>                        | Steel pipes: Welded and seamless steel pipes   |
| 8.1 <b>Part 1:2003</b>                    | Pipes suitable for threading and of size not exceeding 150 mm  |
| 8.2 <b>Part 2:2001</b>                    | Screwed pieces and pipe fittings of nominal size not exceeding 150 mm  |
| 9. <b>SANS 92: 2008</b>                   | Bituminous roofing felt  |
| 10. <b>SANS 110: 2001</b>                 | Sealing compounds for the building industry, two-component polysulphide base   |
| 11. <b>SANS 121:2000 / ISO 1461:1999</b>  | Hot dip galvanised coatings on fabricated iron and steel articles – Specifications and test methods                                      |
| 12. <b>SANS 141:2006</b>                  | Glass-reinforced polyester (GRP) laminates   |
| 13. <b>SANS 151:2008</b>                  | Fixed electric storage water heaters   |
| 14. <b>SANS 153:2006</b>                  | Electric stoves, cooking tops, ovens, grills and similar appliances  |
| 15. <b>SANS 164:2007</b>                  | Plugs and socket-outlets for household and similar purposes for use in South Africa  |
| 16. <b>SANS 187:2007</b>                  | Butyl rubber sheet (for waterproofing)   |
| 17. <b>SANS 190:</b>                      | Expanded metal   |
| 17.1 <b>Part 1:2008</b>                   | Sheets and plates  |
| 17.2 <b>Part 2:2008</b>                   | Building products  |
| 18. <b>SANS 198: 2009</b>                 | Functional control and safety valves for pressurised hot and cold water supply systems   |
| 19. <b>SANS 204</b>                       | Energy efficiency in buildings   |
| 19.1           Part 1:                    | General requirements   |
| 19.2           Part 2:                    | The application of the energy efficiency requirements for buildings with artificial ventilation or air conditioning                      |
| 20. <b>SANS 207:2006</b>                  | The design and construction of reinforced soils and fills soil reinforcement   |
| 21. <b>SANS 226:2004</b>                  | Water taps (metallic)  |
| 22. <b>SANS 227:2007</b>                  | Burnt clay masonry units   |
| 23. <b>SANS 242:2003</b>                  | Stainless steel sinks with draining boards (for domestic use)  |
| 24. <b>SANS 248:2007</b>                  | Bituminous damp-proof courses  |
| 25. <b>SANS 226:2003</b>                  | Gypsum plasterboard  |
| 26. <b>SANS 281:1972(1999)</b>            | Hardwood block and strip flooring  |
| 27. <b>SANS 294:2004</b>                  | Construction procurement processes, methods and procedures   |
| 28. <b>SANS 297:1999</b>                  | Mastic asphalt for roofing   |
| 29. <b>SANS 298:2007</b>                  | Mastic asphalt for damp-proof courses and tanking  |
| 30. <b>SANS 301:2004 / BS 1722:1999</b>   | Fences   |
| 30.1 <b>Part 12:</b>                      | Specification for steel palisade fences  |
| 31. <b>SANS 307:2005</b>                  | Penetration grade bitumen  |
| 32. <b>SANS 308:1971 (1973)</b>           | Cutback bitumen  |
| 33. <b>SANS 309:2004</b>                  | Anionic bitumen road emulsion  |
| 34. <b>SANS 317:2007</b>                  | Industrial bitumen   |



- |                                 |  |
|---------------------------------|--|
| 35. <b>SANS 404/405:2008</b>    | Phosphorous deoxidised non-arsenical and arsenical copper  |
| 36. <b>SANS 428:2006</b>        | Fire performance classification of thermal insulated building envelope systems                         |
| 37. <b>SANS 457:200</b>         | Wooden poles, droppers, guardrail posts and spacer blocks  |
| 37.1 <b>Part 2:</b>             | Softwood species   |
| 37.2 <b>Part 3:</b>             | Hardwood species   |
| 38. <b>SANS 460:2003</b>        | Plain-ended solid-drawn copper tubes for potable water   |
| 39. <b>SANS 470:2003</b>        | Concrete poles for telephone, power and lighting purposes  |
| 40. <b>SANS 497:2006</b>        | Glazed ceramic sanitary ware   |
| 41. <b>SANS 508:2008</b>        | Concrete retaining blocks  |
| 42. <b>SANS 515:2003</b>        | Decorative paint for interior use  |
| 43. <b>SANS 523:2007</b>        | Limes for use in building  |
| 44. <b>SANS 538:1980</b>        | High temperature wood preserving creosote  |
| 45. <b>SANS 540:</b>            | Fibreboard products  |
| 45.1 <b>Part 1:2009</b>         | Uncoated fibreboard  |
| 45.2 <b>Part 2:2009</b>         | Coated fibreboard  |
| 46. <b>SANS 541 2004</b>        | Pre-cast concrete paving slabs   |
| 47. <b>SANS 542:2004</b>        | Concrete roofing tiles   |
| 48. <b>SANS 543:2004</b>        | Fire hose reels (with semi-rigid hose)   |
| 49. <b>SANS 545:1989</b>        | Wooden doors   |
| 50. <b>SANS 548:2003</b>        | Cationic bitumen road emulsions  |
| 51. <b>SANS 558:2000</b>        | Cast iron surface boxes and manhole and inspection covers and frames                                   |
| 52. <b>SANS 559:2005</b>        | Vitrified clay sewer pipes and fittings  |
| 53. <b>SANS 580:2007</b>        | Chloroprene rubber sheet for water proofing  |
| 54. <b>SANS 581:2007</b>        | Semi-flexible vinyl floor tiles  |
| 55. <b>SANS 586:2007</b>        | Resin modified vinyl floor tiles   |
| 56. <b>SANS 622:2005</b>        | Gypsum cove cornice  |
| 57. <b>SANS 629:1983 (1999)</b> | Softwood flooring boards   |
| 58. <b>SANS 630:2004</b>        | Decorative high gloss enamel paints  |
| 59. <b>SANS 632:2007</b>        | Clay roofing tiles   |
| 60. <b>SANS 635:2007</b>        | Elastomeric structural glazing and panel gaskets   |
| 61. <b>SANS 637:2008</b>        | Wood-wool panels, cement-bonded  |
| 62. <b>SANS 640:2005</b>        | Flexible polyurethane (polyether) foams  |
| 63. <b>SANS 641:2007</b>        | Flexible polyurethane (polyester) foams  |
| 64. <b>SANS 642:2007</b>        | Reconstituted flexible polyurethane foams  |
| 65. <b>SANS 657</b>             | Steel tubes for non-pressure purposes  |
| 65.1 <b>Part 1:2004</b>         | Steel tubes for scaffolding and structural and general engineering purposes                            |
| 65.2 <b>Part 4:2004</b>         | Steel tubes of round, oval, square and rectangular section for furniture                               |
| 66. <b>SANS 675:2009</b>        | Zinc-coated fencing wire (plain and barbed)  |
| 67. <b>SANS 676:2003</b>        | Reinforced concrete pressure pipes   |
| 68. <b>SANS 677:2003</b>        | Concrete non-pressure pipes  |
| 69. <b>SANS 678:2005</b>        | Primers for wood for interior and exterior use   |
| 70. <b>SANS 680:2006</b>        | Glazing putty for wooden and metal window frames   |
| 71. <b>SANS 681:2007</b>        | Undercoats for paints  |
| 72. <b>SANS 682:2007</b>        | Aluminium paint type   |
| 73. <b>SANS 685:2006</b>        | Fibre-cement sheets: profiled and flat   |
| 74. <b>SANS 727:2003</b>        | Windows and doors made from rolled mild steel sections   |
| 75. <b>SANS 731</b>             | Road and runway markings   |
| 75.1 <b>Part 1 and 2:2006</b>   | Single-pack solvent-borne and water-borne paints   |
| 76. <b>SANS 746:1976 (2000)</b> | Cast iron pipes and pipe fittings for use above ground in drainage applications                        |
| 77. <b>SANS 752:2007</b>        | Float valves   |
| 78. <b>SANS 753:2007</b>        | Pine poles, cross-arms and spacers for power distribution, telephone systems and street lighting       |
| 79. <b>SANS 754:2007</b>        | Eucalyptus poles, cross-arms and spacers for power distribution, telephone systems and street lighting |
| 80. <b>SANS 757:2004</b>        | Sheet steel furniture  |



81.	<b>SANS 767</b>	Earth leakage protection units
81.1	<b>Part 1:1982</b>	Fixed earth leakage protection circuit-breakers
81.2	<b>Part 2:1983(2003)</b>	Single-phase, portable units
82.	<b>SANS 786:2007</b>	Flexible vinyl flooring
83.	<b>SANS 791:2004</b>	uPVC sewer and drain pipes and pipe fittings
84.	<b>SANS 794:2009</b>	Aggregates of low density
85.	<b>SANS 802:2001</b>	Bituminous aluminium paint
86.	<b>SANS 803:2005</b>	Fibre-cement boards
87.	<b>SANS 819:2006</b>	Fibre-cement pipes, couplings and fittings for sewerage, drainage and low pressure irrigation
88.	<b>SANS 820:2006</b>	Mild steel nails
89.	<b>SANS 821:2007</b>	WC flushing cisterns
90.	<b>SANS 824:2006</b>	Lime for soil stabilisation
91.	<b>SANS 871:1967</b>	Boron timber preservatives
92.	<b>SANS 878:2004</b>	Ready-mixed concrete
93.	<b>SANS 887:2005</b>	Varnish for interior use
94.	<b>SANS 903:1978</b>	Aluminium alloy corrugated and troughed sheets
95.	<b>SANS 906:2006</b>	Stainless steel wash-hand basins and wash troughs
96.	<b>SANS 907:2009</b>	Stainless steel sinks for institutional use
97.	<b>SANS 920: 2005</b>	Steel bars for concrete reinforcement
98.	<b>SANS 921: 2009</b>	Pitch-impregnated fibre pipes and fittings
99.	<b>SANS 924: 2003</b>	Stainless steel stall urinals
100.	<b>SANS 927:2007</b>	Precast concrete kerbs, edgings and channels
101.	<b>SANS 929:2008</b>	Plywood and composite board
102.	<b>SANS 935:2007</b>	Hot-dip (galvanised) zinc coatings on steel wire
103.	<b>SANS 940:2005</b>	Emulsion roof paint
104.	<b>SANS 947:2007</b>	Indoor Venetian blinds
105.	<b>SANS 949:2005</b>	Strong room and vault doors
106.	<b>SANS 950:2008</b>	uPVC rigid conduit and fittings for use in electrical installations
107.	<b>SANS 952:1985(2000)</b>	Polyolefin film for damp-proofing and waterproofing in buildings
108.	<b>SANS 966</b>	Components of pressure pipe systems
108.1	<b>Part 1:2008</b>	uPVC pressure pipe systems
108.2	<b>Part 2:2008</b>	Modified PVC pressure pipe systems
109.	<b>SANS 967:2004</b>	uPVC soil, waste and vent pipes and pipe fittings
110.	<b>SANS 974-1:1986 (2001)</b>	Rubber joint rings (non-cellular)
110.1	<b>Part 1:</b>	Joint rings for use in water, sewer and drainage systems
111.	<b>SANS 975: 1970 (2000)</b>	Pre-stressed concrete pipes
112.	<b>SANS 978: 2008</b>	Wood mosaic flooring
113.	<b>SANS 986: 2006</b>	Precast reinforced concrete culverts
114.	<b>SANS 993: 1972 (2002)</b>	Modular co-ordination
115.	<b>SANS 999: 2007</b>	Anodised coatings on aluminium (for architectural applications)
116.	<b>SANS 1006:2007:</b>	Plastics ball-floats for ball valves
117.	<b>SANS 1012:2006</b>	Electric light dimmers
118.	<b>SANS 1015:2008</b>	Fire-resisting door units for record rooms
119.	<b>SANS 1021:2007</b>	Water taps (plastic bodies)
120.	<b>SANS 1022:2006</b>	Metal roofing tiles
121.	<b>SANS 1024:2006</b>	Welded steel fabric for reinforcement of concrete
122.	<b>SANS 1039:2008</b>	Wooden ceiling and panelling boards
123.	<b>SANS 1042:2006</b>	Polymer floor dressings
124.	<b>SANS 1058:2006</b>	Concrete paving blocks
125.	<b>SANS 1067:</b>	Copper-based fittings for copper tubes
125.1	<b>Part 1:2005</b>	Compression fittings
125.2	<b>Part 2: 2005</b>	Capillary solder fittings
126.	<b>SANS 1077:1984 (2001)</b>	Sealing compounds for the building and construction industry, two-component polyurethane base
127.	<b>SANS 1083:2006</b>	Aggregates from natural sources – aggregates for concrete
128.	<b>SANS 1085:2004</b>	Wall outlet boxes for the enclosure of electrical accessories
129.	<b>SANS 1090:2002</b>	Aggregates from natural sources – fine aggregates for plaster and mortar
130.	<b>SANS 1091:2004</b>	National colour standard



131.	<b>SANS 1099:2008</b>	Hardwood furniture timber
132.	<b>SANS 1115:2007</b>	Cast iron gratings for gullies and stormwater drains
133.	<b>SANS 1125:2004</b>	Room air conditioners and heat pumps
134.	<b>SANS 1128:</b>	Fire fighting equipment
134.1	<b>Part 1:2008</b>	Components of underground and above ground hydrant systems
134.2	<b>Part 2:2008</b>	Hose couplings, connectors and branch pipe and nozzle connections
135.	<b>SANS 1129: 2008</b>	Steel door frames
136.	<b>SANS 1143: 2008</b>	Mushroom and countersunk-head bolts and nuts
137.	<b>SANS 1150: 2007</b>	Glass-reinforced polyester (GRP) laminated sheets (profiled or flat)
138.	<b>SANS 1151: 2005</b>	Portable rechargeable fire extinguishers – Halogenated hydrocarbon type extinguishers
139.	<b>SANS 1171: 2006</b>	Metal screws for wood
140.	<b>SANS 1174: 2005</b>	Bains-marie and hot cupboards
141.	<b>SANS 1186:</b>	Symbolic safety signs
141.1	<b>Part 1:2008</b>	Standard signs and general requirements
141.2	<b>Part 2:2007</b>	Self-luminous signs
141.3	<b>Part 3:2004</b>	Internally illuminated signs
141.4	<b>Part 4:2008</b>	Retro-reflective signs
141.5	<b>Part 5:2006</b>	Photo-luminous signs
142.	<b>SANS 1200:</b>	Standardised specification for civil engineering
142.1	<b>Section A:</b>	General
142.2	<b>Section C:</b>	Site clearance
142.3	<b>Section D:</b>	Earthworks
142.4	<b>Section F:</b>	Piling
142.5	<b>Section G:</b>	Concrete (structural)
142.6	<b>Section H:</b>	Structural steelwork
142.7	<b>Section L:</b>	Medium-pressure pipe lines
142.8	<b>Section M:</b>	Roads
143.	<b>SANS 1209:2008</b>	Pipe holder bats
144.	<b>SANS 1215:2008</b>	Concrete masonry units
145.	<b>SANS 1223: 2003</b>	Fibre-cement pressure pipes and couplings
146.	<b>SANS 1227: 2005</b>	Textured wall coatings, emulsion base, for interior and exterior use
147.	<b>SANS 1236: 2005</b>	Silver glass mirrors for general use
148.	<b>SANS 1240: 2006</b>	Automatic shut-off flush valves for water closets and urinals
149.	<b>SANS 1253: 2003</b>	Fire-doors and fire shutters
150.	<b>SANS 1263</b>	Safety and security glazing materials for buildings
150.1	<b>Part 1:2006</b>	Safety performance of glazing materials under human impact
150.2	<b>Part 2:2007</b>	Burglar-resistant and vandal-resistant glazing materials
150.3	<b>Part 3:2007</b>	Bullet-resistant glazing materials
151.	<b>SANS 1273:1979 (1999)</b>	Fasteners for roof and wall coverings in the form of sheeting
152.	<b>SANS 1274:2005</b>	Coatings applied by the powder-coating process
153.	<b>SANS 1288:2008</b>	Preservative-treated timber
154.	<b>SANS 1290:2005</b>	Wood-preserving mixture of creosote and waxy oil
155.	<b>SANS 1294:2006</b>	Precast concrete manhole sections and slabs
156.	<b>SANS 1305:1980 (2001)</b>	Sealing compounds for the building industry, one-component, and silicone-rubber base
157.	<b>SANS 1307:2009</b>	Domestic solar water heaters
158.	<b>SANS 1311:2007</b>	Metal clisco windows
159.	<b>SANS 1315:2002</b>	Polypropylene pressure pipes
160.	<b>SANS 1319:2006</b>	Zinc phosphate primer for steel
161.	<b>SANS 1321:</b>	Non-metallic waste traps
161.1	<b>Part 1:1981</b>	Plastic waste traps
161.2	<b>Part 2:2007:</b>	Rubber waste traps
162.	<b>SANS 1322:2004</b>	Portable, non-refillable fire extinguishers (general purpose type)
163.	<b>SANS 1348:2005</b>	Polyvinyl acetate dispersion adhesives for wood
164.	<b>SANS 1349:2006</b>	Phenolic and one-part polyurethane resin adhesives for the laminating and finger-jointing of timber, and for furniture and joinery
165.	<b>SANS 1372:1983 (2000)</b>	Prefabricated concrete components for fences
166.	<b>SANS 1373:1983 (2008)</b>	Chain-link fencing and its wire accessories



167.	<b>SANS 1375:2005</b>	Textile floor coverings (pile construction)
168.	<b>SANS 1381</b>	Materials for thermal insulation of buildings
168.1	<b>Part 1:2007</b>	Mineral fibre thermal insulations mats
168.2	<b>Part 2:2007</b>	Loose fill thermal insulation materials
168.3	<b>Part 4:1985</b>	Reflective foil laminates (rolls, sheets and sections)
168.4	<b>Part 6:1994 (1999)</b>	Cellulose loose fill thermal insulation material
169.	<b>SANS 1383:2008</b>	Rigid urethane and isocyanurate foams for use in thermal insulation
170.	<b>SANS 1385:2008</b>	Kitchen cupboards: built-in and free-standing
171.	<b>SANS 1388:2005</b>	Tributyltin oxide-lindane timber preservative
172.	<b>SANS 1390:2005</b>	Steel fencing for private swimming pools
173.	<b>SANS 1402-1</b>	Acrylic sanitary ware
173.1	<b>Part 1:2008</b>	Baths
174.	<b>SANS 1407: 2007</b>	Anodised coatings on aluminium (for general application)
175.	<b>SANS 1411</b>	Materials of insulated electric cables and flexible cords
175.1	<b>Part 1:2008</b>	Conductors
175.2	<b>Part 2:2009</b>	PVC
175.3	<b>Part 3:2006</b>	Elastomers
175.4	<b>Part 4:2009</b>	Cross-linked polyethylene (XLPE)
175.5	<b>Part 5:2009</b>	Halogen-free materials
175.6	<b>Part 6:2008</b>	Armour
176.	<b>SANS 1415:2000</b>	Textile floor coverings (needle punched construction)
177.	<b>SANS 1416:2005</b>	Alkali-resistant plaster primer (pigmented, solvent type)
178.	<b>SANS 1419:2009</b>	Carpet underlays
179.	<b>SANS 1431:2007</b>	Weldable structural steels
180.	<b>SANS 1445:</b>	Thermal insulation materials for industrial applications
180.1	<b>Part 2:2008</b>	Metal-mesh-faced mineral fibre mattresses
180.2	<b>Part 3:2008</b>	Bonded preformed mineral fibre pipe sections
181.	<b>SANS 1449:2008</b>	Ceramic wall and floor tiles
182.	<b>SANS 1460:2006</b>	Laminated timber (glulam)
183.	<b>SANS 1480:2005</b>	Single control mixer taps
184.	<b>SANS 1491:</b>	Portland cement extenders
184.1	<b>Part 1:2005</b>	Ground granulated blast furnace slag
184.2	<b>Part 2:2005</b>	Fly ash
184.3	<b>Part 3:2006</b>	Condensed silica fume
185.	<b>SANS 1504:1990 (2000)</b>	Prestressed concrete lintels
186.	<b>SANS 1508:2007</b>	Expanded polystyrene thermal insulation boards
187.	<b>SANS 1509:2008</b>	Flush valves for WC flushing cisterns
188.	<b>SANS 1510-1:2008</b>	Door closers
188.1	<b>Part 1</b>	Single action overhead door closers
189.	<b>SANS 1526:2003</b>	Thermoplastics sheeting for use as a geo-membrane
190.	<b>SANS 1528</b>	Furniture
190.1	<b>Part 1:2008</b>	Seating
190.2	<b>Part 2:2008</b>	Desks, tables and computer stands
190.3	<b>Part 3:2008</b>	Storage units
190.4	<b>Part 4:2008</b>	Bunk beds for domestic use
190.5	<b>Part 6:2008</b>	High chairs for domestic use
190.6	<b>Part 7:2008</b>	Children's coats for domestic use
191.	<b>SANS 1529</b>	Water meters for cold potable water
191.1	<b>Part 1:2006</b>	Metrological properties of mechanical water meters with nominal bore not exceeding 100 mm
192.	<b>SANS 1530</b>	Prefabricated panels for thermal insulation
192.1	<b>Part 1: 1991 (1999)</b>	Panels with two impervious facing sheets
193.	<b>SANS 1532:2003</b>	Vent valves for drainage installations
194.	<b>SANS 1533:2005</b>	Padlocks
195.	<b>SANS 1549:1992</b>	Raised access flooring
196.	<b>SANS 1553-2:2007</b>	uPVC window and door frames for exterior use
196.1	<b>Part 1:</b>	uPVC profiles for window and door
196.2	<b>Part 2:</b>	Window with frames made from uPVC profiles
197.	<b>SANS 1567:2003</b>	Portable rechargeable fire extinguishers – CO <sub>2</sub> type
198.	<b>SANS 1574:2008</b>	Electric cables, flexible cords and flexible cables



199.	<b>SANS 1575:2007</b>	Burnt clay paving units
200.	<b>SANS 1578:2006</b>	Durable organic powders for coating of external architectural aluminium
201.	<b>SANS 1580:2005</b>	Hexagonal steel wire mesh gabions and revet mattresses
202.	<b>SANS 1586:2007</b>	Emulsion paints
203.	<b>SANS 1601:2007</b>	Structural wall pipes and fittings of uPVC for buried drainage and sewerage systems
204.	<b>SANS 1602:2007</b>	Electro-deposited coatings of copper and copper alloys
205.	<b>SANS 1620:1995 (2000)</b>	Barbed tape security barriers
206.	<b>SANS 1651:1996</b>	Glazed aluminium alloy windows and sliding glass doors for external use
207.	<b>SANS 1700 SET:1996</b>	Fasteners
207.1	<b>Part 1:</b>	Terminology and nomenclature
207.2	<b>Part 2:</b>	Screw threads
207.3	<b>Part 3:</b>	Forms, dimensions and designations
207.4	<b>Part 4:</b>	Tolerances
207.5	<b>Part 5:</b>	General requirements and mechanical properties
207.6	<b>Part 6:</b>	Testing and acceptance inspection
207.7	<b>Part 7:</b>	External drive hexagon bolts and screws
207.8	<b>Part 8:</b>	Square neck bolts
207.9	<b>Part 9:</b>	Hexagon socket head screws
207.10	<b>Part 10:</b>	Slotted head screws
207.11	<b>Part 11:</b>	Cross-recessed countersunk flat head screws (common head style)
207.12	<b>Part 12:</b>	Set screws
207.13	<b>Part 13:</b>	Tapping screws
207.14	<b>Part 14:</b>	Hexagon nuts
207.15	<b>Part 15:</b>	Prevailing torque type nuts
207.16	<b>Part 16:</b>	Washers
207.17	<b>Part 17:</b>	Pins
207.18	<b>Part 18:</b>	Rivets
207.19	<b>Part 19:</b>	Hex lobular socket head screws
208.	<b>SANS 1707: 1997</b>	Sawn Eucalyptus timber
208.1	<b>Part 1:2007</b>	Proof-graded structural timber
208.2	<b>Part 2:2007</b>	Eucalyptus brandering and battens
209.	<b>SANS 1765: 2003</b>	Low-voltage switchgear and control gear assemblies (distribution boards) with a rated short-circuit withstand strength up to and including 10 kA
210.	<b>SANS 1777: 2004</b>	Photoelectric control units for lighting (PECUs)
211.	<b>SANS 1783:</b>	Sawn softwood timber
211.1	<b>Part 1:2007</b>	General requirements
211.2	<b>Part 2:2007</b>	Stress-graded structural timber and timber for frame wall construction
211.3	<b>Part 3:2004</b>	Industrial timber
211.4	<b>Part 4:2007</b>	Branding and battens
212.	<b>SANS 1797: 2003</b>	Coatings of durable organic powder and for external architectural aluminium
213.	<b>SANS 1808</b>	Water supply and distribution system components
213.1	<b>Part 2:2005</b>	Metallic compression-type pipe couplings
213.2	<b>Part 5:2008</b>	Flexible connectors
213.3	<b>Part 9:2008</b>	Metering taps and valves (metallic bodies)
213.4	<b>Part 10:2005</b>	Copper alloy check valves (spring-loaded)
213.5	<b>Part 13:2001</b>	Diaphragm valves
213.6	<b>Part 15:2007</b>	Mechanical backflow prevention devices
213.7	<b>Part 16:2008</b>	Drinking fountain taps
213.8	<b>Part 18:2004</b>	uPVC gate valves
213.9	<b>Part 24:2004</b>	Gas-operated water heaters
213.10	<b>Part 30:2004</b>	Laboratory water taps
213.11	<b>Part 31:2003</b>	Automatic control valves
213.12	<b>Part 32:2005</b>	Float valves (equilibrium type)
213.13	<b>Part 35:2004</b>	Electronically operated taps and valves



213.14	<b>Part 37:2005</b>	Single-control mixer taps (plastics)
213.15	<b>Part 44:2005</b>	Pipe saddles
213.16	<b>Part 45:2005</b>	Pipe repair clamps
213.17	<b>Part 53:2005</b>	Drain cocks for hot-water storage containers
213.18	<b>Part 58:2005</b>	In-line strainers
213.19	<b>Part 66:2005</b>	Demand-type water taps
213.20	<b>Part 85:2004</b>	Oriented polyvinyl chloride (PVC-O) pressure pipes for underground use
214.	<b>SANS 1817:2008</b>	Working on glass for glazing
215.	<b>SANS 1845:2003</b>	Pre-finished sheet metal products for interior and exterior building applications
216.	<b>SANS 1848:2006</b>	Geyser drip trays
217.	<b>SANS 1850:2003</b>	The design and manufacturing of commercial kitchen extraction systems
218.	<b>SANS 1879: 2004</b>	Pre-cast concrete suspended slabs
219.	<b>SANS 1882: 2003</b>	Polymer concrete surface boxes, manhole and inspection covers, gulley gratings and frames
220.	<b>SANS 1900: 2004</b>	Mono-planar pre-fabricated timber roof trusses (nail-plated)
221.	<b>SANS 1910: 2006</b>	Portable refillable fire extinguishers
222.	<b>SANS 1921:</b>	Construction and management requirements for works contracts
222.1	<b>Part 1:2004</b>	General engineering and construction works
222.2	<b>Part 3:2004</b>	Structural steelwork
222.3	<b>Part 4:2004</b>	Third-party management support in works contracts
222.4	<b>Part 5:2004</b>	Earthworks activities which are performed by hand
222.5	<b>Part 6:2004</b>	HIV/Aids awareness
223.	<b>SANS 1931:2003</b>	Particle boards – highly moisture resistant exterior type
224.	<b>SANS 2001</b>	Construction works
224.1	<b>Part BE1:2008</b>	Earthworks (general)
224.2	<b>Part BE2:2008</b>	Earthworks (small works)
224.3	<b>Part BS1:2008</b>	Site clearance
224.4	<b>Part CC1:2007</b>	Concrete works (structural)
224.5	<b>Part CC2:2007</b>	Concrete works (minor works)
224.6	<b>Part CG1:2007</b>	Installation of glazing in window and door frames
224.7	<b>Part CM1:2007</b>	Masonry walling
224.8	<b>Part CS1:2005</b>	Structural steelwork
224.9	<b>Part CT1:2007</b>	Structural timberwork (flooring)
224.10	<b>Part CT2:2007</b>	Structural timberwork (roofing)
224.11	<b>DP1: 2008</b>	Earthworks for buried pipelines and prefabricated culverts
224.12	<b>Part Em1:2007</b>	Cement plaster
225.	<b>SANS 2262:1984 / ISO 2262:1984</b>	General purpose thimbles for use with steel wire ropes
226.	<b>SANS 2394:2003 / ISO 2394:2004</b>	General principles on reliability for structures
227.	<b>SANS 2408:2005 / ISO 2408:2004</b>	Steel wire ropes for general purposes – minimum requirements
228.	<b>SANS 2415:2005 / ISO 2415:2004</b>	Forged shackles for general lifting purposes – Dee shackles and bow shackles
229.	<b>SANS 2424:1992 / ISO 2424:1992</b>	Textile floor coverings – vocabulary
230.	<b>SANS 3575:2008 / ISO 3575:2005</b>	Continuous hot-dip zinc-coated carbon steel sheet of commercial lock-forming and drawings qualities
231.	<b>SANS 4427:1996 / ISO 4427:1996</b>	Plastics piping systems – polyethylene (PE) pipes for water supply
232.	<b>SANS 4586 / ISO 4586:1997</b>	High pressure decorative laminates – sheets made from thermo-setting resins
232.1	<b>Part 1:1995</b>	Classification and specifications
233.	<b>SANS 4998:2007 / ISO 4998:2005</b>	Continuous hot-dip zinc-coated steel sheet of structural quality
234.	<b>SANS 7675:2004 / ISO 7675:2003</b>	Plastics piping systems for soil and waste discharge (low and high temperature) inside buildings – chlorinated PVC
235.	<b>SANS 8773:2007 / ISO 8773:2006</b>	Polypropylene (PP) pipes and fittings for buried drainage and sewerage systems – Specifications

236.	<b>SANS 9000:2005 / ISO 9000:2005</b>	Quality management systems – Fundamentals and vocabulary
237.	<b>SANS 9364:2007 / ISO 9364:2005</b>	Continuous hot-dip aluminium / zinc-coated steel sheet of commercial lock-forming and structural qualities
238.	<b>SANS 9933:1995 / ISO 9933:1995</b>	Products in fibre-reinforced cement – long corrugated or a-symmetrical section sheets and fittings for roofing and cladding
239.	<b>SANS 10005:2006</b>	Preservative treatment of timber (Code of practice)
240.	<b>SANS 10021:2006</b>	The waterproofing of buildings including damp-proofing and vapour barrier installation) (Code of Practice)
241.	<b>SANS 10043:2009</b>	The installation of wood and laminate flooring (Code of Practice)
242.	<b>SANS 10052:2007</b>	The construction of strongrooms (Code of Practice)
243.	<b>SANS 10062:2003</b>	Fixing of interlocking roofing tiles (Code of Practice)
244.	<b>SANS 10064:2005</b>	The preparation of steel surfaces for coating (Code of Practice)
245.	<b>SANS 10070:2007</b>	The laying of thermoplastic and similar flexible floor covering materials (Code of Practice)
246.	<b>SANS 10073:2000</b>	The safe application of masonry-type facings to buildings (Code of Practice)
247.	<b>SANS 10080:2009</b>	The rodent proofing of buildings (Code of Practice)
248.	<b>SANS 10082:2007</b>	Timber buildings (Code of Practice)
249.	<b>SANS 10094:2005</b>	The use of high-strength friction-grip bolts (Code of Practice)
250.	<b>SANS 10096:2008</b>	The manufacture of finger-jointed structural timber
251.	<b>SANS 10100:</b>	The structural use of concrete (Code of Practice)
	251.1 <b>Part 1: 2000</b>	Design
	251.2 <b>Part 2: 1992</b>	Materials and execution of work
252.	<b>SANS 10102-1:</b>	The selection of pipes for buried pipelines (Code of Practice)
	252.1 <b>Part 1: 2005</b>	General provisions
	252.2 <b>Part 2: 1987 (2000)</b>	Rigid pipes
253.	<b>SANS 10104: 1991</b>	Hand railing and balustrades (safety aspects) (Code of Practice)
254.	<b>SANS 10105:</b>	The use and control of fire-fighting equipment (Code of Practice)
	254.1 <b>Part 1: 2005</b>	Portable and wheeled (mobile) fire extinguishers
	254.2 <b>Part 2: 2005</b>	Fire hose reels, hydrants and booster connections
255.	<b>SANS 10106:2006</b>	The installation, maintenance, repair and replacement of domestic solar hot water heating systems
256.	<b>SANS 10107: 1996</b>	The design and installation of ceramic tiling (Code of Practice)
257.	<b>SANS 10109:</b>	Concrete floors (Code of Practice)
	257.1 <b>Part 1: 1995 (2000)</b>	Bases for concrete floors
	257.2 <b>Part 2: 2004</b>	Finishes to concrete floors
258.	<b>SANS 10112: 2003</b>	The installation of polyethylene and PVC-U and PVC-M pipes (Code of Practice)
259.	<b>SANS 10114:</b>	Interior lighting
	259.1 <b>Part 1:2005</b>	Artificial lighting of interiors
	259.2 <b>Part 2:2002</b>	Emergency lighting
260.	<b>SANS 10120: SET</b>	Code of Practice for use with standardised specification for civil engineering construction and contract documents
261.	<b>SANS 10124:2006</b>	The application of soil insecticides for the protection of buildings (Code of Practice)
262.	<b>SANS 10137:2002</b>	The installation of glazing materials in buildings (Code of Practice)
263.	<b>SANS 10140</b>	Identification colour marking
	263.1 <b>Part 1:2000</b>	General
	263.2 <b>Part 2:1978</b>	Identification of hazards and equipment in work situations
	263.3 <b>Part 3:2003</b>	Contents of pipe lines
	263.4 <b>Part 4:2006</b>	Contents of taps and valves in laboratories
264.	<b>SANS 10142: 2008</b>	The wiring of premises
	264.1 <b>Part 1:</b>	Low-voltage installations (Code of Practice)
265.	<b>SANS 10143:1980 (2000)</b>	Building Drawing Practice (Code of Practice)
266.	<b>SANS 10145:2000</b>	Concrete masonry construction (Code of Practice)
267.	<b>SANS 10155:1980 (2000)</b>	Accuracy in buildings
268.	<b>SANS 10160:1989 (1999)</b>	The general procedures and loadings to be adopted in the design of buildings



269.	<b>SANS 10161:1980</b>	The design of foundations for buildings (Code of Practice)
270.	<b>SANS 10162:</b>	The structural use of steel (Code of Practice)
	270.1 <b>Part 1:2005</b>	Limit states design of hot-rolled steel work
	270.2 <b>Part 2:1993 (1999)</b>	Limit states design of cold-formed steel work
	270.3 <b>Part 4:1997</b>	The design of cold-formed stainless steel structural members
271.	<b>SANS 10163:</b>	The structural use of timber (Code of Practice)
	271.1 <b>Part 1:2003</b>	Limit-states design
	271.2 <b>Part 2:2001</b>	Allowable stress design
272.	<b>SANS 10164</b>	The structural use of masonry (Code of Practice)
	272.1 <b>Part 1:1980 (2000)</b>	Un-reinforced masonry walling
	272.2 <b>Part 2:2008</b>	Structural design and requirements for reinforced and pre-stressed masonry
273.	<b>SANS 10170:2004</b>	The cleaning and maintenance of floors (Code of Practice)
274.	<b>SANS 10177:2005</b>	Fire testing of materials, components and elements used in buildings (Code of Practice)
275.	<b>SANS 10186:2009</b>	Installation of textile floor coverings (Code of Practice)
276.	<b>SANS 10202:1985</b>	Colour marking for the identification of wrought steel commonly used in South Africa
277.	<b>SANS 10209:2003</b>	The design and construction of private swimming pools
278.	<b>SANS 10218:</b>	Acoustical properties of buildings
	278.1 <b>Part 1:2004</b>	Grading criteria for the air-borne sound insulation of buildings
	278.2 <b>Part 2:2004</b>	The assessment of building plans and buildings with respect to their acoustical properties
279.	<b>SANS 10222-1:2007</b>	Electrical security installations (Code of Practice)
280.	<b>SANS 10237:1991 (2000)</b>	Roof and side cladding (Code of Practice)
281.	<b>SANS 10243:2004</b>	The design, manufacture and erection of timber trusses (Code of Practice)
282.	<b>SANS 10244 / EN 10244</b>	Steel wire and wire products – Non-ferrous metallic coatings on steel wire
	282.1 <b>Part 1:2003</b>	General principles
	282.2 <b>Part 2:2003</b>	Zinc and zinc alloy coatings
283.	<b>SANS 10245:1993</b>	The maintenance of textile floor coverings (Code of Practice)
284.	<b>SANS 10246:1993</b>	Accessibility for disabled persons (Code of Practice)
285.	<b>SANS 10249:1993 (2000)</b>	Masonry walling (Code of Practice)
286.	<b>SANS 10252:</b>	Water supply and drainage for buildings (Code of Practice)
	286.1 <b>Part 1:2004</b>	Water supply installations for buildings
	286.2 <b>Part 2:1993</b>	Drainage installations for buildings
287.	<b>SANS 10254:2004</b>	Maintenance, replacement and repair of fixed electric storage water heating systems (Code of Practice)
288.	<b>SANS 10305:</b>	Painting of buildings (Code of Practice)
	288.1 <b>Part 1:2005</b>	Paint and selection
	288.2 <b>Part 2:2005</b>	Paint application and defects
	288.3 <b>Part 3:2005</b>	Paint types
	288.4 <b>Part 4:2005</b>	Painting of walls, ceilings and cladding
	288.5 <b>Part 5:2005</b>	Painting of roofs and steel structures
	288.6 <b>Part 6:2005</b>	Painting of wood
289.	<b>SANS 10313:2008</b>	The protection of structures against lightning (Code of Practice)
290.	<b>SANS 10322:2005</b>	Surface finishing of architectural aluminium
291.	<b>SANS 10389:</b>	Exterior lighting
	291.1 <b>Part 1:2003</b>	Artificial lighting of exterior areas for work and safety
	291.2 <b>Part 2:2003</b>	Exterior security lighting
	291.3 <b>Part 3:2004</b>	Guide on the limitation of the effects of obtrusive light from outdoor lighting installations
292.	<b>SANS 10400:1990</b>	The applications of the NBR
	292.1 <b>Part D</b>	Public safety
	292.2 <b>Part F</b>	Site operations
	292.3 <b>Part G</b>	Excavations
	292.4 <b>Part H</b>	Foundations
	292.5 <b>Part J</b>	Floors
	292.6 <b>Part K</b>	Walls



292.7	<b>Part L</b>	Roofs
292.8	<b>Part M</b>	Stairways
292.9	<b>Part N</b>	Glazing
292.10	<b>Part O</b>	Lighting and ventilation
292.11	<b>Part P</b>	Drainage
292.12	<b>Part Q</b>	Non-water-borne means of sanitary disposal
292.13	<b>Part R</b>	Stormwater disposal
292.14	<b>Part S</b>	Facilities for persons with disabilities
292.15	<b>Part T</b>	Fire protection
292.16	<b>Part X</b>	Repeal of Regulations
293.	<b>SANS 10401:1989</b>	The construction of dwelling houses in accordance with NBR
294.	<b>SANS 10403:2003</b>	Formatting and compilation of construction procurement documents
295.	<b>SANS 10407:2006</b>	Thatched roof construction (Code of Practice)
296.	<b>SANS 10409:2005</b>	Design, selection and installation of geo-membranes (Code of Practice)
297.	<b>SANS 10508:2008 / ISO 10508:2006</b>	Thermoplastic pipes and fittings for hot and cold water systems
298.	<b>SANS 12944 / ISO 12944</b>	Paints and varnishes – Corrosion protection of steel structures by protective paint systems
298.1	<b>Part 1:1998</b>	General introduction
298.2	<b>Part 2:1998</b>	Classification of environments
298.3	<b>Part 3:1998</b>	Design considerations
298.4	<b>Part 4:1998</b>	Types of surface and surface preparation
298.5	<b>Part 5:1998</b>	Protective paint systems
298.6	<b>Part 6:1998</b>	Laboratory performance test methods
298.7	<b>Part 7:1998</b>	Execution and supervision of paint work
298.8	<b>Part 8:1998</b>	Development and specifications for new work and maintenance
299.	<b>SANS 13006:2003 / ISO 13006:1998</b>	Ceramic tiles – definitions, classifications, characteristics and marking
300.	<b>SANS 13746:2000 / ISO 13746:2000</b>	Textile floor coverings – guidelines for installation and use on stairs
301.	<b>SANS 14001:2005 ISO 104001:2005</b>	Environmental management systems – requirements with guidance for use
302.	<b>SANS 14713:1999 / ISO 14713:1999</b>	Protection against corrosion of iron and steel in structures – Zinc and aluminium coatings – Guidelines
303.	<b>SANS 14788:2007/ ISO 14788:2005</b>	Continuous hot-dip zinc – 5% aluminium alloy coated sheet and coil
304.	<b>SANS 15874 / ISO 15874</b>	Plastic piping systems for hot and cold water installations – Polypropylene (PP)
304.1	<b>Part 1</b>	General
304.2	<b>Part 2</b>	Pipes
304.3	<b>Part 3</b>	Fittings
304.4	<b>Part 5</b>	Fitness for purpose of the system
305.	<b>SANS 15875:2004 / ISO 15875:2003</b>	Plastic piping systems for hot and cold water installation – cross-linked polyethylene (PE-X)
305.1	<b>Part 1</b>	General
305.2	<b>Part 2</b>	Pipes
305.3	<b>Part 3</b>	Fittings
305.4	<b>Part 5</b>	Fitness for purpose of the system
306.	<b>SANS 15876: 2005 / ISO 15876:2003</b>	Plastic piping systems for hot and cold water installations – polybutylene (PB)
306.1	<b>Part 1:2004</b>	General
306.2	<b>Part 2:2004</b>	Pipes
306.3	<b>Part 3:2004</b>	Fittings
306.4	<b>Part 4:2004</b>	Fitness for purpose of the system
307.	<b>SANS 15877 / ISO 15877</b>	Plastics piping systems for hot and cold water installations – poly vinyl chloride (PVC)
308.	<b>SANS 50124:1994 / EN 124:1994</b>	Gully tops and manhole tops for vehicular and pedestrian areas – design requirements, type testing, marking, quality control



309.	<b>SANS 50197 / EN 197</b>	Cement
309.1	<b>Part 1 and 2:2000</b>	Composition, specifications and conformity criteria for common cements
310.	<b>SANS 50198:1987 EN 198:1987</b>	Specifications for finishes of baths for domestic purposes, made of acrylic material
311.	<b>SANS 50295:1991 / EN 295:1991</b>	Vitrified clay pipes and fittings and pipe joints for drains and sewers
311.1	<b>Part 1:1991</b>	Requirements
311.2	<b>Part 2:1991</b>	Quality control and sampling
311.3	<b>Part 3:1991</b>	Test methods
312.	<b>SANS 50312:2007 / EN 312:2003</b>	Particle board – specifications
313.	<b>SANS 50413 / EN 413</b>	Masonry cement
313.1	<b>Part 1:2004</b>	Composition, specifications and conformity criteria
314.	<b>SANS 50572 / EN 572</b>	Glass in building – basic soda lime silicate glass products
314.1	<b>Part 1:2006</b>	Definition and general physical and mechanical properties
314.2	<b>Part 2:2006</b>	Float glass
314.3	<b>Part 3:2006</b>	Polished wire glass
314.4	<b>Part 4:2006</b>	Drawn sheet glass
314.5	<b>Part 5:2006</b>	Patterned glass
315.	<b>SANS 53811: 2006</b>	Sheradising – zinc diffusion coatings on ferrous products
316.	<b>SANS 60335:2007 / IEC 60335:2004</b>	Household and similar electrical appliances – Safety
317.	<b>SANS 60439-1:2004 / IEC 60439-1:2004</b>	Low-voltage switchgear and control gear assemblies
318.	<b>SANS 60598:2004 / IEC 60598:2004</b>	Luminaries
319.	<b>SANS 60730 / IEC 60730</b>	Automatic electrical controls for household and similar use
320.	<b>SANS 60614 / IEC 60614-1</b>	Specifications for conduits for electrical installations
321.	<b>SANS 60669 / IEC 60669-1</b>	Switches for household and similar fixed-electrical installations
322.	<b>SANS 60670: 2002 / IEC 60670: 2002</b>	Boxes and enclosures for electrical accessories for household and similar fixed-electrical installations
323.	<b>SANS 601024:1990 / IEC 601024:1990</b>	Protection of structures against lightning
324.	<b>SANS 61386:1996 / IEC 61386:1996</b>	Conduit systems for electrical installations
325.	<b>ARP 040: 1998</b>	The use of reinforcement cover devices for reinforced concrete
326.	<b>ARP 051: 2002</b>	Steel wire rope and connections
327.	<b>CKS 05:1981</b>	Laminated timber for furniture
328.	<b>CKS 82:1973</b>	Steel posts, stays standards, and droppers for strained wire fences
329.	<b>CKS 146:1972</b>	Gates, steel, with tubular frames (for farm and domestic use)
330.	<b>CKS 370:1973</b>	Adjustable steel shelving
331.	<b>CKS 371:1973</b>	Adjustable wooden shelving
332.	<b>CKS 388:1973</b>	Rubber water stops
333.	<b>CKS 389:1973</b>	Flexible PVC water stops
334.	<b>CKS 413:1974</b>	Adjustable louvered windows
335.	<b>CKS 451:1976</b>	Anti-intruder fences
336.	<b>NRS 038-2:2007</b>	Concrete poles
336.1	<b>Part 2</b>	Concrete poles for lighting applications



## 7.3 ADDENDUM C: THE NATIONAL BUILDING REGULATIONS AND BUILDING STANDARDS ACT, 1977

### NATIONAL BUILDING REGULATIONS AND BUILDING STANDARDS ACT 103 OF 1977

[ASSENTED TO 22 JUNE 1977]

[DATE OF COMMENCEMENT: 1 SEPTEMBER 1985]

*(English text signed by the State President)*

as amended by

Standards Act 30 of 1982  
National Building Regulations and Building Standards Amendment Act 36 of 1984  
National Building Regulations and Building Standards Amendment Act 62 of 1989  
National Building Regulations and Building Standards Amendment Act 49 of 1995  
Mine Health and Safety Act 29 of 1996

Regulations under this Act

NATIONAL BUILDING REGULATIONS

ACT

To provide for the promotion of uniformity in the law relating to the erection of buildings in the areas of jurisdiction of local authorities; for the prescribing of building standards; and for matters connected therewith.

#### 1 Definitions

In this Act, unless the context otherwise indicates-

'application' means an application referred to in section 4 (2);

'architect' means an architect as defined in section 1 of the Architects' Act, 1970 (Act 35 of 1970);

'architectural area' means the sum of the areas of the several floors of a building, including basements, mezzanine and intermediate floor tiers and penthouses of headroom height, measured from the exterior faces of the exterior walls;

[Definition of 'architectural area' inserted by s. 1 (a) of Act 62 of 1989.]

'building' includes-

- (a) any other structure, whether of a temporary or permanent nature and irrespective of the materials used in the erection thereof, erected or used for or in connection with-
  - (i) the accommodation or convenience of human beings or animals;
  - (ii) the manufacture, processing, storage, display or sale of any goods;  
[Sub-para (ii) substituted by s. 1 (b) of Act 62 of 1989.]
  - (iii) the rendering of any service;
  - (iv) the destruction or treatment of refuse or other waste materials;
  - (v) the cultivation or growing of any plant or crop;
- (b) any wall, swimming bath, swimming pool, reservoir or bridge or any other structure connected therewith;
- (c) any fuel pump or any tank used in connection therewith;



- (d) any part of a building, including a building as defined in paragraph (a), (b) or (c);
- (e) any facilities or system, or part or portion thereof, within or outside but incidental to a building, for the provision of a water supply, drainage, sewerage, stormwater disposal, electricity supply or other similar service in respect of the building;

[Para. (e) added by s. 1 (c) of Act 62 of 1989.]

'**building control officer**' means any person appointed or deemed to be appointed as building control officer by a local authority in terms of section 5;

'**bureau**' means the bureau as defined in section 1 of the Standards Act;

'**code of practice**' means code of practice as defined in section 1 of the Standards Act;

'**compulsory standard specification**' .....

[Definition of 'compulsory standard specification' deleted by s. 1 (a) of Act 36 of 1984.]

'**council**' means the council as defined in section 1 of the Standards Act;

'**directive**' means a directive made in terms of section 17 (4);

'**erection**', in relation to a building, includes the alteration, conversion, extension, rebuilding, re-erection, subdivision of or addition to, or repair of any part of the structural system of, any building; and '**erect**' shall have a corresponding meaning;

[Definition of 'erection' substituted by s. 1 (e) of Act 62 of 1989.]

'**land surveyor**' means a land surveyor as defined in section 49 of the Land Survey Act, 1927 (Act 9 of 1927);

'**local authority**' means-

- (a) any institution, council or body contemplated in section 84 (1) (f) of the Provincial Government Act, 1961 (Act 32 of 1961);
- (b) .....
- (c) any statutory body designated by the Minister, after consultation with the Administrator of the province in question, by notice in the *Gazette* as a local authority for the purposes of this Act or any provision thereof;

[Definition of 'local authority' substituted by s. 1 (f) of Act 62 of 1989.]

'**Minister**' means the Minister of Economic Affairs and Technology;

[Definition of 'Minister' substituted by s. 1 (b) of Act 36 of 1984 and by s. 1 (d) of Act 62 of 1989.]

'**national building regulations**' means the national building regulations made in terms of section 17;

'**owner**', in relation to a building or land, means the person in whose name the land on which such building was or is erected or such land, as the case may be, is registered in the deeds office in question. Provided that if-

- (a) such person, in the case of a natural person, is deceased or was declared by any court to be incapable of managing his own affairs or a prodigal or is a patient as defined in section 1 of the Mental Health Act, 1973 (Act 18 of 1973), or if his estate has been sequestrated, the executor or curator concerned, as the case may be;



- (b) such person, in the case of a juristic person, has been liquidated or placed under judicial management, the liquidator or judicial manager concerned, as the case may be;
- (c) such person is absent from the Republic or if his whereabouts are unknown, any person who, as agent or otherwise, undertakes the management, maintenance or collection of rentals or other moneys in respect of such building or land or who is responsible therefor;

[Para. (c) substituted by s. 1 (c) of Act 36 of 1984.]

- (d) the local authority in question is unable to determine the identity of such person, any person who is entitled to the benefit of the use of such building or land or who enjoys such benefit,

shall be deemed to be the owner of such building or land;

**'professional engineer'** .....

[Definition of 'professional engineer' deleted by s. 1 (a) of Act 49 of 1995.]

**'registered person'** means a person defined in section 1 of the Engineering Profession of South Africa Act, 1990 (Act 114 of 1990), as a certificated engineer, engineering technician, professional engineer or professional technologist (engineering);

[Definition of 'registered person' inserted by s. 1 (b) of Act 49 of 1995.]

**'regulations'** means the regulations made in terms of section 20;

**'review board'** means the review board referred to in section 9;

**'specification'** means a specification as defined in section 1 of the Standards Act;

[Definition of 'specification' inserted by s. 1 (d) of Act 36 of 1984.]

**'standard method'** means a standard method as defined in section 1 of the Standards Act;

**'Standards Act'** means the Standards Act, 1982 (Act 30 of 1982);

[Definition of 'Standards Act' substituted by s. 1 (e) of Act 36 of 1984.]

**'statutory body'** means any board, fund, institution, company, corporation or other organization established or constituted by or under any law;

**'structural system'**, in relation to a building, means the system of constructional elements and components of any building which is provided to resist the loads acting upon it and to transfer such loads to the ground upon which the foundation of the building rests;

[Definition of 'structural system' inserted by s. 1 (g) of Act 62 of 1989.]

**'Territory'** .....

[Definition of 'Territory' deleted by s. 1 (f) of Act 36 of 1984.]

**'this Act'** includes the national building regulations made and directives issued in terms of it.

## 2 Application of Act

(1) Subject to the provisions of any notice published in terms of subsection (2), the provisions of this Act shall apply in the area of jurisdiction of any local authority.



4

(2) (a) The Minister may, on such conditions as he may think fit and after consultation with the council and the Administrator of the province in question, of his own accord or at the request of a local authority or any other person, by notice in the *Gazette* exempt the area of jurisdiction, or any part thereof, of any local authority from the application of this Act, or of any provision or provisions thereof which are mentioned in the notice.

[Para. (a) substituted by s. 2 (a) of Act 36 of 1984 and by s. 2 (a) of Act 62 of 1989.]

(b) Different notices may in terms of paragraph (a) be published in respect of different local authorities or different categories of local authorities.

(3) Subject to the provisions of subsection (4) this Act shall not bind the State.

(4) In respect of any building to be erected by or on behalf of the State, such plans, specifications and certificate as may be prescribed by national building regulation, shall before the commencement of such erection be lodged with the local authority in question for its information and comment: Provided that the Minister may-

- (a) if he, with the concurrence of the Minister of Defence, the Minister of Law and Order and the Minister of Justice, is of the opinion that the erection or proposed erection of any building or class of buildings by or on behalf of the State is in the interest of or connected with the security of the Republic, exempt the State in relation to any such building or class of buildings;

[Para. (a) substituted by s. 2 (b) of Act 36 of 1984 and by s. 2 (b) of Act 62 of 1989.]

- (b) by virtue of economic considerations, necessity or expediency, exempt the State, either generally or in any particular case,

after notice in writing to the local authority in question, from the provisions of this subsection.

[NB: In terms of s. 36 (2) of the Legal Succession to the South African Transport Services Act 9 of 1989, the references to 'the State' in subsections (3) and (4) above are to be construed as having included the Company (Transnet Limited) and the Corporation (the South African Rail Commuter Corporation Limited) during the period 1 April 1990 to 1 April 1992.]

(5) Subject to the provisions of subsections (7) and (8), the Minister may, on such conditions as he may think fit and with the concurrence of the Minister of Defence, exempt the owner of-

- (a) any place as defined in section 1 of the National Key Points Act, 1980 (Act 102 of 1980)-
  - (i) that has been declared a National Key Point in terms of section 2 of the said Act; or
  - (ii) in respect of which the Minister of Defence has certified that it will be declared a National Key Point under the said section 2 of that Act; or
- (b) any prohibited place as defined in section 1 (1) of the Protection of Information Act, 1982 (Act 84 of 1982).

after notice in writing to the local authority in question from the provisions of this Act.

[Sub-s. (5) added by s. 2 (c) of Act 62 of 1989.]

(6) Subject to the provisions of subsection (7), the owner of any building which is or is to be erected on mining property and which is or is to be used exclusively for the operation of a mine or any works or machinery, as defined in the Mines and Works Act, 1956 (Act 27 of 1956), and which is in terms of section 2 of that Act subject to the supervision of the Chief Inspector as contemplated in the Mine Health and Safety Act, 1996, shall be exempted from the provisions of this Act.

[Sub-s. (6) added by s. 2 (c) of Act 62 of 1989 and amended by s. 99 of Act 29 of 1996.]



5

(7) An owner shall in respect of the erection or proposed erection of a building with regard to which an exemption contemplated in subsection (4), (5) or (6) applies, and in connection with-

- (a) connections to electricity supply, water supply, sewer and stormwater drainage systems;
- (b) provision on the relevant site for parking of more than 100 vehicles;
- (c) service by the local authority's fire brigade in place of or in addition to any fire protection service provided by the owner.

supply the local authority concerned with sufficient details to enable such local authority to-

- (i) provide any connection, road traffic control and fire brigade service which may be required; or
- (ii) give notice in writing to such owner that it cannot so provide any such service.

[Sub-s. (7) added by s. 2 (c) of Act 62 of 1989.]

(8) The owner of a National Key Point in respect of which an exemption contemplated in subsection (5) applies, shall, if the provisions of the National Key Points Act, 1980 (Act 102 of 1980), cease to apply in respect of him, forthwith submit to the local authority concerned such plans, specifications and certificates as may be prescribed by the national building regulations, and shall comply with such requirements of this Act as should in the opinion of that local authority be complied with to ensure the safety and health of the occupants of any relevant building.

[Sub-s. (8) added by s. 2 (c) of Act 62 of 1989.]

**3 Duties of draftsmen of plans, specifications, documents and diagrams**

Any person who prepared any plan, specification, document or diagram submitted in terms of this Act shall affix his name and address and, in the case of an architect, land surveyor or registered person, also his profession and registration number, if any, to such plan, specification, document or diagram.

[S. 3 substituted by s. 2 of Act 49 of 1995.]

**4 Approval by local authorities of applications in respect of erection of buildings**

(1) No person shall without the prior approval in writing of the local authority in question, erect any building in respect of which plans and specifications are to be drawn and submitted in terms of this Act.

(2) Any application for approval referred to in subsection (1) shall be in writing on a form made available for that purpose by the local authority in question.

(3) Any application referred to in subsection (2) shall-

- (a) contain the name and address of the applicant and, if the applicant is not the owner of the land on which the building in question is to be erected, of the owner of such land;
- (b) be accompanied by such plans, specifications, documents and information as may be required by or under this Act, and by such particulars as may be required by the local authority in question for the carrying out of the objects and purposes of this Act.

(4) Any person erecting any building in contravention of the provisions of subsection (1) shall be guilty of an offence and liable on conviction to a fine not exceeding R.100 for each day on which he was engaged in so erecting such building.

**5 Appointment of building control officer by local authority**

(1) Subject to the provisions of subsection (3) a local authority shall appoint a person as building control officer in



6

order to exercise and perform the powers, duties or activities granted or assigned to a building control officer by or under this Act.

(2) Any person not having the qualifications prescribed by national building regulation in respect of a building control officer shall not without the approval in writing of the Minister be appointed as building control officer in terms of subsection (1).

(3) Subsection (1) shall also be construed so as to enable-

- (a) two or more than two local authorities to appoint, on such conditions as they may agree to, one person as building control officer for all such local authorities;
- (b) a local authority from time to time to appoint a person temporarily as building control officer;
- (c) a local authority, with the approval in writing of any other local authority and on such conditions as they may agree to, to make use of the services of any person appointed as building control officer by such other local authority.

(4) Any person who-

- (a) immediately before the date of commencement of this Act was employed by a local authority in order to perform as controlling officer any activities substantially the same as the activities referred to in section 6 (1); and
- (b) on such date is still so employed,

shall be deemed to have been appointed in terms of this section as building control officer by such local authority.

**6 Functions of building control officers**

(1) A building control officer shall-

- (a) make recommendations to the local authority in question, regarding any plans, specifications, documents and information submitted to such local authority in accordance with section 4 (3);
- (b) ensure that any instruction given in terms of this Act by the local authority in question be carried out;
- (c) inspect the erection of a building, and any activities or matters connected therewith, in respect of which approval referred to in section 4 (1) was granted;
- (d) report to the local authority in question, regarding non-compliance with any condition on which approval referred to in section 4(1) was granted.

(2) When a fire protection plan is required in terms of this Act by the local authority, the building control officer concerned shall incorporate in his recommendations referred to in subsection (1) (a) a report of the person designated as the chief fire officer by such local authority, or of any other person to whom such duty has been assigned by such chief fire officer, and if such building control officer has also been designated as the chief fire officer concerned, he himself shall so report in such recommendations.

[Sub-s. (2) substituted by s. 3 (a) of Act 62 of 1989.]

(3) .....

[Sub-s. (3) deleted by s. 3 (b) of Act 62 of 1989.]

(4) This section shall not be construed so as to prohibit a local authority from granting or entrusting to a building control officer any powers, duties or activities not connected with this Act or to prohibit any building control officer, with the approval of a local authority, from delegating to an officer under his control any power, duty or function granted or



entrusted to building control officers in terms of this Act.

**7 Approval by local authorities in respect of erection of buildings**

(1) If a local authority, having considered a recommendation referred to in section 6 (1) (a)-

(a) is satisfied that the application in question complies with the requirements of this Act and any other applicable law, it shall grant its approval in respect thereof.

[Para. (a) substituted by s. 4 (a) of Act 62 of 1989.]

(b) (i) is not so satisfied; or

(ii) is satisfied that the building to which the application in question relates-

(aa) is to be erected in such manner or will be of such nature or appearance that-

(aaa) the area in which it is to be erected will probably or in fact be disfigured thereby;

(bbb) it will probably or in fact be unsightly or objectionable;

(ccc) it will probably or in fact derogate from the value of adjoining or neighbouring properties;

(bb) will probably or in fact be dangerous to life or property,

such local authority shall refuse to grant its approval in respect thereof and give written reasons for such refusal.

[Para. (b) amended by s. 4 (b) of Act 62 of 1989.]

Provided that the local authority shall grant or refuse, as the case may be, its approval in respect of any application where the architectural area of the building to which the application relates is less than 500 square metres, within a period of 30 days after receipt of the application and, where the architectural area of such building is 500 square metres or larger, within a period of 60 days after receipt of the application.

[Sub-s. (1) amended by s. 4 (c) of Act 62 of 1989.]

(2) -----

[Sub-s. (2) deleted by s. 4 (d) of Act 62 of 1989.]

(3) When a local authority has granted its approval in accordance with subsection (1) (a) in respect of any application, such approval shall be endorsed on at least one of the copies of the plans, specifications and other documents in question returned to the applicant.

(4) Any approval granted by a local authority in accordance with subsection (1) (a) in respect of any application shall lapse after the expiry of a period of 12 months as from the date on which it was granted unless the erection of the building in question is commenced or proceeded with within the said period or unless such local authority extended the said period at the request in writing of the applicant concerned.

(5) Any application in respect of which a local authority refused in accordance with subsection (1) (b) to grant its approval, may, notwithstanding the provisions of section 22, at no additional cost and subject to the provisions of subsection (1) be submitted anew to the local authority within a period not exceeding one year from the date of such refusal-

(a) (i) if the plans, specifications and other documents have been amended in respect of any aspect



8

thereof which gave cause for the refusal; and

- (ii) if the plans, specifications and other documents in their amended form do not substantially differ from the plans, specifications or other documents which were originally submitted; or
- (b) where an application is submitted under section 18.

[Sub-s. (5) substituted by s. 4 (e) of Act 62 of 1989.]

(6) The provisions of this section shall not be construed so as to prohibit a local authority, before granting or refusing its approval in accordance with subsection (1) in respect of an application, from granting at the written request of the applicant and on such conditions as the local authority may think fit, provisional authorization to an applicant to commence or proceed with the erection of a building to which such application relates.

[Sub-s. (6) substituted by s. 4 (f) of Act 62 of 1989.]

(7) (a) An application which is substantially the same as an application referred to in this Act and which before the date of commencement of this Act has been lodged with a local authority for its consideration and in respect of which such local authority on that date has not yet granted or refused its approval, shall be considered by such local authority as if this Act had not been passed.

(b) Approval granted by a local authority before the date of commencement of this Act in respect of an application substantially the same as an application referred to in this Act, shall be deemed to have been granted in terms of this section if the erection of the building in question has not been commenced with before the said date.

#### **8 Power of court in respect of approval by local authority**

(1) If a local authority fails to grant or refuse timeously its approval in accordance with section 7 in respect of an application, a court may on the application of the applicant concerned make an order directing such local authority to perform its duties and exercise its powers in accordance with that section within the period stated in such order, or make such other order as it may deem just.

(2) Notwithstanding anything to the contrary contained in any law relating to magistrates' courts, a magistrate shall have the jurisdiction to make any order referred to in subsection (1).

#### **9 Appeal against decision of local authority**

(1) Any person who-

- (a) feels aggrieved by the refusal of a local authority to grant approval referred to in section 7 in respect of the erection of a building;
- (b) feels aggrieved by any notice of prohibition referred to in section 10; or
- (c) disputes the interpretation or application by a local authority of any national building regulation or any other building regulation or by-law,

may, within the period, in the manner and upon payment of the fees prescribed by regulation, appeal to a review board.

[Sub-s. (1) substituted by s. 5 of Act 62 of 1989.]

(2) The review board referred to in subsection (1) shall consist of-

- (a) a chairman designated by the Minister; and
- (b) two persons appointed for the purpose of any particular appeal by the said chairman from persons whose names are on a list compiled in the manner prescribed by regulation.

**10 Erection of buildings in certain circumstances subject to prohibition or conditions**

(1) If any building or earthwork-

(a) in the opinion of the local authority in question is being or is to be erected in such manner that it-

- (i) will not be in the interest of good health or hygiene;
- (ii) will be unsightly or objectionable;
- (iii) will probably or in fact be a nuisance to the occupiers of adjoining or neighbouring properties;
- (iv) will probably or in fact derogate from the value of adjoining or neighbouring properties;

(b) is being or is to be erected on a site which is subject to flooding or on a site which or any portion of which in the opinion of the local authority in question does not drain properly or is filled up or covered with refuse or material impregnated with matter liable to decomposition,

such local authority may by notice in writing, served by post or delivered, prohibit the person erecting such building or earthwork or causing such building or earthwork to be erected from commencing or proceeding with the erection thereof or from so commencing or proceeding except on such conditions as such local authority may determine from time to time.

(2) Any person who fails to comply with any provision of a notice or condition referred to in subsection (1) shall be guilty of an offence and liable on conviction to a fine not exceeding R100 for each day on which he so failed.

**11 Erection of buildings subject to time limit**

(1) If for a period exceeding 3 months the erection of a building is not proceeded with, the local authority in question may by notice in writing, served by post or delivered, order the owner of such building to resume and to complete the erection of such building within the periods specified in such notice.

(2) If the owner of a building on or to whom a notice referred to in subsection (1) was served or delivered, fails to resume or complete the erection of such building within the periods specified in such notice, the local authority in question may extend such periods from time to time if such owner satisfies it that such failure was due to circumstances beyond his control.

(3) If the owner of a building on or to whom a notice referred to in subsection (1) was served or delivered, fails to resume or to complete the erection of such building within the periods specified in such notice or, when applicable, within such periods as extended in accordance with subsection (2), and the local authority in question is of the opinion that such building is unsightly or dangerous to life or property or derogates from the value of adjoining or neighbouring properties, such local authority may by notice in writing, served by post or delivered, order such owner to demolish such building, to remove the material of which such building consisted and any other material or rubbish from the site in question, and to otherwise clean up such site within the period specified in the lastmentioned notice.

(4) If the owner of a building fails to comply with a notice served on or delivered to him in accordance with subsection (3) in respect of such building, the local authority in question may demolish such building, remove the material of which such building consisted and any other material or rubbish from the site in question and otherwise clean up such site, and may recover the costs thereof from such owner: Provided that such local authority may sell such material and may utilize the proceeds of such sale to defray the costs of such demolition, removal or clean-up and shall pay the balance, if any, of such proceeds to such owner.

(5) Any approval granted by a local authority in accordance with section 7 (1) (a) in respect of any application shall lapse as soon as a notice in terms of subsection (3) is served on or delivered to the owner of the building in question in respect of such building.

**12 Demolition or alteration of certain buildings**

(1) If the local authority in question is of the opinion that-



- (a) any building is dilapidated or in a state of disrepair or shows signs thereof;
- (b) any building or the land on which a building was or is being or is to be erected or any earthwork is dangerous or is showing signs of becoming dangerous to life or property,

it may by notice in writing, served by post or delivered, order the owner of such building, land or earthwork, within the period specified in such notice to demolish such building or to alter or secure it in such manner that it will no longer be dilapidated or in a state of disrepair or show signs thereof or be dangerous or show signs of becoming dangerous to life or property or to alter or secure such land or earthwork in such manner that it will no longer be dangerous or show signs of becoming dangerous to life or property. Provided that if such local authority is of the opinion that the condition of any building, land or earthwork is such that steps should forthwith be taken to protect life or property, it may take such steps without serving or delivering such notice on or to the owner of such building, land or earthwork and may recover the costs of such steps from such owner.

(2) If the condition of any building or the land on which a building was or is being or is to be erected or any earthwork is such that it is dangerous to life or property, the owner of such building, land or earthwork shall forthwith notify the local authority in question thereof.

(3) (a) If the condition of any building or the land on which a building was or is being or is to be erected or any earthwork is such that it is dangerous or is showing signs of becoming dangerous to life or property, the local authority, irrespective of whether it was notified in terms of subsection (2), may by notice in writing, served by post or delivered, order the owner of such building, land or earthwork to instruct at the cost of such owner an architect or a registered person to investigate such condition and to report to such local authority on the nature and extent of the steps to be taken, in the opinion of such architect or registered person, in order to render such building, land or earthwork safe.

[Para. (a) substituted by s. 3 (a) of Act 49 of 1995.]

(b) The local authority in question may by notice in writing, served by post or delivered, order that any activities be stopped or prohibit the performance of any activities which may increase the danger or hinder or obstruct the architect or registered person referred to in paragraph (a) from properly carrying out the investigation referred to in that paragraph.

[Para. (b) substituted by s. 3 (a) of Act 49 of 1995.]

(c) If it is brought to the attention of a local authority or appears that an architect or registered person instructed in terms of paragraph (a) to perform certain duties is for any reason not competent to carry out the duties in question, the local authority may require such architect or registered person to submit evidence of his or her competence to carry out such duties.

[Para. (c) added by s. 3 (b) of Act 49 of 1995.]

(d) If the architect or registered person contemplated in paragraph (c) is unable to satisfy the local authority of his or her competence to carry out the duties in question, the local authority may order the owner of the building, land or earthwork in question to instruct another architect or registered person to carry out the duties.

[Para. (d) added by s. 3 (b) of Act 49 of 1995.]

(4) If the local authority in question deems it necessary for the safety of any person, it may by notice in writing, served by post or delivered-

- (a) order the owner of any building to remove, within the period specified in such notice, all persons occupying or working or being for any other purpose in such building therefrom, and to take care that any person not authorized by such local authority does not enter such building;
- (b) order any person occupying or working or being for any other purpose in any building, to vacate such building immediately or within a period specified in such notice.

(5) No person shall occupy or use or permit the occupation or use of any building in respect of which a notice was



[Sub-s. (1) substituted by s. 8 of Act 62 of 1989.]

(2) Any person who hinders or obstructs any building control officer or person authorized by the local authority in question in the exercise of his powers in terms of subsection (1), shall be guilty of an offence.

(3) Any building control officer shall, at the request of any person affected by the execution of any of his powers, duties or activities in terms of this Act, produce his certificate of appointment issued to him in the form prescribed by national building regulation.

#### **16 Report on adequacy of certain measures and on certain building projects**

(1) The Minister, after consultation with the Administrator of a province in which the area of jurisdiction of a local authority is situated, may order such local authority to report to him on-

- (a) the adequacy of measures in or in connection with buildings in its area of jurisdiction against fire, floods or other disasters and to make recommendations in order to remove any inadequacies in such measures;
- (b) any particular building project which was or is being undertaken in its area of jurisdiction.

[Sub-s. (1) amended by s. 3 of Act 36 of 1984.]

(2) If the Minister is satisfied that any local authority is unable to report as contemplated in subsection (1), he may order the bureau so to report.

(3) For the purposes of this section the local authority concerned or the bureau, as the case may be, shall have such powers, duties and functions as may be prescribed by regulation.

#### **17 National building regulations and directives**

(1) The Minister may after consultation with the council make regulations, to be known as national building regulations-

- (a) regarding the preparation, submission and approval of plans and specifications of buildings, including the approval of amendments or alterations to plans and specifications of buildings during the erection thereof;
- (b) to provide for inspections and tests in respect of buildings, whether before or during the erection or after the completion of the erection thereof, including the powers of building control officers in that regard, and the steps to be taken in order to prevent any nuisance which may occur before, during or after the completion thereof;
- (c) regarding the nature and preparation of sites on which buildings are to be erected;
- (d) regarding the strength and stability of buildings;
- (e) to provide for the requirements with which buildings shall comply in so far as precautionary measures against fires or other emergencies are concerned, including the resistance of buildings against the outbreak and spreading of fires, the protection of the occupants or users of buildings or other persons against fires, the aids or other installations to be in buildings for the combating or prevention of fires and for the vacating of such buildings in cases of fires or other emergencies;
- (f) regarding the resistance of buildings against floods, moisture, the transmission of heat, sound or other injurious factors, and infestation by insects, vermin or other pests;
- (g) regarding the durability and other desirable properties of buildings;
- (h) regarding the provision of water and of sewerage and drainage services in respect of buildings, including the compulsory connection with the supply, distribution or sewerage disposal works in question of local



authorities;

- (i) regarding the ventilation and the provision for daylight in respect of buildings, including the provision of open spaces in connection therewith;
- (j) regarding the heating and artificial lighting of buildings;
- (k) regarding the supply and installing in respect of buildings of gas or electrical equipment, installations or service, including the supply and manner of installing of gas or electrical equipment for purposes of cooking or heating, or preventing, controlling or restricting the emission of smoke or other offensive fumes;
- (l) to regulate, restrict or prohibit the use to which any building or categories of buildings may be put;
- (m) to regulate, restrict or prohibit access to buildings, irrespective of whether erection thereof is completed, or the sites on which buildings were or are being erected;
- (n) regarding the prevention of dangers or obstructions during or in connection with the erection of buildings, including the prevention of danger on adjoining or neighbouring premises, pavements, streets and other public places;
- (o) to regulate, restrict or prohibit the erection of temporary buildings and the occupation or use thereof or access thereto;
- (p) regarding the protection of property, including public streets, places or open spaces, of local authorities or other persons during or in connection with the erection of buildings;
- (q) to regulate, restrict or prohibit the performance of certain activities or categories of activities in or in connection with the erection of buildings by or under the supervision of other persons than persons having specified qualifications, experience or training;
- (r) subject to the provisions of the Housing Act, 1966 (Act 4 of 1966), regarding the demolition of buildings and matters connected therewith;
- (s) regarding the powers, duties and functions of local authorities if buildings were or are being erected or used in contravention of the provisions of this Act or any other law in force immediately before the date of commencement of this Act or of any approval or authority granted in terms of this Act or the said other law or if no such approval or authority was granted for the erection of such buildings;
- (t) regarding the general safety, health and convenience of the public in so far as they relate to the erection of buildings;
- (u) regarding the safety, health and convenience of occupiers or users of buildings or of persons otherwise present in buildings or having access thereto, and the compulsory installing or supplying of equipment, installations or services in connection therewith;
- (v) regarding any other matter which in terms of this Act is required or permitted to be prescribed by national building regulations;
- (w) regarding, generally, any other matter deemed necessary or expedient by the council with the concurrence of the Minister in order to achieve the objects of this Act.

(2) Different national building regulations may in terms of subsection (1) be made in respect of different buildings or categories of buildings, uses of buildings, areas or categories of areas, local authorities or categories of local authorities, or portions or categories of portions of the areas of jurisdiction of local authorities.

(3) (a) When a national building regulation is published in the *Gazette*, the Minister shall publish together with it a notice calling upon all interested persons to lodge any objections which they have against such building regulation in



writing with the council within the period specified in such notice.

(b) A national building regulation referred to in paragraph (a) shall come into operation on a date fixed by the Minister by notice in the *Gazette* with regard to the period referred to in the said paragraph: Provided that the Minister, with the concurrence of the council, may in such notice alter such national building regulation in accordance with any objection lodged in respect thereof in terms of paragraph (a) without complying with the provisions of the said paragraph in respect of the national building regulation so altered.

(4) If the Minister after consultation with the council is satisfied that any of or all the applicable national building regulations are inadequate or do not make any provision in respect of any particular building or buildings and that for sound reasons it shall not be expedient to amend such national building regulations or make any further national building regulations, as the case may be, the Minister may, having in writing notified the local authority in question, by notice in the *Gazette* or by notice sent by post or delivered-

- (a) exempt the owner of the land on which any such building is being or is to be erected from the provisions of such applicable national building regulations; and
- (b) allow such owner to erect such building or buildings or to proceed with or complete the erection thereof in accordance with the applicable national building regulations from which he was not so exempted, if any, and the directives specified in such notice: Provided that no such directive may relate to any matter not specified in subsection (1).

(5) (a) Notwithstanding anything to the contrary contained in any law the Minister may, if he is of the opinion that it is necessary or expedient for the proper compliance with or operation of any of or all the national building regulations or directives that any servitude or restrictive condition or other provisions applicable in respect of any land by or under any law or registered in respect of any land in terms of the Deeds Registries Act, 1937 (Act 47 of 1937), or otherwise applicable in respect of land, be removed or amended, after consultation with the Administrator of the province in which such land is situated and after compliance with the procedure prescribed by regulation, by notice in the *Gazette* remove or, to such extent as he may indicate, amend such servitude, condition or provision.

[Para. (a) substituted by s. 4 (a) of Act 36 of 1984.]

(b) On the publication of a notice referred to in paragraph (a) the Registrar of Deeds concerned shall in respect of the removal or amendment of the servitude, condition or provision in question, make suitable entries in the registers in his office, and when the title deed of any land to which such notice relates is for any purpose submitted to such Registrar he shall endorse such removal or amendment on such title deed.

(6) Any provision occurring in a specification, standard specification, code of practice or standard method may be incorporated in a directive by mere reference, and in regard to such an incorporation the provisions of section 33 of the Standards Act shall *mutatis mutandis* apply as if it were an incorporation in a law.

[Sub-s. (6) substituted by s. 4 (b) of Act 36 of 1984.]

(7) The national building regulations or any directive may provide that, without fully defining any particular materials or methods of erection, in so far as quality and standards are concerned the use or employment of any specified materials or methods of erection or compliance with any specified specification, standard specification, code of practice or standard method shall be deemed to comply with the quality and standard required by such national building regulations or directive.

[Sub-s. (7) substituted by s. 4 (c) of Act 36 of 1984.]

(8) In the national building regulations provisions may be included which the Minister deems necessary to ensure, notwithstanding the provisions of any other applicable law or the issue of a certificate of occupancy in terms of section 14, the essential maintenance or repair of any building or the efficient operation of any equipment or machinery installed therein.

[Sub-s. (8) added by s. 9 of Act 62 of 1989.]



## **18 Deviation and exemption from national building regulations:**

(1) A local authority may, at the request in writing of the owner of any building or any person having an interest therein, in respect of the erection of such building or the land on which it is being or is to be erected, in writing permit a deviation or grant an exemption from any applicable national building regulation except a national building regulation regarding the strength and stability of buildings.

(2) The council may, at the request in writing of the owner of any building or any person having an interest therein and after consultation with the local authority in question, in respect of the erection of such building or the land on which it is being or is to be erected, in writing permit a deviation or grant an exemption from any applicable national building regulation relating to the strength and stability of buildings.

## **19 Prohibition on use of certain methods or materials**

(1) If the Minister, after consultation with the council and notwithstanding anything to the contrary contained in any law, is satisfied that any method or material used or to be used in the erection of any building will not be in the public interest or will be dangerous to life or property, the Minister may, having in writing notified the local authority in question, by notice in the *Gazette* or by notice sent by post or delivered, prohibit the owner of the land on which such building is being or is to be erected from using such method or material in such erection.

(2) Any person who contravenes or fails to comply with the provisions of a notice referred to in subsection (1) shall be guilty of an offence and liable on conviction to a fine not exceeding R100 for each day on which he so contravened or failed.

## **20 Regulations**

(1) The Minister may make regulations-

- (a) regarding the procedure to be followed at the hearing of an appeal by a review board;
- (b) regarding the powers, duties and functions of a review board, including the power to summon witnesses for the purposes of hearing an appeal and to administer an oath or to accept an affirmation from any witness;
- (c) regarding the costs in connection with an appeal to a review board;
- (d) to prescribe the further matters in respect of which an appeal may be lodged with a review board;
- (e) in order, with the concurrence of the Minister of Finance, to prescribe the remuneration and travel and subsistence allowances payable to members, except members in the full-time employ of the State or the bureau, of a review board;
- (f) regarding any other matter which in terms of this Act is required or permitted to be prescribed by regulation.

(2) Any regulation made under this section may prescribe that any person who contravenes or fails to comply with such regulation shall be guilty of an offence and liable on conviction to a fine not exceeding R200 or to imprisonment for a period not exceeding 2 months.

## **21 Order in respect of erection and demolition of buildings**

Notwithstanding anything to the contrary contained in any law relating to magistrates' courts, a magistrate shall have jurisdiction, on the application of any local authority or the Minister, to make an order prohibiting any person from commencing or proceeding with the erection of any building or authorizing such local authority to demolish such building if such magistrate is satisfied that such erection is contrary to or does not comply with the provisions of this Act or any approval or authorization granted thereunder.

## **22 Power of local authorities relating to rates, taxes, fees and other moneys**



The provisions of this Act shall not derogate from any power conferred by or under any other law upon any local authority to levy, receive or charge any rates, taxes, fees or other moneys in respect of any building or land or to levy, receive or charge moneys in connection with the examination of plans, specifications or information or the performance of any other duties in terms of this Act.

### **23 Exemption from liability**

No approval, permission, report, certificate or act granted, issued or performed in terms of this Act by or on behalf of any local authority or the council in connection with a building or the design, erection, demolition or alteration thereof, shall have the effect that-

- (a) such local authority or the council be liable to any person for any loss, damage, injury or death resulting from or arising out of or in any way connected with the manner in which such building was designed, erected, demolished or altered or the material used in the erection of such building or the quality of workmanship in the erection, demolition or alteration of such building;
- (b) the owner of such building be exempted from the duty to take care and to ensure that such building be designed, erected, completed, occupied and used or demolished or altered in accordance with the provisions of this Act and any other applicable law;
- (c) any person be exempted from the provisions of any other law applicable in the area of jurisdiction of such local authority.

[S. 23 substituted by s. 10 of Act 62 of 1989.]

### **24 General penalty clause**

Any person convicted of an offence under this Act in respect of which a fine or imprisonment is not expressly provided for, shall be liable to a fine not exceeding R4000 or to imprisonment for a period not exceeding 12 months.

[S. 24 substituted by s. 11 of Act 62 of 1989.]

### **25 Presumption**

If in any prosecution for an offence in terms of this Act it is necessary, in order to establish the charge against the accused, to prove that he failed to comply with the requirements of this Act relating to standard or quality of materials, design or workmanship, an allegation in the charge sheet that such accused so failed, shall be sufficient proof thereof unless the contrary is proved.

### **26 Payment of certain moneys to local authorities**

Notwithstanding anything to the contrary contained in any law all moneys recovered by way of fines or estreated bail in connection with any offence in terms of this Act, except an offence referred to in section 20 (2), shall be paid to the local authority concerned.

### **27 Powers of Minister in respect of certain local authorities**

(1) If the Minister, after consultation with the council and the Administrator of the province in question, is satisfied that a local authority fails to apply any relevant provision of this Act properly in its area of jurisdiction, the Minister may by notice in writing, served by post or delivered, order such local authority to so apply such provision forthwith.

[Sub-s. (1) substituted by s. 5 (a) of Act 36 of 1984.]

(2) If a local authority without reasonable cause fails to comply within a reasonable time with the provisions of any notice served on or delivered to it in terms of subsection (1), the Minister, after consultation with the council and the Administrator of the province in question, may by notice in the *Gazette* deprive such local authority of any power or



exempt it from any duty conferred upon or entrusted to it by or in terms of this Act and confer such power or entrust such duty to any person, including such Administrator, mentioned in such notice, and thereupon such person shall for the purposes of such power or duty be deemed to be such local authority.

[Sub-s. (2) substituted by s. 5 (b) of Act 36 of 1984.]

(3) Any notice published in the *Gazette* in terms of subsection (2) may be withdrawn in like manner.

## 28 Delegations of powers

(1) The Minister may on such conditions as he may think fit, in writing delegate any power conferred on him by or under this Act, other than a power referred to in section 2 (2) or (4), 9 (2), 17, 19, 20, 27 or 29, to the director-general of the bureau, but the delegation of any such power shall not prevent the exercise thereof by the Minister himself.

[Sub-s. (1) substituted by s. 12 of Act 62 of 1989.]

(2) The council may in writing delegate any power conferred upon it-

- (a) by or under this Act, other than a power referred to in section 17 or 27, to the director-general of the bureau;
- (b) in terms of section 18 (2), on such conditions as it generally or in any particular case may think fit, to any local authority or category of local authorities,

but the delegation of any such power shall not prevent the exercise thereof by the council itself.

(3) The director-general of the bureau may in writing delegate any power delegated to him in terms of subsection (1) or (2) to any person in the employ of the bureau, but the delegation of any such power shall not prevent the exercise thereof by the director-general himself.

(4) Any local authority may in writing delegate any power conferred upon it by or under this Act, other than a power referred to in section 5, to any committee appointed by it or to any person in its employ, but the delegation of any such power shall not prevent the exercise thereof by such local authority itself.

## 29 Repeal of laws

(1) Subject to the provisions of section 31 the provisions of any law applicable to any local authority are hereby repealed in so far as they confer a power to make building regulations or by-laws regarding any matter provided for in this Act: Provided that such provisions shall be deemed not to have been repealed in respect of-

- (a) any such building regulation or by-law which has not been replaced by or which is not repugnant to any national building regulation;
- (b) the area of jurisdiction, or any part thereof, of any local authority in so far as it has in terms of section 2 (2) been exempted from the application of any national building regulation, irrespective of whether such area of jurisdiction or part was exempted after the commencement of such national building regulation.

(2) A local authority shall within six months after the coming into operation of the National Building Regulations and Building Standards Amendment Act, 1989, submit any building regulation or by-law referred to in paragraph (a) of subsection (1), and any standard building regulation referred to in the proviso to section 31, which is applied by the local authority by reason thereof that it is considered that the regulation or by-law, or standard building regulation, has not lapsed by virtue of subsection (1) or section 31, as the case may be, in consolidated form in both official texts to the Minister.

[Sub-s. (2) added by s. 13 of Act 62 of 1989.]

(3) The Minister shall consider a regulation or by-law, or standard building regulation, referred to in subsection (2), in consultation with the council and taking into consideration any submissions submitted thereon by the local authority in question, in order to determine whether in his opinion and in the opinion of the council it has been replaced by or is



repugnant to any national building regulation, and shall forthwith make known in writing the decision to which he and the council came to the local authority.

[Sub-s. (3) added by s. 13 of Act 62 of 1989.]

(4) With effect from the date of a written notification contemplated in subsection (3) of a decision that a relevant regulation or by-law, or standard building regulation, has been replaced by or is repugnant to any national building regulation, it shall-

- (a) for the purposes of subsection (1) (a) be deemed that the law under which the relevant building regulation or by-law was made, has been repealed in respect of a regulation or by-law to which the said decision relates; and
- (b) for the purposes of section 31 be deemed that section 14*bis* of the Standards Act, 1962 (Act 33 of 1962), under which the standard building regulation was framed and published, has been repealed in respect of a standard building regulation to which the said decision relates.

[Sub-s. (4) added by s. 13 of Act 62 of 1989.]

(5) A local authority shall, in the case of a notification to it in terms of subsection (3) of a decision that a relevant regulation or by-law, or standard building regulation, has not been replaced by or is not repugnant to any national building regulation, make known the decision within a period of three months from the date of the decision by notice in the *Official Gazette* concerned, mentioning the full text of the regulation or by-law, or standard building regulation, concerned, in consolidated form and the law under which it was made or framed.

[Sub-s. (5) added by s. 13 of Act 62 of 1989.]

(6) If a local authority fails to comply with a provision-

- (a) of subsection (2) within the period of six months contemplated therein; or
- (b) of subsection (5) within the period of three months contemplated therein,

the provisions of paragraph (a) or (b), as the case may be, of subsection (4) shall with effect from the day immediately following on the last day of the period of six or three months mentioned in paragraphs (a) and (b), respectively, *mutatis mutandis* apply in respect of the relevant regulation or by-law, or standard building regulation.

[Sub-s. (6) added by s. 13 of Act 62 of 1989.]

(7) (a) The Minister may at any time, after written notice to the local authority concerned, and *mutatis mutandis* in accordance with the provisions of subsection (3), review any decision contemplated in subsection (5).

(b) The provisions of subsection (4) shall *mutatis mutandis* apply in respect of a decision on review contemplated in paragraph (a), that a regulation or by-law, or standard building regulation, concerned has been replaced by or is repugnant to a national building regulation.

[Sub-s. (7) added by s. 13 of Act 62 of 1989.]

(8) (a) A local authority which intends to make any regulation or by-law which relates to the erection of a building, shall prior to the promulgation thereof submit a draft of the regulation or by-law in writing and by registered post to the Minister for approval.

(b) A regulation or by-law referred to in paragraph (a) which is promulgated without the Minister previously having approved of it shall, notwithstanding the fact that the promulgation is effected in accordance with all other legal provisions relating to the making and promulgation of the regulation or by-law, be void.

[Sub-s. (8) added by s. 13 of Act 62 of 1989.]



30 -----

[S. 30 repealed by s. 40 (1) of Act 30 of 1982.]

**31 Repeal of section 14bis of Act 33 of 1962,  
as inserted by section 4 of Act 72 of 1964**

Section 14bis of the Standards Act is hereby repealed. Provided that that section shall be deemed not to have been repealed in respect of any standard building regulation which was framed and published in terms of that section and which has not been replaced by or is not repugnant to any national building regulation.

32 -----

[S. 32 repealed by s. 40 (1) of Act 30 of 1982.]

33 -----

[S. 33 repealed by s. 6 of Act 36 of 1984.]

**34 Short title and commencement**

This Act shall be called the National Building Regulations and Building Standards Act, 1977, and shall come into operation on a date fixed by the State President by proclamation in the *Gazette*.



**7.4 ADDENDUM D: NOTICE R. 574 IN GOVERNMENT GAZETTE NO. 31084**

STAATSKOERANT, 30 MEI 2008

No. 31084 45

---

**DEPARTMENT OF TRADE AND INDUSTRY**

**No. R. 574**

**30 May 2008**

**NATIONAL BUILDING REGULATIONS AND BUILDING STANDARDS ACT, 1977  
(ACT 103 OF 1977)**

**NATIONAL BUILDING REGULATIONS**

I, Mandisi Mpahlewa, Minister of Trade and Industry, hereby under Section 17(3) of the National Building Regulations and Building Standards Act (Act No. 103 of 1977), and on the recommendation of the Council of the South African Bureau of Standards, declare the regulations, as set out in the Schedule, to come into operation on the 1 October 2008.

M Mpahlewa

Minister of Trade and Industry



## SCHEDULE

### Substitution of Regulation AZ.1

- 1 Regulation AZ1 of the Regulations is substituted for the following regulation:

These amended regulations shall in terms of section 17(3) of the Act come into operation on 1 October 2008.

### Amendment of Regulation AZ.2

Regulation AZ2 of the Regulations is amended as follows:

- 2 Delete "suitable" in heading for definition for "acceptable", "adequate", "satisfactory" or "suitable" and in the text of the definition itself

- 3 Add the following new definition:

"action" means an assembly of concentrated or distributed mechanical forces acting on a building or the cause of deformations imposed on the building or constrained in it

- 4 Add the following new definition:

"Agrément certificate" means a certificate that confirms fitness-for-purpose of a non-standardised product, material or component or the acceptability of the related non-standardised design and the conditions pertaining thereto (or both) issued by the Board of Agrément South Africa."

- 5 Add the following new definition:

**Board of Agrément South Africa**  
the body that operates under the delegation of authority of the Minister of Public Works.

- 6 Delete definition for "class"

- 7 Substitute "competent person" with the following:

means a person who is qualified by virtue of his education, training, experience and contextual knowledge to make a determination regarding the performance of a building or part thereof in relation to a functional regulation or to undertake such duties as may be assigned to him in terms of these regulations .

- 8 Add the following new definition

"contaminated land" means any land that, due to substances contained within or under it, is in a condition that presents an unacceptable risk to the health and safety of occupants of buildings constructed on such land.

- 9 Add the following new definition:

"deemed-to-satisfy provision" means non-mandatory requirement, the compliance with which ensures compliance with a functional regulation



- 10 Add the following new definition:
- "dolomite land"** means land underlain by dolomite or limestone rock directly or at a shallow depth less than:
- (a) 60 m in areas underlain by limestone;
  - (b) 60 m in areas underlain by dolomite where no de-watering has taken place and the local authority has jurisdiction, is monitoring and has control over the groundwater levels over the areas under consideration; or
  - (c) 100 m in areas underlain by dolomite where de-watering has taken place or where the local authority has no jurisdiction or control over ground water levels.
- 11 Substitute "SANS 10177-2" for "SABS 0177 Part II" in definition for **"fire resistance"**
- 12 Add the following new definition:
- "functional regulation"** means a regulation that sets out in qualitative terms what is required of a building or building element or building component in respect of a particular characteristic without specifying the method of construction, dimensions or material to be used
- 13 Add the following new definition:
- geotechnical site investigation**  
 the process of evaluating the geotechnical character of a site in the context of existing or proposed works or land usage, which may include one or more of the following:
- (a) evaluation of the geology and hydrogeology of the site;
  - (b) examination of existing geotechnical information pertaining to the site;
  - (c) excavating or boring in soil or rock and the systematic description of the soil and rock profiles;
  - (d) determining the depth of any fill that might be present;
  - (e) in-situ assessment of geotechnical properties of materials;
  - (f) recovery of samples of soil or rock for examination, identification, recording, testing or display;
  - (g) testing of soil or rock samples to quantify properties relevant to the purpose of the investigation;
  - (h) evaluation of geotechnical properties of tested soils; and
  - (i) reporting the results.
- 14 Delete definition for **"incremental house"**
- 15 Insert "waste water" before "or stormwater" at the end of the definition for "industrial effluent"
- 16 Add the following new definition:
- "inspection"** means the general inspection by a competent person of a system or measure or installation of a building, or part thereof, at such intervals as might be necessary in accordance with accepted professional practice to enable such competent person to be satisfied that the design assumptions are valid, the design is being correctly interpreted and the work is being executed generally in accordance with the designs, appropriate construction techniques and good practice but shall exclude detailed supervision and day-to-day inspection.
- 17 Substitute **"load"** with the following:
- "load"** means the value of a force corresponding to an action.



- 18 Substitute (a) ix) in "**minor building work**" with the following:
- (ix) any free-standing wall constructed of masonry, concrete, steel, aluminium or timber or any wire fence where such wall or fence does not exceed 1,8 m in height at any point above ground level and does not retain soil;
- 19 Substitute "SANS 10177-5" for "SABS 0177-V" in definition for "**non-combustible**"
- 20 Delete definition for "**pail closet**"
- 21 Add the following new definition:
- "**persons with disabilities**" means those persons who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers might hinder their full and effective participation in society on an equal basis with others."
- 22 Delete definition for "**pit latrine**"
- 23 Add the following new definition:
- "**prescriptive regulation**" means a regulation which describes in some detail an operation to be performed, or the dimensions of a building, building element or building component and the materials and method of construction to be used in such building, building element or building component
- 24 Add the following new definition:
- "**rational assessment**" means assessment by a competent person of the adequacy of the performance of a solution in relation to requirements including, as necessary, a process of reasoning, calculation and consideration of accepted analytical principles, based on a combination of deductions from available information, research and data, appropriate testing and service experience;
- 25 Substitute "**rational design**" with the following:
- "**rational design**" means any design by a competent person involving a process of reasoning and calculation and which may include a design based on a standard or other suitable document
- 26 Delete definition for "**roof assembly**"
- 27 Delete definition for "**sanitary group**"
- 28 Substitute "WC" in the definition for "**storage tank**" with "toilet"
- 29 Delete "mezzanine floor" in definition for "**storey**"
- 30 Delete definition for "**street boundary**"
- 31 Add the following new definition:
- "**suitable**" means capable of fulfilling or having fulfilled the intended function or fit for its intended purpose
- 32 Add to the end of the definition for "**trained plumber**" the words "or has obtained a National Certificate in Construction Plumbing, National Qualification Framework level 3".

**Substitution of Regulation AZ.3**

- 33 Regulation AZ.3 of the Regulations is substituted with the following regulation:  
Where in these regulations reference is made to a SANS number, such reference shall relate to the latest edition of the national standard having the number and title given in the following table:

1	2
SANS No.	Title
1125	Room air conditioners and heat pumps
10005	The preservative treatment of timber
10082	Timber frame buildings
10105	The use and control of fire fighting equipment
10124	The application of soil insecticides for the protection of buildings
10177	Fire testing of materials, components, and elements used in buildings Part 1 Part 2 Part 3 Part 4
10400	The application of the National Building Regulations

**Addition of Regulation AZ.4**

- 34 Add the following Regulation AZ.4

**AZ.4 Complying with the requirements of the National Building Regulations**

- (1) The requirements of the National Building Regulations shall be complied with by:
- (a) adhering to the requirements of all the prescriptive regulations; and
  - (b) satisfying all functional regulations by:
    - (i) adopting building solutions that comply with the requirements of the relevant part of SANS 10400; or
    - (ii) reliably demonstrating, or predicting with certainty, to the satisfaction of the appropriate local authority, that an adopted building solution has an equivalent or superior performance to a solution that complies with the requirements of the relevant part of SANS 10400.
- (2) A competent person who is registered in an appropriate category of registration in terms of the Architectural Professions Act, 2000 (Act No 44 of 2000), the Engineering Profession Act, 2000 (Act No 46 of 2000), the Natural Scientific Professions Act, 2003 (Act No. 27 of 2003) or any other relevant Act and, in accordance with the requirements of Regulation A19, shall prepare and submit to the local authority a rational design or rational assessment where compliance with the requirements of sub-regulation (1) is to be satisfied in terms of sub-regulation (1)(b)(ii).
- (3) An approved competent persons who satisfies the requirements of sub-regulation (1) in terms of sub-regulation (1)(b)(ii) in respect of a system, measure, facility, parameter or installations shall inspect and certify upon completion, in accordance with the requirements of Regulation A19, the construction, erection or installation thereof.

**Amendment of Regulation A1**

Regulation A1 of the Regulations is amended as follows:

35 Substitute sub-regulation A1(1) with the following:

- (1) The designing, planning and the supervision of the erection of any building or structure or the performance of any function in connection therewith in terms of these regulations is subject to the provisions of any law in terms of which the person undertaking such work or performing such function is required to be registered in terms of the Architectural Profession Act, 2000 (Act No 44 of 2000), Engineering Profession Act, 2000 (Act No 46 of 2000), Natural Scientific Professions Act, 2003 (Act No. 27 of 2003), or Professional and Technical Surveyors' Act, 1984 (Act No 40 of 1984), or any other relevant Act

36 Substitute sub-regulation A1(3) with the following:

- (3) (a) No person shall erect any building which is to be structurally supported by an existing building or extend an existing building unless an approved competent person has judged the existing building to be capable of carrying any additional load arising from such erection or extension and has, in writing, so informed the local authority.
- (b) Such notification shall accompany the application for approval of the erection of the building in terms of Section 4 of the Act.
- (c) For the purposes of this regulation "existing building" shall include a partly erected building.
- (d) Any structural support provided by the existing building shall be deemed to be part of the structural system of the building to be erected.
- (e) The local authority may require that the above notification be accompanied by a documented rational assessment of the adequacy of the structural support.\*

37 Delete sub-regulation A1(7)(c) and renumber sub-regulation A1(7)(d) as A1(7)(c)

**Amendment of Regulation A2**

Regulation A2 of the Regulations is amended as follows:

38 Substitute sub-regulation A2(1)(f)(iv) with the following:

- (iv) any certificate contemplated in these regulations, including any applicable Agrément Certificate;

39 Substitute sub-regulation A2(1)(f)(v) with the following:

- (v) particulars required in terms of any applicable legislation, by-laws, or part of SANS 10400

40 Add sub-regulation A2(1)(g)

- (g) a declaration by a person registered in a professional category of registration in terms of the one of the councils for the professions identified in the Council for the Built Environment Act, 2000 (Act No 43 of 2000) in the relevant portion of Form 1 contained in SANS 10400-A as to how the applicable functional regulations shall be satisfied



- 41 Add sub-regulations **A2(2)**, **A2(3)** and **A2(4)** and renumber sub-regulations **A2(2)** and **A2(3)** as **A2(5)** and **A2(6)**
- (2) The owner of a building shall appoint and retain the services of the person responsible for submitting the declaration required in sub-regulation (1)(g) and shall advise such person after such declaration has been submitted to the local authority of any changes made in the manner in which any functional regulation shall be satisfied or if the services of the competent person is for whatever reason terminated prior to the conclusion of his obligations in terms of these Regulations, or the appointment of any other competent person. Such person shall within one month of being notified by the owner or becoming aware of any change submit an amended declaration to the local authority.
- (3) Where it is not possible for the person appointed by the owner of a building in sub-regulation (2) to fulfil his or her duties, the owner of such building shall appoint and retain another suitably qualified person to take over and perform the duties and responsibilities assigned to such person in sub-regulation (2)
- (4) The names of all approved competent persons shall be entered into the appropriate schedule of Form 1 contained in SANS 10400-A before local authority approval may be granted.
- 42 Substitute sub-regulation **A(2)(6)** with:
- (6) (a) Where design work for the proposed erection of any building was commenced before the date of coming into effect of any amendment to these regulations or within 6 months of the publication of an edition of any part of SANS 10400 or a by-law and an application in respect of such erection has not been made prior to such date, the owner of the building, or a person authorized by the owner, may notify the local authority that such design work was so commenced and has so progressed.
- (b) Subject to the provisions of this subregulation, an application in respect of an erection which has been the subject of a notification contemplated in paragraph (a) shall if so requested by the owner be dealt with by the local authority in accordance with the provisions of the building regulations, by-laws or edition of SANS 10400 in force immediately before such date.
- (c) Any notification contemplated in paragraph (a) shall -
- (i) be submitted by registered post within 6 months of the coming into effect of any new regulation, by-law or publication of a new edition of any part of SANS 10400; and
- (ii) contain the name and address of the owner, the address of the site of the building concerned, the date of commencement of such design work and a description of the proposed erection and its intended use.
- (d) The local authority shall, in writing, inform the owner concerned of acceptance of such notification.
- (e) The provisions of paragraph (b) shall not apply in respect of any application which is made to the local authority more than 12 months after the date that the local authority informs the owner that it is so satisfied. Provided that the local authority may extend such period if it thinks it reasonable or necessary.
- (f) Any person who gives false or misleading information in a notification in terms of this subregulation shall be guilty of an offence and such notification is null and void.

**Amendment of Regulation A4**

Regulation A4 of the Regulations is amended as follows:

- 43 Substitute "a professional engineer or other" with "an" in sub-regulation A4(1)(b)
- 44 Substitute "code of practice" with "standard" in Regulation A4(1) (h), (i), (j) and (k)
- 45 Substitute "forces" with "actions" in sub-regulation A4(4)(d) wherever it occurs
- 46 Substitute "grade" with "class" in sub-regulation A4(5)(a)
- 47 Substitute "SABS" with "SANS" in sub-regulation A4(8)(a)
- 48 Substitute "a professional engineer or other" with "an" in sub-regulation A4(8)(b)
- 49 Insert "Agrément " before certificate and delete "issued by the Agrément Board of South Africa" in sub-regulation A4(9)(ii)

**Amendment of Regulation A5**

Regulation A5 of the Regulations is amended as follows:

- 50 Substitute sub-regulation A5(2)(b) with the following:
  - (b) be drawn on any suitable material or be provided in a medium acceptable to the local authority;
- 51 Delete "paper " in sub-regulation A5(3)
- 52 Substitute "1:300" with "1:250" in sub-regulation A(5)(5)(a)(i)
- 53 Substitute sub-regulation A5(5)(b) with the following:
  - (b) The local authority may accept a scale not provided for in this sub-regulation.
- 54 Substitute sub-regulations A8(6) and A8(7) with the following:
  - (6) One copy of the plans and drawings contemplated in subregulation (2) shall, for the convenience of the local authority, identify in a suitable manner or colour the following as indicated below:
 

(a) Material	Colour (in plan or section)
(i) New masonry	Red
(ii) New concrete	Green
(iii) New iron or steel	Blue
(iv) New wood	Yellow
(v) New glass	Black
(vi) Existing materials (all materials)	Grey
(vii) All other new materials	To be clearly indicated in colours other than the above



<b>(b)</b>	Site plans	Colour
<b>(i)</b>	Proposed work	Red
<b>(ii)</b>	Existing work	Not coloured
<b>(iii)</b>	Work to be demolished	Drawn with black dotted lines
<b>(c)</b>	Drainage installation contemplated in regulation <b>A2(1)(d)</b>	Colour
<b>(i)</b>	Drains and soil pipes	Brown
<b>(ii)</b>	Waste pipes	Green
<b>(iii)</b>	Soil and combined vents	Red
<b>(iv)</b>	Waste vents	Blue
<b>(v)</b>	Pipes for the conveyance of industrial effluent	Orange
<b>(vi)</b>	Existing drains	Black
<b>(vii)</b>	Stormwater drains	Not coloured

55 Renumber sub-regulations **A5(8)** and **A5(9)** as **A5(7)** and **A5(8)**

56 Substitute "2 mm" with "2,5mm" in sub-regulation **A5(8)**

#### Amendment of Regulation A7

Regulation **A7** of the Regulations is amended as follows:

57 Add the following sub-regulation **A7(1)(e)** and renumber sub-regulations **A7(1)(e)** to **A7(1)h** as **A7(1)f** to **A7(1)(i)**

**(e)** all details relating to the facilities provided for persons with disabilities

#### Amendment of Regulation A8

Regulation **A8** of the Regulations is amended as follows:

58 Add "Two way vent valve .....2WV" to list in sub-regulation **A8(5)**

59 Substitute "WC" in sub-regulation **A8(5)** with "toilet" wherever it occurs

#### Amendment of Regulation A9

Regulation **A9** of the Regulations is amended as follows:

60 Add "protection" before "fire" in sub-regulation **A9(1)**

#### Amendment of Regulation A10

Regulation **A10** of the Regulations is amended as follows:

61 Add the following symbols to the list in sub-regulation **A10**:

Escape door .....ED  
 Escape route .....ER  
 Feeder route .....FR

**Amendment of Regulation A11**

Regulation A11 of the Regulations is amended as follows:

- 62 Delete "before granting approval in relation to an application" in sub-regulation A11(1)

**Amendment of Regulation A13**

Regulation A13 of the Regulations is amended as follows:

- 63 Substitute sub-regulation A13(1) with the following:
- (1) (a) Material used in the erection of a building shall be suitable for the purpose for which it is to be used.
  - (b) All timber used in the erection of a building shall be treated against termites and wood borer attack and fungal decay in accordance with the requirements of SANS 10005 and shall bear the product certification mark of a body certified by the South African National Accreditation Systems.
  - (c) The requirements of subregulation (1)(a)) shall be deemed to be satisfied if such material complies with and is incorporated into buildings in accordance with the requirements of SANS 10400,

**Amendment of Regulation A14**

Regulation A14 of the Regulations is amended as follows:

- 64 Substitute regulations A14(1) to A14(4) with the following and renumber sub-regulation A14(5) as A14(2):
- (1) (a) The construction of any building or element shall be such that the building or element as constructed does not compromise the design intent of any design solution that satisfies the requirements of a functional regulation.
  - (2) (b) The requirements of sub-regulation (1)(a) shall be deemed to be satisfied if such construction satisfies the requirements of SANS 10400.

**Amendment of Regulation A15**

Regulation A15 of the Regulations is amended as follows:

- 65 Substitute title of Regulation A15 and sub-regulations A15(1) and A15(2) with the following:

**A15 MAINTENANCE AND OPERATION**

- (1) (a) The owner of any building shall ensure that any mechanical equipment, facility or any service installation provided in or in connection with such building, pursuant to these regulations or pursuant to any building by-law which was in operation prior to the coming into operation of the Act, shall be maintained in a safe and functional condition.  
(b) Such owner or any person appointed by such owner to be in control of such building shall ensure that where such equipment, facility or installation is designed to be kept operating during the times of normal occupancy of the building, it is kept operating in such a manner as to attain any standard of performance prescribed in these regulations or in any by-law for such equipment or installation.



- (2) The owner of any building shall ensure that pursuant to these regulations or pursuant to any building by-law that was in operation prior to the coming into operation of the Act, the following is maintained in accordance with the requirements of the relevant functional regulations contained in Regulations B, H, J, K and L:
- i) the structural safety performance (behaviour of buildings under all actions that can be reasonably expected to occur);
  - ii) the measures taken to resist the penetration of rain water and the passage of moisture into the interior of a building

66 Substitute "equipment or installation" with "building, equipment, installation or facility" in sub-regulation A15(4)

#### Amendment of Regulation A16

Regulation A16 of the Regulations is amended as follows:

67 Substitute "as evaluated by the Human Sciences Research Council" with "at an accredited educational institution" in Regulation A16

#### Amendment of Regulation A17

Regulation A17 of the Regulations is amended as follows:

68 Substitute "Town Clerk or Secretary" with "municipal manager" in sub-regulation A17(1)(e)

69 Substitute sub-regulation A17(2) with the following:

- (2) Sub-regulation (1) shall be deemed to be satisfied where the certificate is in accordance with that provided in SANS 10400-A.

#### Substitution of Regulation A19

Regulation A19 of the Regulations is substituted with the following Regulation:

70 Substitute Regulation A19 with the following:

#### **A19 - APPOINTMENT OF PERSONS RESPONSIBLE FOR DESIGN, INSPECTION AND ASSESSMENT DUTIES**

- (1) Where in terms of these regulations and in respect of the erection of any building:
- (a) a rational design or rational assessment, is required in terms of :
    - (i) Regulations Z.4(1)(b)(ii), A(1)(3), A23(4), G1(3), O4, P2(2), Q(3), R(3), T1(2) or W4 in respect of a system, measure, facility, parameter, or installation, as relevant, or
    - (ii) a part of SANS 10400; or
  - (b) a geotechnical investigation is required in terms of Regulation F3

the owner of the building shall subject to the provisions of sub-regulations (4) and (5) appoint and retain one or more approved competent persons to undertake responsibility for the work associated with such regulations including any inspections and certifications that may be required.



- (2) Where it is not possible for such person to fulfil his or her duties as contemplated in sub-regulation (1), the owner of such building shall appoint and retain another approved competent person to take over and fulfil such duties and responsibilities both in respect of the work already designed or erected or installed and in respect of the balance of such work still to be undertaken to complete the project.
- (3) The local authority may exempt from the requirements of this regulation any building classified in these regulations as minor building work or foundations to an addition or extension to a single storey building where the applicant has satisfied himself that the existing foundations are in accordance with the rules contained in SANS 10400-H and any local damage (including cracking) and deformation in the existing building are within tolerable limits.
- (4) The owner of any building who is required by these regulations to appoint an approved competent person shall state in the terms of the appointment for the competent person that such person undertake all duties and responsibilities required by these regulations. Such persons shall declare his or her acceptance of such responsibilities in the relevant portion of Form 2 contained in SANS 10400-A.
- (5) Notwithstanding the provisions of sub-regulation (1) or (2), a person may be appointed to undertake the relevant responsibilities and duties in respect of more than one of the systems, measures, facilities, parameters or installations provided for in sub-regulation (1) if the local authority accepts in terms of these regulations that he or she is competent to do so.
- (6)
  - (a) Where any building to be extended, the local authority may on receipt of the application for such extension and before granting approval require that the approved competent persons who have accepted responsibility for such work to timeously prepare and submit rational assessments as to the adequacy of the existing systems and installations in combination with the contemplated extensions to comply with the relevant requirements of these regulations for the whole building including the extensions.
  - (b) If the local authority is satisfied that any such rational assessment meets the requirement of these regulations and in particular of sub-regulation 6(a) it shall accept such assessment which shall be deemed to be part of the application submitted.
  - (c) If the local authority is not so satisfied it may after first consulting with the competent person who has submitted such assessment and subject to appeal to the Review Board decline to accept the assessment for reasons which it shall furnish in writing to such competent person and require him or her to submit a revised assessment to the satisfaction of the local authority.
- (7) Where in a building any element of the structural, fire protection, artificial ventilation, stormwater disposal or non-water borne sanitary disposal, fire installation or drainage installation system as provided for in sub-regulation (1) is or is required to be the subject of a rational design or rational assessment, the person appointed as an approved competent person shall assume responsibility for satisfying the functional regulation relating to that particular system in its entirety.
- (8)
  - (a) Where an approved competent person is required in terms of sub-regulation (7) to assume responsibility for the system in its entirety and where parts of the system are to be undertaken by other competent persons, the approved competent person shall assume overall responsibility for the design of such system and shall ensure that:
    - (i) the component designs are generally in accordance with the approved application and in accordance with the requirements of these regulations.
    - (ii) the component designs will achieve the necessary co-ordination and interaction of the different elements so as to achieve the objectives of the systems.



- (iii) in the case of the structural system, the interaction of the various component elements will be such that the structural adequacy of all the parts of the building and the overall stability of the building is assured
- but in all cases excluding responsibility for the detailed design of elements carried out by the other competent persons, provided that such exclusion shall not preclude the approved competent person from taking any action which he or she considers necessary in terms of sub-regulation (8)(b).
- (b) (i) For the purpose of satisfying him or herself of the adequacy of any design or designs contemplated in sub-regulation (8)(a) and of their compatibility with any system, measure or installation in its entirety, the approved competent person may at any time after his or her appointment, require the designer or designers of the different elements of the system referred to in sub-regulation (8)(a) to complete Form 3 contained in SANS 10400-A as he or she may deem necessary, and return it timeously, or in any event before building construction or installation proceeds. Each such designer shall, when called upon so to do, provide the information and documents concerned in respect of the work he or she has designed.
- (ii) The person appointed as approved competent person may further require, after consultation with the designer concerned, modifications to the relevant designs, plans and specifications, if in his or her opinion they do not comply with the provisions of these regulations.
- (iii) Copies of designs, plans and specifications accepted by the approved competent person shall be submitted if so required to the local authority countersigned by the approved competent person.
- (iv) Each designer of a part of a system shall on completion of the erection or installation thereof, if called upon to do so by the approved competent person, complete and submit the section of Form 3 relating to inspection contained in SANS 10400-A.
- (c) The provisions of sub-regulation (8)(a) and (b) for designs shall also apply in the case of any applicable rational assessments.
- (9) (a) Any person appointed by the owner in terms of sub-regulations (1) or (2), shall apply to the local authority for acceptance as an approved competent person and shall:
- (i) make application, and
- (ii) declare his or her competence to undertake the relevant duties in the manner prescribed in the Regulations
- on Form 2 contained in SANS 10400-A and shall complete all applicable sections of such form.
- (b) The owner shall also complete the applicable section of Form 2 contained in SANS 10400-A
- (c) The local authority may, subject to appeal to the Review Board, decline to accept the appointment of any person who:
- (i) in completing any portion of Form 2 provides incorrect or incomplete information which in the opinion of the local authority is material to the determination of such applicant's competence;
- (ii) is not an employee of the owner of the building and is not in possession of professional indemnity insurance cover;
- (iii) is not professionally registered in terms of the Engineering Professions Act, 2000 (Act No. 46 of 2000), the Architectural Professions Act (Act No. 44 of 2000) or the National Scientific Professions Act, 2003 (Act No. 27 of 2003);
- (iv) is in the opinion of the local authority inadequately qualified or has insufficient experience or contextual knowledge to make the determinations that are required in terms of these regulations, provided however that any person that satisfies the relevant definition for a competent person provided in a part of SANS 10400 in relation to the duties contemplated in this sub-regulation, is deemed to satisfy this sub-regulation; and



- (v) is under investigation by a disciplinary tribunal of the Engineering Council of South Africa, the South African Council for the Architectural Profession or the South African Council for Natural Scientific Professions and the chief executive officer of such a Council has expressed an opinion in writing that the applications made by such persons should not be approved in the public interest.
- (10) (a) Where in respect of any building the local authority, after consideration of:
- (i) the details of registration in respect of category, date and discipline in which the applicant is registered, qualifications, experience, training and contextual knowledge provided in terms of this regulation by any person seeking acceptance of his or her appointment as a competent person, and
  - (ii) the declaration of competence provided by such person in terms of sub-regulation (9),
- considers that such person does not possess the degree of competence necessary to undertake the relevant duties, it may decline to accept the appointment of such person, who may appeal to the Review Board.
- (b) If the appeal is upheld, the local authority shall accept the appointment of the appellant as a person competent to undertake such duties or any part thereof in respect of such building as the Review Board may decide.
- (11) Where the local authority is satisfied with an application in respect of the matters specified in sub-regulations (10)(a)(i) and (ii) it shall indicate acceptance of the application in the manner specified in Form 2 as contained in SANS 10400-A.
- (12) (a) On completion of the structural, fire protection or fire installation system for which an approved competent person has been appointed in terms of sub-regulations (1) or (2), such competent person shall complete and submit to the local authority a fully completed Form 4 as contained in SANS 10400-A in respect of each such system for which such person has accepted responsibility in terms of Section 14(2A) of the Act 103.
- (b) The local authority may require from the owner that an approved competent person submit a copy of the certification of the specific work, other than the structural, fire protection or fire installation, for which he has been appointed on completion of the building.
- (13) Where any person provides any information or certificate required in terms of this regulation or which he or she knows to be incomplete or false, such person shall be guilty of an offence

#### Amendment of Regulation A20

Regulation A20 of the Regulations is amended as follows:

- 71 Add the following definitions to Table 1:

E4	<b>Health care</b> Occupancy which is a common place of long term or transient living for a number of unrelated persons consisting of a single unit on its own site who, due to varying degrees of incapacity, are provided with personal care services or are undergoing medical treatment.
H5	<b>Hospitality</b> Occupancy where unrelated persons rent furnished rooms on a transient basis within a dwelling house or domestic residence with sleeping accommodation for not more than 16 persons within a dwelling unit.



**Amendment of Regulation A21**

Regulation A21 of the Regulations is amended as follows:

72 Substitute Table 2 with the following table:

1	2
Class of occupancy of room or storey or portion thereof	Population
A1, A2, A4, A5	Number of fixed seats or 1 person per m <sup>2</sup> if there are no fixed seats
E1, E3, H1, H3, H4	2 persons per bedroom
E4	16 persons provided that the total number of persons per room is not more than 4
H5	16 persons per dwelling unit provided that the total number of persons per room is not more than 4
G1	1 person per 15 m <sup>2</sup>
J1, J2, J3, J4	1 person per 50 m <sup>2</sup>
C1, E2, F1, F2	1 person per 10 m <sup>2</sup>
B1, B2, B3, D1, D2, D3	1 person per 15 m <sup>2</sup>
C2, F3	1 person per 20 m <sup>2</sup>
A3, H2	1 person per 5 m <sup>2</sup>

**Amendment of Regulation A22**

Regulation A22 of the Regulations is amended as follows:

73 Add "(d) the building will be completed" to sub-regulation A22(2)

**Amendment of Regulation A23**

Regulation A23 of the Regulations is amended as follows:

74 Substitute "a professional engineer or other" with "an" in sub-regulation A23(4)

**Amendment of Regulation B1**

Regulation B1 of the Regulations is amended as follows:

75 Add "under all actions which can reasonably be expected to occur" after "durability" in sub-regulation B1(1)

76 Substitute "part B of Section 3 of SABS 0400" with "SANS 10400-B" in sub-regulation B3(3)

**Amendment of Regulation C**

Regulation C of the Regulations is amended as follows:

77 Substitute "part C of Section 3 of SABS 0400" with "SANS 10400-C" in sub-regulation C1(3)

**Amendment of Regulation D**

Regulation D of the Regulations is amended as follows:

78 Substitute "part D of Section 3 of SABS 0400" with "SANS 10400-D" in sub-regulation D5



### Amendment of Regulation F

Regulation F of the Regulations is amended as follows:

79 Substitute Regulation F3 with the following:

#### **F3 GEOTECHNICAL SITE AND ENVIRONMENTAL CONDITIONS**

- (1) Where the local authority has reason to believe that a site upon which a building is to be erected:
- (a) is situated on contaminated land;
  - (b) is situated on potentially unstable land to the extent, insofar as risk can reasonably be foreseen, that ground movements caused by land-slip, slope stability or subsidence may impair the stability of the building or part thereof or pose a threat to the safety of occupants; or
  - (c) is underlain by subsoils which have the potential to cause foundation movements caused by swelling, consolidation, shrinkage or settlements and as a result may impair the stability of the building or part thereof;
- it shall on receipt of an application for the erection of the building inform the applicant accordingly.
- (2) On receipt of any such notification or where the applicant is aware of such conditions or they are evident, such applicant shall appoint an approved competent person to undertake an appropriate geotechnical site investigation.
- (3) Such approved competent person shall, as appropriate, determine in accordance with accepted principles, methods and technical considerations, as relevant:
- (a) whether or not the erection of a building on the site under (1) (a) or (1) (b) above should be permitted, and if so under what conditions, providing full details of the measures which need to be effected to fulfil such conditions and
  - (b) the magnitude of any potential total and differential movements to which the building or part thereof may be subjected to,
- and shall report to the owner and the local authority such findings.
- (4) Geotechnical investigations conducted in accordance with the requirements of SANS 10400-B in the case of dolomite lands and SANS 10400-H in the case of foundations for buildings shall in terms of F3(2) be deemed to be appropriate investigations
- (5) The measures contemplated in sub-regulations (3)(a) and (b) shall be applied in the erection of the building and the site works.

80 Add "seasonally waterlogged" after "waterlogged" in sub-regulation F4(2)

81 Substitute "SABS 0124" with "SANS 10124" in sub-regulation F5 wherever it occurs

82 Substitute Regulation F5 with the following:

- (1) Buildings shall, where so required by the local authority or in areas of high termite infestation, be protected from subterranean termite activity.
- (2) The requirements of subregulation (1) shall be deemed to be satisfied where the means of termite protection complies with SANS 10400-F.



- 83 Substitute the title of Regulation F6 with the following:

**CONTROL OF UNREASONABLE LEVELS OF DUST AND NOISE**

- 84 Substitute sub-regulation F6(2)(a) and F6(2)(b) with the following and renumber F6(2)(c) as F6(2)(b):

- (2) (a) No person shall during the course of any building, demolition or excavation work use any machine, machinery, engine, apparatus, tool or contrivance, which in the opinion of the local authority may unreasonably disturb or interfere with the amenity of the neighbourhood:
- (i) on a public holiday or Sunday
  - (ii) before 06:00 or after 17:00 on any Saturday; and
  - (iii) before 06:00 or after 18:00 on any day other than those days contemplated in subparagraphs (i) and (i)

- 85 Substitute "part F of Section 3 of SABS 0400" with "SANS 10400-F" in sub-regulation F11(3)

**Amendment of Regulation G**

Regulation G of the Regulations is amended as follows:

- 86 Add " or an approved competent person" before "in such authorisation in sub-regulation G1(3)(b).

- 87 Substitute "part G of Section 3 of SABS 0400" with "SANS 10400-G" in sub-regulation G2

**Amendment of Regulation H**

Regulation H of the Regulations is amended as follows:

- 88 Substitute sub-regulation H1(1) with the following:

- (1) The foundation of any building shall be designed and constructed to safely transmit all the actions which can reasonably be expected to occur from such building to the ground and in such a manner that any local damage (including cracking), deformation or vibration do not compromise the efficient use of a building or the functioning of any element of a building or equipment within a building.

- 89 Substitute "part H of Section 3 of SABS 0400" with "SANS 10400-H" in sub-regulation H1(2)

**Amendment of Regulation J**

Regulation J of the Regulations is amended as follows:

- 90 Substitute sub-regulation J1(1)(a) with the following:

- (a) be designed and constructed to safely support its own weight and any actions which can reasonably be expected to occur and in such a manner that any local damage (including cracking), deformation or vibration do not compromise the efficient use of the building or the functioning of equipment supported by such floor; and

- 91 Substitute "WC" in sub-regulation J1(2) with "toilet"



92 Substitute sub-regulation J(5) with the following:

- (5) The requirements of subregulations (1), (2), (3) and (4) shall be deemed to be satisfied where the design and construction of any floor complies with SANS 10400-J: Provided that where the local authority deems it necessary in order to satisfy the requirements of subregulation (4), such local authority may require that the entire area within the foundation walls of any building be covered by a suitable damp-proof membrane, and in the case of the floor of a basement or semi-basement where the highest known level of the extreme watertable is higher than the floor level of the basement to such an extent that uplift of the floor might occur, the local authority may require that adequate sub-soil drains under the floor be provided together with means of removing the water so drained.

#### **Amendment of Regulation K**

Regulation K of the Regulations is amended as follows:

93 Substitute sub-regulation K1 with the following:

Any wall shall be designed and constructed to safely sustain any actions which can reasonably be expected to occur and in such a manner that any local damage (including cracking) or deformation do not compromise the opening and closing of doors and windows or the weather tightness of the wall and in the case of any structural wall, be capable of safely transferring such actions to the foundations supporting such wall.

94 Substitute sub-regulation K2 with the following:

- (1) Any wall shall be so constructed that it will adequately resist the penetration of water into any part of the building where it would be detrimental to the health of occupants or to the durability of such building.
- (2) Where a building includes a basement or semi-basement, the local authority may, if it considers that conditions on the site on which the building is to be erected necessitate integrated designs for the penetration of water into such basement or semi-basement applicable to all construction elements or components thereof, require the submission of such designs for approval. Construction shall be in accordance with the requirements of the approved design.

95 Substitute "forces" with "actions" in sub-regulation K3

96 Substitute "part K of Section 3 of SABS 0400" with "SANS 10400-K" in sub-regulation K5

**Amendment of Regulation L**

Regulation L of the Regulations is amended as follows:

97 Substitute sub-regulation L1 with the following:

The roof of any building shall be so designed and constructed that it -

- (a) safely sustains any actions which can reasonably be expected to occur and in such a manner that any local damage (including cracking) or deformation do not compromise its functioning;
- (b) is adequately anchored against wind uplift;
- (c) is durable and does not allow the penetration of rainwater or any other surface water to its interior;
- (d) does not allow the accumulation of any water upon its surface; and
- (e) as part of a roof and ceiling assembly, provides adequate height in any room immediately below such assembly.

98 Substitute "part L of Section 3 of SABS 0400" with "SANS 10400-L" in sub-regulation L3

**Amendment of Regulation M**

Regulation M of the Regulations is amended as follows:

99 Substitute M1 with the following:

Any stairway, including any wall, screen, railing or balustrade to such stairway, shall:

- (a) be capable of safely sustaining any actions which can reasonably be expected to occur and in such a manner that any local damage (including cracking) or deformation do not compromise its functioning;
- (b) permit safe movement of persons from floor to floor; and
- (c) have dimensions appropriate to its use.

100 Substitute "part M of Section 3 of SABS 0400" with "SANS 10400-M" in sub-regulation M3

**Amendment of Regulation N**

Regulation N of the Regulations is amended as follows:

101 Substitute sub-regulation N1(1)(a) with the following:

"a) safely sustain any wind actions which can reasonably be expected"

102 Substitute sub-regulation N1(3) with the following:

Replace "part N of Section 3 of SABS 0400" with "SANS 10400-N"

**Amendment of Regulation O**

Regulation O of the Regulations is amended as follows:

103 Substitute "WC" with "toilet" in sub-regulation O1(1)



- 104 Substitute sub-regulation O1(2) and O1(3) with the following:
- (2) The requirement of subregulation (1) shall be deemed to be satisfied where the lighting and ventilation are in accordance with SANS 10400-O
  - (3)
    - (a) Notwithstanding the provision of any openings for natural light in accordance with subregulation (2) any room contemplated in subregulation (1) or any corridor, lobby or staircase serving such room shall be provided with a means of artificial lighting-
      - (i) for periods when natural lighting is inadequate; or
      - (ii) where the size or shape of any such room, or the glazing material used in any such opening, will not permit sufficient natural light effectively to illuminate all parts of such room.
    - (b) Notwithstanding the provision of openings for natural ventilation in accordance with subregulation (2) any room subject to the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), shall in terms of the said Act be provided with artificial ventilation as prescribed by such Act; and any room contemplated in subregulation (1) which is -
      - (i) a room which, due to conditions of high temperature, may be dangerous to safety or health;
      - (ii) a room where there will be dust, gas, vapour or volatile matter and hazardous biological agents which might be dangerous to safety or health; or
      - (iii) used for any purpose for which natural ventilation is not suitable, shall be provided with a means of artificial ventilation.
- 105 Substitute sub-regulation O4 with the following:
- Any rational design of an artificial ventilation system shall be carried out by or under the supervision of an approved competent person who shall certify in accordance with the requirements of Regulation A19 that the system has been designed to comply with regulation O1.
- 106 Substitute "part O of Section 3 of SABS 0400" with "SANS 10400-O" in sub-regulation O5(2)
- 107 Substitute sub-regulation O6 with the following
- (1) The owner shall at acceptable intervals of time submit to the local authority test reports indicating that any artificial ventilation system installed in terms of these regulations is operating in the designed manner,
  - (2) Records and log books shall be kept of the commissioning information, operational management, monitoring and maintenance and repair of all ventilation plant, including individual ventilation fans.
  - (3) Where specialist ventilation plants are provided as part of the protection measures against hazardous substances, and for the protection of occupants and to ensure safe procedures, such as in hospital theatres, such plant shall be inspected and validated at least every 12 months by an independent competent person.

#### Amendment of Regulation P

Regulation P of the Regulations is amended as follows:

- 108 Substitute "loads and forces" with "actions" in sub-regulation P2(1)(f)



109 Substitute sub-regulation **P2(2)** with the following:

- (2) The requirements of subregulation (1) shall be deemed to be satisfied where such installation complies with SANS 10400-P: Provided that where a local authority is of the opinion that the size or complexity of the drainage installation in any building renders it essential for such installation to be the subject of an approved rational design prepared by an approved competent person, such local authority shall, in writing, notify the owner of such building of its reasons for the necessity for such design and may require such owner to submit for approval plans and particulars of a complete drainage installation based on such design.

110 Substitute sub-regulation **P3(1)(b)** with the following:

- (b) subject to the National Water Act, 1998 (Act No 36 of 1998), any river, stream or natural watercourse whether ordinarily dry or otherwise; or

111 Substitute "part P of Section 3 of SABS 0400" with "SANS 10400-P" in sub-regulation **P7(1)**

#### **Amendment of Regulation Q**

Regulation **Q** of the Regulations is amended as follows:

112 Substitute sub-regulation **Q1** with the following:

Where water-borne sewage disposal is not available other means of sewage disposal shall be permitted by the local authority: Provided that:

- a) it stores, conveys, processes and disposes of human body wastes and wastewater in such a way that the pathogens, pollutants and contaminants associated therewith do not compromise the health and safety of the original user or others; and  
b) in the case of chemical or toilet a satisfactory means is available for the removal and disposal of sewage from such closets;

113 Substitute "latrine" with "toilet" in sub-regulation **Q2**

114 Substitute sub-regulation **Q3(3)(a)** with the following:

- (3) (a) The requirements of subregulation (1) shall be deemed to be satisfied where the design and construction, siting of, and access to such other means of sewage disposal complies with SANS 10400-Q: Provided however that where a local authority is of the opinion that the nature of the means of sanitary disposal is such that it is essential for such installation to be the subject of an approved rational design prepared by an approved competent person, such local authority shall, in writing, notify the owner of such building of its reasons for the necessity for such design and may require such owner to submit for approval plans and particulars of a complete installation based on such design



### Amendment of Regulation R

Regulation R of the Regulations is amended as follows:

115 Substitute sub-regulation R1(3) with the following:

- (3) The requirements of subregulation (1) shall be deemed to be satisfied where such means of stormwater disposal is provided in accordance with SANS 10400-R: Provided that where a local authority is of the opinion that the conditions on any site render it essential for stormwater disposal to be the subject of an acceptable rational design prepared by an approved competent person, such local authority shall, in writing, notify the owner of such site of its reasons for the necessity for such design, and may require such owner to submit for approval plans and particulars of a complete stormwater control and disposal installation for such site and for any building erected thereon, based on such design.

### Substitution of Regulation S

116 Regulation S of the Regulations is substituted with the following Regulation:

#### PART 5. FACILITIES FOR PERSONS WITH DISABILITIES

##### S1. APPLICATION

- (1) Facilities that accommodate persons with disabilities shall be provided in any building except the following:
- (a) any building of which the whole of the ground storey comprises one or more occupancies classified in terms of regulation A20 as B1, B2, D4, H4, J1 or J2
  - (b) any building classified as H1 in terms of regulation A20 where such building has less than 25 bedrooms and it can be reasonably proven that it is not possible to include wheelchair access in certain aspects of the design; and
  - (c) any storey above ground floor level of a building classified as H3 in terms of regulation A20 and not provided with a lift.

##### S2. FACILITIES TO BE PROVIDED

- (1) In any building contemplated in regulation S1 requiring facilities for persons with disabilities:
- (a) persons with disabilities shall be able to safely enter the building, use all the facilities subject to the provisions of sub-regulation (3) within it and leave it;
  - (b) there shall be a means of access suitable for use by persons with disabilities, from the main and ancillary approaches of the building to the ground storey; via the main entrance, and any secondary entrance;
  - (c) there shall be a means of egress suitable for use by persons with disabilities from any point in a building to a place of safety in the event of an emergency;
  - (d) any lift installation that is provided shall be capable of serving the needs of persons with disabilities who are likely to be using the building; and (e) any commonly used path of travel shall be free of obstacles which limit, restrict or endanger the travel of persons with disabilities, or which prevent persons with disabilities from accessing the facilities provided in the building and the presence of such obstruction shall be made evident in a suitable manner to persons with impaired vision; and



- (f) a suitable means of access shall be provided to any auditorium or hall situated in any building and such auditorium or hall shall, in relation to its seating capacity, be provided with sufficient open space to accommodate a reasonable number of people who use wheelchairs or other assistive devices.
- (2) Where parking for more than 50 motor vehicles is provided in or in connection with any building having a means of access contemplated in subregulation (1), adequate parking space shall be provided for the parking of motor vehicles used by persons with disabilities and a suitable means of access shall be provided from the parking area, whether such parking area be inside or outside such building, to the ground storey of such building.
- (3) Where, in terms of regulation P1, toilet facilities are required and the building is one requiring facilities for persons with disabilities in terms of regulation S1, an adequate number of such facilities shall be suitable for use by persons with disabilities: Provided that toilet facilities shall not be required in any such building classified as H3 in terms of regulation A20.

### S3. DEEMED-TO-SATISFY REQUIREMENTS

The requirements of regulation S2 shall be deemed to be satisfied where:

- (a) the facilities provided are in accordance with SANS 10400-S  
 (b) the egress from the building in the event of fire is in accordance with SANS 10400-T.

#### Amendment of Regulation T

Regulation T of the Regulations is amended as follows:

117 Replace T(1)(a) with the following:

- (a) the protection of occupants or users, including persons with disabilities, therein is ensured and that provision is made for the safe evacuation of such occupants or users;

118 Substitute sub-regulation T1(2) with the following:

- (2) The requirements of subregulation (1) shall be deemed to be satisfied where the design, construction and equipment of any building complies with SANS 10400-T: Provided that where any local authority is of the opinion that such compliance would not comply with all the requirements of subregulation (1), such local authority shall, in writing, notify the owner of the building of its reasons for its opinion and may require the owner to submit for approval a rational design prepared by an approved competent person.

(3)

119 Substitute sub-regulation T2(1)(a) with the following:

- (1) Any owner of any building who fails to -  
 (a) provide sufficient fire extinguishers to satisfy the requirements of subregulation T1(1)(e), or who installs fire extinguishers that do not comply with the relevant South African national standard, or who fails to ensure that such fire extinguishers are installed, maintained and serviced in accordance with SANS 10105; or

#### Amendment of Regulation V

Regulation V of the Regulations is amended as follows:

120 Substitute "part V of Section 3 of SABS 0400" with "SANS 10400-V" in sub-regulation V1(2)

**Amendment of Regulation W**

Regulation **W** of the Regulations is amended as follows:

- 121 Substitute " Any approved fire installation" with "All approved fire installations" in sub-regulation **W1**.
- 122 Substitute "pumping connection" with "and suitable connection" in sub-regulation **W3(a)**
- 123 Substitute Regulation **W4** with the following:

The requirements of regulation **W3** shall be deemed to be satisfied where any fire installation complies with SANS 10400-W; Provided that where a local authority is of the opinion that it essential for the fire installation to be the subject of an acceptable rational design prepared by an approved competent person, such local authority shall, in writing, notify the owner of such site of its reasons for the necessity for such design, and may require such owner to submit for approval plans and particulars of a complete fire installation, based on such design.



**7.5 ADDENDUM E: NOTICE R. 504 IN GOVERNMENT GAZETTE NO. 33265**

STAATSKOERANT, 11 JUNIE 2010

No. 33265 43

**DEPARTMENT OF TRADE AND INDUSTRY  
DEPARTEMENT VAN HANDEL EN NYWERHEID**

No. R. 504

11 June 2010

**NATIONAL BUILDING REGULATIONS AND BUILDING STANDARDS ACT (ACT 103 OF 1977)**

**PROPOSED INTRODUCTION OF A REGULATION FOR THE ENVIRONMENTAL SUSTAINABILITY OF BUILDINGS**

**This section XA deals with Energy Efficiency of buildings.**

It is hereby made known under section 20 (1) (f) of the National Building Regulation and Building Standards Act (Act 103 of 1977) that the Minister of Trade and Industry intends to introduce a sub-regulation for the *Energy Efficiency of Buildings* as set out in the attached Schedule.

Any person who wishes to make comments on the intention of the Minister to introduce the building regulation concerned shall submit their comments, in writing, to the Chief Executive Officer, National Regulator for Compulsory Specifications, Private Bag X25, Brooklyn, 0075, on or before the date two (2) months after publication of this notice.

**Dr Rob Davies, MP  
Minister of Trade and Industry**



**DEPARTMENT OF TRADE AND INDUSTRY**  
**NATIONAL BUILDING REGULATIONS AND BUILDING STANDARDS ACT 2008 (ACT**  
**NO. 103 OF 1977)**

**SCHEDULE**

**AMENDMENTS TO THE NATIONAL BUILDING REGULATIONS TO INTRODUCE**  
**REQUIREMENTS FOR THE ENERGY USAGE IN BUILDINGS**

**1 Regulation A7 is amended as follows:**

**A7 Layout Drawing**

**Add the following additional requirements:**

- (m) where provided, the location and capacity of water heating installations; and
- (n) where provided, details of insulation required to satisfy energy usage requirement of Regulation XA.

**2 Regulation A19 is amended as follows:**

**A19 Competent persons**

**Add the following additional requirement to sub-regulation A19 (1):**

- (c) The requirements of Regulation XA are satisfied by a competent person in accordance with SANS 10400 - XA,

**Add the following additional requirement to sub-regulation A19(12):**

- (c) Where regulation XA is satisfied by a competent person in accordance with the requirements of SANS 10400 Part XA, the competent person who is responsible for such determination shall on completion of the construction and commissioning of the building submit to the local authority a fully completed Form 4 as contained in SANS 10400-A.

**3 Renumber Regulation X (Repeal of regulations) as Regulation AZ5 (Repeal of regulations)**

Delete Part X Repeal of regulations and add the following AZ5:

**AZ5 Repeal of regulations**

The National Building Regulations published under Government Notice no. R 1081 of 10 June 1988, as amended by Government Notice No. R 1726 of 26 August 1988 are repealed from the date of the coming into operation of these regulations.

**4 Add the following new regulation Part X:**

**PART X: Environmental sustainability**

**X1 Definitions**

“**building envelope**” means the elements of a building that separate a habitable room from the exterior of a building or a garage or storage area;

“**certified thermal calculation software**” means software certified by the Board of Agrément South Africa in terms of Agrément South Africa’s Energy Software Protocols as being fit for thermal modelling or calculation purposes in terms of these regulations;

“**reference building**” means a hypothetical building that is used to determine the maximum allowable heating load for the proposed building.

**REGULATION**

**XA: Energy usage in buildings**

**XA1** Buildings having A1, A2, A3, A4, C1, C2, E1, E2, E3, E4, F1, F2, F3, G1, H1, H2, H3, H4 and H5 occupancy or building classifications in accordance with regulation A20, excluding garage and storages areas contained within such occupancies shall be designed and constructed so that buildings

- a) are capable of using energy efficiently while fulfilling user needs in relation to vertical transport, if any, thermal comfort, lighting and hot water; or
- b) have features and services which facilitate the efficient use of energy appropriate to their function and use, internal environment and geographical location,

**XA2** At least 50% by volume of the annual average hot water heating requirement shall be provided by means other than electrical resistance heating including but not limited to solar heating, heat pumps, heat recovery from other systems or processes and renewable combustible fuel.

**XA3** The requirements of sub-regulations XA1 shall be deemed to be satisfied when such building is designed and constructed in accordance with the following requirements:

- a) Has an orientation, shading, services and building envelope in accordance with SANS 10400 Part XA; or
- b) Is the subject of a rational design by a competent person, which demonstrates that the energy usage of such building is equivalent to or better than which would have been achieved by compliance with the requirements of SANS 10400 XA, or



- c) Has a theoretical energy usage performance determined using certified thermal calculation software, less than or equal to that of a reference building in accordance with SANS 10400 Part XA.
-



## 7.6 ADDENDUM F: COMPARING THE REQUIREMENTS OF THE 1990 AND 2008 EDITIONS OF THE NBR

Ref. no. 014/009/11-030



### PUBLISHING AND COPYRIGHT EXPLOITATION AGREEMENT ENTERED INTO BY AND BETWEEN

THE SOUTH AFRICAN BUREAU OF STANDARDS

AND

JACQUES LAUBSCHER

The South African Bureau of Standards, an organization established in terms of Section 3 of the Standards Act, Act No. 8 of 2008 (hereinafter referred to as 'SABS') hereby enters into an agreement with Jacques Laubscher in his personal capacity.

The SABS hereby grants Jacques Laubscher permission to use full-text copies of SANS 204-1:2008, SANS 204-2:2008 and a draft version of SANS 10400-XA as Addenda to his Ph D thesis for the Department of Architecture at the University of Pretoria under the following conditions:

1. Printed copies of the thesis as well as electronic copies (e.g. in PDF) may contain the full-text copies of the said standards and draft standard.
2. The printed copies may be distributed to academic staff at the University of Pretoria and other universities in South Africa but must be controlled by the library lending system.
3. An electronic copy of the thesis that is placed on a Website may not contain the full-text copies of the standard but must contain a link to the SABS Webstore where these standards can be purchased with appropriate wording to that effect.
4. The thesis containing the full-text versions of the standards and draft standard may not be published in a book or article format.
5. The draft version of SANS 10400-XA is strictly speaking a work in progress. It is subject to change and is not a valid South African Standard. It is the responsibility of Jacques Laubscher to mention this fact to all concerned.
6. It is the responsibility of Jacques Laubscher to communicate the terms and conditions of this agreement to library staff at his university or other universities in South Africa.
7. This agreement is valid only for the 2008 editions of SANS 204 Parts 1 and 2 and no permission has been asked or granted for the published version of SANS 10400-XA should it be finalized.
8. Jacques Laubscher must have legally purchased copies of the said standards.
9. This agreement is subject to the laws of the Republic of South Africa.
10. This agreement may not be transferred or ceded to any third party.
11. Jacques Laubscher must sign two copies of this agreement and send one copy back to SABS.
12. Jacques Laubscher must keep a copy of this agreement signed by both as proof that permission has been granted for the specific use of SANS standards and SABS reserves the right to audit compliance with this agreement.

Signed at ..... on the ..... day of ..... 2011.

.....  
**G. Seopa**  
Manager: Standards Sales  
South African Bureau of Standards  
Dr Lategan Rd, Groenkloof, Pretoria

Signed at ..... on the ..... day of ..... 2011.

.....  
**J. Laubscher**  
University of Pretoria: Lynnwood Road, Hillcrest, Pretoria

---

---

1 dr lategan road groenkloof private bag x 191 pretoria 0001  
tel: 012 428 6883 fax: 012 428 6928 international code + 27 12  
www.sabs.co.za

The referenced standard is available on the SABS Webstore, see <https://www.sabs.co.za/index.php?page=standardspurchase>.



## 7.7 ADDENDUM G SANS 204-1:2008: ENERGY EFFICIENCY IN BUILDINGS: GENERAL REQUIREMENTS

Ref. no. 014/009/11-030



### PUBLISHING AND COPYRIGHT EXPLOITATION AGREEMENT ENTERED INTO BY AND BETWEEN

THE SOUTH AFRICAN BUREAU OF STANDARDS

AND

JACQUES LAUBSCHER

The South African Bureau of Standards, an organization established in terms of Section 3 of the Standards Act, Act No. 8 of 2008 (hereinafter referred to as 'SABS') hereby enters into an agreement with Jacques Laubscher in his personal capacity.

The SABS hereby grants Jacques Laubscher permission to use full-text copies of SANS 204-1:2008, SANS 204-2:2008 and a draft version of SANS 10400-XA as Addenda to his Ph D thesis for the Department of Architecture at the University of Pretoria under the following conditions:

1. Printed copies of the thesis as well as electronic copies (e.g. in PDF) may contain the full-text copies of the said standards and draft standard.
2. The printed copies may be distributed to academic staff at the University of Pretoria and other universities in South Africa but must be controlled by the library lending system.
3. An electronic copy of the thesis that is placed on a Website may not contain the full-text copies of the standard but must contain a link to the SABS Webstore where these standards can be purchased with appropriate wording to that effect.
4. The thesis containing the full-text versions of the standards and draft standard may not be published in a book or article format.
5. The draft version of SANS 10400-XA is strictly speaking a work in progress. It is subject to change and is not a valid South African Standard. It is the responsibility of Jacques Laubscher to mention this fact to all concerned.
6. It is the responsibility of Jacques Laubscher to communicate the terms and conditions of this agreement to library staff at his university or other universities in South Africa.
7. This agreement is valid only for the 2008 editions of SANS 204 Parts 1 and 2 and no permission has been asked or granted for the published version of SANS 10400-XA should it be finalized.
8. Jacques Laubscher must have legally purchased copies of the said standards.
9. This agreement is subject to the laws of the Republic of South Africa.
10. This agreement may not be transferred or ceded to any third party.
11. Jacques Laubscher must sign two copies of this agreement and send one copy back to SABS.
12. Jacques Laubscher must keep a copy of this agreement signed by both as proof that permission has been granted for the specific use of SANS standards and SABS reserves the right to audit compliance with this agreement.

Signed at ..... on the ..... day of ..... 2011.

.....  
**G. Seopa**  
Manager: Standards Sales  
South African Bureau of Standards  
Dr Lategan Rd, Groenkloof, Pretoria

Signed at ..... on the ..... day of ..... 2011.

.....  
**J. Laubscher**  
University of Pretoria: Lynnwood Road, Hillcrest, Pretoria

---

1 dr lategan road groenkloof private bag x 191 pretoria 0001  
tel: 012 428 6883 fax: 012 428 6928 international code + 27 12  
www.sabs.co.za



The referenced standard is available on the SABS Webstore, see <https://www.sabs.co.za/index.php?page=standardspurchase>.



# 7.8 ADDENDUM H: SANS 204-2:2008: ENERGY EFFICIENCY IN BUILDINGS: THE APPLICATION OF THE ENERGY EFFICIENCY REQUIREMENTS FOR BUILDINGS WITH NATURAL ENVIRONMENTAL CONTROL

Ref. no. 014/009/11-030



## PUBLISHING AND COPYRIGHT EXPLOITATION AGREEMENT ENTERED INTO BY AND BETWEEN

THE SOUTH AFRICAN BUREAU OF STANDARDS

AND

JACQUES LAUBSCHER

The South African Bureau of Standards, an organization established in terms of Section 3 of the Standards Act, Act No. 8 of 2008 (hereinafter referred to as 'SABS') hereby enters into an agreement with Jacques Laubscher in his personal capacity.

The SABS hereby grants Jacques Laubscher permission to use full-text copies of SANS 204-1:2008, SANS 204-2:2008 and a draft version of SANS 10400-XA as Addenda to his Ph D thesis for the Department of Architecture at the University of Pretoria under the following conditions:

1. Printed copies of the thesis as well as electronic copies (e.g. in PDF) may contain the full-text copies of the said standards and draft standard.
2. The printed copies may be distributed to academic staff at the University of Pretoria and other universities in South Africa but must be controlled by the library lending system.
3. An electronic copy of the thesis that is placed on a Website may not contain the full-text copies of the standard but must contain a link to the SABS Webstore where these standards can be purchased with appropriate wording to that effect.
4. The thesis containing the full-text versions of the standards and draft standard may not be published in a book or article format.
5. The draft version of SANS 10400-XA is strictly speaking a work in progress. It is subject to change and is not a valid South African Standard. It is the responsibility of Jacques Laubscher to mention this fact to all concerned.
6. It is the responsibility of Jacques Laubscher to communicate the terms and conditions of this agreement to library staff at his university or other universities in South Africa.
7. This agreement is valid only for the 2008 editions of SANS 204 Parts 1 and 2 and no permission has been asked or granted for the published version of SANS 10400-XA should it be finalized.
8. Jacques Laubscher must have legally purchased copies of the said standards.
9. This agreement is subject to the laws of the Republic of South Africa.
10. This agreement may not be transferred or ceded to any third party.
11. Jacques Laubscher must sign two copies of this agreement and send one copy back to SABS.
12. Jacques Laubscher must keep a copy of this agreement signed by both as proof that permission has been granted for the specific use of SANS standards and SABS reserves the right to audit compliance with this agreement.

Signed at ..... on the ..... day of ..... 2011.

.....  
**G. Seopa**  
Manager: Standards Sales  
South African Bureau of Standards  
Dr Lategan Rd, Groenkloof, Pretoria

Signed at ..... on the ..... day of ..... 2011.

.....  
**J. Laubscher**  
University of Pretoria: Lynnwood Road, Hillcrest, Pretoria

---

1 dr lategan road groenkloof private bag x 191 pretoria 0001  
tel: 012 428 6883 fax: 012 428 6928 international code + 27 12  
www.sabs.co.za



The referenced standard is available on the SABS Webstore, see <https://www.sabs.co.za/index.php?page=standardspurchase>.



# 7.9 ADDENDUM I: SANS 10400-XA: 2010 ENERGY USAGE IN BUILDINGS

Ref. no. 014/009/11-030



## PUBLISHING AND COPYRIGHT EXPLOITATION AGREEMENT ENTERED INTO BY AND BETWEEN

THE SOUTH AFRICAN BUREAU OF STANDARDS

AND

JACQUES LAUBSCHER

The South African Bureau of Standards, an organization established in terms of Section 3 of the Standards Act, Act No. 8 of 2008 (hereinafter referred to as 'SABS') hereby enters into an agreement with Jacques Laubscher in his personal capacity.

The SABS hereby grants Jacques Laubscher permission to use full-text copies of SANS 204-1:2008, SANS 204-2:2008 and a draft version of SANS 10400-XA as Addenda to his Ph D thesis for the Department of Architecture at the University of Pretoria under the following conditions:

1. Printed copies of the thesis as well as electronic copies (e.g. in PDF) may contain the full-text copies of the said standards and draft standard.
2. The printed copies may be distributed to academic staff at the University of Pretoria and other universities in South Africa but must be controlled by the library lending system.
3. An electronic copy of the thesis that is placed on a Website may not contain the full-text copies of the standard but must contain a link to the SABS Webstore where these standards can be purchased with appropriate wording to that effect.
4. The thesis containing the full-text versions of the standards and draft standard may not be published in a book or article format.
5. The draft version of SANS 10400-XA is strictly speaking a work in progress. It is subject to change and is not a valid South African Standard. It is the responsibility of Jacques Laubscher to mention this fact to all concerned.
6. It is the responsibility of Jacques Laubscher to communicate the terms and conditions of this agreement to library staff at his university or other universities in South Africa.
7. This agreement is valid only for the 2008 editions of SANS 204 Parts 1 and 2 and no permission has been asked or granted for the published version of SANS 10400-XA should it be finalized.
8. Jacques Laubscher must have legally purchased copies of the said standards.
9. This agreement is subject to the laws of the Republic of South Africa.
10. This agreement may not be transferred or ceded to any third party.
11. Jacques Laubscher must sign two copies of this agreement and send one copy back to SABS.
12. Jacques Laubscher must keep a copy of this agreement signed by both as proof that permission has been granted for the specific use of SANS standards and SABS reserves the right to audit compliance with this agreement.

Signed at ..... on the ..... day of ..... 2011.

.....  
**G. Seopa**  
Manager: Standards Sales  
South African Bureau of Standards  
Dr Lategan Rd, Groenkloof, Pretoria

Signed at ..... on the ..... day of ..... 2011.

.....  
**J. Laubscher**  
University of Pretoria: Lynnwood Road, Hillcrest, Pretoria

---

1 dr lategan road groenkloof private bag x 191 pretoria 0001  
tel: 012 428 6883 fax: 012 428 6928 international code + 27 12  
www.sabs.co.za



The referenced standard is available on the SABS Webstore, see <https://www.sabs.co.za/index.php?page=standardspurchase>.

## 7.10 ADDENDUM J: NAIROBI DECLARATION

### **Nairobi Declaration on Green Building for Africa**

**Conference on Green Building Rating Systems in Africa**

**4-6 May 2010, Nairobi, KENYA**

We, experts, practitioners and decision makers from twenty countries in Africa, meeting at the Conference on Green Building Rating Systems for Africa, after three days of fruitful debates and discussions, declare our commitment to promoting and fostering green building practices in Africa.

We take note of the tremendous environmental challenges and threats currently being faced by the African Continent:

In a continent of rapid urbanization the volume of building operation continues to grow very rapidly and requires close monitoring in terms of its environmental impact;

Africa's intense development pressure, the resulting rapid urbanization and generally carbon intensive mediums of energy generation, leaves the built environment under particular pressure to thoroughly embrace the sustainability imperative.

Considering that building operations are estimated to be responsible for 56% of energy used in Sub-Saharan Africa by buildings alone, this is an urgent matter that can no longer be underestimated by decision makers, the building industry and building professionals.

We resolve that in order to reduce CO<sub>2</sub> emissions and help strengthen the ability of cities to adapt to climate change while improving the quality of the built environment, it is urgent to improve the environmental performance and energy efficiency in buildings.

We are committed to being the promoters of green practices, from planning, design, construction and operation of the built environment, as well as to the use of appropriate building materials, technologies, services and processes that minimize CO<sub>2</sub> emissions in our Continent.

We underline the importance of taking into account social and cultural specificities of Africa in particular:

Exploring traditional practices that have been proved to be environmentally beneficial while addressing the need for mass housing constructions in Africa given the fact of rapidly increasing urban population growth;



Addressing the needs of populations at the bottom of the social and economic pyramid that require affordable housing and simple solutions to face economic challenges.

We emphasize the importance of:

Sourcing building materials and appropriate technology that are locally available.

Designing buildings taking into account climatic conditions on the continent and by so doing making use of naturally available energies that can be harnessed profitably.

The role of urban design and planning in sustainable urban development.

The use of renewable energy.

The development and or use of a green building rating system.

We recommend that models of Green Building Councils and the associated green rating systems be developed and considered that cater for the different country needs and specificities on a national and/or on a sub-regional basis while collaborating with different countries.

We further emphasize the importance of training professionals, and introducing green building practices in the education system in order to increase public awareness and skills to spread green practices.

We call the World Green Building Council and UN-Habitat to support this process through best practices exchange in order for African countries to learn from various models available in the World.

We further call on the respective Governments to support the Green Building Councils of their respective Countries.

We further propose a road map for the next two years to engage African countries in a decisive process to:

- Set up National and/ or sub-regional Green Building Councils.
- Set up an African network to foster exchange between experts, professionals, decision makers and the private sector and to assist emerging Green Building Councils in the Region.
- Advocate for policy and regulation to encourage the adoption and enforcement of the appropriate rating system and best practices in each country.

Finally, we re-iterate the need to set-up an African Platform that will promote and/ or confederate the different green building initiatives in Africa.

## 7.11 ADDENDUM K: ETHICS COMMITTEE APPROVAL

### **Background information supporting the request for approval by the EBIT faculty committee for Research Ethics and Integrity**

---

**Date:** 2010/08/01  
**Researcher** Mr J Laubscher e-mail: [jacques.laubscher@up.ac.za](mailto:jacques.laubscher@up.ac.za) Student No: 29708398  
**Supervisor** Prof PT Vosloo e-mail: [piet.vosloo@up.ac.za](mailto:piet.vosloo@up.ac.za)  
**Degree** PhD (12262030)

#### **Project Title:**

Investigating the National Building Regulations as regulating instrument to promote sustainability within the built environment of South Africa.

#### **Introduction:**

In South Africa, the built environment is regulated by the National Building Regulations (NBR) and Building Standards Act (Act 103 of 1977). The current implementation of these regulations takes place through the amended Code of Practice for the application of the National Building Regulations (SABS 0400-1990). This code is in the process of being replaced by SANS 10400 (Parts A-W, and Part XA). The implementation of these requirements is the responsibility of the Building Control Officer (BCO), who is appointed by the relevant Local Authority (LA).

It is argued that the implementation of the regulations and Code of Practice by the BCO requires an intimate knowledge of the Act and the subsequent code, together with the applicable goals and objectives.

#### **Main activities in the project + Manner of completion:**

The National Regulator for Compulsory Specifications (NCRS) has invited all the BCOs in South Africa to a one-day convention in Pretoria. The theme of the conference is 'Sharing indigenous Wisdom' and it is scheduled for 21 September 2010.

The researcher will be allowed to present an introductory lecture to this assembly on proposed changes to SABS 0400-1990. Following the lecture, a questionnaire will be completed by the group, under the supervision of the researcher to clarify any aspect, if required.

Because the BCO is responsible for the implementation of SABS 0400-1990 or SANS 10400, the results obtained in this study could provide valuable data/information in determining the future direction and method of communication of amendments to SABS 0400-1990 (or SANS 10400).

#### **Target group:**

BCOs employed at LAs attending a one-day conference on 21 September 2010, under the auspices of the NCRS.

#### **Rating of target group:**

The appointment of a BCO by an LA takes place in terms of the minimum requirements as set out in SABS 0400-1990 (or SANS 10400). In addition to a minimum qualification, the respondent should also have daily contact with the subject matter. Therefore the response obtained from this target group is rated as informed.

#### **Aim of the project:**

To determine the response of the BCOs on:

1. The current status of the SABS 0400-1990 or SANS 10400 with regard to its implementation.
2. Expected changes in the SABS 0400-1990 or SANS 10400, specifically the recently published Part XA (Energy usage in buildings)
3. The future inclusion of sustainability issues in SABS 0400-1990 or SANS 10400.

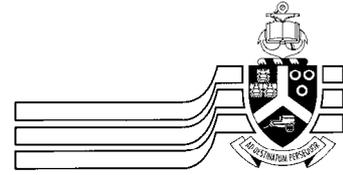
#### **Support/Underwriting:**

The questionnaire is completed during (or after) the conference hosted by the NCRS. The association of the questionnaire with an event hosted by the NCRS provides the necessary underwriting. To encourage a high rate of completion, the respondents will be allowed an opportunity to indicate whether they would like to be informed about the results of the questionnaire. However, this possibility will only be investigated upon receiving approval from the Ethics Committee.

#### **Anonymity:**

All information disclosed as part of this questionnaire will be considered confidential and no personal information will be published as part of the research project.

For **more information** on the project, the researcher could be contacted via e-mail at the following address: [jacques.laubscher@up.ac.za](mailto:jacques.laubscher@up.ac.za)



University of Pretoria

Reference number: EBIT/30/2010      27 August 2010

Mr J Laubscher  
P O Box 95469  
Waterkloof  
0145

Dear Mr Laubscher

**YOUR RECENT APPLICATION TO THE FACULTY COMMITTEE FOR RESEARCH ETHICS AND INTEGRITY**

1. I hereby wish to inform you that the research project titled “Investigating the National Building Regulations as regulating instrument to promote sustainability within the built environment of South Africa” has been approved by the Committee.

This approval does not imply that the researcher, student or lecturer is relieved of any accountability in terms of the Codes of Research Ethics of the University of Pretoria, if action is taken beyond the approved proposal.

2. According to the regulations, any relevant problem arising from the study or research methodology as well as any amendments or changes, must be brought to the attention of any member of the Faculty Committee who will deal with the matter.
3. The Committee must be notified on completion of the project.

The Committee wishes you every success with the research project.

Prof. J.J. Hanekom  
Chairman: Faculty Committee for Research Ethics and Integrity  
FACULTY OF ENGINEERING, THE BUILT ENVIRONMENT AND INFORMATION TECHNOLOGY



## 7.12 ADDENDUM L: QUESTIONNAIRE

100  
1908 - 2008



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA

20 September 2010

Dear Respondent

You are hereby invited to participate in an academic research study in the area of compulsory regulation of the built environment, at the University of Pretoria. The purpose of the study is to investigate the application of the NBR by the Building Control Officer.

I value your participation and will appreciate it if you can complete this questionnaire. It should not take more than 20 minutes of your time.

All information will be treated as confidential. However, the results of this questionnaire will be publicly available after it had been processed.

Thank you in advance for your cooperation.

Jacques Laubscher Pr Arch



**Questionnaire on the amended National Building Regulations and Buildings Standards Act (Act No. 103 of 1977), and the relevant Code of practice for the Application thereof (SABS 0400-1990 or SANS 10400)**

		For official use only																																					
Respondent number (For official use only)		v0																																					
1	In which <b>province</b> are you currently working?	<table border="1"> <tr><td>Northern Province</td><td>1</td></tr> <tr><td>Mpumalanga</td><td>2</td></tr> <tr><td>Gauteng</td><td>3</td></tr> <tr><td>Northwest Province</td><td>4</td></tr> <tr><td>Free State</td><td>5</td></tr> <tr><td>Northern Cape</td><td>6</td></tr> <tr><td>Western Cape</td><td>7</td></tr> <tr><td>Eastern Cape</td><td>8</td></tr> <tr><td>KwaZulu Natal</td><td>9</td></tr> </table>	Northern Province	1	Mpumalanga	2	Gauteng	3	Northwest Province	4	Free State	5	Northern Cape	6	Western Cape	7	Eastern Cape	8	KwaZulu Natal	9	<table border="1"> <tr><td>v1.1</td><td></td></tr> <tr><td>v1.2</td><td></td></tr> <tr><td>v1.3</td><td></td></tr> <tr><td>v1.4</td><td></td></tr> <tr><td>v1.5</td><td></td></tr> <tr><td>v1.6</td><td></td></tr> <tr><td>v1.7</td><td></td></tr> <tr><td>v1.8</td><td></td></tr> <tr><td>v1.9</td><td></td></tr> </table>	v1.1		v1.2		v1.3		v1.4		v1.5		v1.6		v1.7		v1.8		v1.9	
Northern Province	1																																						
Mpumalanga	2																																						
Gauteng	3																																						
Northwest Province	4																																						
Free State	5																																						
Northern Cape	6																																						
Western Cape	7																																						
Eastern Cape	8																																						
KwaZulu Natal	9																																						
v1.1																																							
v1.2																																							
v1.3																																							
v1.4																																							
v1.5																																							
v1.6																																							
v1.7																																							
v1.8																																							
v1.9																																							
2	2.1 What is your <b>gender</b> ?	<table border="1"> <tr><td>Male</td><td>1</td></tr> <tr><td>Female</td><td>2</td></tr> </table>	Male	1	Female	2	<table border="1"> <tr><td>v2.1</td><td></td></tr> </table>	v2.1																															
Male	1																																						
Female	2																																						
v2.1																																							
	2.2 What is your <b>age</b> ?	<table border="1"> <tr><td></td><td>(in years)</td></tr> </table>		(in years)	<table border="1"> <tr><td>v2.2</td><td></td></tr> </table>	v2.2																																	
	(in years)																																						
v2.2																																							
3	What is your <b>current occupation</b> ?	<table border="1"> <tr><td>Administrator</td><td>1</td></tr> <tr><td>Architect</td><td>2</td></tr> <tr><td>Building Control Officer</td><td>3</td></tr> <tr><td>Specifications writer</td><td>4</td></tr> <tr><td>Planner</td><td>5</td></tr> <tr><td>Other</td><td>6</td></tr> </table>	Administrator	1	Architect	2	Building Control Officer	3	Specifications writer	4	Planner	5	Other	6	<table border="1"> <tr><td>v3.1</td><td></td></tr> <tr><td>v3.2</td><td></td></tr> <tr><td>v3.3</td><td></td></tr> <tr><td>v3.4</td><td></td></tr> <tr><td>v3.5</td><td></td></tr> <tr><td>v3.6</td><td></td></tr> </table>	v3.1		v3.2		v3.3		v3.4		v3.5		v3.6													
Administrator	1																																						
Architect	2																																						
Building Control Officer	3																																						
Specifications writer	4																																						
Planner	5																																						
Other	6																																						
v3.1																																							
v3.2																																							
v3.3																																							
v3.4																																							
v3.5																																							
v3.6																																							
	Other (please describe briefly).																																						
4	Please provide the following information on your <b>working experience</b> :																																						
4.1	<b>Total number</b> of work experience (in years)	<table border="1"> <tr><td></td><td>(in years)</td></tr> </table>		(in years)	<table border="1"> <tr><td>v4.1</td><td></td></tr> </table>	v4.1																																	
	(in years)																																						
v4.1																																							
4.2	<b>Number</b> of work experience in the <b>built environment</b> (in years)	<table border="1"> <tr><td></td><td>(in years)</td></tr> </table>		(in years)	<table border="1"> <tr><td>v4.2</td><td></td></tr> </table>	v4.2																																	
	(in years)																																						
v4.2																																							
4.3	<b>Number</b> of work experience at a <b>Local Authority</b> (in years)	<table border="1"> <tr><td></td><td>(in years)</td></tr> </table>		(in years)	<table border="1"> <tr><td>v4.3</td><td></td></tr> </table>	v4.3																																	
	(in years)																																						
v4.3																																							
4.4	<b>Number</b> of work experience as a <b>BCO</b> (in years)	<table border="1"> <tr><td></td><td>(in years)</td></tr> </table>		(in years)	<table border="1"> <tr><td>v4.4</td><td></td></tr> </table>	v4.4																																	
	(in years)																																						
v4.4																																							
4.5	<b>Other</b> work experience (please describe briefly)	<table border="1"> <tr><td></td><td>(in years)</td></tr> </table>		(in years)	<table border="1"> <tr><td>v4.5</td><td></td></tr> <tr><td>v5.5.1</td><td></td></tr> <tr><td>v5.5.2</td><td></td></tr> <tr><td>v5.5.3</td><td></td></tr> <tr><td>v5.5.4</td><td></td></tr> </table>	v4.5		v5.5.1		v5.5.2		v5.5.3		v5.5.4																									
	(in years)																																						
v4.5																																							
v5.5.1																																							
v5.5.2																																							
v5.5.3																																							
v5.5.4																																							
5	Please tick all your <b>qualifications</b> :																																						
5.1	Standard 10 / Grade 12	<table border="1"> <tr><td>No</td><td>1</td><td>Yes</td><td>2</td><td>Partially</td><td>3</td></tr> </table>	No	1	Yes	2	Partially	3	<table border="1"> <tr><td>v5.1</td><td></td></tr> </table>	v5.1																													
No	1	Yes	2	Partially	3																																		
v5.1																																							
5.2	Certificate	<table border="1"> <tr><td>No</td><td>1</td><td>Yes</td><td>2</td><td>Partially</td><td>3</td></tr> </table>	No	1	Yes	2	Partially	3	<table border="1"> <tr><td>v5.2</td><td></td></tr> </table>	v5.2																													
No	1	Yes	2	Partially	3																																		
v5.2																																							
5.3	Diploma	<table border="1"> <tr><td>No</td><td>1</td><td>Yes</td><td>2</td><td>Partially</td><td>3</td></tr> </table>	No	1	Yes	2	Partially	3	<table border="1"> <tr><td>v5.3</td><td></td></tr> </table>	v5.3																													
No	1	Yes	2	Partially	3																																		
v5.3																																							
5.4	Bacchaleurs degree	<table border="1"> <tr><td>No</td><td>1</td><td>Yes</td><td>2</td><td>Partially</td><td>3</td></tr> </table>	No	1	Yes	2	Partially	3	<table border="1"> <tr><td>v5.4</td><td></td></tr> </table>	v5.4																													
No	1	Yes	2	Partially	3																																		
v5.4																																							
5.5	Masters degree	<table border="1"> <tr><td>No</td><td>1</td><td>Yes</td><td>2</td><td>Partially</td><td>3</td></tr> </table>	No	1	Yes	2	Partially	3	<table border="1"> <tr><td>v5.5</td><td></td></tr> </table>	v5.5																													
No	1	Yes	2	Partially	3																																		
v5.5																																							
5.6	Other (please describe briefly).	<table border="1"> <tr><td>No</td><td>1</td><td>Yes</td><td>2</td><td>Partially</td><td>3</td></tr> </table>	No	1	Yes	2	Partially	3	<table border="1"> <tr><td>v5.6</td><td></td></tr> <tr><td>v5.6.1</td><td></td></tr> <tr><td>v5.6.2</td><td></td></tr> </table>	v5.6		v5.6.1		v5.6.2																									
No	1	Yes	2	Partially	3																																		
v5.6																																							
v5.6.1																																							
v5.6.2																																							
6	There are different views on the <b>primary focus of the amended National Building Regulations and Buildings Standards Act</b> (Act No. 103 of 1977).																																						
	Please rate the importance of the following possible focus areas:	<table border="1"> <tr><td>of no importance</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>unimportant</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>don't know</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>important</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>very important</td><td></td><td></td><td></td><td></td><td></td></tr> </table>	of no importance						unimportant						don't know						important						very important												
of no importance																																							
unimportant																																							
don't know																																							
important																																							
very important																																							
6.1	To limit inflation in the built environment	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> </table>	1	2	3	4	5	<table border="1"> <tr><td>v6.1</td><td></td></tr> </table>	v6.1																														
1	2	3	4	5																																			
v6.1																																							
6.2	To ensure uniform regulation in the built environment	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> </table>	1	2	3	4	5	<table border="1"> <tr><td>v6.2</td><td></td></tr> </table>	v6.2																														
1	2	3	4	5																																			
v6.2																																							
6.3	To ensure a healthy built environment.	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> </table>	1	2	3	4	5	<table border="1"> <tr><td>v6.3</td><td></td></tr> </table>	v6.3																														
1	2	3	4	5																																			
v6.3																																							
6.4	To ensure a <b>safe built environment</b> .	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> </table>	1	2	3	4	5	<table border="1"> <tr><td>v6.4</td><td></td></tr> </table>	v6.4																														
1	2	3	4	5																																			
v6.4																																							
6.5	To <b>promote sustainability</b> in the built environment.	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> </table>	1	2	3	4	5	<table border="1"> <tr><td>v6.5</td><td></td></tr> </table>	v6.5																														
1	2	3	4	5																																			
v6.5																																							
6.6	To form a <b>basis for future development</b> of the built environment.	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> </table>	1	2	3	4	5	<table border="1"> <tr><td>v6.6</td><td></td></tr> </table>	v6.6																														
1	2	3	4	5																																			
v6.6																																							
6.7	Other (please describe briefly).	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> </table>	1	2	3	4	5	<table border="1"> <tr><td>v6.7</td><td></td></tr> <tr><td>v6.7.1</td><td></td></tr> <tr><td>v6.7.2</td><td></td></tr> <tr><td>v6.7.3</td><td></td></tr> </table>	v6.7		v6.7.1		v6.7.2		v6.7.3																								
1	2	3	4	5																																			
v6.7																																							
v6.7.1																																							
v6.7.2																																							
v6.7.3																																							



7 Legislative control of the built environment is a complex issue. A number of LAs have drafted **documents to supplement the NBR. How often does the BCO make use of these** during the execution of his daily tasks, and which documents are consulted?

		never	rarely (once a quarter)	sometimes (once a month)	often (once a week)	very often (once a day)	For official use only	
<b>How often do you refer to (or consult) the following documents?</b>								
7.1	The amended National Building Regulations and Buildings Standards Act (Act No. 103 of 1977)	1	2	3	4	5	v7.1	
7.2	The <b>National Building Regulations</b> promulgated in terms of the relevant sections of the Act (i.e. section 17(1) section 20 read with section 9, section 20 read with section 16, and section 20 read with section 17(5)a)	1	2	3	4	5	v7.2	
7.3	The amended <b>Code of Practice</b> for the Application of the National Building Regulations (SABS 0400-1990 or SANS 10400)	1	2	3	4	5	v7.3	
7.4	The <b>Deemed-to-Satisfy</b> Rules as included in The Code of Practice for the Application of the National Building Regulations (SABS 0400-1990 or SANS 10400)	1	2	3	4	5	v7.4	
7.5	Guidelines for the <b>preparation of building plans.</b>	1	2	3	4	5	v7.5	
7.6	Plan submission <b>application form</b>	1	2	3	4	5	v7.6	
7.7	<b>Checklist</b> for plan approval	1	2	3	4	5	v7.7	
7.8	<b>Notice of approval</b>	1	2	3	4	5	v7.8	
7.9	Regulations for <b>relaxing a building line</b>	1	2	3	4	5	v7.9	
7.10	Regulations for <b>reducing</b> (or relaxing) a <b>height restriction</b>	1	2	3	4	5	v7.10	
7.11	<b>Planning Ordinances</b>	1	2	3	4	5	v7.11	
7.12	Urban planning / <b>zoning scheme</b>	1	2	3	4	5	v7.12	
7.13	Regulations for the <b>departure from urban planning</b> / zoning scheme	1	2	3	4	5	v7.13	
7.14	' <b>Green</b> ' <b>building</b> guidelines/by-laws	1	2	3	4	5	v7.14	
7.15	<b>Sustainable housing policy</b>	1	2	3	4	5	v7.15	
7.16	Guidelines for <b>architectural design manuals</b>	1	2	3	4	5	v7.16	
7.17	Guidelines for <b>Heritage and Conservation</b>	1	2	3	4	5	v7.17	
7.18	<b>Other</b> (please describe briefly)	1	2	3	4	5	v7.18	
							v7.18.1	
							v7.18.2	
							v7.19.1	

8 The various **role players** in the built environment **interpret the requirements of the** amended Code of Practice for the Application of the National Building Regulations (**SABS 0400-1990 or SANS 10400**) in different ways.

		strongly disagree	disagree	don't know	agree	strongly agree	For official use only	
Please indicate your <b>level of agreement</b> for each of the following statements:								
8.1	As far as the <b>applicant</b> is concerned, SABS 0400-1990 (or SANS 10400) represents the <b>minimum requirement</b> for a <b>building</b> project	1	2	3	4	5	v8.1	
8.2	SABS 0400-1990 (or SANS 10400) represents the <b>maximum requirement</b> that the <b>Local Authority*</b> (LA), and therefore the <b>Building Control Officer**</b> (BCO), could expect from a building project	1	2	3	4	5	v8.2	

9 The **Building Control Officer** (BCO) of a Local Authority (LA) is **responsible for the implementation** of the latest version of **'The Code of Practice for the Application of the National Building Regulations** (SABS 0400-1990 or SANS 10400)'. Therefore it is important to obtain the opinion of the BCO on this Code and its implementation.

		strongly disagree	disagree	neutral	agree	strongly agree	For official use only	
Please indicate your <b>level of agreement</b> with each of the following statements:								
9.1	The Code (SABS 0400-1990 or SANS 10400) is <b>an accessible document</b> that is easily understandable	1	2	3	4	5	v9.1	
9.2	The Code (SABS 0400-1990 or SANS 10400) <b>provides answers to all the questions/issues</b> that a <b>BCO</b> has to <b>address daily</b>	1	2	3	4	5	v9.2	
9.3	The Code (SABS 0400-1990 or SANS 10400) is <b>structured logically</b> in accordance with all the necessary <b>stages of a construction</b> project	1	2	3	4	5	v9.3	
9.4	The Code (SABS 0400-1990 or SANS 10400) is an <b>appropriate administrative instrument</b>	1	2	3	4	5	v9.4	
9.5	The Code (SABS 0400-1990 or SANS 10400) <b>ensures uniform regulation</b> of the built environment	1	2	3	4	5	v9.5	



**10** The Code (**SABS 0400-1990** or **SANS 10400**) defines certain **requirements and procedures** relating to the **plan approval process**. However, at present the various LAs use different documents when implementing the relevant requirements and procedures.

	strongly disagree	disagree	don't know	agree	strongly agree	
Please indicate your <b>level of agreement</b> for each of the following statements:						
10.1	The objectives of the Code (SABS 0400-1990 or SANS 10400) are sufficiently represented in the 'plan submission form' that is currently used by the LA					v10.1
10.2	The objectives of the Code (SABS 0400-1990 or SANS 10400) are sufficiently represented in the 'checklist for plan approval' that is currently used by the LA					v10.2
10.3	The objectives of the Code (SABS 0400-1990 or SANS 10400) are sufficiently represented in the 'notice of approval' that is currently used by the LA					v10.3
10.4	The Code (SABS 0400-1990 or SANS 10400) should define a <b>national standardised submission and approval pro-forma</b>					v10.4

For official use only

**11** At present the Code (**SABS 0400-1990** or **SANS 10400**) is **not implemented uniformly in the RSA**. This is the result of certain areas being exempt from the NBR, amongst other reasons

	strongly disagree	disagree	neutral	agree	strongly agree	
Please indicate your <b>level of agreement</b> with each of the following statements:						
11.1	There should be <b>2 different Codes</b> under SABS 0400-1990 (or SANS 10400), one applicable to the <b>formal segment</b> of the South African built environment, and a separate Code for <b>informal settlements</b>					v11.1
11.2	The erection of <b>government subsidised housing</b> should fall <b>outside the mandate of SABS 0400-1990</b> (or SANS 10400), and therefore also <b>outside the mandate of the BCO</b> . (In other words, low-cost housing should not be submitted to the LA for plan approval or be subject to inspections conducted by the BCO)					v11.2
11.3	As soon as any <b>alterations or additions</b> are made to a <b>government subsidised house</b> , it should fall under the <b>formal sector</b> , adhering to all the relevant requirements of SABS 0400-1990 (or SANS 10400)					v11.3
11.4	All <b>official government buildings</b> should be <b>exempt from the full approval procedure</b>					v11.4

For official use only

**12** Various **imminent changes to the NBR** are envisioned.

	NO	YES	
Please respond to the following statements:			
12.1	I am aware that the respective standards for <b>SANS 10400 (Parts A-H, J-W)</b> have been <b>published to replace the amended Code of Practice</b> for the Application of the National Building Regulations ( <b>SABS 0400-1990</b> )		v12.1
12.2	I have <b>submitted a formal comment*</b> on the relevant published standards for <b>SANS 10400</b> (parts A-H, J- W) , that is scheduled to replace SABS 0400.		v12.2
12.3	I am aware of the <b>voluntary</b> standard <b>SANS 204: 2008</b> (Parts 1, 2 + 3) that focuses on energy efficiency in buildings		v12.3
12.4	I am aware that the standard <b>SANS 10400-XA: 2010</b> (Energy usage in buildings) was <b>published for public comment</b> on 2010-06-15		v12.4
12.5	I have <b>submitted a formal comment*</b> on <b>SANS 10400-XA: 2010</b> (Energy usage in buildings)		v12.5
12.6	I am aware that the standard <b>SANS 10400-O: 2010</b> (Lighting and ventilation) has been <b>published for public comment</b>		v12.6
12.7	I have <b>submitted</b> (or plan to submit before or on 2010-10-26) a <b>formal comment*</b> on <b>SANS 10400-O: 2010</b> (Lighting and ventilation)		v12.6

**\*Note: Formal comments on standards:** These comments could have been made in your personal capacity, through the LA or other professional body during the period for invited comments.

For official use only

**13** This section focuses on the **impact of envisioned changes to the NBR on the BCO**. (In other words, how the above changes would influence the daily operation of the BCO).

	strongly disagree	disagree	neutral	agree	strongly agree	
Please indicate your <b>level of agreement</b> for each of the following statements:						
13.1	The <b>implementation</b> of the new standards as set out in <b>SANS 10400 (Parts A -H, J - W)</b> will have a <b>significant impact</b> on my daily functioning as a BCO					v13.1
13.2	The <b>implementation</b> of the new standards as set out in <b>SANS 10400-XA: 2010</b> (Energy usage in buildings) will have a <b>significant impact</b> on my daily functioning as a BCO					v13.2
13.3	The <b>implementation</b> of the new standards as set out in SANS 10400-O: 2010 ( <b>Lighting and ventilation</b> ) will have a <b>significant impact</b> on my daily functioning as a BCO					v13.3

For official use only



14 This question focuses on possible inclusion of criteria that could promote sustainability in the built environment as additional requirements of the NBR.

		strongly disagree	disagree	don't know	agree	strongly agree	For official use only	
Please indicate your level of agreement for each of the following statements:								
14.1	The concept of "sustainability" should be incorporated in the NBR	1	2	3	4	5	v14.1	
14.2	The concept of "resource efficiency" should be incorporated in the NBR	1	2	3	4	5	v14.2	
14.3	The concept of "Green buildings" should be incorporated in the NBR	1	2	3	4	5	v14.3	
14.4	Development in the built environment should be done in a sustainable manner	1	2	3	4	5	v14.4	
14.5	Buildings should be designed to reduce their total energy consumption to a minimum	1	2	3	4	5	v14.5	
14.6	The building regulations should control and limit the energy consumption of the building sector	1	2	3	4	5	v14.6	
14.7	The building regulations should address the future impact of buildings on the natural environment	1	2	3	4	5	v14.7	
14.8	The building regulations should address the future impact of buildings on the man-made environment	1	2	3	4	5	v14.8	
14.9	Minimum passive design criteria should be included as additional requirements of the NBR	1	2	3	4	5	v14.9	
14.10	The existing administration methods of the NBR could be adapted without difficulty to include additional minimum passive design criteria	1	2	3	4	5	v14.10	

15 Please rate the following passive design criteria for possible inclusion as additional requirements in the NBR. This list has been specifically formulated to become part of the 'plan checklist'.

		of no importance	unimportant	don't know	important	very important	For official use only	
Please indicate your level of agreement for each of the following statements:								
15.1	The majority of habitable rooms should face in a northerly direction to avoid unnecessary heating/cooling loads	1	2	3	4	5	v15.1	
15.2	If a habitable room does not face in a northerly direction, mitigating passive measures (i.e. shading devices, heat reflective glass, screens) should be taken to reduce heat gain	1	2	3	4	5	v15.2	
15.3	All exposed glass surfaces, except those facing south, should have a protective roof overhang and/or shading device (i.e. canopy, shutters etc.) to reduce possible heat gain	1	2	3	4	5	v15.3	
15.4	Where applicable, all building entrances/exits should be shielded from prevailing winds	1	2	3	4	5	v15.4	
15.5	Each habitable room should have a total window area of at least 10% of the floor area (or 0,2m <sup>2</sup> ), for natural lighting	1	2	3	4	5	v15.5	
15.6	Each habitable room should have openable windows of at least 5% of the floor area (or 0,2m <sup>2</sup> ), for natural ventilation	1	2	3	4	5	v15.6	
15.7	Cross ventilation should be provided for the majority of habitable rooms	1	2	3	4	5	v15.7	
15.8	The Zone of Space outside any opening should not be less than 1,0m in length from the boundary line, or 0,5m from the building line, with a maximum requirement of 8m (with the exception of built-up urban areas)	1	2	3	4	5	v15.8	
15.9	If under floor heating is installed, under floor insulation material should also be provided to avoid unnecessary heat loss	1	2	3	4	5	v15.9	
15.10	Except where the roofing material conforms to a minimum thermal resistance level (R-value), a ceiling should be installed in all habitable rooms to avoid unnecessary heat gain/loss	1	2	3	4	5	v15.10	
15.11	Where applicable, water storage tanks should be used to harvest storm water from roofs for later use in cisterns, irrigation, etc.	1	2	3	4	5	v15.11	
15.12	The minimum number of ablution facilities required for males and females in a development should be reduced from the current requirements	1	2	3	4	5	v15.12	
15.13	All electric water heating should be supported by a renewable energy source to limit electricity consumption for heating.	1	2	3	4	5	v15.13	
15.14	All electric water heating cylinders should be fitted with an automatic timer to limit electricity consumption for heating	1	2	3	4	5	v15.14	
15.15	Other (please describe briefly)	1	2	3	4	5	v15.15	
							v15.15.1	
15.16	Other (please describe briefly)	1	2	3	4	5	v15.16	
							v15.16.1	

Thank you for completing the questionnaire.



## 7.13 ADDENDUM M: SURVEY DATA

### Frequencies

[DataSet1] S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav

#### Statistics

V1: In which province are you currently working?

N	Valid	87
	Missing	2

#### V1: In which province are you currently working?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Northern Province	7	7.9	8.0	8.0
	Mpumalanga	12	13.5	13.8	21.8
	Gauteng	21	23.6	24.1	46.0
	Northwest Province	4	4.5	4.6	50.6
	Free State	2	2.2	2.3	52.9
	Northern Cape	5	5.6	5.7	58.6
	Western Cape	13	14.6	14.9	73.6
	Eastern Cape	8	9.0	9.2	82.8
	KwaZulu Natal	15	16.9	17.2	100.0
	Total	87	97.8	100.0	
Missing	System	2	2.2		
	Total	89	100.0		

```
SAVE OUTFILE='S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav'
/COMPRESSED.
FREQUENCIES VARIABLES=V2.1 V2.2
/ORDER=ANALYSIS.
```

### Frequencies

[DataSet1] S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav

#### Statistics

		V2.1: What is your gender?	V2.2: What is your age?
N	Valid	89	87
	Missing	0	2

### Frequency Table

#### V2.1: What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	78	87.6	87.6	87.6
	Female	11	12.4	12.4	100.0



V2.1: What is your gender?

	Frequency	Percent	Valid Percent
Valid Total	89	100.0	100.0

V2.2: What is your age?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 24	1	1.1	1.1	1.1
26	5	5.6	5.7	6.9
28	4	4.5	4.6	11.5
29	1	1.1	1.1	12.6
30	2	2.2	2.3	14.9
31	3	3.4	3.4	18.4
32	3	3.4	3.4	21.8
33	2	2.2	2.3	24.1
34	1	1.1	1.1	25.3
35	4	4.5	4.6	29.9
36	2	2.2	2.3	32.2
37	2	2.2	2.3	34.5
38	4	4.5	4.6	39.1
39	4	4.5	4.6	43.7
40	2	2.2	2.3	46.0
41	2	2.2	2.3	48.3
42	2	2.2	2.3	50.6
43	3	3.4	3.4	54.0
44	3	3.4	3.4	57.5
45	4	4.5	4.6	62.1
46	1	1.1	1.1	63.2
47	2	2.2	2.3	65.5
48	1	1.1	1.1	66.7
49	1	1.1	1.1	67.8
50	2	2.2	2.3	70.1
51	2	2.2	2.3	72.4
52	2	2.2	2.3	74.7
53	4	4.5	4.6	79.3
54	3	3.4	3.4	82.8
55	2	2.2	2.3	85.1
56	3	3.4	3.4	88.5
57	1	1.1	1.1	89.7
58	2	2.2	2.3	92.0
59	1	1.1	1.1	93.1
60	1	1.1	1.1	94.3
61	2	2.2	2.3	96.6
64	1	1.1	1.1	97.7
65	1	1.1	1.1	98.9
74	1	1.1	1.1	100.0
Total	87	97.8	100.0	



V2.2: What is your age?

		Frequency	Percent
Missing	System	2	2.2
Total		89	100.0

```

RECODE V3.1 (1=1) (SYSMIS=0) INTO VV3.1.
EXECUTE.
SAVE OUTFILE='S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav'
/COMPRESSED.
RECODE V3.2 (2=1) (SYSMIS=0) INTO VV3.2.
EXECUTE.
SAVE OUTFILE='S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav'
/COMPRESSED.
RECODE V3.3 (3=1) (SYSMIS=0) INTO VV3.3.
EXECUTE.
SAVE OUTFILE='S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav'
/COMPRESSED.
RECODE V3.4 (4=1) (SYSMIS=0) INTO VV4.3.
EXECUTE.
SAVE OUTFILE='S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav'
/COMPRESSED.
RECODE V3.4 (4=1) (SYSMIS=0) INTO VV3.3.
EXECUTE.
RECODE V3.3 (3=1) (SYSMIS=0) INTO VV3.3.
EXECUTE.
RECODE V3.4 (4=1) (SYSMIS=0) INTO VV3.4.
EXECUTE.
SAVE OUTFILE='S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav'
/COMPRESSED.
RECODE V3.5 (5=1) (SYSMIS=0) INTO VV3.5.
EXECUTE.
SAVE OUTFILE='S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav'
/COMPRESSED.
SAVE OUTFILE='S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav'
/COMPRESSED.
RECODE V3.6 (6=1) (SYSMIS=0) INTO VV3.6.
EXECUTE.
SAVE OUTFILE='S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav'
/COMPRESSED.
MULT RESPONSE GROUPS=$MRVV3 (vv3.1 vv3.2 vv3.3 vv3.4 vv3.5 vv3.6 (1))
/FREQUENCIES=$MRVV3.

```

**Multiple Response**

```
[DataSet1] S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav
```



**Case Summary**

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
\$MRVV3 <sup>a</sup>	77	86.5%	12	13.5%	89	100.0%

a. Dichotomy group tabulated at value 1.

**\$MRVV3 Frequencies**

	Responses	Percent of Cases		
		N	Percent	Percent of Cases
\$MRVV3 <sup>a</sup> V3.2: Your current occupation: Architect	3	3.8%	3.9%	
V3.3: Your current occupation: BCO	70	87.5%	90.9%	
V3.4: Your current occupation: Spes writer	1	1.3%	1.3%	
V3.5: Your current occupation: Partner	2	2.5%	2.6%	
V3.6: Your current occupation: Other	4	5.0%	5.2%	
<sup>a</sup> Total	80	100.0%	103.9%	

a. Dichotomy group tabulated at value 1.

FREQUENCIES VARIABLES=V4.1 V4.2 V4.3 V4.4 V4.5  
/ORDER=ANALYSIS.

**Frequencies**

[DataSet1] S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav

**Statistics**

	V4.1: Total number of work experience (in years)	V4.2: Number of work experience in the build environment (in years)	V4.3: Number of work experience at a Local Authority (in years)	V4.4: Number of work experience as a BCO (in years)	V4.5: Other work experience (please describe briefly) (in years)
N	84	84	83	68	39
Valid	84	84	83	68	39
Missing	5	5	6	21	50

**Frequency Table**

**V4.1: Total number of work experience (in years)**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	1	1.1	1.2	1.2
3	1	1.1	1.2	2.4
4	3	3.4	3.6	6.0
5	4	4.5	4.8	10.7
6	3	3.4	3.6	14.3



**V4.1: Total number of work experience (in years)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	7	5	5.6	6.0	20.2
	8	1	1.1	1.2	21.4
	9	3	3.4	3.6	25.0
	10	4	4.5	4.8	29.8
	11	1	1.1	1.2	31.0
	12	4	4.5	4.8	35.7
	13	4	4.5	4.8	40.5
	14	2	2.2	2.4	42.9
	15	5	5.6	6.0	48.8
	16	2	2.2	2.4	51.2
	18	1	1.1	1.2	52.4
	19	1	1.1	1.2	53.6
	20	1	1.1	1.2	54.8
	21	4	4.5	4.8	59.5
	22	2	2.2	2.4	61.9
	24	3	3.4	3.6	65.5
	25	4	4.5	4.8	70.2
	26	3	3.4	3.6	73.8
	28	2	2.2	2.4	76.2
	30	4	4.5	4.8	81.0
	31	2	2.2	2.4	83.3
	32	6	6.7	7.1	90.5
	33	1	1.1	1.2	91.7
	35	2	2.2	2.4	94.0
	38	1	1.1	1.2	95.2
	39	1	1.1	1.2	96.4
	42	1	1.1	1.2	97.6
	43	1	1.1	1.2	98.8
	47	1	1.1	1.2	100.0
	Total	84	94.4	100.0	
Missing	System	5	5.6		
	Total	89	100.0		

**V4.2: Number of work experience in the build environment (in years)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	3.4	3.6	3.6
	3	2	2.2	2.4	6.0
	4	4	4.5	4.8	10.7
	5	7	7.9	8.3	19.0
	6	3	3.4	3.6	22.6
	7	4	4.5	4.8	27.4
	8	3	3.4	3.6	31.0
	9	3	3.4	3.6	34.5



V4.2: Number of work experience in the build environment (in years)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10	2	2.2	2.4	36.9
	11	2	2.2	2.4	39.3
	12	4	4.5	4.8	44.0
	13	3	3.4	3.6	47.6
	14	2	2.2	2.4	50.0
	15	4	4.5	4.8	54.8
	16	2	2.2	2.4	57.1
	17	1	1.1	1.2	58.3
	18	1	1.1	1.2	59.5
	19	1	1.1	1.2	60.7
	20	5	5.6	6.0	66.7
	21	3	3.4	3.6	70.2
	24	1	1.1	1.2	71.4
	25	3	3.4	3.6	75.0
	26	2	2.2	2.4	77.4
	27	1	1.1	1.2	78.6
	28	2	2.2	2.4	81.0
	29	1	1.1	1.2	82.1
	30	2	2.2	2.4	84.5
	31	2	2.2	2.4	86.9
32	4	4.5	4.8	91.7	
35	3	3.4	3.6	95.2	
38	1	1.1	1.2	96.4	
39	1	1.1	1.2	97.6	
42	1	1.1	1.2	98.8	
47	1	1.1	1.2	100.0	
	Total	84	94.4	100.0	
Missing	System	5	5.6		
	Total	89	100.0		

V4.3: Number of work experience at a Local Authority (in years)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	4.5	4.8	4.8
	2	4	4.5	4.8	9.6
	3	3	3.4	3.6	13.3
	4	4	4.5	4.8	18.1
	5	7	7.9	8.4	26.5
	6	3	3.4	3.6	30.1
	7	7	7.9	8.4	38.6
	8	1	1.1	1.2	39.8
	9	2	2.2	2.4	42.2
	10	2	2.2	2.4	44.6
	11	4	4.5	4.8	49.4



V4.3: Number of work experience at a Local Authority (in years)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	12	4	4.5	4.8	54.2
	13	3	3.4	3.6	57.8
	14	2	2.2	2.4	60.2
	15	2	2.2	2.4	62.7
	16	4	4.5	4.8	67.5
	17	2	2.2	2.4	69.9
	18	2	2.2	2.4	72.3
	20	5	5.6	6.0	78.3
	21	2	2.2	2.4	80.7
	22	2	2.2	2.4	83.1
	23	1	1.1	1.2	84.3
	24	3	3.4	3.6	88.0
	25	1	1.1	1.2	89.2
	26	1	1.1	1.2	90.4
	27	2	2.2	2.4	92.8
	28	2	2.2	2.4	95.2
	30	1	1.1	1.2	96.4
	32	1	1.1	1.2	97.6
	35	1	1.1	1.2	98.8
	37	1	1.1	1.2	100.0
	Total	83	93.3	100.0	
Missing	System	6	6.7		
	Total	89	100.0		

V4.4: Number of work experience as a BCO (in years)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	7.9	10.3	10.3
	2	1	1.1	1.5	11.8
	2	4	4.5	5.9	17.6
	3	6	6.7	8.8	26.5
	4	7	7.9	10.3	36.8
	5	8	9.0	11.8	48.5
	6	4	4.5	5.9	54.4
	7	3	3.4	4.4	58.8
	8	4	4.5	5.9	64.7
	9	1	1.1	1.5	66.2
	10	6	6.7	8.8	75.0
	11	1	1.1	1.5	76.5
	12	4	4.5	5.9	82.4
	13	2	2.2	2.9	85.3
	14	1	1.1	1.5	86.8
	15	3	3.4	4.4	91.2
16	1	1.1	1.5	92.6	



V4.4: Number of work experience as a BCO (in years)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	17	1	1.1	1.5	94.1
	20	2	2.2	2.9	97.1
	24	1	1.1	1.5	98.5
	25	1	1.1	1.5	100.0
	Total	68	76.4	100.0	
Missing	System	21	23.6		
	Total	89	100.0		

V4.5: Other work experience (please describe briefly) (in years)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	5.6	12.8	12.8
	2	5	5.6	12.8	25.6
	3	6	6.7	15.4	41.0
	4	1	1.1	2.6	43.6
	5	4	4.5	10.3	53.8
	6	1	1.1	2.6	56.4
	8	1	1.1	2.6	59.0
	9	1	1.1	2.6	61.5
	10	2	2.2	5.1	66.7
	11	1	1.1	2.6	69.2
	13	1	1.1	2.6	71.8
	15	3	3.4	7.7	79.5
	16	1	1.1	2.6	82.1
	20	1	1.1	2.6	84.6
	23	1	1.1	2.6	87.2
	26	1	1.1	2.6	89.7
	28	2	2.2	5.1	94.9
	29	1	1.1	2.6	97.4
	42	1	1.1	2.6	100.0
	Total		39	43.8	100.0
Missing	System	50	56.2		
	Total	89	100.0		

FREQUENCIES VARIABLES=V5.1 V5.2 V5.3 V5.4 V5.5 V5.6  
/ORDER=ANALYSIS.

## Frequencies

[DataSet1] S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav



Statistics

		V5.1: Qualifications: Standard 10 / Grade 12	V5.2: Qualifications: Certificate	V5.3: Qualifications: Diploma	V5.4: Qualifications: Baccalaureus degree
N	Valid	74	48	68	19
	Missing	15	41	21	70

Statistics

		V5.5: Qualifications: Masters degree	V5.6: Other (please describe briefly)
N	Valid	5	11
	Missing	84	78

Frequency Table

V5.1: Qualifications: Standard 10 / Grade 12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	74	83.1	100.0	100.0
	Missing	System	15	16.9	
Total		89	100.0		

V5.2: Qualifications: Certificate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	48	53.9	100.0	100.0
	Missing	System	41	46.1	
Total		89	100.0		

V5.3: Qualifications: Diploma

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	67	75.3	98.5	98.5
	3	1	1.1	1.5	100.0
	Total	68	76.4	100.0	
Missing	System	21	23.6		
	Total	89	100.0		

V5.4: Qualifications: Baccalaureus degree

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	1	1.1	5.3	5.3
	Yes	17	19.1	89.5	94.7
	3	1	1.1	5.3	100.0
	Total	19	21.3	100.0	
Missing	System	70	78.7		
	Total	89	100.0		

**V5.5: Qualifications: Masters degree**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	1	1.1	20.0	20.0
	Yes	4	4.5	80.0	100.0
	Total	5	5.6	100.0	
Missing	System	84	94.4		
	Total	89	100.0		

**V5.6: Other (please describe briefly)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	1	1.1	9.1	9.1
	Yes	10	11.2	90.9	100.0
	Total	11	12.4	100.0	
Missing	System	78	87.6		
	Total	89	100.0		

FREQUENCIES VARIABLES=V6.1 V6.2 V6.3 V6.4 V6.5 V6.6 V6.7  
/ ORDER=ANALYSIS.

**Frequencies**

[DataSet 1] S:\Joyce Jordaan\Laubscher T10070 M J\Laubscher.sav

**Statistics**

		V6.1: Rate the importance to limit inflation in the built environment	V6.2: Rate the importance to ensure uniform regulation in the built environment	V6.3: Rate the importance to ensure a healthy built environment	V6.4: Rate the importance to ensure a safe built environment	V6.5: Rate the importance to promote sustainability in the built environment
N	Valid	82	87	88	88	88
	Missing	7	2	1	1	1

**Statistics**

		V6.6: Rate the importance to form a basis for future development of the built environment	V6.7: Other (please describe briefly)
N	Valid	87	14
	Missing	2	75

**Frequency Table**



**V6.1: Rate the importance to limit inflation in the built environment**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	12	13.5	14.6	14.6
	Unimportant	11	12.4	13.4	28.0
	Don't know	9	10.1	11.0	39.0
	Important	34	38.2	41.5	80.5
	Very Important	16	18.0	19.5	100.0
	Total	82	92.1	100.0	
Missing	System	7	7.9		
	Total	89	100.0		

**V6.2: Rate the importance to ensure uniform regulation in the built environment**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	2	2.2	2.3	2.3
	Unimportant	1	1.1	1.1	3.4
	Important	13	14.6	14.9	18.4
	Very Important	71	79.8	81.6	100.0
	Total	87	97.8	100.0	
Missing	System	2	2.2		
	Total	89	100.0		

**V6.3: Rate the importance to ensure a healthy built environment**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	1	1.1	1.1	1.1
	Important	6	6.7	6.8	8.0
	Very Important	81	91.0	92.0	100.0
	Total	88	98.9	100.0	
Missing	System	1	1.1		
	Total	89	100.0		

**V6.4: Rate the importance to ensure a safe built environment**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	1	1.1	1.1	1.1
	Important	11	12.4	12.5	13.6
	Very Important	76	85.4	86.4	100.0
	Total	88	98.9	100.0	
Missing	System	1	1.1		
	Total	89	100.0		

**V6.5: Rate the importance to promote sustainability in the built environment**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	1	1.1	1.1	1.1
	Don't know	3	3.4	3.4	4.5
	Important	23	25.8	26.1	30.7



**V6.5: Rate the importance to promote sustainability in the built environment**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Important	61	68.5	69.3	100.0
	Total	88	98.9	100.0	
Missing	System	1	1.1		
	Total	89	100.0		

**V6.6: Rate the importance to form a basis for future development of the built environment**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	1	1.1	1.1	1.1
	Unimportant	1	1.1	1.1	2.3
	Don't know	2	2.2	2.3	4.6
	Important	25	28.1	28.7	33.3
	Very Important	58	65.2	66.7	100.0
	Total	87	97.8	100.0	
Missing	System	2	2.2		
	Total	89	100.0		

**V6.7: Other (please describe briefly)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't know	1	1.1	7.1	7.1
	Important	2	2.2	14.3	21.4
	Very Important	11	12.4	78.6	100.0
	Total	14	15.7	100.0	
Missing	System	75	84.3		
	Total	89	100.0		

FREQUENCIES VARIABLES=V7.1 V7.2 V7.3 V7.4 V7.5 V7.6 V7.7 V7.8 V7.9  
/ORDER=ANALYSIS.

**Frequencies**

[DataSet1] S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav

**Statistics**

	N	
	Valid	Missing
V7.1: Refer to the amended National Building Regulations and Buildings Standards Act?	88	1
V7.2: Refer to the National Building Regulations promulgated in terms of the relevant sections of the Act?	87	2

**Statistics**

	N	
	Valid	Missing
V7.3: Refer to the amended Code of practice for the Application of the National Building Regulations?	87	2
V7.4: Refer to the "Deemed-to-satisfy-rules" as included in The Code of practice for the Application of the National Building Regulations?	89	0
V7.5: Refer to the Guidelines for the preparation of building plans?	87	2
V7.6: Refer to the Plan submission application form?	88	1
V7.7: Refer to the Checklist for plan approval?	89	0
V7.8: Refer to the Notice of approval?	87	2
V7.9: Refer to the Regulations for relaxing a building line?	89	0

**Frequency Table**

**V7.1: Refer to the amended National Building Regulations and Buildings Standards Act?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	2	2.2	2.3	2.3
	Rarely (once a quarter)	3	3.4	3.4	5.7
	Sometimes (once a month)	15	16.9	17.0	22.7
	Often (once a week)	28	31.5	31.8	54.5
	Very often (once a day)	40	44.9	45.5	100.0
	Total	88	98.9	100.0	
Missing	System	1	1.1		
	Total	89	100.0		

**V7.2: Refer to the National Building Regulations promulgated in terms of the relevant sections of the Act?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	5	5.6	5.7	5.7
	Rarely (once a quarter)	5	5.6	5.7	11.5
	Sometimes (once a month)	16	18.0	18.4	29.9
	Often (once a week)	34	38.2	39.1	69.0
	Very often (once a day)	27	30.3	31.0	100.0
	Total	87	97.8	100.0	



**V7.2: Refer to the National Building Regulations promulgated in terms of the relevant sections of the Act?**

		Frequency	Percent
Missing	System	2	2.2
Total		89	100.0

**V7.3: Refer to the amended Code of practice for the Application of the National Building Regulations?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	6	6.7	6.9	6.9
	Rarely (once a quarter)	9	10.1	10.3	17.2
	Sometimes (once a month)	19	21.3	21.8	39.1
	Often (once a week)	27	30.3	31.0	70.1
	Very often (once a day)	26	29.2	29.9	100.0
Total		87	97.8	100.0	
Missing	System	2	2.2		
Total		89	100.0		

**V7.4: Refer to the "Deemed-to-satisfy-rules" as included in The Code of practice for the Application of the National Building Regulations?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	2	2.2	2.2	2.2
	Rarely (once a quarter)	7	7.9	7.9	10.1
	Sometimes (once a month)	22	24.7	24.7	34.8
	Often (once a week)	23	25.8	25.8	60.7
	Very often (once a day)	35	39.3	39.3	100.0
Total		89	100.0	100.0	

**V7.5: Refer to the Guidelines for the preparation of building plans?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	4	4.5	4.6	4.6
	Rarely (once a quarter)	6	6.7	6.9	11.5
	Sometimes (once a month)	17	19.1	19.5	31.0
	Often (once a week)	22	24.7	25.3	56.3
	Very often (once a day)	38	42.7	43.7	100.0
Total		87	97.8	100.0	
Missing	System	2	2.2		
Total		89	100.0		

**V7.6: Refer to the Plan submission application form?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	2	2.2	2.3	2.3
	Rarely (once a quarter)	6	6.7	6.8	9.1



**V7.6: Refer to the Plan submission application form?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sometimes (once a month)	9	10.1	10.2	19.3
	Often (once a week)	22	24.7	25.0	44.3
	Very often (once a day)	49	55.1	55.7	100.0
	Total	88	98.9	100.0	
Missing	System	1	1.1		
	Total	89	100.0		

**V7.7: Refer to the Checklist for plan approval?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	4	4.5	4.5	4.5
	Rarely (once a quarter)	7	7.9	7.9	12.4
	Sometimes (once a month)	9	10.1	10.1	22.5
	Often (once a week)	20	22.5	22.5	44.9
	Very often (once a day)	49	55.1	55.1	100.0
	Total	89	100.0	100.0	

**V7.8: Refer to the Notice of approval?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	8	9.0	9.2	9.2
	Rarely (once a quarter)	6	6.7	6.9	16.1
	Sometimes (once a month)	10	11.2	11.5	27.6
	Often (once a week)	25	28.1	28.7	56.3
	Very often (once a day)	38	42.7	43.7	100.0
	Total	87	97.8	100.0	
Missing	System	2	2.2		
	Total	89	100.0		

**V7.9: Refer to the Regulations for relaxing a building line?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	13	14.6	14.6	14.6
	Rarely (once a quarter)	12	13.5	13.5	28.1
	Sometimes (once a month)	19	21.3	21.3	49.4
	Often (once a week)	22	24.7	24.7	74.2
	Very often (once a day)	23	25.8	25.8	100.0
	Total	89	100.0	100.0	

FREQUENCIES VARIABLES=V7.10 V7.11 V7.12 V7.13 V7.14 V7.15 V7.16 V7.17 V7.1

8

/ORDER=ANALYSIS.



## Frequencies

[DataSet1] S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav

### Statistics

	N	
	Valid	Missing
V7.10: Refer to the Regulations for reducing (or relaxing) a height restriction?	87	2
V7.11: Refer to the Planning Ordinances?	87	2
V7.12: Refer to the Urban planning / Zoning scheme?	89	0
V7.13: Refer to the Regulations for the departure from urban planning / zoning scheme?	89	0
V7.14: Refer to the Green building guidelines / bylaws?	89	0
V7.15: Refer to the Sustainable housing policy?	89	0
V7.16: Refer to the Guidelines for architectural design manuals?	87	2
V7.17: Refer to the Guidelines for Heritage + Conservation?	89	0
V7.18: Other (please describe briefly)	8	81

## Frequency Table

V7.10: Refer to the Regulations for reducing (or relaxing) a height restriction?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	19	21.3	21.8	21.8
	Rarely (once a quarter)	17	19.1	19.5	41.4
	Sometimes (once a month)	18	20.2	20.7	62.1
	Often (once a week)	17	19.1	19.5	81.6
	Very often (once a day)	16	18.0	18.4	100.0
	Total	87	97.8	100.0	
Missing	System	2	2.2		
	Total	89	100.0		



**V7.11: Refer to the Planning Ordinances?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	20	22.5	23.0	23.0
	Rarely (once a quarter)	16	18.0	18.4	41.4
	Sometimes (once a month)	13	14.6	14.9	56.3
	Often (once a week)	15	16.9	17.2	73.6
	Very often (once a day)	23	25.8	26.4	100.0
	Total		87	97.8	100.0
Missing	System	2	2.2		
	Total	89	100.0		

**V7.12: Refer to the Urban planning / Zoning scheme?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	15	16.9	16.9	16.9
	Rarely (once a quarter)	15	16.9	16.9	33.7
	Sometimes (once a month)	17	19.1	19.1	52.8
	Often (once a week)	17	19.1	19.1	71.9
	Very often (once a day)	25	28.1	28.1	100.0
	Total		89	100.0	100.0

**V7.13: Refer to the Regulations for the departure from urban planning / zoning scheme?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	22	24.7	24.7	24.7
	Rarely (once a quarter)	17	19.1	19.1	43.8
	Sometimes (once a month)	20	22.5	22.5	66.3
	Often (once a week)	15	16.9	16.9	83.1
	Very often (once a day)	15	16.9	16.9	100.0
	Total		89	100.0	100.0

**V7.14: Refer to the Green building guidelines / bylaws?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	27	30.3	30.3	30.3
	Rarely (once a quarter)	25	28.1	28.1	58.4
	Sometimes (once a month)	16	18.0	18.0	76.4
	Often (once a week)	12	13.5	13.5	89.9
	Very often (once a day)	9	10.1	10.1	100.0
	Total		89	100.0	100.0



**V7.15: Refer to the Sustainable housing policy?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	24	27.0	27.0	27.0
	Rarely (once a quarter)	20	22.5	22.5	49.4
	Sometimes (once a month)	19	21.3	21.3	70.8
	Often (once a week)	20	22.5	22.5	93.3
	Very often (once a day)	6	6.7	6.7	100.0
Total		89	100.0	100.0	

**V7.16: Refer to the Guidelines for architectural design manuals?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	19	21.3	21.8	21.8
	Rarely (once a quarter)	16	18.0	18.4	40.2
	Sometimes (once a month)	26	29.2	29.9	70.1
	Often (once a week)	17	19.1	19.5	89.7
	Very often (once a day)	9	10.1	10.3	100.0
Total		87	97.8	100.0	
Missing	System	2	2.2		
	Total	89	100.0		

**V7.17: Refer to the Guidelines for Heritage + Conservation?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	22	24.7	24.7	24.7
	Rarely (once a quarter)	20	22.5	22.5	47.2
	Sometimes (once a month)	20	22.5	22.5	69.7
	Often (once a week)	16	18.0	18.0	87.6
	Very often (once a day)	11	12.4	12.4	100.0
Total		89	100.0	100.0	

**V7.18: Other (please describe briefly)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sometimes (once a month)	3	3.4	37.5	37.5
	Often (once a week)	2	2.2	25.0	62.5
	Very often (once a day)	3	3.4	37.5	100.0
Total		8	9.0	100.0	
Missing	System	81	91.0		
	Total	89	100.0		

FREQUENCIES VARIABLES=V7.18.1 V7.18.2 V7.19.1  
/ORDER=ANALYSIS.

[DataSet1] S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav



**Statistics**

		V7.18.1: Other (please describe briefly)	V7.18.2: Other (please describe briefly)	V7.19.1: Other (please describe briefly)
N	Valid	9	2	3
	Missing	80	87	86

**Frequency Table**

**V7.18.1: Other (please describe briefly)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	1.1	11.1	11.1
	2	1	1.1	11.1	22.2
	3	1	1.1	11.1	33.3
	4	1	1.1	11.1	44.4
	5	1	1.1	11.1	55.6
	6	1	1.1	11.1	66.7
	8	1	1.1	11.1	77.8
	9	1	1.1	11.1	88.9
	10	1	1.1	11.1	100.0
	Total		9	10.1	100.0
Missing	System	80	89.9		
	Total	89	100.0		

**V7.18.2: Other (please describe briefly)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	2	2.2	100.0	100.0
Missing	System	87	97.8		
	Total	89	100.0		

**V7.19.1: Other (please describe briefly)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	1.1	33.3	33.3
	2	1	1.1	33.3	66.7
	3	1	1.1	33.3	100.0
	Total	3	3.4	100.0	
Missing	System	86	96.6		
	Total	89	100.0		

FREQUENCIES VARIABLES=V3.6.1

/ORDER=ANALYSIS.

**Frequencies**

[DataSet1] S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav



**Statistics**

V3.6.1: Other (please describe briefly?)

N	Valid	1
	Missing	88

V3.6.1: Other (please describe briefly?)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	9	1	1.1	100.0	100.0
Missing	System	88	98.9		
	Total	89	100.0		

FREQUENCIES VARIABLES=V8.1 V8.2  
/ ORDER=ANALYSIS.

**Frequencies**

[DataSet 1] S:\Joyce Jordaan\Laubscher T10070 M\J\Laubscher.sav

**Statistics**

	N	
	Valid	Missing
V8.1: SABS 0400-1990 represents the minimum requirement as far as the applicant is concerned for a building project	85	4
V8.2: SABS 0400-1990 represents the maximum requirement that the Local Authority*(LA) and the Building Control Officer could expect from a building project	87	2

**Frequency Table**

V8.1: SABS 0400-1990 represents the minimum requirement as far as the applicant is concerned for a building project

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	5.6	5.9	5.9
	Disagree	7	7.9	8.2	14.1
	Don't know	8	9.0	9.4	23.5
	Agree	35	39.3	41.2	64.7
	Strongly agree	30	33.7	35.3	100.0
	Total	85	95.5	100.0	
Missing	System	4	4.5		
	Total	89	100.0		



V8.2: SABS 0400-1990 represents the maximum requirement that the Local Authority\* (LA) and the Building Control Officer could expect from a building project

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	18	20.2	20.7	20.7
	Disagree	9	10.1	10.3	31.0
	Don't know	6	6.7	6.9	37.9
	Agree	29	32.6	33.3	71.3
	Strongly agree	25	28.1	28.7	100.0
	Total	87	97.8	100.0	
Missing	System	2	2.2		
	Total	89	100.0		

FREQUENCIES VARIABLES=V9.1 V9.2 V9.3 V9.4 V9.5  
/ORDER=ANALYSIS.

### Frequencies

[DataSet1] S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav

#### Statistics

	N	
	Valid	Missing
V9.1: The Code (SABS 0400-1990 or SANS 10400) is an accessible document that is easily understandable	89	0
V9.2: The Code (SABS 0400-1990 or SANS 10400) provides answers to all the questions / issues that a BCO has to address daily	89	0
V9.3: The Code (SABS 0400-1990 or SANS 10400) is structured logically in accordance with all the necessary stages of a construction project	87	2
V9.4: The Code (SABS 0400-1990 or SANS 10400) is an appropriate administrative instrument	89	0
V9.5: The Code (SABS 0400-1990 or SANS 10400) ensures uniform regulation of the built environment	89	0

### Frequency Table

**V9.1: The Code (SABS 0400-1990 or SANS 10400) is an accessible document that is easily understandable**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	3.4	3.4	3.4
	Disagree	7	7.9	7.9	11.2
	Don't know	11	12.4	12.4	23.6
	Agree	48	53.9	53.9	77.5
	Strongly agree	20	22.5	22.5	100.0
	Total	89	100.0	100.0	

**V9.2: The Code (SABS 0400-1990 or SANS 10400) provides answers to all the questions / issues that a BCO has to address daily**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	2.2	2.2	2.2
	Disagree	16	18.0	18.0	20.2
	Don't know	27	30.3	30.3	50.6
	Agree	31	34.8	34.8	85.4
	Strongly agree	13	14.6	14.6	100.0
	Total	89	100.0	100.0	

**V9.3: The Code (SABS 0400-1990 or SANS 10400) is structured logically in accordance with all the necessary stages of a construction project**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	2.2	2.3	2.3
	Disagree	3	3.4	3.4	5.7
	Don't know	14	15.7	16.1	21.8
	Agree	49	55.1	56.3	78.2
	Strongly agree	19	21.3	21.8	100.0
	Total	87	97.8	100.0	
Missing	System	2	2.2		
	Total	89	100.0		

**V9.4: The Code (SABS 0400-1990 or SANS 10400) is an appropriate administrative instrument**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	2.2	2.2	2.2
	Disagree	2	2.2	2.2	4.5
	Don't know	14	15.7	15.7	20.2
	Agree	48	53.9	53.9	74.2
	Strongly agree	23	25.8	25.8	100.0
	Total	89	100.0	100.0	

**V9.5: The Code (SABS 0400-1990 or SANS 10400) ensures uniform regulation of the built environment**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagree	2	2.2	2.2	2.2
Disagree	6	6.7	6.7	9.0
Don't know	10	11.2	11.2	20.2
Agree	39	43.8	43.8	64.0
Strongly agree	32	36.0	36.0	100.0
Total	89	100.0	100.0	

FREQUENCIES VARIABLES=V10.1 V10.2 V10.3 V10.4  
/ ORDER=ANALYSIS.

**Frequencies**

[DataSet 1] S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav

**Statistics**

	N	
	Valid	Missing
V10.1: The objectives of the Code (SABS 0400-1990 or SANS 10400) are sufficiently represented in the 'plan submission form' currently used by the LA	86	3
V10.2: The objectives of the Code (SABS 0400-1990 or SANS 10400) are sufficiently represented in the 'checklist for plan approval' currently used by the LA	87	2
V10.3: The objectives of the Code (SABS 0400-1990 or SANS 10400) are sufficiently represented in the 'notice of approval' currently used by the LA	86	3
V10.4: The objectives of the Code (SABS 0400-1990 or SANS 10400) should define a national standardised submission and approval pro-forma	86	3

**Frequency Table**

**V10.1: The objectives of the Code (SABS 0400-1990 or SANS 10400) are sufficiently represented in the 'plan submission form' currently used by the LA**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagree	4	4.5	4.7	4.7
Disagree	12	13.5	14.0	18.6



**V10.1: The objectives of the Code (SABS 0400-1990 or SANS 10400) are sufficiently represented in the 'plan submission form' currently used by the LA**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't know	9	10.1	10.5	29.1
	Agree	42	47.2	48.8	77.9
	Strongly agree	19	21.3	22.1	100.0
	Total	86	96.6	100.0	
Missing	System	3	3.4		
	Total	89	100.0		

**V10.2: The objectives of the Code (SABS 0400-1990 or SANS 10400) are sufficiently represented in the 'checklist for plan approval' currently used by the LA**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	1.1	1.1	1.1
	Disagree	11	12.4	12.6	13.8
	Don't know	12	13.5	13.8	27.6
	Agree	45	50.6	51.7	79.3
	Strongly agree	18	20.2	20.7	100.0
	Total	87	97.8	100.0	
Missing	System	2	2.2		
	Total	89	100.0		

**V10.3: The objectives of the Code (SABS 0400-1990 or SANS 10400) are sufficiently represented in the 'notice of approval' currently used by the LA**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	2.2	2.3	2.3
	Disagree	9	10.1	10.5	12.8
	Don't know	12	13.5	14.0	26.7
	Agree	46	51.7	53.5	80.2
	Strongly agree	17	19.1	19.8	100.0
	Total	86	96.6	100.0	
Missing	System	3	3.4		
	Total	89	100.0		

**V10.4: The objectives of the Code (SABS 0400-1990 or SANS 10400) should define a national standardised submission and approval pro-forma**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	1.1	1.2	1.2
	Disagree	3	3.4	3.5	4.7
	Don't know	8	9.0	9.3	14.0
	Agree	27	30.3	31.4	45.3
	Strongly agree	47	52.8	54.7	100.0
	Total	86	96.6	100.0	
Missing	System	3	3.4		
	Total	89	100.0		



FREQUENCIES VARIABLES=V11.1 V11.2 V11.3 V11.4  
/ORDER=ANALYSIS.

### Frequencies

[DataSet1] S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav

#### Statistics

	N	
	Valid	Missing
V11.1: There should be 2 different Codes of SABS 0400-1990, one applicable to the formal segment of the SA built environment, and a separate Code for informal settlements	87	2
V11.2: The erection of government subsidized housing should fall outside the mandate of (SABS 0400-1990 or SANS 10400), and therefore also outside the mandate of the BCO.	87	2
V11.3: As soon as any alterations or additions are made to a government subsidized house, it should resort under the formalised sector, adhering to all relevant requirements for SABS 0400-1995	83	6
V11.4: All official government buildings should be exempted from to the full approval procedure	86	3

### Frequency Table

V11.1: There should be 2 different Codes of SABS 0400-1990, one applicable to the formal segment of the SA built environment, and a separate Code for informal settlements

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	22	24.7	25.3	25.3
	Disagree	7	7.9	8.0	33.3
	Neutral	12	13.5	13.8	47.1
	Agree	20	22.5	23.0	70.1
	Strongly agree	26	29.2	29.9	100.0
Total		87	97.8	100.0	
Missing	System	2	2.2		
	Total	89	100.0		

**V11.2: The erection of government subsidized housing should fall outside the mandate of (SABS 0400-1990 or SANS 10400), and therefore also outside the mandate of the BCO.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	50	56.2	57.5	57.5
	Disagree	17	19.1	19.5	77.0
	Neutral	3	3.4	3.4	80.5
	Agree	3	3.4	3.4	83.9
	Strongly agree	14	15.7	16.1	100.0
	Total		87	97.8	100.0
Missing	System	2	2.2		
	Total	89	100.0		

**V11.3: As soon as any alterations or additions are made to a government subsidized house, it should resort under the formalised sector, adhering to all relevant requirements for SABS 0400-1995**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	7.9	8.4	8.4
	Disagree	9	10.1	10.8	19.3
	Neutral	6	6.7	7.2	26.5
	Agree	23	25.8	27.7	54.2
	Strongly agree	38	42.7	45.8	100.0
	Total		83	93.3	100.0
Missing	System	6	6.7		
	Total	89	100.0		

**V11.4: All official government buildings should be exempted from to the full approval procedure**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	54	60.7	62.8	62.8
	Disagree	14	15.7	16.3	79.1
	Neutral	1	1.1	1.2	80.2
	Agree	7	7.9	8.1	88.4
	Strongly agree	10	11.2	11.6	100.0
	Total		86	96.6	100.0
Missing	System	3	3.4		
	Total	89	100.0		

FREQUENCIES VARIABLES=V12.1 V12.2 V12.3 V12.4 V12.5 V12.6 V12.7  
/ ORDER=ANALYSIS.

## Frequencies

[DataSet 1] S:\Joyce Jordaan\Laubscher T10070 M J\Laubscher.sav



Statistics

	N	
	Valid	Missing
V12.1: I am aware that the respective standards for SANS 10400 (parts A-H, J-W) have been published, and will replace the amended Code of practice for the Application of the National Building Regulations	87	2
V12.2: I have submitted a formal comment on the relevant published standards for SANS 10400 (parts A-H, J-W) that is scheduled to replace SABS 0400	86	3
V12.3: I am aware of the voluntary standard SANS 204: 2008 (Parts 1,2 + 3) that focuses on Energy efficiency in buildings	87	2
V12.4: I am aware that the standard SANS 10400-XA: 2010 (Energy usage in buildings) has been published for public comment on 2010-06-15	85	4
V12.5: I have submitted a formal comment* on SANS 10400-XA: 2010 (Energy usage in buildings)	87	2
V12.6: I am aware that the standard SANS 10400-O: 2010 (Lighting and ventilation) has been published for public comment	85	4
V12.7: I have submitted (or plan to submit before or on 2010-10-26) a formal comment* on SANS 10400-O: 2010 (lighting and ventilation)	86	3

Frequency Table

V12.1: I am aware that the respective standards for SANS 10400 (parts A-H, J-W) have been published, and will replace the amended Code of practice for the Application of the National Building Regulations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	26	29.2	29.9	29.9
	Yes	61	68.5	70.1	100.0
	Total	87	97.8	100.0	
Missing	System	2	2.2		
	Total	89	100.0		



**V12.2: I have submitted a formal comment on the relevant published standards for SANS 10400 (parts A-H,J-W) that is scheduled to replace SABS 0400**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	76	85.4	88.4	88.4
	Yes	10	11.2	11.6	100.0
	Total	86	96.6	100.0	
Missing	System	3	3.4		
	Total	89	100.0		

**V12.3: I am aware of the voluntary standard SANS 204: 2008 (Parts 1,2 + 3) that focuses on Energy efficiency in buildings**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	30	33.7	34.5	34.5
	Yes	57	64.0	65.5	100.0
	Total	87	97.8	100.0	
Missing	System	2	2.2		
	Total	89	100.0		

**V12.4: I am aware that the standard SANS 10400-XA: 2010 (Energy usage in buildings) has been published for public comment on 2010-06-15**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	34	38.2	40.0	40.0
	Yes	51	57.3	60.0	100.0
	Total	85	95.5	100.0	
Missing	System	4	4.5		
	Total	89	100.0		

**V12.5: I have submitted a formal comment\* on SANS 10400-XA: 2010 (Energy usage in buildings)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	75	84.3	86.2	86.2
	Yes	12	13.5	13.8	100.0
	Total	87	97.8	100.0	
Missing	System	2	2.2		
	Total	89	100.0		

**V12.6: I am aware that the standard SANS 10400-O: 2010 (Lighting and ventilation) has been published for public comment**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	39	43.8	45.9	45.9
	Yes	46	51.7	54.1	100.0
	Total	85	95.5	100.0	
Missing	System	4	4.5		
	Total	89	100.0		

**V12.7: I have submitted (or plan to submit before or on 2010-10-26) a formal comment\* on SANS 10400-O: 2010(lighting and ventilation)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	74	83.1	86.0	86.0
	Yes	12	13.5	14.0	100.0
	Total	86	96.6	100.0	
Missing	System	3	3.4		
	Total	89	100.0		

FREQUENCIES VARIABLES=V13.1 V13.2 V13.3

/ ORDER=ANALYSIS.

### Frequencies

[DataSet 1] S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav

#### Statistics

	N	
	Valid	Missing
V13.1: The implementation of the new standards as set out in SANS 10400(parts A-H, J-W) will have a significant impact on my daily functioning as a BCO	85	4
V13.2: Agreement for the implementation of the new standards as set out in SANS 10400-XA: 2010 (Energy usage in buildings) will have a significant impact on my daily functioning as a BCO	85	4
V13.3: The implementation of the new standards as set out in SANS 10400-O: 2010 (Lighting and ventilation) will have a significant impact on my daily functioning as a BCO	85	4

### Frequency Table

**V13.1: The implementation of the new standards as set out in SANS 10400(parts A-H, J-W) will have a significant impact on my daily functioning as a BCO**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	1.1	1.2	1.2
	Disagree	2	2.2	2.4	3.5
	Neutral	16	18.0	18.8	22.4
	Agree	37	41.6	43.5	65.9

**V13.1: The implementation of the new standards as set out in SANS 10400(parts A-H, J-W) will have a significant impact on my daily functioning as a BCO**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	29	32.6	34.1	100.0
	Total	85	95.5	100.0	
Missing	System	4	4.5		
	Total	89	100.0		

**V13.2: Agreement for the implementation of the new standards as set out in SANS 10400-XA: 2010 (Energy usage in buildings) will have a significant impact on my daily functioning as a BCO**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	1.1	1.2	1.2
	Neutral	16	18.0	18.8	20.0
	Agree	31	34.8	36.5	56.5
	Strongly agree	37	41.6	43.5	100.0
	Total	85	95.5	100.0	
Missing	System	4	4.5		
	Total	89	100.0		

**V13.3: The implementation of the new standards as set out in SANS 10400-O: 2010 (Lighting and ventilation) will have a significant impact on my daily functioning as a BCO**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	1.1	1.2	1.2
	Disagree	3	3.4	3.5	4.7
	Neutral	20	22.5	23.5	28.2
	Agree	28	31.5	32.9	61.2
	Strongly agree	33	37.1	38.8	100.0
	Total	85	95.5	100.0	
Missing	System	4	4.5		
	Total	89	100.0		

FREQUENCIES VARIABLES=V14.1 V14.2 V14.3 V14.4 V14.5  
/ORDER=ANALYSIS.

## Frequencies

[DataSet1] S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav

### Statistics

	N	
	Valid	Missing
V14.1: The concept of "sustainability" should be incorporated in the NBR	88	1



**Statistics**

	N	
	Valid	Missing
V14.2: The concept of "resource efficiency should be incorporated in the NBR	88	1
V14.3: The concept of "green buildings should be incorporated in the NBR	86	3
V14.4: Development in the built environment should be done in a sustainable manner	84	5
V14.5: Buildings should be designed to reduce its total energy consumption to a minimum	87	2

**Frequency Table**

**V14.1: The concept of "sustainability" should be incorporated in the NBR**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	1.1	1.1	1.1
	Disagree	4	4.5	4.5	5.7
	don't know	5	5.6	5.7	11.4
	Agree	44	49.4	50.0	61.4
	Strongly agree	34	38.2	38.6	100.0
	Total	88	98.9	100.0	
Missing	System	1	1.1		
	Total	89	100.0		

**V14.2: The concept of "resource efficiency should be incorporated in the NBR**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	1.1	1.1	1.1
	Disagree	8	9.0	9.1	10.2
	don't know	4	4.5	4.5	14.8
	Agree	45	50.6	51.1	65.9
	Strongly agree	30	33.7	34.1	100.0
	Total	88	98.9	100.0	
Missing	System	1	1.1		
	Total	89	100.0		

**V14.3: The concept of "green buildings should be incorporated in the NBR**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	2.2	2.3	2.3
	Disagree	8	9.0	9.3	11.6
	don't know	7	7.9	8.1	19.8



**V14.3: The concept of "green buildings should be incorporated in the NBR**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	38	42.7	44.2	64.0
	Strongly agree	31	34.8	36.0	100.0
	Total	86	96.6	100.0	
Missing	System	3	3.4		
	Total	89	100.0		

**V14.4: Development in the built environment should be done in a sustainable manner**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	1.1	1.2	1.2
	Disagree	1	1.1	1.2	2.4
	don't know	2	2.2	2.4	4.8
	Agree	36	40.4	42.9	47.6
	Strongly agree	44	49.4	52.4	100.0
	Total	84	94.4	100.0	
Missing	System	5	5.6		
	Total	89	100.0		

**V14.5: Buildings should be designed to reduce its total energy consumption to a minimum**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	3.4	3.4	3.4
	Disagree	6	6.7	6.9	10.3
	don't know	7	7.9	8.0	18.4
	Agree	27	30.3	31.0	49.4
	Strongly agree	44	49.4	50.6	100.0
	Total	87	97.8	100.0	
Missing	System	2	2.2		
	Total	89	100.0		

FREQUENCIES VARIABLES=V14.6 V14.7 V14.8 V14.9 V14.10  
/ ORDER=ANALYSIS.

**Frequencies**

[DataSet 1] S:\Joyce Jordaan\Laubscher T10070 M\J\Laubscher.sav

**Statistics**

	N	
	Valid	Missing
V14.6: The building regulations should control and limit the energy consumption of the building sector	88	1

**Statistics**

	N	
	Valid	Missing
V14.7: The building regulations should address the future impact that buildings will have on the natural environment	85	4
V14.8: The building regulations should address the future impact that buildings will have on the man-made	88	1
V14.9: Minimum passive design criteria should be included as additional requirements to the NBR	85	4
V14.10: The existing administration methods of the NBR could be adapted without difficulty to include additional minimum passive design criteria	85	4

**Frequency Table**

**V14.6: The building regulations should control and limit the energy consumption of the building sector**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	1.1	1.1	1.1
	Disagree	7	7.9	8.0	9.1
	don't know	8	9.0	9.1	18.2
	Agree	39	43.8	44.3	62.5
	Strongly agree	33	37.1	37.5	100.0
	Total	88	98.9	100.0	
Missing	System	1	1.1		
	Total	89	100.0		

**V14.7: The building regulations should address the future impact that buildings will have on the natural environment**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	1.1	1.2	1.2
	Disagree	1	1.1	1.2	2.4
	don't know	6	6.7	7.1	9.4
	Agree	37	41.6	43.5	52.9
	Strongly agree	40	44.9	47.1	100.0
	Total	85	95.5	100.0	
Missing	System	4	4.5		
	Total	89	100.0		

**V14.8: The building regulations should address the future impact that buildings will have on the man-made**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	3.4	3.4	3.4
	don't know	15	16.9	17.0	20.5
	Agree	39	43.8	44.3	64.8
	Strongly agree	31	34.8	35.2	100.0
	Total	88	98.9	100.0	
Missing	System	1	1.1		
	Total	89	100.0		

**V14.9: Minimum passive design criteria should be included as additional requirements to the NBR**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	5	5.6	5.9	5.9
	don't know	17	19.1	20.0	25.9
	Agree	40	44.9	47.1	72.9
	Strongly agree	23	25.8	27.1	100.0
	Total	85	95.5	100.0	
Missing	System	4	4.5		
	Total	89	100.0		

**V14.10: The existing administration methods of the NBR could be adapted without difficulty to include additional minimum passive design criteria**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	1.1	1.2	1.2
	Disagree	4	4.5	4.7	5.9
	don't know	16	18.0	18.8	24.7
	Agree	47	52.8	55.3	80.0
	Strongly agree	17	19.1	20.0	100.0
	Total	85	95.5	100.0	
Missing	System	4	4.5		
	Total	89	100.0		

FREQUENCIES VARIABLES=V15.1 V15.2 V15.3 V15.4 V15.5 V15.6 V15.7 V15.8  
/ ORDER=ANALYSIS.

**Frequencies**

[DataSet 1] S:\Joyce Jordaan\Laubscher T10070 Mr J\Laubscher.sav



**Statistics**

	N	
	Valid	Missing
V15.1: The majority of habitable rooms should face in a Northerly direction to avoid unnecessary heating / cooling loads	87	2
V15.2: If a habitable room does not face in a northerly direction, mitigating passive measures (i.e. shading devices, heat reflective glass, screens) should be taken to reduce heat build-up	83	6
V15.3: All exposed glass surfaces, except South facing, should have a protective overhang to reduce heat build-up	83	6
V15.4: Where applicable, all building entrances / exits shielded from dominant winds	85	4
V15.5: Each habitable room should have at least 10% of floor area total window area, for natural lighting	84	5
V15.6: Each habitable room have at least 5% of floor area openable windows, for natural ventilation	86	3
V15.7: Cross ventilation should be provided for the majority of habitable rooms	86	3
V15.8: The zone of space outside any opening should not be less than 1,0m in length to the boundary line, or 0,5m to the building line, with a maximum requirement of 8m	85	4

**Frequency Table**

**V15.1: The majority of habitable rooms should face in a Northerly direction to avoid unnecessary heating / cooling loads**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Of no Importance	5	5.6	5.7	5.7
Unimportant	8	9.0	9.2	14.9
don't know	7	7.9	8.0	23.0
Important	40	44.9	46.0	69.0
Very Important	27	30.3	31.0	100.0



**V15.1: The majority of habitable rooms should face in a Northerly direction to avoid unnecessary heating / cooling loads**

		Frequency	Percent	Valid Percent
Valid	Total	87	97.8	100.0
Missing	System	2	2.2	
	Total	89	100.0	

**V15.2: If a habitable room does not face in a northerly direction, mitigating passive measures (i.e. shading devices, heat reflective glass, screens) should be taken to reduce heat build-up**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	2	2.2	2.4	2.4
	Unimportant	12	13.5	14.5	16.9
	don't know	12	13.5	14.5	31.3
	Important	35	39.3	42.2	73.5
	Very Important	22	24.7	26.5	100.0
	Total	83	93.3	100.0	
Missing	System	6	6.7		
	Total	89	100.0		

**V15.3: All exposed glass surfaces, except South facing, should have a protective overhang to reduce heat build-up**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	3	3.4	3.6	3.6
	Unimportant	17	19.1	20.5	24.1
	don't know	8	9.0	9.6	33.7
	Important	34	38.2	41.0	74.7
	Very Important	21	23.6	25.3	100.0
	Total	83	93.3	100.0	
Missing	System	6	6.7		
	Total	89	100.0		

**V15.4: Where applicable, all building entrances / exits shielded from dominant winds**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	2	2.2	2.4	2.4
	Unimportant	10	11.2	11.8	14.1
	don't know	6	6.7	7.1	21.2
	Important	48	53.9	56.5	77.6
	Very Important	19	21.3	22.4	100.0
	Total	85	95.5	100.0	
Missing	System	4	4.5		
	Total	89	100.0		



**V15.5: Each habitable room should have at least 10% of floor area total window area, for natural lighting**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	1	1.1	1.2	1.2
	Unimportant	1	1.1	1.2	2.4
	don't know	2	2.2	2.4	4.8
	Important	39	43.8	46.4	51.2
	Very Important	41	46.1	48.8	100.0
	Total	84	94.4	100.0	
Missing	System	5	5.6		
	Total	89	100.0		

**V15.6: Each habitable room have at least 5% of floor area openable windows, for natural ventilation**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	1	1.1	1.2	1.2
	Unimportant	2	2.2	2.3	3.5
	don't know	6	6.7	7.0	10.5
	Important	39	43.8	45.3	55.8
	Very Important	38	42.7	44.2	100.0
	Total	86	96.6	100.0	
Missing	System	3	3.4		
	Total	89	100.0		

**V15.7: Cross ventilation should be provided for the majority of habitable rooms**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	1	1.1	1.2	1.2
	Unimportant	2	2.2	2.3	3.5
	don't know	7	7.9	8.1	11.6
	Important	38	42.7	44.2	55.8
	Very Important	38	42.7	44.2	100.0
	Total	86	96.6	100.0	
Missing	System	3	3.4		
	Total	89	100.0		

**V15.8: The zone of space outside any opening should not be less than 1,0m in length to the boundary line, or 0,5m to the building line, with a maximum requirement of 8m**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	1	1.1	1.2	1.2
	Unimportant	5	5.6	5.9	7.1
	don't know	11	12.4	12.9	20.0
	Important	49	55.1	57.6	77.6
	Very Important	19	21.3	22.4	100.0
	Total	85	95.5	100.0	
Missing	System	4	4.5		
	Total	89	100.0		



FREQUENCIES VARIABLES=V15.9 V15.10 V15.11 V15.12 V15.13 V15.14 V15.15  
/ORDER=ANALYSIS.

## Frequencies

[DataSet 1] S:\Joyce Jordaan\Laubscher T10070 M\J\Laubscher.sav

### Statistics

		V15.9: If under floor heating is installed, under floor insulation material should also be provided to avoid unnecessary heat loss	V15.10: Except where the roofing material conforms to a minimum thermal resistance level (R-value), a ceiling should be installed for all habitable rooms to avoid unnecessary heat gain / loss	V15.11: Where applicable, water storage tanks should be used to harvest storm water from roofs for later use in cisterns irrigation, ext	V15.12: The minimum number of ablution facilities required for males + females in a development should be reduced from the current requirements	V15.13: All electric water heating should be supported by a renewable energy source to limit electricity consumption for heating
N	Valid	84	85	86	79	86
	Missing	5	4	3	10	3

### Statistics

		V15.14: All electric water heating cylinders should be fitted by an automatic timer to limit electricity consumption for heating	V15.15: Other (please describe briefly)
N	Valid	86	5
	Missing	3	84

## Frequency Table

V15.9: If under floor heating is installed, under floor insulation material should also be provided to avoid unnecessary heat loss

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	1	1.1	1.2	1.2
	Unimportant	10	11.2	11.9	13.1
	don't know	9	10.1	10.7	23.8
	Important	35	39.3	41.7	65.5
	Very Important	29	32.6	34.5	100.0
	Total	84	94.4	100.0	

**V15.9: If under floor heating is installed, under floor insulation material should also be provided to avoid unnecessary heat loss**

	Frequency	Percent
Missing System	5	5.6
Total	89	100.0

**V15.10: Except where the roofing material conforms to a minimum thermal resistance level (R-value), a ceiling should be installed for all habitable rooms to avoid unnecessary heat gain / loss**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Of no Importance	1	1.1	1.2	1.2
Unimportant	8	9.0	9.4	10.6
don't know	8	9.0	9.4	20.0
Important	37	41.6	43.5	63.5
Very Important	31	34.8	36.5	100.0
Total	85	95.5	100.0	
Missing System	4	4.5		
Total	89	100.0		

**V15.11: Where applicable, water storage tanks should be used to harvest storm water from roofs for later use in cisterns irrigation, ext**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Of no Importance	1	1.1	1.2	1.2
Unimportant	8	9.0	9.3	10.5
don't know	3	3.4	3.5	14.0
Important	41	46.1	47.7	61.6
Very Important	33	37.1	38.4	100.0
Total	86	96.6	100.0	
Missing System	3	3.4		
Total	89	100.0		

**V15.12: The minimum number of ablution facilities required for males + females in a development should be reduced from the current requirements**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Of no Importance	15	16.9	19.0	19.0
Unimportant	17	19.1	21.5	40.5
don't know	17	19.1	21.5	62.0
Important	19	21.3	24.1	86.1
Very Important	11	12.4	13.9	100.0
Total	79	88.8	100.0	
Missing System	10	11.2		
Total	89	100.0		



**V15.13: All electric water heating should be supported by a renewable energy source to limit electricity consumption for heating**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	2	2.2	2.3	2.3
	Unimportant	6	6.7	7.0	9.3
	don't know	5	5.6	5.8	15.1
	Important	37	41.6	43.0	58.1
	Very Important	36	40.4	41.9	100.0
	Total	86	96.6	100.0	
Missing	System	3	3.4		
	Total	89	100.0		

**V15.14: All electric water heating cylinders should be fitted by an automatic timer to limit electricity consumption for heating**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Of no Importance	1	1.1	1.2	1.2
	Unimportant	5	5.6	5.8	7.0
	don't know	11	12.4	12.8	19.8
	Important	28	31.5	32.6	52.3
	Very Important	41	46.1	47.7	100.0
	Total	86	96.6	100.0	
Missing	System	3	3.4		
	Total	89	100.0		

**V15.15: Other (please describe briefly)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Important	2	2.2	40.0	40.0
	Very Important	3	3.4	60.0	100.0
	Total	5	5.6	100.0	
Missing	System	84	94.4		
	Total	89	100.0		

FREQUENCIES VARIABLES=V15.15.1 V15.16.1  
/ ORDER=ANALYSIS.

**Frequencies**

[DataSet 1] S:\Joyce Jordaan\Laubscher T10070 M\J\Laubscher.sav

**Statistics**

		V15.15.1: Other (please describe briefly)	V15.16.1: Other (please describe briefly)
N	Valid	3	1
	Missing	86	88



## Frequency Table

V15.15.1: Other (please describe briefly)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	1.1	33.3	33.3
	3	1	1.1	33.3	66.7
	4	1	1.1	33.3	100.0
	Total	3	3.4	100.0	
Missing	System	86	96.6		
	Total	89	100.0		

V15.16.1: Other (please describe briefly)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	1.1	100.0	100.0
Missing	System	88	98.9		
	Total	89	100.0		

## 7.14 ADDENDUM N: PROPOSED PRO FORMA APPLICATION FORM FOR BUILDING PLAN APPROVAL

It is envisioned that the applicant and LA are equally responsible for implementing the proposed pro forma application form for building plan approval. However, the LA (and specifically the BCO) remains the controlling body ensuring the implementation of the NBR requirements. During stages one to five (of the building plan approval process), compliance with the requirements and the provision of necessary information remain the responsibility of the applicant, whereas the role of the LA is to verify the accuracy of the information provided. This could be achieved by doing spot checks. During stage six, the LA determines the amount of plan approval fees due, and this is paid by the applicant. In the final stage the applicant should provide the LA with the required notification before an inspection is conducted by the LA.

Stage	Detailed information/ Requirement	Responsible party
<b>1</b>	Preparation of building plans 1.1 General requirements 1.2 Minimum required plans and particulars (and their associated scales) 1.3 Colouring of plans, drawings and diagrams	Applicant and/or his appointed agent
<b>2</b>	Additional information required* 2.1 Plans and particulars that may be required by the LA 2.2 Other information that may be required by the LA 2.3 Additional schedule(s) required	Applicant and/or his appointed agent
<b>3</b>	Drawing checklist 1 3.1 Site plan 3.2 Plans 3.3 Sections 3.4 Elevations 3.5 Plumbing installation drawings and particulars 3.6 Fire installation drawings and particulars 3.7 Artificial ventilation details	Applicant and/or his appointed agent
<b>4</b>	Drawing checklist 2** Passive design checklist	Applicant and/or his appointed agent
<b>5</b>	Application forms 5.1 Application for building plan approval 5.2 Property information / Description 5.3 Details of applicant (handed in by) 5.4 Details of applicant (property owner) 5.5 Details of author 5.6 Power of attorney (POA)	Applicant and/or his appointed agent



<b>6</b>	Fees	Fees assessment (for office use only)	LA / BCO
----------	------	---------------------------------------	----------



<b>7</b>	Notices of inspection	7.1 Erection of building 7.2 Demolition of building 7.3 Fire installation connected to any communication pipe 7.4 Trenches or excavations ready for inspection 7.5 Drainage installation 7.6 Building will be completed 7.7 Occupation certificate	Applicant and/or his appointed agent and LA / BCO
----------	-----------------------	--	---

**Notes**

\* The NBR provide the LA (BCO) with a list of possible additional items that may be required as part of an application. The LA should establish which of the additional items should be included as part of an application, and list them accordingly under stage 2.

\*\* The inclusion of the 'Passive Design' Checklist will be a direct result of the envisioned new regulations (an amendment of the proposed SANS 10400:XA). However, its implementation should follow the existing prescribed method in terms of regulations A1(8), A2(6(a) and A2(6(b)).

Only the different stages are communicated, see the copyright notice on p x.



*The program for this evening is not new  
You've seen this entertainment  
Through and through  
You've seen your birth, your life and death  
You might recall all the rest  
Did you have a good world when you died?  
Jim Morrison in *THE DOORS* (Riordan 1995: 307)*