

3. PILOT STUDY

3.1 INTRODUCTION

It is the purpose of this chapter to determine whether the current regulations and standards (as defined by the NBR), are implemented uniformly by the respective LAs.

This chapter initiates Phase 2 of the study proposal and utilises existing sources for the desk review. It starts with a review of the main problem and goals. The specific treatments of these are communicated in brief, followed by a concise description of the pilot study (Phase 2.1), and the presentation of the extension of the pilot study (Phase 2.2).

The focus of the chapter is Sub-problem 2:

Are the current regulations and standards, as defined by the NBR, implemented uniformly by the respective Local Authorities?

It is hypothesised that the various LAs do not implement the NBR in a uniform manner.

3.2 SPECIFIC TREATMENT OF THE MAIN PROBLEM AND SUB-PROBLEMS

In Chapter 1 the researcher speculated that the statutory requirements of the NBR were not being implemented uniformly in South Africa. It could be argued that this situation might limit the effectiveness of future changes introduced to Act 103 of 1977 and its relevant Regulations and Codes of application.

Although this is not its principal focus, the study also argues that the South African built environment has to become more sustainable, yet at the same time restrict rising building costs.

Table 16 states the main problem, lists its associated goals (aligned with the particular sub-problems), and indicates the manner in which the study attempts to address these:

Table 16: Statement of the main problem, its underlying goals and the proposed actions to be taken

MAIN PROBLEM			
<i>The purpose of this study is to determine the origin of the current minimum regulations and standards applicable to the built environment of South Africa, and to examine the goals and implementation methods of Act 103 of 1977 and its Regulations (together with the Code of Application (SANS 10400:1990)), in an attempt to achieve uniform implementation of the requirements and align the aforementioned with accepted passive design principles to promote a more sustainable built environment in South Africa.</i>			
Goal 1 1. To note the origin of building regulations. 2. To determine the origin, development, goals and methods of implementation of the current edition of the NBR in South Africa. 3. To evaluate recent changes to the NBR in the light of the set goals thereof.	Phase 1	A review of pertinent literature and the existing practice model	
	Research method	DESK REVIEW	
	Themes	1.1 Building Regulations	1.2 Sustainability
	Focus areas	The history and development of the NBR in South Africa	Identifying specific sustainability aspects for possible incorporation into the NBR
	Chapter	2	
Goal 2 To determine whether the current regulations and standards (as defined by the NBR) are implemented uniformly by the respective LAs.	Phase 2	2.1 Pilot study	2.2 Pilot study
	Research method	DESK REVIEW	DESK REVIEW
	Theme	Implementation of the NBR	
	Focus areas	Determine whether the LAs in South Africa implement the NBR uniformly	Determine the precise methods used to enforce the requirements of the NBR by specific LAs
	Chapter	3	
Goal 3 To determine whether the most significant role-players, i.e. the BCOs, are <ol style="list-style-type: none"> aware of the origin, methods of implementation and goals of the NBR; willing to support the uniform implementation of the NBR; aware of recent developmental changes to the NBR. 	Phase 3	Exploratory study	
	Research method	QUESTIONNAIRE	
	Theme	Interpretation of the NBR	
	Focus area	Determine the knowledge and perception of BCOs on the NBR	
Goal 4 To determine whether the BCOs are willing to implement new regulations on sustainability in the existing administration system of the NBR.	Chapter	4	

The Chapter 2 literature review serves as background to the study, and the pilot study (Phase 2.1) supports the researcher's initial speculation that minimum built environment regulations are not implemented uniformly in South Africa. The

implementation methods of the largest LAs are scrutinised in more detail in Phase 2.2, providing more substantial evidence for the aforementioned conjecture.

During the third phase of the study a questionnaire is introduced to address Sub-problems 3 and 4. A full description of this process follows in Chapter 4, together with a statistical analysis. The study is completed by a rationalisation and a proposed pro-forma application form that is included as Addendum N.

3.3 PHASE 2.1: BACKGROUND

The information reported in the June 2009 release by Stats SA on *Selected building statistics of the private sector as reported by local government institutions, 2008* (Statistical release No. P5041.3) is used to identify the target population of the proposed study.

The data published in this statistical release reflected a monthly survey of metropolitan municipalities and large local municipalities of building plans passed, and buildings completed for the private sector. The information is released monthly on a national and provincial level, while the annual release contains the aggregated data for the twelve months of 2008 by province, municipality and building typology (Stats SA, 2009b: ii).

The particular sequence of the different South African provinces in Table F of Report P5041.3 (Stats SA, 2009b: viii) determined the provincial order for this (the first) phase of the pilot study. Therefore the order is as follows:

1. Gauteng
2. Western Cape
3. KwaZulu-Natal
4. Mpumalanga
5. Eastern Cape
6. North West
7. Free State
8. Limpopo
9. Northern Cape

The municipal demarcation, as listed in Tables 141 to 149 of Report P5041.3, was accepted as provided (Stats SA, 2009b: 177-184). The following discussion and lists were adapted from the aforementioned report.

3.4 PHASE 2.1: PILOT STUDY

The province of Gauteng contributed 41.3% or R32 828,6 million to the total of R79 474,8 million of the value of plans approved in South Africa (Stats SA, 2009b: iii). The province consists of six district municipalities and ten municipalities (Stats SA, 2009b: 182). The largest contributors to the province are listed in Table 17 (Stats SA, 2009b: v):

Table 17: Principal contributors in the provincial built environment of Gauteng

Gauteng	% contribution to value of building plans passed				
	District municipality	Municipality		Provincial contribution	National contribution
City of Tshwane	1	City of Tshwane ³¹		39.6%	16.3%
Ekurhuleni Metropolitan Municipality	2	Ekurhuleni Metropolitan Municipality ³²		30.0%	12.4%
City of Johannesburg	3	City of Johannesburg ³³		16.8%	6.9%
Metsweding District Municipality	4	Kungwini Local Municipality ³⁴		3.6%	1.5%
Sedibeng District Municipality	5	Emfuleni Local Municipality ³⁵		3.4%	1.4%
Sub-total				93.4%	38.6%

³¹ The main towns within the municipal boundaries of the City of Tshwane are Akasia, Atteridgeville, Babelegie (sic), Bon Accord, Centurion, Diloppe, Doornrandjies, Erasmia, Ga-Mokone, Ga-Rankuwa, Garsfontein, Hammanskraal, Irene, Klippan, Mabopane, Mamelodi, Onderstepoort, Pinedene, Pretoria, Pretoria North, Soshanguve, Temba, Tswaing, Valhalla and Winterveld (Stats SA, 2009b: 182).

³² The main towns within the municipal boundaries of the Ekurhuleni Metropolitan Municipality are Alberton, Bedfordview, Benoni, Boksburg, Brakpan, Daveyton, Duduza, Edenvale, Germiston, Katlehong, Kempton Park, KwaThema, Nigel, Springs, Tembisa, Thokoza, Tsakane and Vosloorus (Stats SA, 2009b: 182).

³³ The main towns within the municipal boundaries of the City of Johannesburg are Alexandra, Eikenhof, Eldorado Park, Ennerdale, Fourways, Florida, Grasmere, Halfway House, Honeydew, Johannesburg, Kyalami, Lawley Estate, Lenasia, Midrand, Modderfontein, Randburg, Randjiesfontein, Rivonia, Roodepoort, Sandton, Soweto and Van Wyksrust (Stats SA, 2009b: 182).

³⁴ The main towns within the municipal boundaries of the Kungwini Local Municipality are Bronkhorstspuit, Ekangala, Tierpoort and Welbekend (Stats SA, 2009b: 182).

³⁵ The main towns within the municipal boundaries of the Emfuleni Local Municipality are Boipatong, Bophelong, Evaton, Sebokeng, Sharpeville, Vanderbijlpark and Vereeniging (Stats SA, 2009b: 182).

The Western Cape contributed 21.0% or R16 693,7 million to the total of R79 474,8 million of the value of plans approved in South Africa (Stats SA, 2009b: iii). The province consists of five district municipalities and twelve municipalities (Stats SA, 2009b: 177). The main contributors to the province are listed in Table 18 (Stats SA, 2009b: v):

Table 18: Principal contributors in the provincial built environment of the Western Cape

Western Cape District municipality	% contribution to value of building plans passed			
	Municipality		Provincial contribution	National contribution
City of Cape Town	6	City of Cape Town ³⁶	74.1%	15.6%
Eden District Municipality	7	Mossel Bay Municipality ³⁷	4.5%	0.9%
Overberg District Municipality	8	Overstrand Municipality ³⁸	4.1%	0.9%
Eden District Municipality	9	George Municipality ³⁹	3.5%	0.7%
Cape Winelands District Municipality	10	Drakenstein Municipality ⁴⁰	2.8%	0.6%
Eden District Municipality	11	Knysna Municipality ⁴¹	2.5%	0.5%
Sub-total			91.5%	19.2%

³⁶ The main towns within the municipal boundaries of the City of Cape Town are Bellville, Blue Downs, Brackenfell, Cape Town City Centre, Durbanville, Eersterivier, Fish Hoek, Goodwood, Gordon's Bay, Gugulethu, Khayalitsha, Kraaifontein, Kuilsrivier, Langa, Mfuleni, Milnerton, Mitchells Plain, Nyanga, Parow, Plumstead, Simon's Town, Somerset West and Strand (Stats SA, 2009b: 177).

³⁷ The main towns within the municipal boundaries of the Mossel Bay Municipality are Groot Brakrivier, Herbertsdale, Klein Brakrivier and Mossel Bay (Stats SA, 2009b: 177).

³⁸ The main towns within the municipal boundaries of the Overstrand Municipality are Betty's Bay, Fisherhaven, Gansbaai, Hangklip, Hawston, Hermanus, Kleinmond, Onrus, Rooiels Bay, Stanford and Vermont (Stats SA, 2009b: 177).

³⁹ The main towns within the municipal boundaries of the George Municipality are George, Herolds Bay, Pacaltsdorp and Wilderness (Stats SA, 2009b: 177).

⁴⁰ The main towns within the municipal boundaries of the Drakenstein Municipality are Paarl, Gouda and Wellington (Stats SA, 2009b: 177).

⁴¹ The main towns within the municipal boundaries of the Knysna Municipality are Knysna and Sedgfield (Stats SA, 2009b: 177).

The Kingdom of KwaZulu-Natal contributed 19.1% or R15 211,8 million to the total of R79 474,8 million of the value of plans approved in South Africa (Stats SA, 2009b: iii). The province consists of eight district municipalities and ten municipalities (Stats SA, 2009b: 180). The main contributors to the province are listed in Table 19 (Stats SA, 2009b: v):

Table 19: Principal contributors in the provincial built environment of KwaZulu-Natal

KwaZulu-Natal	% contribution to value of building plans passed				
	District municipality	Municipality		Provincial contribution	National contribution
Ethekwini Municipality	12	Ethekwini Municipality ⁴²		60.6%	11.6%
Ilembe District Municipality	13	KwaDukuza Municipality ⁴³		14.9%	2.8%
Umgungundlovu District Municipality	14	Msunduzi Municipality ⁴⁴		7.6%	1.5%
Ugu District Municipality	15	Hibiscus Coast Municipality ⁴⁵		5.3%	1.0%
Uthungulu District Municipality	16	City of uMhlatuze ⁴⁶		3.3%	0.6%
Umgungundlovu District Municipality	17	Umngeni Municipality ⁴⁷		3.0%	0.6%
Sub-total				94.7%	18.1%

⁴² The main towns within the municipal boundaries of the Ethekwini Municipality are Amanzimtoti, Botha's Hill, Cato Ridge, Clermont, Drummond, Durban, Hillcrest, Inchanga, Kingsburgh, Kloof, KwaDabeka, KwaMakhutha, KwaMashu, Mount Edgecombe, Mpumalanga, New Germany, Pinetown, Queensburgh, Tongaat, Umdloti, Umhlanga, Umlazi, Verulam and Westville (Stats SA, 2009b: 180).

⁴³ The main towns within the municipal boundaries of the KwaDukuza Municipality are Ballito, Blythedale Beach, Shakaskraal, Stanger, Tinley Manor Beach and Zinkwazi Beach (Stats SA, 2009b: 180).

⁴⁴ The main towns within the municipal boundaries of the Msunduzi Municipality are Edendale and Pietermaritzburg (including Ashburton) (Stats SA, 2009b: 180).

⁴⁵ The main towns within the municipal boundaries of the Hibiscus Coast Municipality are Hibberdene, Margate, Marina Beach, Munster, Port Edward, Port Shepstone, Ramsgate, Shelly Beach, Southbroom, St Michael's-on-Sea, Trafalgar and Uvongo (Stats SA, 2009b: 180).

⁴⁶ The main towns within the municipal boundaries of the City of uMhlatuze are Empangeni and Richards Bay (Stats SA, 2009b: 180).

⁴⁷ The main towns within the municipal boundaries of the Umngeni Municipality are Hilton, Howick and Nottingham Road (Stats SA, 2009b: 180).

Mpumalanga contributed 4.8% or R 3 814,79 million (Stats SA, 2009b: v) to the total of R79 474,8 million of the value of plans approved in South Africa (Stats SA, 2009b: iii) . The province consists of three district municipalities and seven municipalities (Stats SA, 2009b: 183). The main contributor to the province is indicated in Table 20 (Stats SA, 2009b: v):

Table 20: Principal contributor in the provincial built environment of Mpumalanga

Mpumalanga		% contribution to value of building plans passed		
District municipality	Municipality		Provincial contribution	National contribution
Ehlanzeni District Municipality	18	Mbombela Local Municipality ⁴⁸	33.0%	1.6%
Sub-total			33.0%	1.6%

The province of the Eastern Cape contributed 4.1% or R 3 258,47 million (Stats SA, 2009b: v) to the total of R79 474,8 million of the value of plans approved in South Africa (Stats SA, 2009b: iii). The province consists of five district municipalities and seven municipalities (Stats SA, 2009b: 178). The main contributors to the province are listed in Table 21 (Stats SA, 2009b: v):

Table 21: Principal contributors in the provincial built environment of the Eastern Cape

Eastern Cape		% contribution to value of building plans passed		
District municipality	Municipality		Provincial contribution	National contribution
Amathole District Municipality	19	Buffalo City Municipality ⁴⁹	38.5%	1.6%
Nelson Mandela Bay Municipality	20	Nelson Mandela Bay Municipality ⁵⁰	30.1%	1.2%
Sub-total			68.6%	2.8%

⁴⁸ The main towns within the municipal boundaries of the Mbombela Local Municipality are Hazyview, KaNyamazane, Nelspruit and White River (Stats SA, 2009b: 183).

⁴⁹ The main towns within the municipal boundaries of the Buffalo City Municipality are Beacon Bay, Bhisho, East London, Gonubie, King William's Town, Mdantsane and Zwelitsha (Stats SA, 2009b: 178).

⁵⁰ The main towns within the municipal boundaries of the Nelson Mandela Bay Municipality are Despatch, Port Elizabeth and Uitenhage (Stats SA, 2009b: 178).

The North West province contributed 3.9% or R 3 099,52 million to the total of R79 474,8 million of the value of plans approved in South Africa. The province consists of five district municipalities and nine municipalities (Stats SA, 2009b: 181). The main contributor to the province is indicated in Table 22 (Stats SA, 2009b: v):

Table 22: Principal contributor in the provincial built environment of the North West

North West			% contribution to value of building plans passed			
District municipality			Municipality		Provincial contribution	National contribution
Bojanala Platinum District Municipality	21	Madibeng Local Municipality ⁵¹	29.8%	1.2%		
Sub-total			29.8%	1.2%		

The province of the Free State contributed 3% or R32 828,6 million (Stats SA, 2009b: v) to the total of R79 474,8 million of the value of plans approved in South Africa. The province consists of four district municipalities and eight municipalities (Stats SA, 2009b: 179). The main contributor to the province is indicated in Table 23 (Stats SA, 2009b: v):

Table 23: Principal contributor in the provincial built environment of the Free State

Free State			% contribution to value of building plans passed			
District municipality			Municipality		Provincial contribution	National contribution
Motheo District Municipality	22	Mangaung Local Municipality ⁵²	58.4%	1.8%		
Sub-total			58.4%	1.8%		

⁵¹ The main towns within the municipal boundaries of the Madibeng Local Municipality are Brits, De Wildt, Hartbeespoort and Letlhabile (Stats SA, 2009b: 181).

⁵² The main towns within the municipal boundaries of the Mangaung Local Municipality are Bloemfontein, Botshabelo and Thaba Nchu (Stats SA, 2009b: 179).

The Limpopo Province (known as the Northern Province until 2003) contributed 2.2% or R 1 748,45 million to the total of R79 474,8 million of the value of plans approved in South Africa. The province consists of four district municipalities and seven municipalities (Stats SA, 2009b: 184). The main contributor to the province is indicated in Table 24 (Stats SA, 2009b: v):

Table 24: Principal contributor in the provincial built environment of Limpopo (Stats SA, 2009b: v)

Limpopo		% contribution to value of building plans passed		
District municipality	Municipality		Provincial contribution	National contribution
Capricorn District Municipality	23	Polokwane Municipality ⁵³	63.1%	1.4%
Sub-total			63.1%	1.4%

The Northern Cape contributed 0.3% or R 476,85 million to the total of R79 474,8 million of the value of plans approved in South Africa. The province consists of three district municipalities and four municipalities (Stats SA, 2009b: 178). The main contributor to the province is indicated in Table 25 (Stats SA, 2009b: v):

Table 25: Principal contributor in the provincial built environment of the Northern Cape (Stats SA, 2009b: v)

Northern Cape		% contribution to value of building plans passed		
District municipality	Municipality		Provincial contribution	National contribution
Frances Baard District Municipality	24	Sol Plaatje Municipality ⁵⁴	46.5%	0.3%
Sub-total			46.5%	0.3%

According to Stats SA Report P5041.3 that provided the 2008 figures (Stats SA, 2009b), the municipalities listed above represented 84.9% of all plans approved in South Africa for the period. The researcher decided to use these 24 municipalities as focus area for the pilot project. The main aim of the pilot project was to determine the relevance of the study. The desk review indicated specific aspects that form part of the plan approval process and ensure the uniform implementation of the NBR. The

⁵³ The main towns within the municipal boundaries of the Polokwane Municipality are Polokwane (formerly Pietersburg) and Seshego (Stats SA, 2009b: 184).

⁵⁴ The main towns within the municipal boundaries of the Sol Plaatje Municipality are Kenilworth, Kimberley, Modderivier, Ritchie, Riverton and Spytfontein (Stats SA, 2009b: 178).

selected municipalities were all approached to obtain the information listed in Table 26.

Table 26: Required information to be obtained from the identified LAs

Background	Required information to be obtained from the LA
It was assumed that most LAs provide some form of submission guidance.	1. Guideline for the preparation of building plans
According to Part A (Administration) of the NBR it is necessary to provide the LA with particular information when a plan application is made (SABS, 2010a: 27-31).	2. Reg. A2: Plans and particulars to be furnished 3. Reg. A3: Preliminary plans and enquiries 4. Reg. A4: The LA may require additional documents and information 5. Reg. A5: Application forms and materials, scales and sizes of plans 6. Reg. A6: Site plans 7. Reg. A7: Layout drawing 8. Reg. A8: Plumbing installation drawings and particulars 9. Reg. A9: Fire protection plan 10. Reg. A10: Symbols on fire protection plans 11. Reg. A11: Pointing out of boundary beacons 12. Reg. A12: Street levels 13. Reg. A13: Building materials and tests 14. Reg. A14: Construction 15. Reg. A15: Installations maintenance and operation
According to section 7(1) of Act 103 of 1977, the LA has to communicate the approval or rejection of the application after the drawings have been scrutinised (South Africa, 2011: 17-18).	16. Notice of plan approval
Bevis and Misselbrook (1997: 37-39) list five occasions before and during the construction process on which the owner (or his authorised agent) is obliged to communicate with the LA concerned.	17. Commencement notice (with 4 working days' notice required) and/or demolition notice (with 10 working days' notice required) 18. Fire installation (with 2 working days' notice required) 19. Trench inspection (with 2 working days' notice required) 20. Drainage inspection (with 2 working days' notice required) 21. Occupation certificate (with 14 working days' notice required) with the accompanying electrical certificate

The following method was devised to obtain the required information:

- Locate the appropriate website for the LA
- Download all documents pertaining to the built environment from these websites
- Organise the information in similar categories
- Present the above information at the scheduled meetings (to be held weekly with the supervisor)
- Re-evaluate the effectiveness of the above approach after the first month

After the first month a number of problems were evident:

- Not all LAs had operational websites
- Not all LAs included the relevant information on their websites

The method of obtaining the information was altered to include the following:

- Make contact via the telephone with the LA, and obtain the contact details of the appropriate person
- Contact the person identified and request the information telephonically
- Follow up with an e-mail request
- If this mode of communication is not available, follow up with a faxed request
- As a last resort, pay a personal visit to the establishment to obtain the required information

During the three-month period, it became evident that the different LAs utilised a range of tools to implement the requirements of the NBR. Although communication remained the largest obstacle in obtaining the information required, it was possible to compile the following list of requirements from information collected (Table 27):

Table 27: Checklist and implementation instruments employed by the participating LAs to enforce the requirements of the NBR

Level	Information required
• Planning level	
	1) Urban planning or zoning scheme
	2) 'Green' building guidelines or by-laws
	3) Sustainable housing policy
	4) Guideline for architectural design manuals
	5) Heritage and conservation
• Municipal by-laws/policies	
	6) Municipal by-laws supplementing the NBR
• Zoning application form	
	7) Regulations for the departure from a zoning scheme
	8) Application form for the departure from a zoning scheme
	9) Application form for relaxing a building line/height restriction
• Building control	
a) Building plans policy	
	10) Tariff of fees
	11) Preparation of building plans/checklist
	12) Plan submission application form
b) Application form and/or notice	
	13) Provisional authorisation
	14) Notice of approval
c) Competent person	
	15) Appointment of approved competent and/or registered person
	16) Appointment of engineer
d) Other	
	17) Protection of trees and shrubs

18) Swimming pools
19) Stormwater
20) Fire installation
21) Letter of consent from adjoining property owner, allowing relaxing of building line or erection of a second dwelling
e) Communication with LA or notice of inspection
22) Guideline for demolition application
23) Application for erection of temporary structure
24) Demolition notice (10 working days' notice required)
25) Site inspection
26) Trench inspection (two working days' notice required)
27) Foundation trenches to boundary walls/frontage works/driveway
28) Sub-floor compaction/floor height inspection
29) Reinforced concrete slabs
30) Roofs
31) Stairs
32) Glazing
33) Ventilation
34) Stormwater
35) Drainage/plumbing inspection (two working days' notice required)
36) Fire installation (two working days' notice required)
37) Occupation certificate (14 working days' notice required)
38) Electrical certificate
39) Engineer's compliance/completion certificate
40) Cleaning of site
Items highlighted refer to aspects identified in the original list; see Table 26

Towards the end of this stage, the original target of obtaining the required information from the 24 identified municipalities proved too ambitious. It was therefore necessary to question the extent of the study area – specifically the required number of participants.

After consultation with the supervisor and statisticians, the researcher decided that the careful selection of a smaller number of LAs would probably still ensure a representative data set. Discussions on the selection criteria for the reduced number of LAs dominated the onset of the next phase of the study.

3.5 PHASE 2.2: PILOT STUDY

The first step of this part of the study was to re-visit the information provided by Stats SA on selected building statistics concerning the private sector, as reported by the various local government institutions. This was necessary in order to ensure that the selected LAs (although reduced in number) remain representative of the built environment in South Africa.

3.5.1 Study area

From the available Stats SA data, it was evident that the six metropolitan municipalities were responsible for the largest number of building plans approved, totalling 64% of plans approved in South Africa (Stats SA, 2009b: iv).

After deliberation, it was decided that the relevance of the research would not be compromised if the study were to focus only on the largest role-players. On the other hand, the available data points to an anomaly in the Eastern Cape. Although the Nelson Mandela Bay Municipality is recognised as a metropolitan municipality, its contribution to the value of building plans passed was smaller than that of the Buffalo City Municipality (Stats SA, 2009b: xi). It was therefore decided to include Nelson Mandela Bay and Buffalo City (although not a metropolitan municipality) as possible subjects representing the Eastern Cape.

The main contributors to activity in the building sector of South Africa (in terms of the number of plans approved) are identified and listed in Table 28 (Stats SA, 2009b: iv, viii):

Table 28: Principal contributors to the South African built environment

South Africa: % contribution to value of building plans passed				
Province	District municipality	Municipality (listed in order as per above report)		National contribution
Gauteng	City of Tshwane	1	City of Tshwane	16.3%
Gauteng	Ekurhuleni Metropolitan Municipality	2	Ekurhuleni Metropolitan Municipality	12.4%
Gauteng	City of Johannesburg	3	City of Johannesburg	6.9%
Western Cape	City of Cape Town	6	City of Cape Town	15.6%
KwaZulu-Natal	Uthungulu District Municipality	12	Ethekwini Municipality	11.6%
Eastern Cape	Amathole District Municipality	19	Buffalo City Municipality	1.6%
Eastern Cape	O R Tambo District Municipality	20	Nelson Mandela Bay Municipality	1.2%
Sub-total				65.6%

According to Stats SA (2009b: 185), no direct comparison should be made between building plans passed and buildings completed, and the following reasons are cited:

- “an unknown number of building plans are passed and afterwards not executed;

- if building operations have not commenced within the first year after approval, building plans are resubmitted;
- the time-lag between the date of passing of a building plan and the date of completion of the building varies considerably; and
- according to municipalities, final inspections of completed buildings are not always executed and therefore not recorded as completed.”

Unfortunately the reasons stated above do not provide clear guidance as to the most relevant data for the built environment. The researcher consequently decided to look at both data sets to ensure appropriate selection. The 2008 period was also expanded to include the available data for 2007 and 2009. There were some concerns about the building activities surrounding the 2010 Soccer World Cup stadia and their influence on the statistics. However, in Report No. P5041.1, Stats SA (2010b: 41) issued a note on government expenditure (specifically regarding the 2010 Soccer World Cup) stating that:

“[i]nformation relating to the 2010 Soccer World Cup new stadia and renovations, as well as other public sector infrastructure spending e.g. Eskom expansions and the Gautrain project, will not be included in the private sector building data series, as these are partially public sector funded”.

3.5.1.1 Building plans passed

A number of building statistics reports by Stats SA were compared to determine the largest municipal contributors. Building Statistics Report No. 50-11-01 (2007) did not supply any information on the recorded value of building plans passed by the respective municipalities (Stats SA, 2009a). The available information for the years 2007 to 2009 is summarised in Table 29 (Stats SA, 2009a; Stats SA, 2009b; Stats SA, 2010a):

Table 29: Recorded value of building plans passed by the listed municipalities for the period as indicated

Calendar year	2007	2008	2009
Statistician-General	Pali J Lehohla	Pali J Lehohla	Pali J Lehohla
Statistical release	Report No. 50-11-01 (2007)	Report No. P5041.3	Report No. P5041.3
Embargo date	Not provided	29 June 2009	30 June 2010
Expected release date	Not provided	June 2010	June 2011
Copyright date	2009		
Reference pages	xvii, 2	vii, viii	x, xi

Municipality	Value	Contribution	Value	Contribution	Value	Contribution
	R 000	% of total	R 000	% of total	R 000	% of total
City of Tshwane	No information available		12 990,3	16.3%	10 350,4	16.1%
Ekurhuleni Metropolitan Municipality			9 840,2	12.4%	8 569,6	13.3%
City of Johannesburg			5 523,4	6.9%	5 682,2	8.8%
City of Cape Town			12 377,1	15.6%	8 219,1	12.8%
Ethekwini Municipality			9 223,0	11.6%	7 674,9	11.9%
Buffalo City Municipality			1 259,1	1.6%	818,1	1.3%
Nelson Mandela Bay Municipality			984,0	1.2%	1 930,1	3%
Total (for the above municipalities)				52197.1	65.6%	43244.4
Total (for South Africa)	No information available		79 474,8	100.0%	64 244,2	100.0%

From the above information it is evident that the larger municipalities made the biggest contribution to activity in the built environment, and that this pattern remained constant for 2008 and 2009. It could thus be concluded that the selected municipalities (to be included in the study area) reflect the larger portion of building activities in South Africa with specific reference to building plans passed (65.6% and 67.2% for 2008 and 2009 respectively).

3.5.1.2 Buildings completed

Building Statistics Report Number P5041.1 (2010), which was made available by Stats SA (2010b) on 15 September 2010, provides information on building activity for the period January 2010 to July 2010. However, only provincial summaries for the larger municipalities were provided and specific information (regarding plans approved and buildings completed) for particular municipalities was not included in this statistical release.

The recorded value of buildings completed from 2007 to 2009 is summarised in Table 30 (Stats SA, 2009a: xvii, 2; Stats SA, 2009b: vii, viii; Stats SA, 2010a: x, xi):

Table 30: Recorded value of buildings completed in the listed municipalities for the period as indicated

Calendar year	2007		2008		2009	
Statistical release	Report No. 50-11-01 (2007)		Report No. P5041.3		Report No. P5041.3	
Reference pages	xvii, 2		vii, viii		x, xi	
Municipality	Value	Contribution	Value	Contribution	Value	Contribution
	R 000	% of total	R 000	% of total	R 000	% of total
City of Tshwane	6 216,5	12.8%	7 775,0	14.2%	7 262,5	13.5%
Ekurhuleni Metropolitan Municipality	3 997,4	8.2%	4 721,1	8.6%	4 601,3	8.5%
City of Johannesburg	9 380,9	19.3%	10 730,7	19.7%	8 373,1	15.5%
City of Cape Town	8 825,1	18.2%	10 015,3	18.3%	9 762,6	18.1%
Ethekwini Municipality	5 292,0	10.9%	5 521,6	10.1%	7 240,7	13.4%
Buffalo City Municipality	343,9	0.7%	567,6	1.0%	881,2	1.6%
Nelson Mandela Bay Municipality	861,5	1.8%	806,9	1.5%	992,3	1.8%
Total (for the above municipalities)	34 917,3	71.9%	39 570,6	73.4%	39 113,7	72.4%
Total (for South Africa)	48 571,6	100,0%	54 582,6	100,0%	53 974,2	100,0%

The larger municipalities evidently made the biggest contribution to activity in the built environment, and this pattern remained constant for the three years from 2007 to 2009. The larger portion of building activities in South Africa – with specific reference to buildings completed (71.9%, 72.5% and 72.4% for 2007, 2008 and 2009 respectively) – is therefore assumed to have taken place in the selected municipalities.

3.5.2 Revised study area

The revised study area now consisted of six metropolitan municipalities and one municipality. The information obtained from these municipalities was arranged to reflect the extent to which municipalities contribute to the built environment in South Africa. This was achieved by consolidating and summarising the available information obtained from Stats SA on *buildings completed* and *building plans passed* (Stats SA, 2009a; Stats SA, 2009b; Stats SA, 2010a). The municipal contribution to building activity in South Africa (for both completed buildings and passed building plans) is summarised in Table 31. The selected municipalities are listed in order of importance according to their total contribution. This particular order was used during the second phase of the pilot study. When comparing the administration tools used by the respective municipalities, the City of Cape Town represents the biggest role player (83.0%), while the Buffalo City Municipality is presented on the other side of the continuum with a contribution of 6.2%.

Table 31: Municipalities included in the revised study area (arranged according to the extent of the contribution of each to the built environment of South Africa)

Municipality	Municipal contribution as% of total built environment activity in South Africa									
	Buildings completed				Building plans passed			Total	Classification	Category
	2007	2008	2009	Sub-total	2008	2009	Sub-total			
1. City of Cape Town	18.2%	18.3%	18.1%	54.6%	15.6%	12.8%	28.4%	83.0%	Metropolitan municipality	A
2. City of Tshwane	12.8%	14.2%	13.5%	40.5%	16.3%	16.1%	32.4%	72.9%	Metropolitan municipality	A
3. City of Johannesburg	19.3%	19.7%	15.5%	54.5%	6.9%	8.8%	15.7%	70.2%	Metropolitan municipality	A
4. Ethekwini Municipality	10.9%	10.1%	13.4%	34.4%	11.6%	11.9%	23.5%	57.9%	Metropolitan municipality	A
5. Ekurhuleni Metropolitan Municipality	8.2%	8.6%	8.5%	25.3%	12.4%	13.3%	25.7%	51.0%	Metropolitan municipality	A
6. Nelson Mandela Bay Municipality	1.8%	1.5%	1.8%	5.1%	1.2%	3.0%	4.2%	9.3%	Metropolitan municipality	A
7. Buffalo City Municipality	0.7%	1.0%	1.6%	3.3%	1.6%	1.3%	2.9%	6.2%	Municipality	B

Building Statistics, Report No. P5041.3 provides the following definitions of the different municipal classifications used (Stats SA, 2009b: 187):

“Municipality

A generic term describing the unit of government in the third sphere responsible for local government in a geographically demarcated area. It includes district, metropolitan and local municipalities.

Metropolitan municipality

A municipality that has municipal executive and legislative authority in an area that includes more than one municipality, and which is described in Section 155(1) of the Constitution as a category A municipality (refer to Local Government: Municipal Structure Act, 1998 (Act No. 117 of 1998)).

Local municipality

A municipality that shares municipal executive and legislative authority in its area with a district municipality within whose area it falls, and which is described in Section 155(1) of the Constitution as a category B municipality (refer to Local Government: Municipal Structure Act, 1998 (Act No. 117 of 1998)).

District municipality

A municipality that has municipal executive and legislative authority in an area that includes more than one municipality, and which is described in Section 155(1) of the Constitution as a category C municipality (refer to Local Government: Municipal Structure Act, 1998 (Act No. 117 of 1998)).”

3.5.3 Implementation tools

All available documentation was requested from the aforementioned municipalities to identify the exact administration tools used to implement the requirements of the NBR.

The existing records and administrative processes indicate that a prospective applicant for building plan approval has to address the following aspects:

1. General information required on an application (see Table 33)
2. Property information required on an application (see Tables 34 and 35)
3. Site development information required on an application (see Table 36)
4. Area information required on an application (see Table 37)

5. Details of applicant required on an application (see Table 38)
6. Details of registered property owner(s) required on an application (see Table 39)
7. Information required on the author on an application (see Table 40)
8. Details of agent or representative required on an application (see Table 41)
9. Fees assessment (see Tables 42 and 43)
10. Information on colouring of plans (see Table 44)
11. Information on additional specification schedule required (see Table 45)
12. Information on required plan scales (see Table 46)
13. Plan checklist or other information required (see Table 47)

In order to determine the prevalence (or not) of a particular implementation tool, the individual documents obtained from the respective municipalities were compared. A summary of this process is presented in table format on the following pages. No statistical analysis was done, because the selective application of different implementation methods is evident from the presentation. It will also be evident from the data presented in the different tables (Tables 32-46) that the requirements vary significantly from one municipality to the next.

3.5.3.1 General information required on an application

Table 32 compares the general information that the different LAs require when an application is completed.

Table 32: Comparison – Application information required by the selected LAs

			Cape Town	Tshwane	Johannesburg	Ethekwini	Ekurhuleni	Nelson Mandela Bay	Buffalo City
Application in terms of Section 4(2) of Act 103 of 1977			•			•		•	
<i>I, the undersigned, hereby apply, in terms of Section 4(2) of Act 103 of 1977, for approval to undertake building work, as depicted on the plan(s) submitted herewith, on the under mentioned site.</i>			•			•		•	
Plan category									
Normal			•						
Courtesy			•						
<i>I, the undersigned, declare this building to be a</i>									
non-smoke free			•		½				
smoke free			•		½				
<i>building, in terms of Act 12 of 1999 read together with government Notice R975 of 29 September 2000.</i>									
<i>Is the building older than 60 years?</i>									
Yes		No	•			•		•	
<i>Are any electricity or telephone poles affected?</i>									
Yes		No	•		½				
<i>Are any trees affected by the proposed work?</i>									
Yes		No	•						
<i>Sewer connection to LA sewer</i>									
Yes		No			½	•			
<i>Size required</i>									
100 dia		150 dia	•			•			
<i>Connection is</i>									
1st		2nd				•			
<i>Connected by</i>									
LA plumber		Privately registered plumber				•			

3.5.3.2 Property information required on an application (Part 1)

Table 33 compares the first set of requirements with regard to property information of the listed LAs.

Table 33: Comparison – Property information required by the selected LAs (Part 1 of 2)

		Cape Town	Tshwane	Johannesburg	Ethekwini	Ekurhuleni	Nelson Mandela Bay	Buffalo City
Property Information (Part 1 of 2)								
Portion number/sub-division number		•	•				•	
Erf number (cadastral description)		•	•	•	•	•	•	•
Erf size		•	•					•
Suburb/township		•	•	•	•	•		•
Extension			•					
Street name + number		•	•	•	•	•	•	•
Road upon which building fronts		•			•		•	
Description/type of work to be executed		•	•		•	•	•	•
New			•	•	•			
Addition			•	•	•			
Alteration			•	•	•			
Amendment			•		•			
Renewal			•					
New proposal			•					
Preliminary sketch			•					
Swimming pool (plans, site plan, sections, pump and filter location)		•	•					•
Minor building			•		•			
Re-roofing			•					
Fuel pump/ Gas installation			•					
Walls (for walls > 1.8m high)			•					•
Other			•					
Tents for events			•					
Antenna/mast			•					
NBR category				•				
Type of building			•				•	•

3.5.3.3 Property information required on an application (Part 2)

Table 34 compares the second set of property information requirements of the listed LAs.

Table 34: Comparison: Property information required by the selected LAs (Part 2 of 2)

Property Information (Part 2 of 2)					Cape Town	Tshwane	Johannesburg	Ethekwini	Ekurhuleni	N. M. Bay	Buffalo City
Residential:											
<i>Dwelling/Duet</i>						•	•	•			
	<i>Dwelling - house smaller than 30 m²</i>					•					
	<i>Dwelling - house 30 m² - 80 m²</i>					•					
	<i>Dwelling - house larger than 80 m²</i>					•					
<i>Townhouses</i>						•		•			
<i>Cluster housing</i>						•					
	<i>Full title</i>		<i>Sectional title</i>			•					
<i>Block of flats</i>						•		•			
<i>Number of units</i>						•		•		•	
<i>Other habitable</i>						•					
<i>Other residential buildings (specify)</i>						•		•			
<i>Tourism accommodation and casinos</i>						•		•			
Non-Residential:											
<i>Offices and banking space</i>						•	•	•			
<i>Industrial and warehouse space and workshops</i>						•	•	•			
<i>Sport/church or worship/recreation</i>						•		•			
<i>Private schools/libraries/crèches</i>						•					
<i>Public schools/libraries/crèches/universities</i>						•		•			
<i>Shopping space</i>						•	•	•			
<i>Hospitals and clinics</i>						•		•			
<i>Subdivisions/consolidation</i>						•					
<i>Other non-residential (specify)</i>						•	•	•			
<i>Temporary structures</i>						•	•				
<i>Private – all other space (garages)</i>						•					
<i>Public – all other space</i>						•	•				
<p>I, _____ being the registered owner/authorised agent of the above mentioned property hereby undertake to comply with the building plans submitted with this application; NBR and Building Standards Act 103 of 1977; conditions of sale; conditions of title as per township establishment; conditions of subdivision and requirements of Occupational Health and Safety Act 85 of 1993. I further understand that no refund, except for the street refundable fees will be made by the Council once this application has been submitted. I/We further acknowledge that the Council will not be held liable, in terms of Section 23 of Act 103 of 1977, to any person for any loss, damage, injury or death resulting or arising out of or in any way connected with the manner in which the proposed building is designed, erected, demolished, altered or the material used in the erection of the proposed building or the quality of workmanship in the erection, demolition or alteration of the proposed building.</p>					•						•
Within:											
<i>Ethekwini</i>								•			
<i>Former township/R293⁵⁵ areas</i>								•			
<i>Council strategic project</i>								•			
<i>Government courtesy application</i>								•			
Proposal contains:											
<i>Encroachment(s) into/ over/ under Council property or servitude area in favour of the LA</i>				Yes	No			•			

⁵⁵ The term R293 Township refers to homelands that were established to house black people who were forcibly removed during the Apartheid era. During the local government restructuring of the mid-1990s, these areas were incorporated into the nearest existing municipal structure. For instance, KwaMashu is a former township situated 25km north of the Durban city centre. It is located on state-owned land devolved to the eThekweni Municipality (National Treasury, 2007).

3.5.3.4 Site development information required on an application

Table 35 compares the requirements of the listed LAs in respect of site development information.

Table 35: Comparison – Site development information required by the selected LAs

	Cape Town	Tshwane	Johannesburg	Ethekwini	Ekurhuleni	Nelson Mandela Bay	Buffalo City
Site development plan (if applicable)							
Site development plan number		•					
Date approved		•					

3.5.3.5 Area information required on an application

Table 36 compares the requirements of the listed LAs in respect of area information.

Table 36: Comparison – Area information required by the selected LAs

	Cape Town	Tshwane	Johannesburg	Ethekwini	Ekurhuleni	Nelson Mandela Bay	Buffalo City
Areas							
Existing	m^2			•	•		•
New main building(s)	m^2	•		•	•		•
New out-building(s)	m^2	•					
Area of additions	m^2	•		•			
Area of alterations	m^2	•			•		
Units townhouses		•					
Units block of flats		•					
Area of new work	m^2	•				•	•
Area of car port	m^2			•			
Swimming pool area	m^2	•					
Wall height	m	•					
Wall length	m	•					
Height of all structures	m			•			
For official use only							
Tariff		•			•		
Receipt number		•		•	•		
Vote number		•		•	•		
Date / /20....		•		•			

3.5.3.6 Details of applicant required on an application

Table 37 compares the requirements of the listed LAs in respect of the details of the applicant.

Table 37: Comparison – Details of applicant required by the selected LAs

	Cape Town	Tshwane	Johannesburg	Ethekwini	Ekurhuleni	N. Mandela Bay	Buffalo City
Details of applicant (handed in by)							
Contact person for decision notices							
Owner	•		•				
Authorised agent			•				
Architect			•				
Title		•	•				
Full first name(s)		•	•	•	•	•	
Surname		•	•	•	•	•	
Initials		•					
ID number		•	•				
Preferred name		•					
Gender		•					
or							
Company name/ Trust name		•					
Co./Trust registration number		•					
Co./ Trust representative		•					
Address details							
Postal address + code		•	•	•	•	•	
Work address + code		•					
Home address + code		•					
Communication details							
E-mail		•	•	•	•		
Telephone number (work)		•	•		•		
Telephone number (home)		•	•				
Fax number (work)		•	•	•			
Fax number (home)		•					
Cell number		•	•				
Preferred communication type		•					
Signature							
Signature		•	•		•		
Date		•	•				
As a customer courtesy we will contact you as soon as the plan is approved or referred. How would you like to be contacted? E-mail <input type="checkbox"/> Post <input type="checkbox"/> SMS <input type="checkbox"/> Telephone <input type="checkbox"/>			•				
Person to be contacted? Owner of Property <input type="checkbox"/> Author of Plan/Applicant <input type="checkbox"/>			•				
Note: Any decision will be directed to both the Owner and Correspondent with confirmation of receipt being on proof of sending. Reasons for the refusal, where applicable, will be provided at the time of collection. One of the following methods of communication will be used to communicate the Council's decision. The reasons for refusal will not be read out over the phone. E-mail <input type="checkbox"/> Post <input type="checkbox"/> SMS <input type="checkbox"/> Telephone <input type="checkbox"/>				•			

3.5.3.7 Details of registered property owner(s) required on an application

Table 38 compares the requirements of the listed LAs in respect of the details of the registered property owner(s).

Table 38: Comparison – Details of registered property owner(s) required by the selected LAs

	Cape Town	Tshwane	Johannesburg	Ethekwini	Ekurhuleni	N. M. Bay	Buffalo City
Registered owner(s) of property							
Title		•	•	•			
Full first name(s)	•	•	•	•	•	•	•
Surname	•	•	•	•	•	•	•
Initials		•					
ID number	•	•	•				
Preferred name		•					
Gender		•					
or							
Company name/ Trust name	•	•					
Co./ Trust registration number	•	•					
Co./ Trust representative		•					
VAT number	•						
Address details							
Postal address + code	•	•		•	•		•
Work address + code		•					
Residential address + code		•	•				•
Domicilium Citandi et Executandi (Physical address)				•			
Communication details							
E-mail		•	•	•	•		•
Telephone number (work)	•	•	•	•	•	•	•
Telephone number (home)	•	•	•	•		•	
Fax number (work)		•	•	•			•
Fax number (home)		•					
Cell number	•	•	•	•			•
Preferred communication type		•					
Signature							
Signature(s) of registered owner(s)	•	•	•	•	•	•	•
Date	•	•	•	•		•	•
<i>I declare that I have personally checked the Title Deeds or any other documents for the property concerned and declare that the proposed work is not contrary to any restrictive conditions or servitudes applicable thereto, and in the event of such contraventions will bear the sole responsibility to rectify aforesaid contraventions.</i>	•		•	•			
<i>I/We declare that the boundary beacon pegs conform with (sic) positions as per applicable approved SG Diagram.</i>			•	•			
<i>The author of the plans is authorised to make amendments to the application drawings as deemed necessary by the Council.</i>							
<i>I declare that I am</i>			•				
<i>the registered owner</i>			•				
<i>the sectional title holder (POA)</i>			•				
<i>tenant (POA)</i>			•				
<i>legal representative</i>			•				
<i>other, state designation (POA)</i>			•				
<i>I hereby undertake to complete the building work in accordance with the approved building plans including all endorsements and attachments and the NBR. I am fully aware of the fact that a Certificate of Occupancy must be obtained from the Municipality, prior to the premises being occupied.</i>	•						

3.5.3.8 Information required on the Author on an application

Table 39 compares the requirements of the listed LAs in respect of the author, architect, draughtsperson or registered person.

Table 39: Comparison – Information required in respect of the Author/ Architect/ Draughtsperson/ Registered person by the selected LAs

	Cape Town	Tshwane	Johannesburg	Ethekwini	Ekurhuleni	N. Mandela Bay	Buffalo City
Author/ Architect/ Draughtsperson/ Registered person							
<i>Title</i>		•					
<i>Full first name(s)</i>	•	•	•	•		•	
<i>Surname</i>	•	•	•	•		•	
<i>Initials</i>		•					
<i>ID number</i>		•	•				
<i>Preferred name</i>		•					
<i>Gender</i>		•					
<i>SACAP registration number</i>	•	•	•	•		•	•
<i>SACAP category of registration</i>	•	•		•			•
<i>QS's name</i>	•						
<i>QS's registration number</i>	•						
<i>Architectural practice/firm</i>							•
or							
<i>Company name/ Trust name</i>		•					
<i>Co./ Trust registration number</i>		•					
<i>Co./ Trust representative</i>		•					
Address details							
<i>Postal address + code</i>	•	•				•	•
<i>Work address + code</i>		•					•
<i>Home address + code</i>		•					
Communication details							
<i>E-mail</i>		•					•
<i>Telephone number (work)</i>	•	•		•		•	•
<i>Telephone number (home)</i>		•				•	
<i>Fax number (work)</i>	•	•					•
<i>Fax number (home)</i>		•					
<i>Cell number</i>	•	•		•			•
<i>Preferred communication type</i>		•					
Signature							
<i>Signature(s)</i>	•	•	•	•		•	•
<i>Date</i>	•	•	•	•		•	•
<i>I certify that (where applicable) the correct level of entry into operational municipal sewers, drains, and/or stormwater drains/channels and connections to municipal water supply mains has been shown on the drawings.</i>				•			
Note: <i>Plans for work over 500sq meters reserved for REGISTERED ARCHITECT (sic)</i>							•

3.5.3.9 Details of Agent or representative required on an application

Table 40 compares the requirements of the listed LAs in respect of the details of the agent or representative.

Table 40: Comparison – Information required in respect of the Agent/Person holding special power of attorney by the selected LAs

	Cape Town	Tshwane	Johannesburg	Ethekwini	Ekurhuleni	N. M. Bay	Buffalo City
Agent/ Special power of attorney							
Title		•					
Full first name(s)		•	•		•		
Surname		•	•		•		
Initials		•					
ID number		•	•				
Preferred name		•					
Gender		•					
Address details							
Postal address + code		•			•		
Work address + code		•					
Home address + code		•					
Communication details							
E-mail		•			•		
Telephone number (work)		•			•		
Telephone number (home)		•					
Fax number (work)		•					
Fax number (home)		•					
Cell number		•					
Preferred communication type		•					
Signature							
Signature		•	•	•	•		•
Date		•	•	•			•
Declaration							
I/ We (owner/ representative)	•	•		•			
ID number		•					
the undersigned, nominate, constitute and appoint		•		•			
I/ we (agent)	•	•		•			
ID number		•		•			
with the power of substitution to be my/ our legal attorney(s)/ agent(s) in my/ our name, place and stead to apply for:		•		½			
Erf No.		•					
Suburb		•					
and in general to effect the application and to do whatever I/ we would do if I/ we were present in person and acting in the matter. I/ We hereby ratify, allow and confirm, amend promise and agree to ratify, allow and confirm everything my/ our attorney(s) and agent(s) may do or may permit to be done legally in terms of this power of attorney.		•		½			
Signature(s) of registered owner(s)	•	•		•			
Date		•		•			
I nominate _____ to be my lawful representative and to act on my behalf in this submission application, in terms of Section 4(2) of Act 103 of 1977, and to do all things lawfully required by the LA to ensure that this application complies with the provisions of the National Building Regulations and Building Standards Act 103 of 1977 and any other applicable law.	•						

3.5.3.10 **Fees assessment**

Tables 41 and 42 compare the fees assessment requirements of the listed LAs.

Table 41: Comparison – Fees assessments made by the selected LAs

					Cape Town	Tshwane	Johannesburg	Ethekwini	Ekurhuleni	Nelson Mandela Bay	Buffalo City
Fees assessment (for office use only)											
Area	x	Rate	/ m ²	=	Fees payable						
	m ²	x	/ m ²	=							
	m ²	x	/ m ²	=							
	m ²	x	/ m ²	=							
	m ²	x	/ m ²	=							
Reproduction cost				=							
Total fees payable				=							
Estimated Value/Cost											
New work				=							
Additions				=							
Alterations				=							
Assessed by											
Date		/ /20....									
Masts											
Swimming pool											
Tanks											
Boundary walls											
Minor building work											

Table 42: Comparison – Fees assessments made by the selected LAs

					Cape Town	Tshwane	Johannesburg	Ethekwini	Ekurhuleni	N. Mandela Bay	Buffalo City
Assessment											
Building fee											
Reproduction											
Fee											
Hoarding fee											
Total fees payable											
Application received											
Fees paid											
Receipt number											

3.5.3.11 Information on colouring of plans

Table 43 compares the requirements of the listed LAs in respect of the colouring used on building plans.

Table 43: Comparison – Information on colouring of plans provided by the selected LAs

		Cape Town	Tshwane	Johannesburg	Ethekekwini	Ekurhuleni	N. Mandela Bay	Buffalo City
Colouring of plans <i>One copy of the plans and drawings shall be coloured as indicated below:</i>								
Plans and sections (building plans)								
New masonry	Red	•	•	•				•
New concrete	Green	•	•	•				•
New iron or steel	Blue	•	•	•				•
New wood	Yellow	Brown	•	Brown				•
New glass	Black	•	•					
Existing materials	Grey	•	•					
Other materials	Any other colour than the above	•	•					
Partitioning	Yellow			•				
Existing work	Black			•				and neutral
Demolitions	Black dotted lines		•	•				in skeleton
Site plan (block plans)								
Proposed work	Red	•	•	•				
Existing work	No colour	•	•	Black				
Demolitions	Black dotted lines	•	•	•				
Drainage work								
Drain and soil pipes	Brown	•	•	•				•
Waste pipes	Green	•	•					
Soil and combined vents	Red	•	•	•				•
Stormwater drains	Black	not coloured	•					
Existing drains	Black	•		•				•
Waste vents (fittings)	Blue	•						
Pipes for the conveyance of industrial effluent	Orange	•						
Fire protection plan								
Emergency route	Green	•						
Direction of travel to a safe area	Black arrows at short intervals along planned route	•						

3.5.3.12 Information on additional specification schedule required

Table 44 compares the requirements of the listed LAs in respect of an additional specification schedule.

Table 44: Comparison – Specification schedule relative to building regulations as required by the selected LAs

	Cape Town	Tshwane	Johannesburg	Ethekwini	Ekurhuleni	Nelson Mandela Bay	Buffalo City
Schedule relative to building regulations							
<i>Foundations materials</i>						•	
<i>Foundations sizes</i>							•
<i>Walls materials</i>						•	
<i>Walls thicknesses</i>						•	•
<i>Damp proof course materials</i>						•	•
<i>Ventilation window space of each room</i>						•	•
<i>Roofs covered with</i>						•	•
<i>Stairs</i>						•	
<i>Stair dimensions, risers, treads</i>							•

3.5.3.13 **Information on required plan scales**

Table 45 compares the requirements of the listed LAs in respect of plan scales.

Table 45: Comparison – Information in respect of plan scales provided by the selected LAs

											Cape Town	Tshwane	Johannesburg	Ethekekwini	Ekurhuleni	Nelson Mandela Bay	Buffalo City	
Plan scales																		
<i>Plans, drawings and diagrams shall be drawn to a suitable scale selected from one of the scales, as indicated below:</i>																		
Site plans (Block plans)	1:1000	1:500	1:300	1:200	1:100						●	●*	●			1:200***	1:200****	
Drainage/ Plumbing installation drawings				1:200	1:100	1:50					●	●						
Layout drawings					1:100	1:50	1:20				●	●	**			1:100***	1:100****	
Layout drawings (Elevations)				1:200	1:100	1:50	1:20				●	●	**			1:100***	1:100****	
Structural details					1:100	1:50	1:20	1:10	1:5	1:2	1:1	●	●					
Fire protection plans				1:200	1:100	1:50	1:20					●	●					
Sections of verandas, pavement openings, etc., on public street							1:25						●					
General requirements and information in connection with the preparation and submission of plans											●		●					●
											*1:300 is an additional scale allowed by Tshwane							
											**Only the above scales are allowed by Johannesburg							
											***The above scales are indicated as a minimum by Nelson Mandela Bay							
											****Only the above scales are allowed by Buffalo City							

3.5.3.14 Plan checklist or other information required

Table 46 compares the requirements of the listed LAs in respect of a plan checklist.

Table 46: Comparison – Plan checklist/ other information required by the selected LAs

<i>Information required for submission</i>		Cape Town	Tshwane	Johannesburg	Ethekwini	Ekurhuleni	N. Mandela Bay	Buffalo City
Requirement	Source							
Zoning certificate	Land Use Legislation Administration (LULA)		•	•				½
SG diagram	Cartographic Services/ Offices of the Surveyor General		•	•	•			
Drainage diagram	Sewage division		•					
Consent letter in group housing/sectional title	Board of trustees/co-owner		•					
Approval from home owners' association	Home owners' association		•					
Title deed/letter of ownership (tribal property)/lease hold	Owner		•	•	•			
Latest service statement	Owner		•			•		½
Power of attorney	Owner		•		•			
3x sets of drawings (black print on white background with one set coloured as per NBR)	Owner	•	•		•	•	•	•
	(2 copies + extra set of fire protection drawings if required) (5 copies + 1 in colour for additions)							
Power of attorney	Schedule: Architectural compliance certificate		•					
SDP required	LULA			•				
Engineer's certificate	Engineer			•		•		
Building line relaxation	LULA			•				
Neighbour's consent	Neighbour			•				
Engineering service contribution – letter/receipt	Municipal accounts department			•				
SACAP registration form	Registered person			•				
Engineer: Letter of appointment	Engineer						•	

3.6 DATA ANALYSIS AND INTERPRETATION

Chapter 3 addresses the second sub-problem, namely:

To determine whether the current regulations and standards (as defined by the NBR) are implemented uniformly by the respective Local Authorities.

This chapter presents three different data sets in an attempt to

- identify the significant role-players who contribute to the built environment of South Africa in order to define the study area (for this purpose, information from Stats SA was interpreted and seven municipalities were identified to constitute the study area);
- determine which mechanisms are used within the study area to implement the requirements set by the NBR; and
- define the specific tools used by the municipalities to enforce the NBR.

By comparing the requirements set, it becomes apparent that the seven listed municipalities use different instruments and tools to enforce the requirements of the NBR. This supports the second hypothesis that

... the various Local Authorities do not implement the NBR in a uniform manner.

The current status quo on NBR implementation warrants further investigation and, as part of the review of the research design in Chapter 4, the proposed process will be discussed.

3.7 SUMMARY OF CHAPTER 3

This chapter introduces the second sub-problem as its focus, namely:

To determine whether the current regulations and standards (as defined by the NBR) are implemented uniformly by the respective Local Authorities.

This is followed by reviewing the specific treatment of the main problem and its associated sub-problems.

A description is given of the pilot study (Phase 2.1), which is initiated by listing the required information to be obtained from the identified LAs. At the end of this phase it

is possible to list the implementation instruments employed by the LAs to enforce the relevant requirements of the NBR.

This is followed by Phase 2.2, which involves a more in-depth investigation of the study area according to information provided by Stats SA on building plans passed and buildings completed. The revised study area is identified and a comparison is made of the tools used by the subjects to enforce the NBR.

Chapter 3 serves as preparation for Chapter 4, in which the questionnaire will form the centre of discussion.

To assist the reader, a summary of the research design is provided (Table 47) and it highlights the aspects that were addressed in this Chapter.

Table 47: A summary of the research design highlighting the completed phases

