

KwaZulu-Natal Department of Education



**SPACE PLANNING NORMS AND
STANDARDS FOR PUBLIC SCHOOLS**

**Version 6
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Abbreviations

ABET	Adult Based Education and Training
ECD	Early Childhood Development
FET	Further Education and Training
FTE	Full Time Equivalent
GET	General Education and Training
HE	Higher Education
IE	Inclusive Education
OBE	Outcome Based Education
R	Reception Year
NCS	National Curriculum Statement



Glossary

Circulation space refers to corridors and covered walkways used to move between spaces in a school.

Foundation Phase refers to Grades R (Reception year) to Grade 3

A **Full Time Equivalent (FTE)** represents a measure of the occupation of the building. One FTE represents 1 learner occupying space for on full school day. A part-time learner only occupies space for half a school day, and would therefore be represented as a 0,5 FTE.

The **Further Education and Training (FET)** band encompasses the FET schools phase (Grades 10 to 12) and FET colleges (vocational) phase.

Garden plots are portions of agricultural land within the school site, which may be used by the school or local community to cultivate produce. This produce may be used by the school as part of a feeding scheme.

The **General Education and Training (GET)** band encompasses the foundation (Grades R to 3), the intermediate (Grades 4 to 6) and the senior (Grades 7 to 9) phases.

The **hall** refers to an area covered by a roof, with walls and the size of approximately four classrooms or more, used for assemblies, examinations or any other event where learners or community members gather.

An **informal social area** refers to the space used by older learners to socialise and younger learners to play and interact during break times.

The **Intermediate Phase** refers to Grades 4 to 6.

A **laboratory** refers to the space designed and equipped to teach specialist science and technology learning programmes.

The **Media Centre** is an organized collection of diverse materials, viz., print media, such as books, journals, and newspapers; visual media, such as pictures and models; audiovisual media such as, video, television and films and electronic media such as, CD-ROMs and Internet that is well-patronised by both teachers and learners for effective teaching and learning. Often also referred to as resource centres or libraries.

A **Classroom** refers to the learner space available for general teaching.

An **Outcome Based Education (OBE)** is an approach to teaching and learning. It has an emphasis on participatory, learner-centred and activity-based education. The approach allows considerable room for creativity and innovation on the part of teachers in interpreting what and how to teach.

An **outdoor teaching area** refers to a covered outdoor space used to facilitate practical learning for the lower grades. This space can be regarded as a specialist teaching area for younger learners – i.e. Grades R to 6.

Parking area refers to the area designated for parking by the staff and visitors.

Play areas are informal social areas used by younger learners. They should cater for different age groups and interests, provide stimulating/educational equipment (i.e. climbing frame, sandpit, hopscotch markings, etc.) for younger learners, especially in the foundation and intermediate phases.

A **primary school** is a school that accommodates Grades R to 7.

The **school site** refers to the area used by the school.

A **secondary school** is a school that accommodates Grades 8 to 9 (GET schools) and Grades 10 to 12 (FET General – schools).

The **Senior Phase** refers to Grades 7 to 9.

Space categories refer to the types of spaces within a school's facilities. These include:

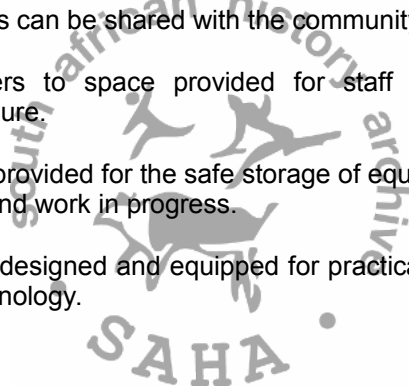
- The **general teaching area**, which refers to spaces used for general teaching and learning, such as classrooms, excluding storage.
- The **specialist teaching area**, which refers to spaces used for specialist teaching and learning such as laboratories and workshops (for Grades 4 to 12) and covered outdoor learning areas for dirty/messy activities (for Grades R to 6).
- The **independent learning area**, which refers to spaces where learners can work independently on set projects or self-directed study. Spaces include halls, computer centres, learning resource centres, outdoor covered demonstration areas, teaching areas (for Grades 7 to 12) and libraries.
- **Non-teaching areas** include spaces used exclusively by the staff (i.e. admin/office space, staff rooms), general storage areas (i.e. teaching/learning, storage areas, and other allocated storage areas), a strong room, a sick bay, and a hall kitchen for a feeding scheme (for Grades R to 7)
- The **balance**, which refers to space used for toilets, non-allocated storage (i.e. building maintenance and cleaning storage), internal circulation (including waiting areas), covered external circulation and hall storage.

Sports areas refer to space used for sporting activities, such as netball courts and soccer fields. Sporting facilities can be situated inside or outside the school site. If located outside the school site, these facilities can be shared with the community.

Staff accommodation refers to space provided for staff – for administration, lesson preparation, meeting and leisure.

Storage refers to the space provided for the safe storage of equipment, materials for projects, teaching/learning materials and work in progress.

A **workshop** is a classroom designed and equipped for practical learning programmes, such as electrical/mechanical technology.



1 Introduction

This document provides norms and standards for public schools in KwaZulu-Natal. These guidelines have been developed for physical planners, designers and managers to assist in ensuring that minimum standards are achieved. The document aims to support effective and efficient accommodation for high-quality education. It should be reviewed to ensure alignment within the new curriculum, technology and policy.

This document focuses on the spatial requirements of public schools and does not investigate environmental issues or detailed design aspects of the school infrastructure.

The norms and standards in this document address the majority of public schools in KwaZulu-Natal, however there is a range of schools, such as special schools, special schools as resource centres, full-service schools or teacher centres, which have not been addressed to the same extent in this document.

The norms and standards outlined in this document are limited to Grades R to 12 and do not cover Early Childhood Development, pre-Grade R years, Further Education and Training (vocational) colleges, Higher Education or Adult Basic Education and Training.

These norms and standards should be used in conjunction with the guideline and / or standard drawings developed for the Departments of Education.

1.1 Structure of the Document

This document is structured as follows:

- The **Background** section provides a summary of the key factors that have influenced the development of the Space Planning Norms and Standards for Public Schools.
- The **Key Design Principles** section lists a number of design principles, which should be used to guide space planning and management.
- The **Norms and Standards** section sets out norms and standards for primary and secondary schools, including recommended area per full-time equivalent (m^2/FTE) and proportions (%) of different space categories that should be achieved in schools.

2 Background

Education in South Africa is changing. Since 1994 the Department of Education has introduced a new Outcome Based Education (OBE) curriculum, developed policy that supports devolved management through the Schools Act and embarked on large-scale capital-works programmes to address accommodation and service backlogs.

Policy such as the White Paper 6 on Inclusive Education aim to ensure schools accommodate diversity, promote equitable access and become more responsive to their local communities.

Increasingly, technology is seen as a key component of education. Information and communications technology programmes are being implemented to enable schools to use computers, the Internet and E-mail in new and exciting ways in order to support up-to-date teaching and learning.

There are, however, still large backlogs. Some schools still lack basic services such as water or adequate sanitation. Many classrooms are overcrowded. Maintenance in a large number of schools has not been carried out regularly, leading to poor-quality and, in some cases, dangerous accommodation.

Internationally, school infrastructure strategies often focus on effective local management of facilities and flexible and adaptable buildings. These effectively help accommodate fluctuating learner numbers, changes in curricula, and teaching and learning methodologies.

2.1 Structure of South African Schools

The diagram below indicates the structure of South African schools. There are two bands within the schooling systems, namely:

General Education and Training band

- Foundation phase (Grades R – 3)
- Intermediate phase (Grades 4 – 6)
- Senior phase (Grades 7 – 9)

Further Education and Training band

- FET phase (Grades 10 – 12)

For the purpose of this document, these phases have been separated into two commonly used groups – the primary schools (i.e. Grades R – 7) and secondary schools (i.e. Grade 8 to 12).

Age (yrs)	6	7	8	9	10	11	12	13	14	15	16	17	18
Grade	R	1	2	3	4	5	6	7	8	9	10	11	12
Phase	Foundation												
				Intermediate									
							Senior						
											FET		
Band	GET Band										FET		
School	PRIMARY							SECONDARY					

Structure of South African Schools

2.2 National Curriculum Statement

The National Curriculum Statement (NCS) provides time allocations for eight learning areas for Grades R to 9, and various subjects for Grades 10 to 12, as shown below.

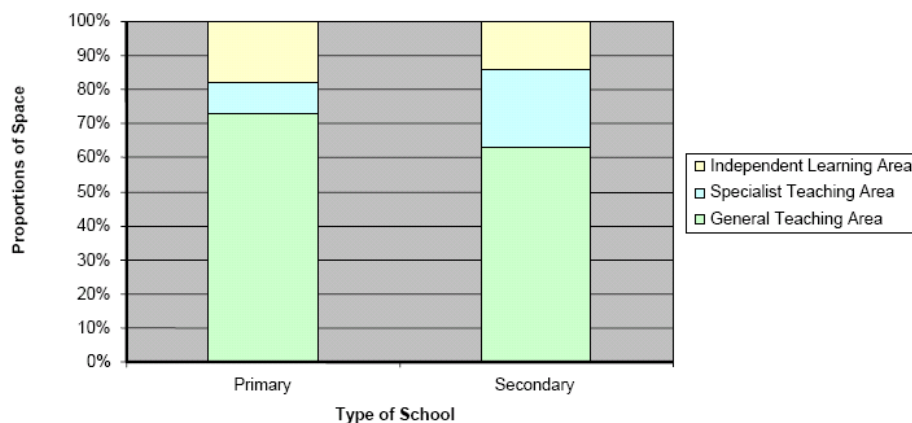
NCS SUBJECTS	LEARNING AREAS
Agricultural Management Practices	Agriculture & Nature Conservation
Agricultural Science	
Agricultural Technology	
Accounting	Business, Commerce & Management
Business Studies	
Economics	
First Additional Language	Communication Studies & Language
Home Language	
Second Additional Language	
Dance Studies	Culture & Arts
Dramatic Arts	
Music	
Visual Arts	
Geography	Human & Social Studies
History	
Life Orientation	
Religious Studies	
Civil Technology	Manufacturing, Engineering & Technology
Electrical Technology	
Engineering Graphics and Design	
Mechanical Technology	Physical, Mathematical, Computer & Life Sciences
Computer Applications Technology	
Information Technology	
Life Sciences	
Mathematical Literacy	Services
Mathematics	
Physical Sciences	
Consumer Studies	
Hospitality Studies	
Tourism	

Subjects and Learning Areas as per New Curriculum Statement

The time allocations for these learning programmes have been split into the teaching/learning space categories for the area analysis (see description in Glossary), namely general teaching, specialist teaching and learning.

Graph 1 represents the proportions of time for primary schools and secondary schools as defined in the Glossary.

Time Allocation for Learning Programmes as per NCS



Graph 1: Proportions of time for the teaching/learning space categories

3 Key Design Principles

The following principles should be followed in the planning, procurement and management of school buildings:

- **Design and management of teaching/learning spaces:** when designing and managing teaching and learning spaces, one should ensure that these spaces are aligned to the proportions of time allocations for learning programmes indicated in the NCS of both Grades R to 9 and 10 to 12.
- **Environmental quality:** Learning and teaching spaces should have excellent environmental conditions. In particular, care should be taken to achieve good natural day lighting, comfortable thermal conditions and adequate ventilation through the careful design and proactive building requirements and the use of passive environmental control strategies. In addition, the outside or other classrooms can be utilised to enhance the learning environment.
- **Fit:** Effective school management procedures, including timetabling, are required to ensure that space is used efficiently and effectively. This should focus on ensuring that the “fit” between requirement and provision of spaces is close, on an ongoing basis, and that overprovision and overcrowding is minimized.
- **Fittings and finishes:** Robust, hardwearing, low-maintenance fittings and finishes should be used. These should be easy to clean and of a quality that fosters care and pride by learners and educators.
- **Flexibility and adaptability:** School buildings must be able to accommodate change easily and inexpensively. They should also allow different uses at different times, for instance, classrooms may be used by school learners in the daytime and by adult learners in the evenings for Adult Based Education and Training (ABET) classes. This consideration should be reflected in the specification of furniture and fittings and spatial, service and structural strategies.
- **Health and safety:** Schools facilities and grounds should be healthy and safe to use. All schools should have adequate sanitation and access to clean water. Careful design and effective management should ensure that crime and hazards such as sharp edges, unsafe structures and dangerous level differences are minimized.
- **Inclusion:** School facilities and grounds should be inclusive. This requires minimum standards in areas such as physical access, signage, lighting, provision of equipment and management capacity to be achieved in order to ensure that barriers to learning for the full diversity of learners (including learners with disabilities) do not exist.
- **Learning resources:** Where possible, learners should be provided with access to learning material and resources such as books, learning materials and computers which they can use to teach themselves at their own pace. Where possible, access should be provided to these resources out of school hours. This is particularly important in areas where there may not be space and resources for learning at home.
- **Lifecycle costs:** The operational costs of school facilities, such as maintenance, security, water and energy costs should be carefully considered and, where appropriate, minimized.
- **Shared use:** School accommodation and grounds should be designed and managed to benefit the whole community. Therefore, shared use of facilities such as the media centre, computer room, sports facilities, classrooms and hall should be encouraged.
- **Teaching and learning:** Schools should be able to accommodate a range of different teaching and learning methods. These include outcomes-based approaches, as well as conventional “chalk and talk”, learner-directed and group work modes.

4 Space Planning Norms and Standards for Public Schools

The Space Planning Norms and Standards for Public Schools that follow have been presented in two groups, namely those for primary schools and those for secondary schools. This separation accommodates the requirements of each school type as shown in point 2.2 National Curriculum Statement on page 6.

Each group contains a table, which provides the following information:

- A. Overall space use:** this provides a summary of the information that follows in B (i.e. total area per FTE and the *learning/teaching space: non-teaching/balance space* ratio) and C (i.e. overall proportions, represented as percentages, for the learning/teaching and non-teaching/balance sets).

The learning/teaching and non-teaching area/balance sets are generally split into a 70:30 ratio.

- B. Norms and standards:** these provide the guidelines (represented as area per FTE, in m²/FTE, per space category (i.e. general teaching, specialist teaching, independent learning area, non-teaching area and balance)), as well as design issues relevant for each category. The guidelines in this section are provided as bands, allowing some flexibility.

School site: this suggests minimum guidelines for various elements required on a school site – namely the informal social/play areas, sports facilities, parking area and garden plots.

- C. Proportions of Space:** these represent the proportions (%) of the norms and standards provided above per space category. In this portion of the table, the location issues of various spaces within the space categories are investigated.



4.1 Space Planning Norms and Standards for Public Primary Schools

The norms and standards below provide guidance on the area per FTE for the space category listed, as well as the proportions of space for primary schools.

A. Overall space use	between (m²)	
Total area per FTE	2.2	3.2
Learning/Teaching per FTE	1.5	2.1
Non-teaching/Balance per FTE	0.7	1.1

B. Norms and standards			
Space category	m²/FTE band between		Design issues
General teaching Space	1.0	1.2	The design of classroom space should be flexible and adaptable. Modular standard furniture should be used. Some storage for materials and equipment should be provided in or near classrooms.
Specialist teaching space	0.1	0.3	Space and equipment should be provided that can be used for specialist teaching. Access to outside spaces and facilities for practical learning should be provided, such as planting, painting, and experiments.
Learning space	0.4	0.6	Access should be provided to space, materials and equipment, such as books and computers, to enable learners to conduct learning at their own pace for an adequate amount of time each week. This can be provided, in order to allow large group learning/teaching events and theatre or music performances.
Non-teaching space	0.3	0.5	Ensure there is adequate space for educators to work together in groups in order to prepare joint lessons and co-ordinated learning events. Space should be provided for the healthy and safe preparation and serving of food where schools accommodate feeding schemes.
Balance	0.4	0.6	Ensure that all commonly used routes are easily accessible and safe for all learners, including those in wheelchairs.

School site	m²/FTE	
Site area	See Section 5	A key consideration should be the proximity of the school to the learners that use it.
Informal social/play area	min. 1.5	Provide stimulating/educational play equipment/material, such as climbing frames, and sandpit where possible.
Sports area	min. 7.4	Ensure that a range of sporting events can be accommodated that will cater for the interests of all learners. This should include, as a minimum, football and netball, even if full-size pitches are not provided.
Parking	min. 0.3	Parking for staff vehicles and a small number of visitors should either be on site or adjacent to the school site.
Garden plots	min. 0.3	Provided a portion of agricultural land within the school site, which may be used by the school or local community to cultivate produce. This produce may be used by the school as part of a feeding scheme.

C. Proportions of space		
Space category	% of total	Location issues

	area between		
General teaching space	45	38	Ensure that the noise between classrooms is not disruptive and views from windows are not distracting.
Specialist teaching space	5	9	Equipment, services and space for more specialist teaching, such as practical experiments, should be provided within or near classrooms.
Learning space	18	19	This should be located centrally or in classrooms, and learners encouraged to use this in their free time – i.e. during break or after school.
Non-teaching space	14	15	Locate admin/staff area to ensure good supervision of school entrance and grounds.
Balance	18	19	Toilets should be provided as per National Building Regulations (See Tables 5, 6 & 7) and located where they can be easily supervised by staff.

Taking the these norms into consideration, the following tables for Public Primary Schools (Tables 1 – 2) have been developed for infrastructure planners, designers and managers to assist in ensuring that the minimum standards are achieved.



Table 1: Primary School Accommodation for Personnel and Learners

PRIMARY SCHOOL PERSONNEL, LEARNERS AND ACCOMMODATION																								
SCHOOL SIZE	MANAGEMENT AND ADMIN PERSONNEL						ADMINISTRATION / SUPPORT SPACES								SNP	LEARNING / TEACHING SPACES								
Enrolment Range	Total Educators (1:35)	Principal	Deputy Principal	HoD	Admin Support	Management + Admin	Offices	Strong room	Admin Store Room in Admin Block	Printing Room	Staff room - • 25m ² • 50m ² • 64m ²	Sickbay	HOD Offices + Small Store (12,5m ² + 12,5m ²)	Counselling Office (Linked to Standard Classroom)	Large Store Room (25m ²)	Garden Store (25m ²)	School Nutrition Programme Kitchen with Storage/ Tuckshop	General Classrooms (50m ²)	Multi Purpose Classrooms with Store (75+25)m ²	Computer Room with Store (75+25)m ²	Media Centre with Store (130m ²)	Team Teaching Room (130m ²)	Total Learning Spaces	Learner Classroom Ratio Range
																				Multimedia Centre (130m ²)				
20 - 60	2	1	0	0	0	1	1	1	1	0	½	0	0	0	0	0	½	0	1	0	0	0	1	20 - 60
61 - 80	2	1	0	0	0	1	1	1	1	0	½	0	0	0	0	0	½	1	1	0	0	0	2	31 - 40
81 - 100	3	1	0	0	0	1	1	1	1	0	½	0	0	0	0	0	½	2	1	0	0	0	3	27 - 33
101 - 140	4	1	0	0	0	1	1	1	1	0	½	0	0	0	0	0	1	3	1	0	0	0	4	25 - 35
141 - 180	5	1	0	1	0	2	1	1	1	0	½	0	1	0	0	0	1	4	1	0	0	0	5	28 - 36
181 - 220	6	1	0	1	1	3	2	1	0	0	½	0	1	0	1	0	1	5	1	1		0	7	26 - 31
221 - 260	7	1	0	1	1	3	2	1	0	0	½	0	1	0	1	0	1	6	1	1		0	8	28 - 33
261 - 300	9	1	0	1	1	3	2	1	0	0	½	0	1	0	1	0	1	7	1	1		0	9	29 - 33
301 - 340	10	1	0	2	1	4	4	1	1	1	1	2 x 2 beds	0	1	1	1	1	8	1	1	1	0	11	27 - 31
341 - 380	11	1	0	2	1	4	4	1	1	1	1	2 x 2 beds	0	1	1	1	1	9	1	1	1	0	12	28 - 32
381 - 420	12	1	0	2	1	4	4	1	1	1	1	2 x 2 beds	0	1	1	1	1	10	1	1	1	0	13	29 - 32
421 - 460	13	1	0	2	1	4	4	1	1	1	1	2 x 2 beds	0	1	1	1	1	11	2	1	1	0	15	28 - 31
461 - 500	14	1	0	2	1	4	4	1	1	1	1	2 x 2 beds	0	1	1	1	1	12	2	1	1	0	16	29 - 31
501 - 540	15	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	13	2	1	1	0	17	29 - 32
541 - 580	17	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	14	2	1	1	0	18	30 - 32
581 - 620	18	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	15	2	1	1	0	19	31 - 33
621 - 660	19	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	16	2	1	1	0	20	31 - 33
661 - 700	20	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	17	2	1	1	0	21	31 - 33
701 - 740	21	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	18	2	1	1	1	23	30 - 32
741 - 780	22	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	19	2	1	1	1	24	31 - 33
781 - 820	23	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	20	2	1	1	1	25	31 - 33
821 - 860	25	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	21	2	1	1	1	26	32 - 33
861 - 900	26	1	1	4	1	7	4	1	1	1	1	2 x 2 beds	3	1	1	1	1	22	2	1	1	1	27	32 - 33
901 - 940	27	1	1	4	1	7	4	1	1	1	1	2 x 2 beds	3	1	1	1	1	23	2	1	1	1	28	32 - 34
941 - 980	28	1	1	4	1	7	4	1	1	1	1	2 x 2 beds	3	1	1	1	1	24	2	1	1	1	29	32 - 34
981 - 1020	29	1	1	4	1	7	4	1	1	1	1	2 x 2 beds	3	1	1	1	1	25	3	1	1	1	31	32 - 33
1021 - 1060	31	1	2	4	1	8	4	1	1	1	1	2 x 2 beds	4	1	1	1	1	26	3	1	1	1	32	32 - 33
1061 - 1100	32	1	2	4	1	8	4	1	1	1	1	2 x 2 beds	4	1	1	1	1	27	3	1	1	1	33	32 - 33
1101 - 1140	34	1	2	4	1	8	4	1	1	1	1	2 x 2 beds	4	1	1	1	1	28	3	1	1	1	34	32 - 34
1141 - 1180	35	1	2	4	1	8	4	1	1	1	1	2 x 2 beds	4	1	1	1	1	29	3	1	1	1	35	33 - 34
1181 - 1220	36	1	2	4	1	8	4	1	1	1	1	2 x 2 beds	4	1	1	1	1	30	3	1	1	1	36	33 - 34

Table 2: Space Planning Norms and Standards for Public Primary Schools

SPACE PLANNING NORMS AND STANDARDS FOR PUBLIC PRIMARY SCHOOLS																							
SCHOOL SIZE	LEARNING SPACE/EDUCATOR DIFFERENCE			GENERAL TEACHING AREA				SPECIALIST TEACHING AREA				LEARNING AREA				TOTAL TEACHING AND LEARNING AREA							
	Enrolment Range	Total Educators (1:35)	Total Learning Spaces	Learning Spaces/ Educator Difference	Unit	Unit	1m ² / Lnr	@50m ² per Unit	Unit	Unit	0.1m ² / Lnr	@75m ² per Unit	Unit	Unit	0.4m ² / Lnr	130m ² per Unit	Units	Units	Units	1.5m ² / Lnr	m ²	m ²	m ²
					Lower Norm	Model	Lower Norm	Model	Lower Norm	Model	Lower Norm	Model	Lower Norm	Model	Lower Norm	Model	Lower Norm	Model	Lower Norm	Model	Lower Difference	Lower Norm	Model
20 - 60	2	1	-1	1	0	60	0	0	1	6	75	0	0	24	0	2	1	-1	90	75	-15	-51	
61 - 80	2	2	0	2	1	80	50	0	1	8	75	0	0	32	0	2	2	0	120	125	5	-43	
81 - 100	3	3	0	2	2	100	100	0	1	10	75	1	0	40	0	3	3	0	150	175	25	-35	
101 - 140	4	4	0	3	3	140	150	0	1	14	75	1	0	56	0	4	4	0	210	225	15	-69	
141 - 180	5	5	0	4	4	180	200	0	1	18	75	1	0	72	0	5	5	0	270	275	5	-103	
181 - 220	6	7	1	4	5	220	250	0	1	22	75	1	1	88	130	5	7	2	330	455	125	-7	
221 - 260	7	8	1	5	6	260	300	0	1	26	75	1	1	104	130	6	8	2	390	505	115	-41	
261 - 300	9	10	1	6	7	300	350	0	1	30	75	1	1	120	130	7	9	2	450	555	105	-75	
301 - 340	10	12	2	7	8	340	400	0	2	34	150	1	1	136	130	8	11	3	510	680	170	-34	
341 - 380	11	13	2	8	9	380	450	1	2	38	150	1	1	152	130	9	12	3	570	730	160	-68	
381 - 420	12	14	2	8	10	420	500	1	2	42	150	1	1	168	130	10	13	3	630	780	150	-102	
421 - 460	13	15	2	9	11	460	550	1	3	46	225	1	1	184	130	11	15	4	690	905	215	-61	
461 - 500	14	16	2	10	12	500	600	1	3	50	225	2	1	200	130	12	16	4	750	955	205	-95	
501 - 540	15	17	2	11	13	540	650	1	3	54	225	2	1	216	130	13	17	4	810	1005	195	-129	
541 - 580	17	18	1	12	14	580	700	1	3	58	225	2	1	232	130	14	18	4	870	1055	185	-163	
581 - 620	18	19	1	12	15	620	750	1	3	62	225	2	1	248	130	15	19	4	930	1105	175	-197	
621 - 660	19	21	2	13	16	660	800	1	3	66	225	2	1	264	130	16	20	4	990	1155	165	-231	
661 - 700	20	22	2	14	17	700	850	1	3	70	225	2	1	280	130	17	21	4	1050	1205	155	-265	
701 - 740	21	23	2	15	18	740	900	1	3	74	225	2	2	296	130	18	23	5	1110	1255	145	-299	
741 - 780	22	24	2	16	19	780	950	1	3	78	225	2	2	312	130	19	24	5	1170	1305	135	-333	
781 - 820	23	25	2	16	20	820	1000	1	3	82	225	3	2	328	130	20	25	5	1230	1355	125	-367	
821 - 860	25	26	1	17	21	860	1050	1	3	86	225	3	2	344	130	21	26	5	1290	1405	115	-401	
861 - 900	26	27	1	18	22	900	1100	1	3	90	225	3	2	360	130	22	27	5	1350	1455	105	-435	
901 - 940	27	28	1	19	23	940	1150	1	3	94	225	3	2	376	130	23	28	5	1410	1505	95	-469	
941 - 980	28	30	2	20	24	980	1200	1	3	98	225	3	2	392	130	24	29	5	1470	1555	85	-503	
981 - 1020	29	31	2	20	25	1020	1250	1	4	102	300	3	2	408	130	25	31	6	1530	1680	150	-462	
1021 - 1060	31	32	1	21	26	1060	1300	1	4	106	300	3	2	424	130	26	32	6	1590	1730	140	-496	
1061 - 1100	32	33	1	22	27	1100	1350	1	4	110	300	3	2	440	130	27	33	6	1650	1780	130	-530	
1101 - 1140	34	34	0	23	28	1140	1400	2	4	114	300	4	2	456	130	28	34	6	1710	1830	120	-564	
1141 - 1180	35	35	0	24	29	1180	1450	2	4	118	300	4	2	472	130	29	35	6	1770	1880	110	-598	
1181 - 1220	36	36	0	24	30	1220	1500	2	4	122	300	4	2	488	130	30	36	6	1830	1930	100	-632	

4.2 Space Planning Norms and Standards for Public Secondary Schools

The norms and standards below provide guidance on the area per FTE for the space category listed, as well as the proportions of space for secondary schools.

A. Overall space use	between (m²)	
Total area per FTE	2.6	3.6
Learning/Teaching per FTE	1.9	2.5
Non-teaching/Balance per FTE	0.7	1.1

B. Norms and standards			
Space category	m²/FTE band		Design issues
General teaching Space	1.1	1.3	The design of classrooms spaces should be flexible and adaptable. Modular standard furniture should be used. Some storage for materials and equipment should be provided in or near classrooms.
Specialist teaching space	0.5	0.7	Specialist teaching spaces should be as multipurpose as possible. This can be achieved through careful design, furniture and equipment specification and storage and servicing strategies. In this way capital costs can be reduced by improving utilisation rates and the number of spaces required.
Independent learning space	0.3	0.5	Access should be provided to space, materials and equipment, such as books and computers, to enable learners to conduct learning at their own pace for an adequate amount of time each week. This can be provided, in a media centre, with computers and books, that is open throughout the day and can be easily used by learners during free / out of school time. If possible a space where more than one class can be accommodated should be provided in order to allow larger group learning/teaching events including activities such as theatrical and musical performance.
Non-teaching space	0.3	0.5	Ensure there is adequate space for educators to work together in groups in order to prepare joint lessons and co-ordinated learning events. Space should be provided for the healthy and safe preparation and serving of food where schools accommodate feeding schemes.
Balance	0.4	0.6	Ensure that all commonly used routes are easily accessible and safe for all learners, including those in wheelchairs.

School site	m² /FTE	
Site area	See Section 5	A key consideration should be the proximity of the school to the learners that use it.
Informal social/play area	min. 1.7	Provide spaces and furniture for informal social interaction
Sports area	min. 7.4	Ensure that a range of sporting events can be accommodated that will cater for the interests of all learners. This should include, as a minimum, football and netball, even if full-size pitches are not provided.
Parking	min. 0.3	Parking for staff vehicles and a small number of visitors should either be on site or adjacent to the school site.
Garden plots	min. 0.3	Provided a portion of agricultural land within the school site, which may be used by the school or local community to cultivate produce. This produce may be used by the school as part of a feeding scheme.

D Proportions of space

Space category	% of total area between		Location issues
General teaching space	42	36	Ensure that the noise between classrooms is not disruptive and views from windows are not distracting.
Specialist teaching space	19	19	Specialist teaching spaces should be clustered in order to share servicing and storages where possible. Where noisy or smelly activities will be accommodated, spaces should be located to minimize distraction in other areas of the school.
Independent learning space	12	14	This should be located centrally and should be learners encouraged to use this in their free time i.e. during break or after school. Spaces like halls and media centres should also be located where they can also be easily and safely used by other schools and the local community.
Non-teaching space	12	14	Locate admin/staff area to ensure good supervision of school entrance and grounds. Storage for valuable material should be located where this can be easily secured and access controlled.
Balance	15	17	Toilets should be provided as per National Building Regulations (See Tables 5, 6 & 7) and located where they can be easily supervised by staff.

Taking the these norms into consideration, the following tables for Public Secondary Schools (Tables 3 – 4) have been developed for infrastructure planners, designers and managers to assist in ensuring that the minimum standards are achieved.



Table 3: Secondary School Accommodation for Personnel and Learners

SECONDARY SCHOOL ACCOMMODATION FOR PERSONNEL AND LEARNERS																								
SCHOOL SIZE	STAFF	MANAGEMENT AND ADMIN PERSONNEL					ADMINISTRATION / SUPPORT SPACES							SNP	LEARNING / TEACHING SPACES									
Enrolment Range	Educators (1:35)	Principal	Deputy Principal	HoD	Admin Support	Management + Admin	Offices	Strong room	Admin Store Room	Printing Room	Staff room - • 25m ² • 75m ²	Sickbay	HOD Offices + Small Store (12,5m ² + 12,5m ²)	Counselling Office - Linked to Standard Classroom (25m ²)	Large Store Room (25m ²)	Garden Store (25m ²)	Tuckshop	General Classrooms (50m ²)	Multi Purpose Classrooms with Store (75+25)m ²	Computer Room with Store (75+25)m ²	Media Centre with Store (130m ²)	Team Teaching Room (130m ²)	Total Learning Spaces	Learner Classroom Ratio Range
																				Multimedia Centre with Store (130m ²)				
20 - 60	2	1	0	0	0	1	1	1	1	0	½	0	0	0	0	0	½	0	1	0	0	0	1	20 - 60
61 - 80	2	1	0	0	0	1	1	1	1	0	½	0	0	0	0	0	½	1	1	0	0	0	2	31 - 40
81 - 100	3	1	0	0	0	1	1	1	1	0	½	0	0	0	0	0	½	2	1	0	0	0	3	27 - 33
101 - 140	4	1	0	0	0	1	1	1	1	0	½	0	0	0	0	0	1	3	1	0	0	0	4	25 - 35
141 - 180	5	1	0	1	1	3	2	1	0	0	½	0	1	0	1	0	1	4	1	0	0	0	5	28 - 36
181 - 220	6	1	0	1	1	3	2	1	0	0	½	0	1	0	1	0	1	5	1		1	0	7	26 - 31
221 - 260	7	1	0	2	1	4	4	1	1	1	1	2 x 2 beds	0	1	1	1	1	6	2		1	0	9	25 - 29
261 - 300	9	1	0	2	1	4	4	1	1	1	1	2 x 2 beds	0	1	1	1	1	7	2		1	0	10	26 - 30
301 - 340	10	1	0	2	1	4	4	1	1	1	1	2 x 2 beds	0	1	1	1	1	8	2	1	1	0	12	25 - 28
341 - 380	11	1	0	2	1	4	4	1	1	1	1	2 x 2 beds	0	1	1	1	1	9	2	1	1	0	13	26 - 29
381 - 420	12	1	0	2	1	4	4	1	1	1	1	2 x 2 beds	0	1	1	1	1	10	2	1	1	0	14	27 - 30
421 - 460	13	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	11	3	1	1	0	16	26 - 29
461 - 500	14	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	12	3	1	1	0	17	27 - 29
501 - 540	15	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	13	3	1	1	0	18	28 - 30
541 - 580	17	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	14	3	1	1	1	19	28 - 31
581 - 620	18	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	15	3	1	1	1	20	29 - 31
621 - 660	19	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	16	4	1	1	1	22	28 - 30
661 - 700	20	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	17	4	1	1	1	23	29 - 30
701 - 740	21	1	1	3	1	6	4	1	1	1	1	2 x 2 beds	2	1	1	1	1	18	4	1	1	1	24	29 - 31
741 - 780	22	1	1	4	1	7	4	1	1	1	1	2 x 2 beds	3	1	1	1	1	19	4	1	1	1	25	30 - 31
781 - 820	23	1	1	4	1	7	4	1	1	1	1	2 x 2 beds	3	1	1	1	1	20	4	1	1	1	26	30 - 32
821 - 860	25	1	1	4	1	7	4	1	1	1	1	2 x 2 beds	3	1	1	1	1	21	5	1	1	1	28	29 - 31
861 - 900	26	1	1	4	1	7	4	1	1	1	1	2 x 2 beds	3	1	1	1	1	22	5	1	1	1	29	30 - 31
901 - 940	27	1	2	4	1	8	4	1	1	1	1	2 x 2 beds	4	1	1	1	1	23	5	1	1	1	30	30 - 31
941 - 980	28	1	2	4	1	8	4	1	1	1	1	2 x 2 beds	4	1	1	1	1	24	5	1	1	1	31	30 - 32
981 - 1020	29	1	2	4	1	8	4	1	1	1	1	2 x 2 beds	4	1	1	1	1	25	5	1	1	1	32	31 - 32
1021 - 1060	31	1	2	5	1	9	4	1	1	1	1	2 x 2 beds	5	1	1	1	1	26	6	1	1	1	34	30 - 31
1061 - 1100	32	1	2	5	1	9	4	1	1	1	1	2 x 2 beds	5	1	1	1	1	27	6	1	1	1	35	30 - 31
1101 - 1140	34	1	2	5	1	9	4	1	1	1	1	2 x 2 beds	5	1	1	1	1	28	6	1	1	1	36	31 - 32
1141 - 1180	35	1	2	5	1	9	4	1	1	1	1	2 x 2 beds	5	1	1	1	1	29	7	1	1	1	38	30 - 31
1181 - 1220	36	1	2	5	1	9	4	1	1	1	1	2 x 2 beds	5	1	1	1	1	30	7	1	1	1	39	30 - 31

Table 4: Space Planning Norms and Standards for Public Secondary Schools

SPACE PLANNING NORMS AND STANDARDS FOR PUBLIC SECONDARY SCHOOLS																						
SCHOOL SIZE	LEARNING SPACE/EDUCATOR DIFFERENCE			GENERAL TEACHING AREA				SPECIALIST TEACHING AREA				LEARNING AREA				TOTAL TEACHING AND LEARNING AREA						
	Total Educators (1:35)	Total Learning Spaces	Learning Spaces/ Educator Difference	Unit	Unit	1.1m ² / Lnr	@50m ² per Unit	Unit	Unit	0.5m ² / Lnr	@75m ² per Unit	Unit	Unit	0.3m ² / Lnr	130m ² per Unit	Units	Units	Units	1.9m ² / Lnr	m ²	m ²	m ²
				Lower Norm	Model	Lower Norm	Model	Lower Norm	Model	Lower Norm	Model	Lower Norm	Model	Lower Norm	Model	Lower Norm	Model	Lower Norm	Model	Lower Difference	Lower Norm	Model
20 - 60	2	1	-1	1	0	66	0	0	1	30	75	0	0	18	0	2	1	-1	114	75	-39	-75
61 - 80	2	2	0	2	1	88	50	1	1	40	75	0	0	24	0	2	2	0	152	125	-27	-75
81 - 100	3	3	0	2	2	110	100	1	1	50	75	0	0	30	0	3	3	0	190	175	-15	-75
101 - 140	4	4	0	3	3	154	150	1	1	70	75	0	0	42	0	4	4	0	266	225	-41	-125
141 - 180	5	5	0	4	4	198	200	1	1	90	75	0	0	54	0	6	5	-1	342	275	-67	-175
181 - 220	6	7	1	5	5	242	250	1	1	110	75	1	1	66	130	7	7	0	418	455	37	-95
221 - 260	7	9	2	6	6	286	300	2	2	130	150	1	1	78	130	8	9	1	494	580	86	-70
261 - 300	9	10	1	7	7	330	350	2	2	150	150	1	1	90	130	9	10	1	570	630	60	-120
301 - 340	10	12	2	7	8	374	400	2	3	170	225	1	1	102	130	11	12	1	646	755	109	-95
341 - 380	11	13	2	8	9	418	450	3	3	190	225	1	1	114	130	12	13	1	722	805	83	-145
381 - 420	12	14	2	9	10	462	500	3	3	210	225	1	1	126	130	13	14	1	798	855	57	-195
421 - 460	13	16	3	10	11	506	550	3	4	230	300	1	1	138	130	14	16	2	874	980	106	-170
461 - 500	14	17	3	11	12	550	600	3	4	250	300	1	1	150	130	15	17	2	950	1030	80	-220
501 - 540	15	18	3	12	13	594	650	4	4	270	300	1	1	162	130	17	18	1	1026	1080	54	-270
541 - 580	17	19	2	13	14	638	700	4	4	290	300	1	2	174	260	18	20	2	1102	1260	158	-190
581 - 620	18	20	2	14	15	682	750	4	4	310	300	1	2	186	260	19	21	2	1178	1310	132	-240
621 - 660	19	22	3	15	16	726	800	4	5	330	375	1	2	198	260	20	23	3	1254	1435	181	-215
661 - 700	20	23	3	15	17	770	850	5	5	350	375	2	2	210	260	22	24	2	1330	1485	155	-265
701 - 740	21	24	3	16	18	814	900	5	5	370	375	2	2	222	260	23	25	2	1406	1535	129	-315
741 - 780	22	25	3	17	19	858	950	5	5	390	375	2	2	234	260	24	26	2	1482	1585	103	-365
781 - 820	23	26	3	18	20	902	1000	5	5	410	375	2	2	246	260	25	27	2	1558	1635	77	-415
821 - 860	25	28	3	19	21	946	1050	6	6	430	450	2	2	258	260	27	29	2	1634	1760	126	-390
861 - 900	26	29	3	20	22	990	1100	6	6	450	450	2	2	270	260	28	30	2	1710	1810	100	-440
901 - 940	27	30	3	21	23	1034	1150	6	6	470	450	2	2	282	260	29	31	2	1786	1860	74	-490
941 - 980	28	31	3	22	24	1078	1200	7	6	490	450	2	2	294	260	30	32	2	1862	1910	48	-540
981 - 1020	29	32	3	22	25	1122	1250	7	6	510	450	2	2	306	260	32	33	1	1938	1960	22	-590
1021 - 1060	31	34	3	23	26	1166	1300	7	7	530	525	2	2	318	260	33	35	2	2014	2085	71	-565
1061 - 1100	32	35	3	24	27	1210	1350	7	7	550	525	2	2	330	260	34	36	2	2090	2135	45	-615
1101 - 1140	34	36	2	25	28	1254	1400	8	7	570	525	3	2	342	260	35	37	2	2166	2185	19	-665
1141 - 1180	35	38	3	26	29	1298	1450	8	8	590	600	3	2	354	260	36	39	3	2242	2310	68	-640
1181 - 1220	36	39	3	27	30	1342	1500	8	8	610	600	3	2	366	260	38	40	2	2318	2360	42	-690

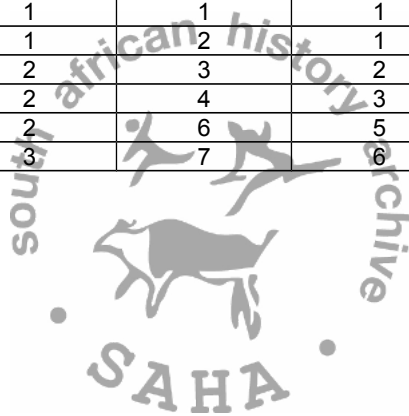
Table 5: Sanitation Requirements for Public Schools

SANITATION REQUIREMENTS FOR PUBLIC SCHOOLS													
Enrolment Range	Girls WC	Girls Basins	Enrolment Range per Gender	Boys WC	Boys Urinals	Boys Basins	Disabled WC & Basin/ Staff	Female Staff WC	Female Staff Basin	Male Staff WC	Male Staff Urinal	Male Staff Basin	TOTAL TOILETS
20 - 60	2	1	10 - 30	1	1	1	1	◀ Combined Block for Staff and Learners or separate freestanding toilets					5
61 - 80	2	1	30 - 40	1	1	1	1						5
81 - 100	2	1	40 - 50	1	1	1	1						5
101 - 140	4	2	50 - 70	2	2	2	1	◀ Separate Blocks for Learners and separate Disabled/Staff WC					7
141 - 180	4	2	70 - 90	2	2	2	1						7
181 - 220	4	2	90 - 110	2	2	2	1	2	1	1	1	1	13
221 - 260	4	2	110 - 130	2	2	2	1	2	1	1	1	1	13
261 - 300	6	4	130 - 150	2	2	2	1	2	1	1	1	1	15
301 - 340	6	4	150 - 170	2	2	2	1	2	1	1	1	1	15
341 - 380	6	4	170 - 190	2	2	2	1	2	1	1	1	1	15
381 - 420	6	4	190 - 210	2	2	2	1	2	1	1	1	1	15
421 - 460	8	6	210 - 230	3	3	2	1	2	1	1	1	1	19
461 - 500	8	6	230 - 250	3	3	2	1	2	1	1	1	1	19
501 - 540	8	6	250 - 270	3	3	2	1	2	1	1	1	1	19
541 - 580	8	6	270 - 290	3	3	2	1	2	1	1	1	1	19
581 - 620	8	6	290 - 310	3	3	2	1	2	1	1	1	1	19
621 - 660	10	6	310 - 330	4	4	3	2	3	2	1	2	1	26
661 - 700	10	6	330 - 350	4	4	3	2	3	2	1	2	1	26
701 - 740	10	6	350 - 370	4	4	3	2	3	2	1	2	1	26
741 - 780	10	6	370 - 390	4	4	3	2	3	2	1	2	1	26
781 - 820	10	6	390 - 410	4	4	3	2	3	2	1	2	1	26
821 - 860	12	8	410 - 430	5	5	3	2	3	2	1	2	1	30
861 - 900	12	8	430 - 450	5	5	3	2	3	2	1	2	1	30
901 - 940	12	8	450 - 470	5	5	3	2	3	2	1	2	1	30
941 - 980	12	8	470 - 490	5	5	3	2	3	2	1	2	1	30
981 - 1020	12	8	490 - 510	5	5	3	2	3	2	1	2	1	30
1021 - 1060	14	10	510 - 530	6	6	4	2	3	2	1	2	1	34
1061 - 1100	14	10	530 - 550	6	6	4	2	3	2	1	2	1	34
1101 - 1140	14	10	550 - 570	6	6	4	2	3	2	1	2	1	34
1141 - 1180	14	10	570 - 590	6	6	4	2	3	2	1	2	1	34
1181 - 1220	14	10	590 - 610	6	6	4	2	3	2	1	2	1	34

Tables 7 & 8: SANITATION REQUIREMENTS – as per SABS 0400-1990

TABLE 7 of SABS 0400-1990

1	2	3	4	5	6
For a population of up to –	Number of sanitary fixtures to be installed relative to population given in Column 1				
	Males			Females	
	WC pans	Urinals	Washbasins	WC pans	Washbasins
a) Facilities subject to peak demand					
50	1	1	1	2	1
100	1	2	1	3	2
150	1	3	1	5	3
250	2	4	2	7	4
500	3	7	3	12	6
1000	3	12	4	16	7
1500	4	15	5	20	8
	For a population in excess of 1500 add 1 WC pan for every 500 persons	For a population in excess of 1500 add 1 urinal for every 300 persons	For a population in excess of 1500 add 1 washbasin for every 500 persons	For a population in excess of 1500 add 1 WC pan for every 150 persons	For a population in excess of 1500 add 1 washbasin pan for every 500 learners
b) Facilities not subject to peak demand					
50	1	–	1	1	1
100	1	1	1	2	1
150	1	2	1	3	2
250	2	3	2	5	3
500	2	4	3	6	4
1000	2	6	5	8	6
1500	3	7	6	10	7



NB. In using Tables 7 and 8 the population referred to in Column 1 of the tables is the population of the particular sex for which the minimum provision is to be determined. Unless the population of each sex is otherwise known this will be one half of any total number of persons or total population.

For a population in excess of 1500 add 1 WC pan for every 1000 persons

For a population in excess of 1500 add 1 urinal for every 500 persons

For a population in excess of 1500 add 1 washbasin for every 700 persons

For a population in excess of 1500 add 1 WC pan for every 300 persons

For a population in excess of 1500 add 1 washbasin pan for every 700 persons

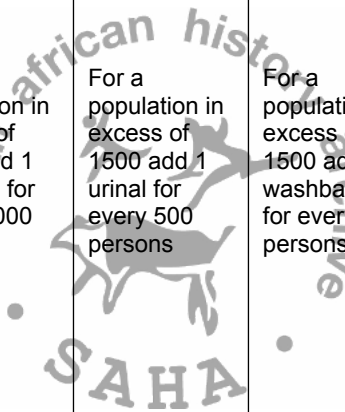


TABLE 8 of SABS 0400-1990

1	2	3	4	5	6	7	8
For a population of up to –	Number of sanitary fixtures to be installed relative to population given in Column 1						
	Males			Females			
	WC pans	Urinals	Washbasins	Showers	WC pans	Washbasins	Showers
10	1	1	1	2	2	1	2
20	1	2	2	2	3	2	2
30	2	2	3	3	5	3	3
40	3	3	3	3	6	3	4
60	3	4	4	5	7	4	5
80	4	5	5	5	9	5	5
100	4	6	5	6	10	5	6
	For a population in excess of 100 add 1 WC pan for every 100 persons	For a population in excess of 100 add 1 urinal for every 100 persons	For a population in excess of 100 add 1 washbasin for every 100 persons	For a population in excess of 100 add 1 shower for every 40 persons	For a population in excess of 100 add 1 WC pan for every 80 persons	For a population in excess of 100 add 1 washbasin pan for every 80 persons	For a population in excess of 100 add 1 shower for every 40 persons



5 Guidelines for the Provision of Sites for Public Primary and Secondary Schools

While the guidelines, below, may appear to be applicable specifically to formal township developments, they are equally appropriate to rural areas.

5.1 Number of School Sites

5.1.1 The number of families and the average size of these families determine the number of primary and secondary school sites to be provided in new residential areas or in extensions to existing residential areas, as indicated in the table below:

Socio-economic category of residential area	Average size of family	Number of families per primary school	Number of families per secondary school
High	4	1000	1500
Middle	6	750	1500
Low	8	500	1500

Number of families generating schools sites

5.1.2 The number of school sites required will be rounded off to the nearest whole number (e.g. 2,5 becomes 3, and 2,4 becomes 2). In areas where the number of families to be accommodated generates less than 0,5 of a school site, a school site may be provided at the discretion of the department, bearing in mind that any settlement will generate a school-going population.

5.1.3 The number of families and school sites in new extensions should be considered together with those in adjacent residential areas to determine whether sufficient school sites are available for the residential area as a whole.

5.2 Size of School Sites

5.2.1 Single sites

The minimum size, provided that the area to be utilised can accommodate the school buildings as well as sports grounds, is as follows:

Primary school	:	2,8 ha
Secondary school	:	4,8 ha

5.2.2 Shared sites

Sports facilities may be shared between primary schools as well as between a school (primary or secondary) and the community, with the necessary community consent:

(a) Two primary schools with shared sports ground:

Primary school #1	:	1,4 ha
Sports ground	:	2,0 ha
Primary school #2	:	<u>1,4 ha</u>
TOTAL		<u>4,8 ha</u>

(b) Schools sharing community sports facility:

Primary school	:	1,4 ha
Secondary school	:	2,6 ha

5.3 General Conditions for School Sites

5.3.1 The following considerations should be observed:

- (a) School sites should as far as possible be evenly distributed within the residential area. To locate a primary school and secondary school next to each other is not acceptable to all communities. Two primary schools located next to one another should have sports grounds to separate them.
- (b) The locating of school sites should as far as possible be done in consultation with the local community.
- (c) School sites should not be located next to cemeteries, business centres, railway stations, taxi ranks, hostels, beerhalls, municipal dumps or sewerage works.
- (d) The nature of the soil must be such as not to involve excessive additional costs when buildings and sports grounds are constructed. Some examples of problematic soil conditions are turf, clay, dolomite, refuse dump fillings, etc.
- (e) The removal of existing vegetation should not involve excessive additional costs.
- (f) Vegetation worthy of preservation, e.g. mature trees, etc., should not be removed.
- (g) The existence of servitudes and stormwater routes must not compromise the safety of the learners, locating of buildings or the utilisation of sports grounds.
- (h) Locating schools next to high-class roads (20m wide or more) and/or high volume roads is discouraged. Entrances to school sites must comply with the prescriptions of the local authorities concerned.

5.3.2 School sites should in appearance be as follows:

- (a) The school buildings and sports grounds should fit onto the site in such a manner as to allow for correct orientation. (Windows and doors of classrooms and length of sportsfields to be on a north/south orientation.)
- (b) Ideally, at least 50% of the boundary of school sites should face a street front and not adjoin the backs of residential or other sites.
- (c) The slope of the proposed sites should ideally not exceed 1 in 40 and definitely not 1 in 15 over the area likely to be built on. The latter concession is specifically for developments in undulating terrain and not intended to compromise the department.
- (d) School sites should not be situated below the 1-in-50-year flood line – buildings must always be placed above the flood line.

5.3.3 When plans are submitted to the department for final approval, the following information/documents is/are required:

- (a) The number of residential sites and the average size of these sites.
- (b) The anticipated socio-economic category of the residential area.
- (c) Whether the area is a formal or less-formal settlement area.
- (d) The number of primary and secondary school sites provided.
- (e) The size of each school site.
- (f) An identification number for each school site (these may be provisional).
- (g) Contours and servitudes
- (h) The number and date of the plan, as well as the scale and geographical orientation to north.
- (i) A geotechnical report for the area.
- (j) A locality map clearly showing the proposed development in relation to other existing developments.
- (k) Existing school sites (developed and vacant) in a 5km buffer around the proposed development will assist in determining the exact educational requirements for the new development.

5.4 Procedures for the Approval of School Sites

- 5.4.1 The District Planning Subdirectorates, in the relevant District of the Department, act as nodal points for the recommendation/approval of proposed new layouts for new residential areas and extensions to residential areas.
- 5.4.2 Plans are to be presented in duplicate to the relevant District Planning Subdirectorates, who are responsible for:
- (a) Assessing and evaluating the need for school sites in the proposed development.
 - (b) Referring the plans to the Department of Public Works for the approval in principle of the suitability of the proposed school sites.
 - (c) Referring the plans to the Director: Infrastructure Planning at Head Office for approval.
 - (d) Informing the relevant applicant of the Department's recommendations or approval.

5.5 Procedures for the Acquisition of School Sites

- 5.5.1 Offers to the State to purchase a school site should be addressed to the relevant District Planning Subdirectorate. The package offer must contain the following information:
- (a) A map indicating the full site with the site number, site size, contours, servitudes, etc.
 - (b) The Surveyor-General's maps indicating the site.
 - (c) The name of the registered owner or agent of the land.
 - (d) A copy of the proclamation/authorisation as a township.
 - (e) The price per site.
 - (f) The geotechnical report.
- 5.5.2 The relevant District Planning Subdirectorate determines whether it is necessary to purchase the site.
- 5.5.3 The relevant District Planning Subdirectorate seeks authorization from Head Office, via the Director: Infrastructure Planning to acquire the site.
- 5.5.4 The relevant District Planning Subdirectorate is responsible for making final arrangements with the Department of Public Works: Real Estates Section to purchase the site.
- 5.5.5 Depending on the conditions for the establishing of a particular township, the Department may be required to purchase the proposed school sites before it actually has concrete plans to build a new school. Where only some of the school sites are recommended for purchasing, the District Office concerned must submit sufficient justification as to why the remaining school sites should not be purchased with due consideration that such school sites may then be made available for other purposes.
- 5.5.6 Under the above circumstances, the recommendations of the District Office deal exclusively with the question of whether or not to acquire the school sites, and **not** with the timing of the acquisition. On that point the Department is bound by the relevant conditions for establishing the township and the actions to be taken by the Department of Public Works.

6 Schools for Learners with Special Education Needs

6.1 Planning Principles for Schools for Learners with Special Education Needs

The development and provision of facilities and resources for all levels of learners with barriers will be informed by the *Three/Five-Year Operational Plan for the Education Provision/Support of Learners with Barriers*, in keeping with the Department's fiscal resources and policies.

In the short-term, physical planning and provision must be made to systematically:

- Extend, develop and sustain the special/support facilities and resources needed in mainstream schools (ramps, toilets, etc.).
- Establish and develop additional Full-Service Schools while maintaining those already established.

A full-service school will be equipped and supported to provide for a broad range of learning needs. As needs and barriers to learning vary, it is obvious that full-service schools would have to develop capacity and potential flexibly. A full-service school may not necessarily have all forms of learner support in place, but it should have the potential and capacity to develop and provide them;

- Establish and develop additional Special Schools while maintaining those already established.

The notion of strengthening special schools does not mean that more and more special schools should be built. Within the framework of unlinking site from support, it would be much better to make more support programmes available at local level in full-service schools and through site-based support teams to ordinary neighbourhood schools. Consideration can even be given to eventually transform some existing special schools into full-service schools providing for learners requiring low, moderate and high levels of support.

- Establish any physical structures required to strengthen and diversify the existing Special School's capacity to provide for a wider range of education to learners with barriers (*viz.* provide ramps etc. in Special Schools previously inaccessible to learners in wheelchairs.)

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6.2 FULL SERVICE SCHOOL SPECIFICATIONS

The following specifications were drawn up and used as the standard to upgrade Full Service Schools in South Africa. These specifications provide a useful consideration when building public primary and secondary school, with a view to ensuring schools accommodate diversity, promote equitable access and become more responsive to their local communities.

Ref	Upgrading Interventions Required			
			Standard of Inclusiveness	
	Item	Specification	Basic	Optimum
C	Car Parking			
	Accessible Parking Bay	2400mm x 4800mm, with a 1200mm route at side and front, per bay	1 bay for staff, one bay for visitors/parents, within 50m of admin block	5% of total capacity within 50m of admin block
		Suitable surface type	3600mm x 6000mm	Y x (3600mm x 6000mm), where Y = 5% of total number of bays
		Road paint, which contrasts with the surface in all weather conditions	To mark bay, put sign on bay	To mark bay, put sign on bay
		Wheelchair sign	-	Position vertically at front of bay
	External lighting	External lighting	-	Providing at least 150 lux of light after darkness
DR	Drop-Off			
	Accessible drop off point for cars/school buses	2400mm x 4800mm, with a 1200mm route at side and front	1 per school	1 per school
		Suitable surface type	3600mm x 6000mm	3600mm x 6000mm
		Road paint, which contrasts with the surface in all weather conditions	To mark bay, put sign on bay	To mark bay, put sign on bay
		Drop-off sign	-	Position vertically at front of bay
	External lighting	External lighting	-	Providing at least 150 lux of light after darkness
SS	Switches, Sockets and Fittings			
	Light switches	At 1000mm high	As specification	As specification
	Sockets	At 500mm, 450mm from the corner	-	As specification
	Lighting	Overhead lighting providing 200 lux lighting on desk surface, even spread	As specification	As specification
	Window catches	Lever type, no higher than 1200mm	-	As specification
	Windows in classrooms	Vertical blinds	-	Fit on all classroom windows next to teaching area

W Wayfinding/Signage				
	Road sign	Sign contrasting with the background against which it is viewed. Matt non-reflective finish	As specification	As specification, plus
		Font used a mixture of upper and lower case, of sans serif type, ranged right and with wide inter-line spacing, contrasting with sign background		Well lit during day, night and all weather conditions. Signs using symbols
		Height of sign-pole depends on situation. No lower than 2300mm and no higher than 4000mm.	-	-
		Assume 6m viewing distance, letter height of between 150-225mm, depending on length of text required	-	-
	School sign		As specification W1	As specification W1
	Building block sign		As specification W1	As specification W1
	Wheelchair car park sign	-	As specification W1	As specification W1
	Drop-off sign		As specification W1	As specification W1
SU Surfaces				
	Accessible play/gathering area	Levelled, compacted earth	As specification	As specification
	Suitable surface types	Renovate existing paving	As specification	As specification
		<i>Carpet: thin pile</i>	-	-
		<i>Clay pavers</i>		
		<i>Clay tiles</i>		
		<i>Clay tiles (carborundum finish)</i>		
		<i>Clay tiles (textured finish)</i>		
		<i>Concrete</i>		
		<i>Concrete (power float finish)</i>		
		<i>Concrete interlocking paving (texture finish?)</i>		
		<i>Granolithic</i>		
		<i>Linoleum</i>		
		<i>Cork tiles</i>		
		<i>Mastic asphalt</i>		
		<i>Profiled ceramics</i>		
		<i>PVC, enhanced slip resistance</i>		
<i>Resin, enhanced slip resistance</i>				

RO	Corridors/Walkways/Paths			
	Classroom verandahs	Add screed	L x 1500mm, where L = length of verandah	L x 1800mm, where L = length of verandah
		Add width to verandahs	L x (1500mm - CW), where L = length of verandah, CW = current width clear of door swing	L x (1800mm - CW), where L = length of verandah, CW = current width clear of door swing
	Warning edge for raised verandah	Paint edge with durable paint	As specification	As specification, plus tactile paving whole length, 400mm wide
	Lighting	Lighting provided during darkness on routes. Even spread	-	150 lux
	Cover	-	-	Cover to all external walkways
	New path	<i>See notes on surfaces</i>	1500mm x L, where L = required length	1800mm x L, where L = required length
	Lighting	Lighting provided during darkness on routes. Even spread	-	150 lux
	Cover	-	-	Cover to all external walkways
	Route from accessible car parking and drop-off to admin block	-	Suitable surface type, 1500mm wide, maximum 50m in length	Suitable surface type, 1800mm wide, maximum 50m in length. 1. Pavement with dropped kerb for car parking spaces and tactile indication
		-	-	Suitable surface type, 1800mm wide, maximum 50m in length. 2. Level path with tactile indication adjacent to vehicle
	Lighting	Lighting provided during darkness on routes. Even spread	-	150 lux
	Cover	-	-	Cover to all external walkways

S Steps				
	Flight of steps			
	Risers	All same height, 150mm - 170mm	As specification	As specification
	Going	All same length, 250mm - 300mm	As specification	As specification
	Landing	1200mm at top and bottom steps clear of door swing	As specification	As specification
	Handrail	50mm diameter handrails stainless steel/wood	One by each step or stair. Continuous on flight of steps	Either side of each step or stair. (Two) Continuous on flights of stairs
		Extends 300mm at top and bottom of step/stair or has a positive return	As specification	Ensure handrail contrast with background
	Nosing	Strips (can be painted) which contrast with the background against which they are viewed	25mm on riser and going	25mm on riser and going
		Rubber nosing that contrast with tread and riser	-	Add to provide additional grip on staircase
	Lighting	Lighting provided during darkness on steps. Even spread	-	150 lux
	Threshold step	If greater than 15mm, the surrounding route should be raised	As specification	As specification

R Ramps				
	Ramps through level change	1:15 - 1:20, suitable surface finish	As specification	As specification
		Level landing of 1500mm, clear of door swing at top and bottom and at 5m intervals along the ramp's surface	As specification	As specification
		Minimum 1500mm wide	As specification	1800mm wide
		Cross fall of 1:50	As specification	As specification
		Kerb edge on exposed side 75mm high	As specification	As specification
	Handrail	50mm diameter handrails stainless steel/wood	Two, either side of ramp. Continuous on flight of ramps	As specification
		Extends 300mm at top and bottom of step/stair or has a positive return	As specification	As specification
	Lighting	Lighting provided during darkness on steps. Even spread	-	150 lux
	Threshold ramps: when threshold is between 5 -15mm	Chamfered or pencil rounded	As specification	As specification

L				
Lifts				
Lift		Internal car dimensions: 1500mm x 1500mm minimum	Through floor type platform lift	Passenger lift
		Door opening 800mm clear open width	-	-
		Easy-to-use embossed buttons, with Braille	-	-
		Light signal on lift buttons: external and internal	-	-
		Audible signal when lift is level with floor	-	-
	Lighting	Overhead lighting providing 150 lux lighting, even spread inside and outside lift car	As specification	As specification
Lift shaft	To provide lift as specified above	As specification	As specification	

D				
Doors				
	Classrooms doors			
Vision panel	Remove existing and substitute with doors with vision panel, with safety/shatterproof glass	Vision panel providing a zone of visibility between 700mm to 1350mm	Vision panel providing a zone of visibility between 700mm to 1350mm	
Operational force	Remove or adjust doors with heavy operational force	As specification	As specification	
Clear opening width less than 750mm	Replace door/adjust door opening mechanism	As specification	As specification	
Door opens outwards onto walkway (except wheelchair accessible WC)	Re-hang doors to open inwards into the classroom	As specification	As specification	
Door handles	Lever or 'D' handle at least 150mm in length and 20mm in diameter	As specification	As specification plus	
	The door lever/handle positioned at 1000mm above finished floor level, and at 50mm from the edge of the doorframe, protruding from the door by 45mm		Ensure that handle contrasts with the colour of the door	
Security doors	-	Hold back on catches against wall	replace and fit with secure classroom doors	
Lighting	Lighting provided during darkness on routes. Even spread	-	150 lux	

BU Building Upgrade				
	Classroom blocks	Sound proofing on classrooms adjacent to sources of conflicting background noise (e.g. motorway)	As specification	As specification
	Lockable storage space	Spare secure storage	As specification	As specification
		Space equivalent of a standard metal office cupboard	-	-
	Room for assessment, therapy, Braille facilities, with sink	Spare room, minimum 3m x 3m with inward opening door placed in corner	Existing space available or use existing teacher's office/ staffroom	Add new

DE Desks, Counters, Seating, Furniture				
	Accessible reception counter	Counter: 700mm deep, clear access both sides. Clear knee space of 750mm high and 600mm deep. Reception desk at 800mm	As specification plus 900mm wide, clear space in front of counter	As specification plus 1800 wide, clear space in front of counter
	Lighting	Overhead lighting providing 200 lux lighting on counter surface, even spread	As specification	As specification
	Colour contrast	Tonal contrast between counter surface and surround, matt finish		-
	Accessible class chairs	Chair: seat height 320mm with an adjustable range of 75mm above and below 320mm. Arms on chairs	4	All
	Accessible class tables	Desk at 700mm high. Clear knee space underneath of 650mm high, 600mm deep	1 per school	All
	Accessible teachers' chairs	Chair: seat height 410mm with an adjustable range of 75mm above and below 410mm. Arms on chairs	-	-
	Accessible teachers' tables	Desk at 800mm high. At least 700mm deep. Clear knee space underneath of 750mm high, 600mm deep	As specification	As specification
	Additional storage	Provide new cupboard equivalent to a standard metal office cupboard	-	-

E Drinking/Eating				
	Accessible water fountain	Free standing water fountain with a water spout and control at 900mm height from the floor of the fountain	1 per school	1 per water fountain facility
		Clear knee and turning space, lever control	-	Change existing, if it does not conform to the specification
		Suitable surface type, with a fall of 1:40 - 1:60 to drain off concrete surface	1800mm x 1800mm. No steps or thresholds on or off facility	Y x (1800mm x 1800mm), where Y = number of water fountain facilities. No steps or thresholds on or off facility
		Overhead cover	Shade	Protection from sun and rain
	Accessible eating area	With water fountain as part of facility	-	All
		Fixed external seats and tables. Space at table for learner in wheelchair	One table, four chairs and two wheelchair spaces per school, space each end of table for learner in wheelchair	All tables and chairs as specification
		Suitable surface type	3m squared surface area	3m squared surface area
		Chair	4	All
	Wheelchair users	Table: height 850mm, space underneath 750mm high, 600mm deep	1	All
		Overhead cover	Shade	Protection from sun and rain

SP Sports and Other Facilities				
	Accessible football field	Levelled, compacted earth	-	-
	Accessible netball field	Levelled, compacted earth	-	-
	Spectator area	Seating	-	Chairs provided for spectators
		Overhead cover: shade trees	-	Protection from sun and rain covering the spectator seating
	Route	Levelled, compacted earth	-	As specification

WC	WCs			
	Accessible WC			
	VIP type	WC pan with lid	1 per school if VIP type specified	1 per provision of WCs or every 50m travelled, whichever is higher
		1800mm x 1800mm (internal cubicle space after wall fittings)		
		Outward opening door		
		3 x grab rail: wall adjacent to WC, wall at rear of WC, positioned vertically on door		
	Flush type	WC pan with lid	1 per school if VIP type specified	1 per provision of WCs or every 50m travelled, whichever is higher
		Extended lever handle on flush		
		1800mm x 1800mm (internal cubicle space after wall fittings)		
		Outward opening door		
		3 x grab rail: wall adjacent to WC, wall at rear of WC, positioned vertically on door		
	Colour contrast	Tonal contrast between fixtures, fittings and surround, matt finish	As specification	As specification
	Lighting	Tonal contrast between fixtures, fittings and surround, matt finish	As specification	As specification
	Additional general WCs	Tonal contrast between fixtures, fittings and surround, matt finish	As specification	As specification

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