basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SCHOOL INFRASTRUCTURE SAFETY AND SECURITY GUIDELINES

(First Version)

25 March 2017

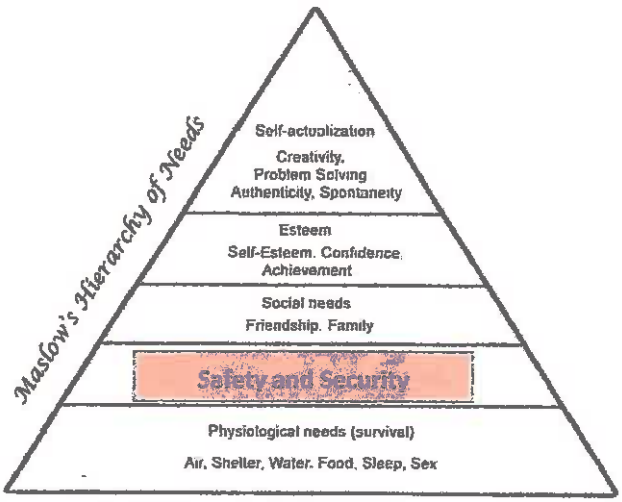
"A secure school is a secure future!
A safe school is a safe path to prosperity!!"

FOREWORD

Safety and security of our learners and educators in our schools remain one of our biggest concerns. This is a basic right that is enshrined in our Constitution. Not only that, as early as 1943, the psychologist, Abraham Maslow also identified that after the physiological or survival needs have been addressed, safety and security becomes the next area of concern. The concern about safety and security in our schools is compounded by the increase in the wave of vandalism of our education facilities, primarily burning of schools for reasons unrelated to education.

As a sector we have been doing all what we could to provide a safe and secure environment in our schools for the benefit of our learners, educators, administrative staff and community at large. A lot has been done by the sector in this regard, working together with our sister Departments and also assisted by other stakeholders to address issues pertaining to social cohesion and other psycho-social issues such as bullying and school-based violence. To strengthen these efforts, the Department of Basic Education deemed it necessary to also pay attention to measures that should be considered when school infrastructure is provided, doing so as a means of complementing efforts made in areas mentioned above.

Therefore,we present the ***School Infrastructure Safety and Security Guidelines (SISSG)*** to guide the planners, designers, decision-makers and the sector at large on how to incorporate safety and security measures when providing school facilities. This document has been developed in terms of Section 5A of the South African Schools Act (No. 84 of 1996), as amended, and in terms of Chapter 6 of the National School Safety Framework (2015). It focuses mainly on the measures that need to be put in place when providing education infrastructure. It has been tabled before the Council of Education Ministers and approved for implementation by the sector, following a consultative process with all the Provincial Education Departments, who provided very useful comments and inputs.



We are fully aware of the dynamic nature of society and the extent to which the problems to which we seek to provide solutions keep mutating, taking different complexion. It is with this realisation that we will treat this as a live document and invite any additional inputs from the general stakeholders. These should be addressed to the Director-General of the Department of Basic Education, for the attention of Dr M. Mabula at Mabula.M@dbe.gov.za

Mrs AM Motshekga, MP
MINISTER OF BASIC EDUCATION

Date: 04 04 2017

SCHOOL INFRASTRUCTURE SAFETY AND SECURITY GUIDELINES
(First Version)

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1 ACRONYMS AND ABBREVIATIONS

Admin	:	Administration
CCTV	:	Closed Circuit Television
CJCP	:	Centre for Justice and Crime Prevention
Constitution	:	Constitution of the Republic of South Africa, (No. 108 of 1996)
DBE	:	Department of Basic Education
Department	:	Department of Basic Education
ICT	:	Information and Communications Technology
N&S	:	Minimum Uniform Norms and Standards for Public School Infrastructure (Nov 2013)
NSSF	:	National School Safety Framework (2015)
PEDs	:	Provincial Education Departments
SACE	:	South African Council of Educators
SAHRC	:	South African Human Rights Commission
SANS	:	South African National Standards
SASA	:	South African Schools Act, (No. 84 of 1996)
SAIRR	:	South African Institute of Race Relations
SISSG	:	School Infrastructure Safety & Security Guidelines
UV	:	Ultraviolet

2 BACKGROUND AND INTRODUCTION

2.1 Background

The mandate of the Department of Basic Education (DBE) is to provide quality education to all the learners. This mandate includes the provision of quality, purpose-built education facilities wherein effective teaching and learning could take place. Section 29 of the Constitution of the Republic of South Africa (No. 108 of 1996) ("the Constitution") considers it everyone's right to basic education. Section 3 of the South African Schools Act (No. 84 of 1996) (SASA) takes this further by making it compulsory and the responsibility of every parent to ensure that the child he/she is responsible for attends a school from the age of seven. In that respect Section 28 of the Constitution emphasizes that every child has a right to basic nutrition, shelter, basic health care services and social services. In accessing these services or exercising these rights, Section 10 of the Constitution states that everyone has an inherent dignity and the right to have their dignity respected and protected. To strengthen that, Section 12 of the Constitution posits that everyone has the right to freedom and security of the person, which includes the right to be free from all forms of violence from either public or private sources.

Summarily, these provisions require the DBE to ensure that quality education is provided to every school-going child, having those children been sent to school by their parents or guardians. While the learners access these basic services, the DBE has to ensure that proper shelter in the form of quality, conducive and purpose-built education facilities is provided. In the process of providing these services the safety and security of the learners has to be ensured by the school concerned and their dignity protected. These rights are not only applicable or limited to the learners but also extend to the educators. Section 8 of the Occupational Health and Safety Amendment Act (No. 181 of 1993) puts onus on the employer to ensure that the workplace is safe, conducive and free of danger.

While the DBE seeks to ensure that these rights are protected and observed, and that basic education-related services are provided per its mandate, it is confronted with a huge challenge of unsafety and insecurity in its schools. The concern is that the situation is reported by a number of entities (South African Human Rights Commission - SAHRC, 2006; Magome, 2008; SAIRR, quoted by Magome, 2008; van Jaarsveld, 2011; Ncontsa and Shumba, 2013; CJCP, 2013) to be getting worse with time even though there are measures that have been put in place to abate this problem. Furthermore, the SAHRC (2006) states that this problem has become a national concern as many incidents of school-based violence continue to be reported.

2.2 Introduction

As one of the measures that have been put in place to address this problem, the DBE promulgated Regulations for Safety Measures at Public Schools (Regulation No. 1128 of 10 Nov 2006). Also, when providing the physical school infrastructure, Section 17 of the Minimum Uniform Norms and Standards for School Infrastructure (Nov 2013) (N&S) provides some guidelines on what has to be considered as a minimum in providing security measures in schools. Despite all these efforts, safety and security still remains a huge problem in schools. The DBE is geared towards providing an effective response to these problems.

It is acknowledged that this problem is immense and this document only seeks to focus on a portion of the total solution - the Safety and Security Guidelines that have to be observed when providing education infrastructure. This need is informed by the fact that while other interventions such as safety awareness campaigns and drive for social cohesion address other components of this problem fairly sufficiently, infrastructure related measures have not been addressed similarly hence a need for these Guidelines. As a result of this shortcoming, non-uniform and inconsistent practices have been adopted by various Provincial Education Departments (PEDs) and by planners and designers when providing education facilities, with varying degrees of effectiveness towards addressing the problem.

3 CHALLENGES WITH SAFETY AND SECURITY IN PUBLIC SCHOOLS

3.1 The Extent and Nature of School-based Crime

Research work has been conducted by a number of entities (Prinsloo, 2005; Xaba, 2006; Magome, 2008; SAIRR; Masitsa, 2011; van Jaarsveld, 2011; SAHRC, 2012; Ncontsa and Shumba, 2013; CJCP, 2013) to ascertain the extent of unsafety in schools. The conclusions drawn from these investigations, which are also supported by a number of media reports on this matter, do point and confirm the fact that safety and security remains a serious problem in schools. These problems affect the urban, the township and the schools in rural areas alike, albeit to varying degrees of severity. Also, as cited in other articles (Hanover Research, 2013), this is a world-wide problem and not only experienced in the South African schools.

The nature of these violent acts and crimes that render the schools unsafe and insecure include:

(a) Bullying and intimidation;
(b) Verbal abuse and ill-treatment of learners by the educators;
(c) Rape of girl and, at times, boy learners, by fellow pupils and by their educators;
(d) Assault, violent attacks and armed robbery of fellow learners by other learners;
(e) Armed robbery of the learners and educators by the outsiders;
(f) Use of drugs, illegal substances and alcohol;
(g) Gangsterism and gang-related activities;
(h) Sheer vandalism of education facilities by the learners and by the outsiders;
(i) Break-ins, burglaries and theft (primarily of solar panels, computers, general electrical appliances, fencing, window and door frames and other items to be sold as scrap metal); and
(j) General unsafety in and around the schools.

These violent acts and crimes could be grouped into the following five categories:

(1) Learner induced;
(2) Educator induced;
(3) Community induced;
(4) Ill-discipline and psycho-social violence; and
(5) Shortcomings with school infrastructure and physical security measures.

3.2 Factors Affecting the Rate of School-based Crime

A number of authors (Xaba, 2006; Squelch, 2001 quoted by Xaba, 2006; Masitsa, 2011; Ncontsa and Shumba, 2013; CJCP, 2013) found that the following factors are associated with increased crime rate in schools:

(a) Ineffective school leadership, poor management of the school and poor school governance;
(b) Ill-discipline across the school;
(c) School size – school crime has been observed to be more pronounced in larger schools than in smaller schools;
(d) Overcrowding and class size – where the number of learners per class is generally high leading to overcrowding, difficulties are experienced in controlling the class and misbehaviour goes on unnoticed;
(e) The school level – Secondary schools are reported to be 13 times more likely to be violent than primary schools;
(f) Age of learners, especially boys – older learners are prone to intimidation and bullying;
(g) Location of the school – schools in townships, especially in and around informal settlements are more prone to violent crime. Per the National School Safety Framework - NSSF (2015) and Hanover Research (2013) schools are microcosms of the broader communities in which they are located;
(h) Unemployment and poverty;
(i) Inadequate security measures due to shortage of funds;
(j) Poor resources and infrastructure; and
(k) Types of school buildings and environmental design.

The NSSF and the CJCP (2013) further alluded to the fact that classrooms were the most common sites for violence at school. This calls for special attention to be paid in these educational spaces when providing physical security measures in schools. Other areas that they pointed out as hot spots for violence include playing fields, toilets, and other open grounds at the school.

3.3 Cost of Unsafety and Insecurity in Schools

3.3.1 Costs to Educational Activities

There is general concurrence that a safe school is a *sine qua non* for effective teaching and learning (Prinsloo, 2005; Xaba, 2006). These authors also point out that a safe school is a school that is physically, psychologically and psycho-socially safe. In this regard the Vision of the NSSF for Safe School is for *"all schools in South Africa to be safe, caring environments where all members of the school*

body, including learners, educators, support staff and parents, are and feel safe at all times".

Thor (2006, quoted by Masitsa, 2011) states that "*the opportunity to pursue an education, particularly quality education, is meaningless unless the student is able to pursue his/her educational rights in an environment that is both safe and secure*." Trump (2006, quoted by Masitsa, 2011) warns that if learners do not feel safe to learn and teachers do not feel safe to teach, the focus shifts from academic activities to discipline and personal safety issues.

Other negative effects cited by the SAHRC (2012) and by Ncontsa and Shumba (2013) include chaos, bunking classes, depression, school dropouts, deterioration of a teaching and learning environment, lost teaching and learning time, poor academic performance, and community disintegration. It follows that the fundamental business of a school gets lost. This social trauma is not only limited to learners and educators but also spreads to and experienced by the parents, families and relatives of both the learners and the educators.

3.3.2 Costs to Education Infrastructure

While the DBE and PEDs are doing their utmost best to provide the much needed education facilities doing so under very tight budget constraints and acting against challenges of overcrowding and natural disasters, vandalism and theft of various infrastructure components continue to take the sector backwards and costing it financially. Infrastructure related incidents that cost the Department and the sector at large include the following:

(a) Breaking and theft of fencing material to be sold as scrap metal;
(b) Breaking of roofs, walls, doors and windows of computer laboratories, classrooms and other areas to steal computers, smartboards and other electronic equipment. This frustrates and negates the efforts of introducing technology in schools;
(c) Theft of solar panels that are used for providing power to schools;
(d) Theft of door and window frames to be sold as scrap metal;
(e) Vandalism and theft of electrical components to be sold or used by the locals;
(f) Theft of school furniture to be used by the locals;
(g) Break-ins and theft of food that is meant for the National School Nutrition Programme;
(h) Vandalism of the facilities for fun and for the sake of it;
(i) Fashionable new wave of intentional burning of schools by the general members of public and by the learners. Following this unfortunate trend, the question on justice that has been posed is: if, while there are a number of schools that need urgent attention (affected by natural disasters, built of

inappropriate materials, not having sufficient basic services, overcrowded therefore in need of additional classrooms), to what extent should such schools be prioritised?

These incidents imply that the education sector has to spend more time and the limited financial resources re-instating what it had provided before at the expense of other needy schools thus negating access to quality education facilities by the learners. In the end progress made by the sector towards ensuring that all its education facilities meet the requirements of the current Norms and Standards is compromised.

3.4 Proposed Measures to Abate School-based Crime

In order to address the safety and security problems in schools, some of the recommendations that have been advanced by some authors (Xaba, 2006; Masitsa, 2011; SAHRC, 2012; CJCP, 2013; Hanover Research, 2013; DBE, 2016) include the following:

(a) Create safe physical spaces in schools;
(b) Provide proper fencing around the school yard;
(c) Provide alarm systems and burglar proofing;
(d) Secure the playgrounds;
(e) Demarcate the school area as out of bound to strangers;
(f) Control access to the school during and after school hours;
(g) Carefully utilise screening and security measures;
(h) Transform unattractive learning environments;
(i) Improve general upkeep of school buildings; (Users tend to treat well-maintained buildings and grounds with great respect – Hanover Research, 2013);
(j) Ensure well-maintained school grounds;
(k) School buildings must be in a good state of repair;
(l) Create safe vehicular routes and parking areas, locating parking areas so that they are visible;
(m) Provide adequate and effective exterior lighting;
(n) Eliminate blind spots provided by doorways, fences, buildings and landscaping;
(o) Reduce overcrowding;
(p) Encourage learners to take responsibility for their part in maintaining school safety; and
(q) Inculcate discipline, good governance and superior management practices.

By far, fencing presents the best and the most widely used physical security barrier and acts as a deterrent in schools. However, Hanover Research (2013) correctly cautions that "properly selected fencing presents several safety advantages" and that "poorly chosen fencing may reduce or negate any intended security benefits."

3.5 Obligations for Providing a Safe and Secure School Environment

According to Masitsa (2011) when the child (learner) enters the school, the duty of care of the parent or guardian is delegated to the school and to the educator. Thus, educators have a legal duty of ensuring the safety of learners at school. In other words, all the provisions and rights that the learners have, as stated under Section 2 above, ought to be ensured by the school concerned and by the DBE. The DBE (2016) has affirmed that it *"takes school safety very seriously and, as an apex priority, the Department has put in place various policies and measures to ensure the safety of all the learners, educators and the relevant stakeholders in schools."*

Following the serious problems associated with safety and security in schools, the concerns raised from various quarters and the undertakings made by the DBE in this regard, the questions are: given what is observed, what safety and security measures must be catered for at all times when providing school infrastructure and in what way could the school infrastructure be provided in such a way that it complements other efforts that are intended to alleviate safety and security problems in schools?

As a response to this question, the DBE has developed the School Infrastructure Safety & Security Guidelines (SISSG) so that the necessary provisions are made to ensure that safety and security measures are provided, observed, maintained and adhered to at all times when education infrastructure is provided.

4 OBJECTIVES OF THE INFRASTRUCTURE SAFETY & SECURITY GUIDELINES

The primary objective of this document is to provide guidelines that must be adhered to and physical measures that must be provided when implementing physical infrastructure to new schools and when upgrades and additions are considered so that safety and security of learners, educators and other stakeholders in schools could be ensured.

The School Infrastructure Safety & Security Guidelines are intended to provide:

(a) Clarity on how the education infrastructure should be carefully planned and designed to address the safety and security concerns in schools;

(b) Clarity on the minimum safety and security measures that have to be considered at all the public schools when providing school infrastructure; and

(c) A uniform and consistent response by the education sector, planners and designers on issues that threaten the safety and security of the learners and educators in schools with respect to provision of infrastructure measures.

5 APPLICABLE LEGISLATION

These Guidelines must be read together with and interpreted in the context of the following pieces of legislation:

(a) Constitution of the Republic of South Africa (No. 108 of 1996);
(b) National Education Policy Act (No. 27 of 1996), as amended;
(c) South African Schools Act (No. 84 of 1996), as amended;
(d) Minimum Uniform Norms and Standards for Public School Infrastructure (Nov 2013);
(e) Occupational Health and Safety Amendment Act (No. 181 of 1993);
(f) Regulations for Safety Measures at Public Schools (Reg. No. 1128 of 10 Nov 2006);
(g) National School Safety Framework (2015);
(h) South African National Standards (SANS 10 400, SANS 1263-I); and
(i) Spatial Planning and Land Use Management Act (No. 16 of 2013).

6 STATUS OF THE INFRASTRUCTURE SAFETY & SECURITY GUIDELINES

(a) The School Infrastructure Safety & Security Guidelines (SISSG) have been developed in terms of Section 5A of the SASA and in terms of Chapter 6 of the NSSF.

(b) The SISSG has to be referred to and its provisions have to be considered at all times during the planning processes and when providing education infrastructure.

(c) The SISSG complements the Norms and Standards for School Infrastructure.

7 APPLICABILITY OF THE GUIDELINES

The provisions of the SISSG are applicable:

(a) To education facilities when they are:
  (i) Provided as totally new facilities; or
  (ii) Built anew as replacement facilities.

(b) Where practicable possible, when the existing education facilities are being upgraded or refurbished;
(c) Could be extended to other education facilities such as learner hostels, district and circuit offices per (a) and (b) above, where deemed appropriate;
(d) Privately owned facilities that are used by the sector for education purposes where school-based crime has been experienced, having an agreement been reached with the facility owner;

(e) When private donors are making contributions to new or existing schools as part of the safety and security measures covered in these Guidelines;
(f) The National Department of Basic Education and all the Provincial Education Departments (PEDs); and
(g) All the Implementing Agents, Project/Programme Managers, Professional Service Providers and Contractors (Managing contractors, Principal contractors and sub-contractors) when implementing education infrastructure projects on behalf of the DBE and/or the PEDs.

8 THE SCHOOL INFRASTRUCTURE SAFETY & SECURITY GUIDELINES

The details and the applicable specifications of the SISSG are presented in the sub-sections below and must be considered at all times when providing basic education infrastructure.

8.1 The General Provisions

(a) These Guidelines are not intended to be a panacea to all the problems associated with safety and security in schools but complement other efforts that are aimed addressing social behaviours and at improving social cohesion. It goes without saying that infrastructural interventions will go a long way in addressing some of the safety and security threats;
(b) The primary objective of these Guidelines is to ensure that safety and security measures are thought of extensively, deliberated on, planned for, and considered for incorporation in all the designs when providing the education facilities;
(c) These Guidelines are aimed at ensuring that safety and security measures that are provided are effective, responsive to the issues on the ground and fit for purpose but without incurring excessive costs;
(d) The main focus must be on the safety and security of learners, educators, the administration staff and the general workers in schools;
(e) It is more cost effective to include security measures upfront than to retrofit later when the inevitable has occurred. Also, it is more cost effective to prevent illegal ingress than it is to repair the aftermath of vandalism - following the old adage that 'prevention is better than cure';
(f) Different levels and degree of crime are experienced in different parts of the country and in specific areas and if not effectively controlled mutate over time to more serious crimes, therefore time dimension of the proposed measures has to be considered;
(g) While the Risk Management Processes are useful in assessing the probability of occurrence of certain events and the severity of the impact in case of the said events materialising, due consideration must be given to fact that the conditions are not static and therefore the exposure conditions change over time thus giving rise to different risk profiles;

(h) Some urban and suburban schools are located in affluent areas that have initiatives such as Neighbourhood Watch, Controlled Community Boom Gates, and Area-wide Surveillance Cameras. While these measures are useful, they should not be regarded as the only intervention and solely relied upon because the schools, the PEDs and the Department do not have any control over them;

(i) Where schools have been closed down because of very small learner enrolment figures, such school facilities must not be left unutilised but must be transferred / donated to the deserving beneficiary (e.g. other government departments, local municipality, or nearby communities) for their use, having due processes been followed. If there is no use for such facilities and the buildings are dilapidated, they must be demolished; and

(j) Where the school has been provided with new buildings to replace those that were considered as being unsafe and not fit for use, such structures must be demolished by the appointed contractor as the part of the school upgrading project.

8.2 The Location of the School Facilities

(a) The school facilities shall not be located in isolated areas in the middle of no-where but must be part of existing catchment areas (a village, township, suburb or town).

(b) Where the proposed new school is aimed at serving two or more catchment areas, it should be located as part of the catchment area that has the highest number of learners, having taken into consideration other factors such as the local socio-economic development plans, local population growth rate, man-made and topographical constraints, road conditions, and the availability of municipal services.

(c) Where possible, school facilities should not be located where the existing nearby land-uses in the vicinity of the area earmarked for building a school are in conflict with education related activities;

(d) Land-uses that are in conflict with the school activities should not be allowed to be developed in the vicinity of existing school facilities.

(e) Where possible the schools must be located in the proximity of other social services such as Clinics, Police Stations and Public Libraries.

(f) Through interaction with the Department of Co-operative Governance and Traditional Affairs (CoGTA), the DBE should facilitate the process of ensuring that the Local and/or Municipal By-laws prohibit the restricted land-uses / developments in the vicinity of schools.

8.3 Design Considerations, Layout of School Facilities and Special Provisions

8.3.1 General considerations for the entire school

The following provisions must be considered when planning and designing the general layout of a new or replacement school facility:

(a) Safety and security considerations must be **incorporated at all times in all the designs for education facilities**, including the choice of building technologies, choice of building materials and layout of the buildings to yield an optimum solution towards the intended objective.

(b) The designers of schools must focus on interventions that are conducive to creating a safe, secure, humane and enjoyable environment for teaching and learning and that promote social cohesion.

(c) In considering these provisions, other design factors have to be accommodated on an equal scale, and these include Inclusivity Provisions (access by learners and educators with disabilities), Acoustics, and Energy Efficient design considerations.

(d) All the school buildings for new and replacement facilities should, where possible, be located more than **15m from the fence-line** to provide sufficient buffer to prevent projectiles such as petrol bombs and stones thrown at windows, and for providing a noise buffer from the adjoining properties thereby responding to acoustic considerations. This requirement shall:
   (i) Exclude the Gatehouse;
   (ii) Be relaxed in instances where the readily available site earmarked for a new school is relatively small and cannot be extended; and
   (iii) Be relaxed where the fence-line in an existing education facility cannot be moved outwards.

(e) The school buildings, landscaping, shrubs, garden features, sculptures, solid walls, large signage, parking areas for vehicles must be arranged in such a way that they do not obstruct the **line of sight for natural surveillance** by the Administration Staff and other personnel both

on the school premises (e.g. Gate Controller, staff patrol, grounds people) and by the nearby members of community.

(f) While landscaping is encouraged, there is a need to ensure **visually clear zones** between the street, the adjoining property and the perimeter fence and between the fence and the facility to increase the visibility of any attempts for breaching the perimeter fence.

(g) Where **landscaping** is considered:
- (i) The trees should not be closely spaced to inhibit clear visibility of the activities inside and outside the school property;
- (ii) Any tree in the vicinity of the fence line should be such that it cannot be used to gain access into or out of the school over the perimeter fence and shall be cut back where this is likely to occur;
- (iii) Trees should not have foliage lower than 1500mm above the natural ground level;
- (iv) Hedge should not be provided along the fence-line; and
- (v) Plants used as ground-covers should not be more than 400mm high above the natural ground level.

(h) The **main entrance** to the school should directly channel facility users and visitors into the Admin Offices to control the movement and unauthorised access to other parts of the school.

(i) Where the local community is allowed to use the **Multi-purpose Hall**, e.g. for their meetings, weddings and funerals, it should be located as close as possible to the main entrance, adjacent to the Admin Block and should be closed off from the rest of the school buildings through the provision of security barriers.

(j) Best endeavours should be made during the planning and design stages to ensure that the **Admin Block** has an optimum panoramic view of the entire school and, where possible, should have a **direct line of sight** to the following areas:
- (i) Main access points (entry and exit) into the school;
- (ii) Ablution facilities;
- (iii) Courtyard;
- (iv) Playgrounds;
- (v) Classrooms; and
- (vi) Staff parking.

(k) **Staff Vehicle Parking Areas** must be:
- (i) Located as close as possible to the Admin Block;
- (ii) Fully visible from the Admin Block; and
- (iii) Fully lit.

(l) The **Drop off and Pick-up Zones** for learners must be:
- (i) Fully visible from the Admin Block and from the Guardhouse; and
- (ii) Fully lit.

(m) **General Security Illumination** of the school precinct must be provided to schools that are in high risk areas especially township, urban and suburban schools, but not limited to. This is to increase the natural surveillance at night and to deter any potential unwanted activities that might be encouraged by the darkness.

8.3.2 General considerations for Grade R Precinct

(a) The **Grade R Precinct** must, where possible, not be located behind other school buildings but must be located in such a way that it is generally visible from the rest of the school, especially the Admin Block.

(b) It must be demarcated and fenced off from the rest of the school with a "Class C" Fence that meets the specifications presented in **Table 1** below:

Table 1: *Minimum specifications for the "Class C" Fence to be used as an internal fence for the Grade R Precinct.*

Item No.	Item	Specifications/Requirements
1	General	1.1 Mild steel material to be used for fencing; 1.2 Generally, all the materials to be used for fencing shall be cut to size and fabricated off site to prohibit any cutting and welding taking place on site; 1.3 Barbed wire and treated timber posts should not be used as fencing material on the Grade R Precinct; 1.4 All the fencing material must be secured safely with no wire-ends sticking out; 1.5 All the fencing material, especially the posts, must be non-toxic and not arouse allergies; 1.6 Diamond mesh or chain-link mesh shall not be used for safety purposes and as they are easy to be climbed on; 1.7 South African products should be used for all the fencing materials to promote the local market;
2	Fence Height	2.1 The height of the fence shall be 1.50m above finished natural ground level; (**NB:** The 1.50m refers only to internal part of the fence and not the outer perimeter fence when this forms part of the Grade R Precinct.)
3	Posts	3.1 Mild steel posts to be used; 3.2 Panel posts must have a flush panel post finish with no climbing aid from the inside of the fence or to be placed on the outside of the fence - to prevent the Grade R learners from climbing up the fence; 3.3 All the posts must be provided with high quality, durable, corrosion resistant, moisture proof end-caps and 200 x 200 x 2mm baseplates to prevent corrosion; 3.4 All posts in the coastal areas to be hot-dip galvanised then Fusion-bond epoxy powder coated (or similar) for corrosion protection and to reduce maintenance costs and to prevent them from being stolen and sold as scrap metal and only fusion-bond epoxy powder coated (or similar) in inland areas where corrosion is not a major problem;
4	Foundations	4.1 Foundations for the posts shall be 400mm x 400mm in cross-section and 600mm deep; 4.2 A 15 MPa/19mm 28 day strength concrete to be used;
5	Mesh Panels	5.1 1.50m high welded mild steel mesh wrap (**NB:** The 1.50m refers only to internal part of the fence and not the outer perimeter fence when this forms part of the Grade R Precinct.); 5.2 The mesh panels must not be capable of being climbed on by the Grade R learners; 5.3 Panel aperture size (centre to centre) shall be 50mm (vertical distance between the wire strands) x 25mm (horizontal distance between the wire strands); 5.4 The diameter of the wire strands, both vertical and horizontal, shall be 3mm; 5.5 The mesh panels and all its fixtures shall be hot-dip galvanised then Fusion-bond epoxy powder coated (or similar) for schools in coastal areas and only Fusion-bond epoxy powder coated (or similar) in inland areas where corrosion is not a major problem.

6	Anti-burrow/ Anti-dig	6.1 None, unless it is part of the outer perimeter fence for the entire school.
7	Over-climb prevention	7.1 None, unless it is part of the outer perimeter fence for the entire school.
8	Gate	8.1 Mild steel to be used; 8.2 Must be provided with a locking mechanism; 8.3 Must be incapable of being lifted off from the hinges to gain exit or entrance into the Grade R Precinct; 8.4 All the materials for the gate shall be hot-dip galvanised then Fusion-bond epoxy powder coated (or similar) for schools in coastal areas and only Fusion-bond epoxy powder coated (or similar) in inland areas where corrosion is not a problem;
9	Corrosion Protection and Rust Control	9.1 Hot-dip galvanizing and Fusion-bond epoxy powder coating (or similar) for schools in coastal areas and only Fusion-bond epoxy powder coated (or similar) in inland areas where corrosion is not a major problem; 9.2 Provision of end-caps and baseplates on all posts;

(c) The **playgrounds for the Grade R Learners** must be:
- (i) Fenced off and separated from the rest of the school – as part of the fencing for the Grade R Precinct;
- (ii) Located in front of the Grade R Classrooms;
- (iii) Fully visible from the Grade R Teacher's sitting position; and
- (iv) Must also be visible from the rest of the school.

(d) Where **ablution facilities for Grade R Learners** are provided outside the Grade R Classrooms (e.g. the Ventilated Improved Pit Latrines – VIP system where no water-borne sewerage system is available) they must be:
- (i) Located in such a way that, where possible, they are fully visible to the Grade R Teacher (when seated or carrying out classroom activities); and
- (ii) Not be located behind any school buildings (Grade R's or others).

8.4 Safety and Security Requirements for Specific Items

(a) All the schools, per Sub-sections 7(a) and (b), should be provided with a **high security defence rated perimeter fence** (i.e. "Class A" High Security Perimeter Fencing) around the school buildings and such a fence must comply with the specifications set out in **Table 2** below:

Table 2: *Specifications for a "Class A" High Security Perimeter Fence to be provided around the school.*

Item No.	Item	Specifications/Requirements
1	General	1.1 The fence must be incapable of being vandalised and must have anti-cut, anti-climb, and anti-burrow provisions; 1.2 The fence must be sturdy and firm structurally; 1.3 The fence must be resistant to weather attacks and climate conditions (e.g. corrosion); 1.4 All the steel materials shall be of good commercial quality; 1.5 All the fixtures and connections must be on the inside of the fence and therefore must not be accessible from the outside; 1.6 All the materials for the fence must be cut to size and prefabricated off site to prohibit any cutting and welding taking place on site; 1.7 All the fences must be specified with a coloured protective coating that is not commonly found in the vicinity of the school and must not be a natural zinc finish because this is a common finish/colour of a fence and therefore makes it easier to steal for re-use or for selling. The chosen colour must blend in with the aesthetics of the school but must also be capable of being mass produced to reduce production costs. This is to deter the criminals from stealing and re-using the fence panels elsewhere or from selling them for scrap metal; 1.8 All the fencing material shall be supplied and installed by the same supplier but without negating potential sub-contracting arrangements. The main supplier shall remain solely accountable for all the guarantees/warranties for prefabricating, delivering and installing the fence material, therefore no third party arrangements shall be considered in this regard; 1.9 Barbed wire strands and woven diamond-mesh or chain-link mesh shall not to be used anywhere around the school as a security measure because these types of meshes are easily vandalised and are not regarded as security measures; 1.10 Timber posts, either treated or otherwise, shall not be used anywhere around the school as fencing material as these are susceptible to fire, vandalism and for occupational health and safety considerations; 1.11 Metal palisade fencing is prone to vandalism, theft for selling as scrap metal, is susceptible to rust thus increasing maintenance costs, has wide apertures therefore easy to pass unwanted and stolen materials through therefore it should be avoided as a fencing material in schools;

		1.12 Concrete panel fencing and palisade precast concrete fencing material is prone to vandalism and spalling, therefore it should be avoided as a fencing material in schools; 1.13 Solid walls should not be used as they block natural surveillance, create hiding places, attract graffiti and harm the image of a well-maintained school and invite other acts of vandalism. This requirement excludes solid walls that are used as entrance gate features. Where such features are used they shall not exceed 3.50m in continuous lengths and, as a minimum, they shall be of the same height as the perimeter fence. Breeze Blocks and similar decorative blocks should not be used as part of the perimeter security barrier as they are prone to vandalism; 1.14 South African products should be used for all the fencing materials to promote the local market.
2	Fence Height	2.1 The minimum height of the perimeter fence shall be 1.80m above the finished natural ground level. 2.2 An extensive risk assessment of the area in which the school is located and of the school must be conducted to ascertain if a higher fence (2.10m or 2.40m) is not required, which shall be to a maximum height of 2.40m above finished natural ground level. Such Risk Assessment must take into consideration the crime trends in the area and potential future developments in the school and the potential developments in the vicinity of the school. *(**NB**: The security fence is intended to deter and provide physical barrier to potential intruders, vandals or burglars. It must not be easy to breach it and must be of such a height that it is not easy to jump over. Also it must not be easy to pass materials (tools and stolen goods) over the fence. The vertical grip reach (VGR) of a potential intruder must be taken into consideration.)*
3	Posts	3.1 High tensile steel posts to be used; 3.2 Posts shall be 2.4m long or 3.0m long per item 2.2 above; 3.3 The posts to be hot-dip galvanised in continuous lengths (no joints) in accordance with ISO 1461, i.e. where galvanising is required; 3.4 The distance between the posts must be such that the mesh panels fit tightly against them and to provide the required structural stability and sturdiness; 3.5 Posts shall not be less than 50mm in cross-section and must not be capable of being bent by human force or easily bent when accidentally hit by a vehicle; 3.6 Posts must have a locking mechanism to enable the mesh panels to be fully secured against them and locked in place along the entire length; 3.7 Posts shall be hot-dip galvanised then Fusion-bond epoxy powder coated (or similar) for schools in coastal areas and only fusion-bond epoxy powder coated in inland areas where corrosion is not a major problem; 3.8 Panel posts must have a flush panel post finish with no climbing aid from both from the inside and the outside of the fence; 3.9 All the posts must be provided with high quality, durable, corrosion resistant, and ultraviolent (UV) stabilised moisture proof end-caps and 200x200x2mm baseplates.
4	Foundations	4.1 Foundations for the posts shall be 400mm x 400mm in cross-section and 600mm deep; 4.2 A 15 MPa/19mm 28 day strength concrete to be used. (Ground conditions must be assessed to ascertain if concrete of a higher strength should not

		be provided, e.g. where there is deleterious environment or seepage.)
5	Mesh Panels	5.1 Mesh panels shall be welded high tensile steel mesh wrap; 5.2 Mesh panels shall be 1.80m high above the finished ground level where the ground is relatively flat or above the top side of the concrete sill where it is used as an anti-burrow provision; 5.3 The height of the mesh panels should be increased to the required height of the fence as might be determined by the outcomes of the risk assessment process referred to in item 2.2 above; 5.4 The width of the mesh panels must meet the manufacturer's design specifications to enable a structurally stable fence, but shall not be more than 3.50m wide; 5.5 Where the site is sloping the fence shall be stepped to follow the ground profile. Where this occurs the steps shall cover the full width of the mesh panel; 5.6 The diameter of the wire strands, both horizontal and vertical, shall be 4mm; 5.7 The panel aperture size (centre to centre) shall be 76.2mm horizontal x 12.7mm vertical; 5.8 The panel shall be reinforced with 4 x 50mm deep "V" formation horizontal recessed bands to enhance rigidity; 5.9 Anti-scale clamps must be provided against the post where there is a "V" formation on the mesh panel; 5.10 Mesh panels shall have a 1 x 90^0 flange along the top and 1 x 30^0 flange along the bottom edge (integrated rigid angle); 5.11 All the mesh panels must be secured along the entire length of the posts with a locking mechanism and using anti-vandal bolts that cannot be tampered with or manoeuvred with ordinary tools; 5.12 All the mesh panel fixtures shall be on the inside of the fence and not accessible from the outside; 5.13 The mesh panel and all the mesh panel fixtures shall be hot-dip galvanised then Fusion-bond epoxy powder coated (or similar) for schools in coastal areas and only fusion-bonded powder coated (or similar) in inland areas where corrosion is not a major problem.
6	Anti-burrow / Anti-dig	6.1 A mesh panel to the same specifications as the mesh panel above the ground shall be secured along the lower edge integrated angle along the full width of the fence between the posts; 6.2 The anti-dig mesh panel shall at least be 400mm deep below the finished natural ground level; 6.3 The anti-dig mesh panel shall be secured firmly to the mesh panel above the ground with anti-vandal bolts on the inside and against the concrete foundations for the posts; 6.4 Anti-dig mesh panel must be hot-dip galvanised and bitumen-dip coated; 6.5 Where the site is rocky or the terrain is sloping, a 20MPa reinforced concrete sill should be used as an anti-burrow provision instead of a mesh panel. Such concrete sill shall at least be 200mm wide; 6.6 4 x Y12 steel bars top and bottom, with R8 stirrup @ 500mm c/c to be used as reinforcement; 6.7 The concrete to have Class F1 steel shutter finish; 6.8 The concrete sill or beam shall have a 25 x 25 mm chamfer along the edges above ground; 6.9 Where the site is not rocky but only sloping a stepped reinforced concrete sill shall be used and shall extend to at least 200mm below the ground level and shall be horizontal above the ground.

7	Over-climb prevention	7.1 100mm high toughened steel Castle Spikes or Spear Spikes to be affixed on top of the mesh panels along the entire length of the fence and above the gates; 7.2 To be secured tightly with anti-vandal bolts from the inside of the fence; 7.3 Spikes shall be hot-dip galvanised then Fusion-bond epoxy powder coated (or similar) for schools in coastal areas and only fusion-bond epoxy powder coated (or similar) in inland areas where corrosion is not a major problem.
8	Gates	8.1 The quality and specifications of both the pedestrian and the vehicular gates shall be the same as that of the fence with a robust frame all around; 8.2 Welded high tensile steel sections must be used for the gate, with anti-cut and anti-climb provisions; 8.3 The height of the gates shall be the same as that of the fence; 8.4 Gates must be manufactured, supplied and installed by the same supplier that supplied and installed the fence and be covered under the same fence guarantee/warranty; 8.5 All connections and joints shall be welded to form rigid frames; 8.6 All the material or components of the gate shall be cut to size, welded hot-dip galvanized and powder coated off site in a controlled environment thus prohibiting any cutting and welding on site; 8.7 For swing gates, hinges shall not twist and turn under the action of the gate and shall be arranged in such a way that a closed gate cannot be lifted off the hinges to dislodge it to obtain entry; 8.8 The hinges must be designed in such a way that the gap between the gate and the supporting posts is not more than 12.7mm; 8.9 For sliding gates, brackets must be provided to ensure that the gate cannot be lifted off the tracks and dislodged to obtain entry; 8.10 All the materials for the gates shall be hot-dip galvanised then Fusion-bond epoxy powder coated (or similar) for schools in coastal areas and only fusion-bond epoxy powder coated (or similar) in inland areas where corrosion is not a problem; 8.11 A 20MPa reinforced concrete slab that extends to at least 1.0m on both sides of the gate must be provided between the gate posts to act as an anti-burrow provision and for installation of tracks where sliding gates are used. This also takes into consideration the relatively high degree of erosion that is experienced in this area due to concentrated vehicle loads.
9	Corrosion Protection and Rust Control	9.1 Posts, mesh panels for the fence and gate material shall be hot-dip galvanised and then Fusion-bond epoxy powder coated (or similar) for schools in coastal areas and only fusion-bond epoxy powder coated (or similar) for schools in inland areas where corrosion is not a problem; 9.2 The anti-burrow mesh shall be hot-dip galvanised and then bitumen-dip coated.
10	Aesthetics	10.1 The fence must be aesthetically pleasing and must blend in with the theme of the school's architectural design; 10.2 Must be designed and coloured in such a way that it does not create a "prison-like" appearance or environment; 10.3 Must provide a decent and a "clean" finish.
11	Maintenance	11.1 The fence must be durable and generally maintenance-free; 11.2 The supplier responsible for providing and installing the fence shall be responsible for carrying out regular planned and unplanned maintenance activities when required during the tenure of the fence guarantee/warranty;

		11.3 Any fence material or section of the fence that needs to be replaced due to natural wear and tear during the tenure of the guarantee shall be replaced by the same supplier that installed the fence and gate at a fair cost that shall be determined from time to time. If this occurs after the tenure of the original guarantee/warranty has expired, then services of any other reputable service provider could be utilised and shall be required to issue the guarantee for the work done; 11.4 Any fence material that needs to be replaced due to corrosion and/or that has been vandalised with ease using ordinary tools is to be replaced by the supplier that provided and installed the fence and gates at its own costs.
12	Guarantees / Warranties	12.1 Ten (10) year anti-corrosion guarantee on all the fence and gate materials; 12.2 Three (3) year anti-vandalism guarantee on all the fence and gate materials (Materials that are guaranteed to be vandal-proof must not be capable of being vandalised successfully with ease using ordinary tools during the tenure of the guarantee).
13	Required Documents	13.1 Required guarantees/warranties; 13.2 Maintenance Plan; 13.3 Certificate of Compliance for materials and coating; 13.4 Shop drawings for the gates; 13.5 Quality Control Programme; 13.6 Environmental Method Statement; and 13.7 Any other required documents per the Tender Specifications.

(b) Where the vegetable garden and/or sport fields are detached from the school buildings and where it would be more cost effective and not compromising safety and security measures, "Class B" Security Fence could be provided around such areas. Where this occurs, provisions shall be made to ensure that "Class A" Security Fence is provided all around the school buildings.

(c) **Specifications for "Class B" Security Fence** shall be the same as for "Class A" High Security Fence except that:

(i) The fence height shall be 1.80m above the finished ground level;

(ii) No provisions shall be made for:

(1) Anti-burrow, and

(2) Over-climb prevention.

(d) All the schools must be provided with:

(i) **One vehicular gate and at least one pedestrian gate** to gain access into and out of the school. These access points must be controlled at all times and they do not have to be next to each other nor do they have to be on the same side of the fence-line;

(ii) Gates that are lockable and that meet the specifications stated in Table 2 above; and

(iii) A lockable vehicular gate where a "Class B" Security Fence is provided around the sport and recreational facilities.

(e) To control entry and exit into the school:

(i) A secure and properly built **Gatehouse** must be provided to all the schools, besides micro schools. A Gate Controller should be provided to control the entry and exist into the school;

(ii) Where a Gate Controller will not be provided, either a remotely controlled locking system or a manual locking system must be provided to ensure that all the gates are locked at all times during the schools hours.

(f) A need for providing **Lockable Lockers** must be assessed by the designers together with the school management based on the risk being managed and the need being addressed. The primary purpose of providing the lockers would be for keeping safe and for preventing the theft of the electronic gadgets, learning and teaching support material (LTSM), and other learner belongings. Where these are considered:

(i) They shall at least be provided for secondary school learners;

(ii) Sufficient space must be provided along the corridors and/or verandas to accommodate the lockers, thus ensuring that sufficient passage space is available;

(iii) Measures and a programme for pest control and other associated potential risks must be provided;

(iv) The lockable lockers must be anti-vandal and tamper-proof;

(v) The lockers must be grouped and placed in logical locations around the school to prevent overcrowding if all centrally located;

(vi) The locker areas shall have CCTV surveillance cameras overlooking them, as specified under Section 8.4(l) below;

(vii) The specifications for the lockable lockers are presented in **Table 3A** below:

Table 3A: *Specifications for Lockable Lockers.*

1	Locker Type and Size	1.1 3-Tier Quiet Lockers; 1.2 1800mm H x 300mm W x 450mm D;
2	Material	2.1 Cold-rolled steel, free from surface imperfections; 2.2 Galvanised steel to be used in areas where the corrosion is a problem;

3 General Construction	3.1 Fully-framed, all-welded; 3.2 All lockers shall be pre-assembled with all seams and joints welded for rigidity and durability; 3.3 Assembly of locker bodies by means of bolts, screws or rivets should not be permitted; 3.4 The lockers must be placed on solid elevated platforms that are 200mm high and made of brick and mortar. This is to prevent objects from falling and rolling under the lockers, hiding place for unwanted materials and to enable ease of cleaning the locker area;
4 Body	4.1 1.2mm thick steel, flanged to give double thickness of metal at back vertical corners; 4.2 1.0mm thick steel at the back;
5 Door Frame	5.1 1.2mm thick formed steel channels; 5.2 The door frame must be rigid enough to prevent it from twisting and becoming out of shape;
6 Door	6.1 1.6mm thick steel shall be used; 6.2 Must be rigid enough to prevent twisting; 6.3 Must fit tightly into the door frame to prevent it from being bent or vandalised; 6.4 Some form of ventilation of no more than 12.7mm opening shall be provided and shall not be capable of being used to pull the door open; 6.5 Doors must have replaceable rubber bumpers to cushion door closing thus minimising metal on metal noise; 6.6 A locking system must be provided on each door to suit the type of locking system preferred by the school; 6.7 All the hinges must be placed on the right hand side of the doors; 6.8 The hinges must be such that the door cannot be dislodged;
7 Standard Finish	7.1 Exposed steel parts shall be electrostatically spayed with powder coat to ensure their longevity; 7.2 Colour of the lockers must blend with the aesthetic finish of the school; 7.3 Smooth finishes must be obtained on all exposed surfaces, both inside and outside the locker;
8 Anchoring	8.1 To prevent theft, vandalism and tipping over, the lockers must be placed against each other and must be anchored securely to the floor and to the wall with vandal-proof bolts;
9 Warranty/ Guarantee	9.1 Three-year warranty/guarantee against defective materials and poor workmanship;

(g) Safe and sufficient **cubby storage space** must be provided for all the Grades R, 1, 2 and 3 learners for storing their bags and other belongings. Such cubby storage spaces shall be:

(i) Provided inside the classrooms for these learners;

(ii) The specifications of the cubby storage units are presented in **Table 3B** below:

Table 3B: *Specifications for cubby storage units for Grades 1 to 3 learners.*

1	Dimensions	1.1 Each cubby should be 350mm H x 300mm W x 450mm D; 1.2 Shall not be stacked to more than 2 tiers for Grades R and 1 learners and 3 tiers for Grades 2 and 3 learners;
2	Material and Assemble	2.1 Minimum of 15mm thick solid timber all around; 2.2 Joined with sturdy wood screws and dowels; 2.3 Wood screws to flush with the wood-work; 2.4 Provided with name plates;
3	Finish	3.1 Rounded, smooth sanded corners and edges; 3.2 UV protective finish to prevent scratches and stains;
4	Anchoring	4.1 To be anchored securely against the wall or the floor to prevent them from tipping over.

(h) Where multi-storey buildings are provided, **balconies, verandas and stair cases** should:

(i) Not be provided with solid brick parapet/balustrade walls but must be provided with see-through balustrades to enable full view of all the activities and movements along them as shown in **Figure 1** below;

(ii) Where over-climb, over-jump, and over-throwing of projectiles is a potential risk or a general problem, considerations must be made to increase the height of the balustrades to a maximum of 1.50m;

Figure 1: *Typical stairs cases and veranda with see-through balustrades (Curtesy of OECD, 2012).*

(i) **Window panes** are susceptible to vandalism and breakages therefore:
  (i) Safety glazing must be provided on all the windows per the requirements of SANS 10400-N and SANS 1263-I;
  (ii) Their resilience to vandalism could be enhanced by applying 'Anti-smash and Grab' film on the window panes;
  (iii) Considerations should be made on the most cost effective and aesthetically pleasing solution between the application of the film in item (ii) above and the provision of the burglar proof bars per Section 8.4(j) below, and the most optimum solution should then be pursued.

(j) **Burglar proof bars:**
  (i) Must be provided across all the windows on the functional spaces reflected in **Table 5** under Section 8.6 below;
  (ii) The burglar proof bars shall be made of high tensile steel either of:
    (1) Round bars with a minimum diameter of 10mm;
    (2) Square tubing with minimum dimensions of 10 x 10mm; or
    (3) Flat bar with minimum dimensions of 5 x 20mm.
  (iii) Must be designed in such a way that the windows could be opened with ease to allow natural cross ventilation;
  (iv) Must be such that they cannot be pulled out, tampered with or manoeuvred with ordinary tools such as crow bars by securing them firmly:
    (1) Against the wall;
    (2) Onto the window frames by a weld; or
    (3) Onto the window frames with one-way anti-vandal screws;
  (v) Must be covered under a guarantee/warranty by the Service Provider who supplied and installed them;
  (vi) Protected against rust and corrosion by hot-dip galvanising them in areas that are prone to corrosion especially coastal areas.

(k) **Burglar proof/security gates** must:
  (i) Be provided across all the doors specified in Table 5 under Section 8.6 below;
  (ii) Be made of welded high tensile steel sections with:
    (1) A rigid frame all around, made of a square tubing with minimum dimensions of 25 x 25mm;
    (2) At least two horizontal braces of the same dimensions as the frame should be provided in the middle of the security gate to secure the lock-box and to strengthen the gate; and
    (3) The inner sections with a minimum diameter of 12mm round or a 12x12mm square tubing.
  (iii) Smooth finishes must be obtained on all the exposed surfaces;
  (iv) Be lockable therefore should have a lock-box to accommodate a locking mechanism;

(v) Be secured firmly against the wall with anti-vandal bolts and in such a way that they cannot be pulled out, tampered with or manoeuvred with ordinary tools such as crow bars;

(vi) Be provided with frame such that the gates cannot be lifted off from the hinges to dislodge them thus gaining access;

(vii) Preferably, they must be provided and fitted by the same supplier that provided the burglar bars across windows to enable uniformity and so that they could be covered under the same guarantee/warranty as the window burglar bars;

(viii) Be protected against rust and corrosion by hot-dip galvanising then Fusion-bond epoxy powder coated (or similar) for schools in coastal areas and only fusion-bond epoxy powder coated (or similar) in inland areas where corrosion is not a problem.

(l) **CCTV Surveillance cameras** should:

(i) Be considered for installation in all the schools, per Section 7(a) and (b), where the risk rating, per Section 8.4(a)2.2, is deemed to be high and necessitating such;

(ii) Be installed in the Reception Area, outside the Admin Area, Corridors/passages leading to staff offices, in the Locker Areas and in all the functional spaces as indicated in Table 5 under Section 8.6 below;

(iii) Be provided out-doors as well to overlook the main entrance, the playgrounds, courtyards and toilet block entrances;

(iv) As a minimum, meet the specifications for the surveillance cameras as reflected in **Table 4** below:

Table 4: *Specifications for Surveillance Cameras to be considered for installation in schools.*

The Surveillance cameras shall be:
(1) Protected with a tamper-proof and anti-vandal glass and secured so that they cannot be tampered with;
(2) Secured in place with vandal-proof screws;
(3) Provided with a tampering alarm that must go off when the connection has been broken or cut off, or if the camera is broken or malfunctioning;
(4) Equipped with both the visual and audio capabilities when they are installed indoors;

(5) Provide full coverage of the areas they are intended to monitor with no blind spots;
(6) Capable of providing clear pictures over the area of coverage of up to 10m;
(7) Activated through motion sensors;
(8) Capable of functioning fully even when it is dark;
(9) Capable of functioning properly even when it is flooded with bright light;
(10) Water-proof in case of roof leakage or intentional flooding with water;
(11) Provided with a server that is capable of:
  (a) storing information over a two-(2) week period;
  (b) backing up information at the end of each day;
(12) Provided with a vandal-proof, secure and lockable cabinet for storing the server if the server is not kept in the Strong Room;
(13) Provided with a monitor that has audio output capabilities for viewing and for listening the recordings;
(14) Capable of having the information accessed remotely via other electronic devices such as cellphones and i-pads belonging to specific designated members of staff;
(15) Provided with an alternative internal power source, so that they could continue functioning for at least up to twelve (12) hours in event of power failure;
(16) Capable of having information saved and stored in other electronic devices such as memory sticks for downloading information and providing evidence in event of a criminal case.

(l) **Panic Buttons** must be provided in each of the functional spaces as indicated in Table 5 under Section 8.6 below;

(m) **An Alarm System** linked to a Rapid Response company:
  (i) Should be provided where necessary especially in township and urban schools where risk is considered as being high; and
  (ii) Where it has been provided it should be maintained by the school concerned.

(n) **Computer Laboratories and Strong-rooms** are the primary targets for break-ins and theft of computers. Where access cannot be gained through the door because of security barriers, or through the ceiling because of extra security provisions, openings have been made on the walls to gain access into these spaces. Where the Server Rooms are provided they will also need the same level of security. Special security provisions for these functional spaces have to be made as follows:

  (i) Means of preventing access through the ceiling has to be provided by:
    (1) Providing a reinforced concrete slab above the ceiling to cover the entire roof area;
    (2) After the roof slab has been cast, a ceiling should still be considered for thermal control, lighting control, acoustic provisions and aesthetic purposes;

(3) Flat concrete slabs are prone to leaking therefore the normal roof cladding should be provided above the concrete slab to prevent potential rainwater leakages that could be detrimental to the computers and other electronic equipment. This will also enable the same outlook of the school to be maintained for uniformity and for the aesthetic appeal;

(4) Where alternative, effective, workable, and cost-effective technical solutions could be found, they should also be considered. This could include the use of the modified mesh and support used on the "Class A" High Security Fence;

(ii) Means of preventing breaching of the walls has to be provided where the risk rating is deemed to be high and warranting such measures to be provided. Such measures could be:

(1) Embedding the "Class A" High Security Mesh in the cavity between inner and outer skin of the wall;

(2) Where this occurs the mesh has to be secured tightly with vandal-proof bolts on the lower side of the roof concrete slab;

(3) An alternative to this arrangement would be to replace the brick walls with reinforced concrete walls;

(4) Where the use of reinforced concrete walls is conceived, cost comparison would have to be made to ensure that a more cost-effective solution is adopted and also that the thermal behaviour and aesthetic appeal have been taken into consideration;

(5) Alternative Building Technologies that cannot accommodate these solutions must not be used as functional spaces mentioned above; and

(6) Burglar bars must be provided across all windows and a burglar proof security gates must also be provided across the doors to these functional spaces.

(o) Where **Elevated Water Tanks** are provided, they must be:

(i) Fenced off all around with a 1.8m high "Class C" Security Fence for occupational health and safety considerations - preventing access by learners and having them climbing up and down the stand;

(ii) Provided with a lockable vehicular gate;

(iii) Located at a distance of at least twice (2x) their height away from any occupied buildings for safety.

(p) Where a **Swimming Pool** has been provided for sport and/or for recreational purposes, it must be fenced off with a "Class C" Security Fence and be provided with a lockable pedestrian gate.

(q) Where **Wind Turbines** are provided as a source of power, they must:
- (i) Be located away from any occupied buildings at a distance that is at least twice (2x) their height;
- (ii) Must be fenced off with a 1.8m high "Class C" Security Fence and provided with a lockable gate.

(r) All the schools must be provided with **Fire Protection Measures** with the following provisions:

- (i) All the education facilities must **comply with fire regulations** in terms of the National Building Regulations and SANS 10 400-T;
- (ii) **Fire walls** to the full height of the roof cladding must be provided after each third classroom where blocks of classrooms are provided to reduce the possibility and/or rate of spread of fire;
- (iii) **Fire Blankets** must be provided in the main kitchen area that is used for School Nutrition;
- (iv) Safe **fire escape routes** must:
  - (1) Be established and demarcated clearly; and
  - (2) Be provided for People with Disabilities.
- (v) Areas demarcated as **emergency assembly points** must be provided in designated areas with clear signage indicating such;
- (vi) The appointed Professional Service Provider must **provide fire/evacuation plans and signage** indicating evacuation routes and assembly points when design the school and as part of the deliverables to the users of the school;
- (vii) All the Science Laboratories, Home Economics Centres, Technical Workshops, Nutrition Centres and kitchenettes must be provided with **fire extinguishers** that shall be maintained on a regular basis by the appointed company;

(viii) Where possible, **fire sprinklers** with smoke detectors should be provided in libraries, Admin Area, and any other functional spaces as might be deemed necessary;

(ix) Where **fire hoses** are provided they should not be placed behind locked areas to enable ease of access during emergencies and also should be placed in such a way that they would not obstruct main exit points when pulled out during emergencies;

(x) All the **gas cylinders** used for cooking purposes and for workshop activities must:

(1) Be stored outside in a covered, secure, lockable, and well-ventilated storage;

(2) Must not be accessible to the learners and to other unauthorised persons;

(3) Must not be placed:

(aa) Next to or at the main entrances and/or passage-ways;

(bb) In high trafficked areas, or

(cc) Where learners congregate.

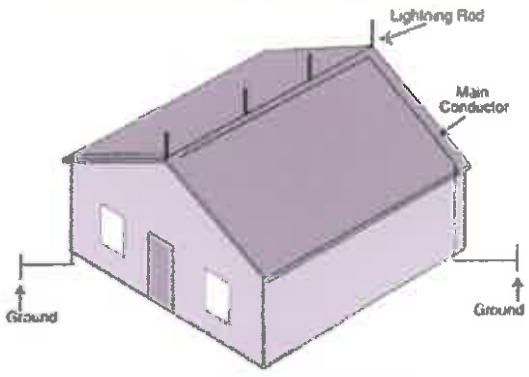
(xi) **Thatched roofs** are not permitted and must not be used as roofing material in any part of the school;

(xii) Use of **timber or shack** as a construction material is prohibited on any school;

(xiii) No **timber flooring** shall be used on any part of the school buildings, corridors or deck unless it is a special functional space that requires this type of flooring;

(xiv) Where **verandas** are provided, no timber or wooden material shall be used as posts or pillars for supporting the roof structure;

(xiii) **Lightning protection** system shall be provided in all the schools especially in areas that are susceptible to lightning strikes.



8.5 Vehicular Traffic Safety Measures

(a) The **Drop-off and Pick-up Zones**:

(i) Should be provided in all the schools, where possible;

(ii) Must be fully visible from the school;

(iii) Must be located in the vicinity of the main entrance if these are provided outside the school yard; and

(iv) For busses and taxis must be separated from the drop off area for private vehicles.

(b) **Pedestrian crossings** must be provided on either sides of the main entrance into the school where the road is surfaced;

(c) **Speed humps or any form of traffic calming measure** must be provided on either sides of the main entrance into the school and before reaching the pedestrian crossings where they are provided.

(d) Provisions for **Emergency Vehicles** must be made in all the schools. This includes easy access and sufficient turning radius within the school and in the vicinity of the sport fields.

8.6 Security Provisions for Designated Functional Spaces

(a) Specific security measures to be provided in specific functional spaces in a school shall be as reflected in **Table 5** below.

(b) Based on the Risk Assessment, as per Section 8.4(a)2.2, additional security measures should be provided in the functional spaces as might be deemed necessary by the facility-users, Department and the designers.

Table 5: *Security measures to be provided in specific functional spaces.*

FUNCTIONAL SPACES	SECURITY PROVISIONS						
	Burglar Proof "Bars" across all the back windows	Burglar Proof "Bars" across all the front windows	Burglar Proof Gates across the doors	Reinforced Concrete Slab above the ceiling	Embedded security barrier in the wall cavity[2]	Surveillance Cameras[1]	Panic Button
EDUCATION SPACES							
Grade R Classrooms	N	N	Y	N	N	N	Y
Grades 1 to 12 Classrooms	N	N	Y	N	N	N	Y
Science Laboratory	Y	Y	Y	N	N	N	Y
Computer Room/Lab	Y	Y	Y	Y	Y	Y	Y
Library	Y	Y	Y	N	N	Y	Y
Multimedia Centre	Y	Y	Y	N	Y	Y	Y
Storage Areas	Y	Y	Y	N	N	Y	N
Technical Workshops	Y	Y	Y	N	N	Y	Y
Special Classroom for Home Economics	Y	Y	Y	N	N	N	Y
Other Special Classrooms (per curriculum choice)	Y	N	Y	N	N	N	Y
Learners' Toilets	Y	N/A	N	N	N	N	N
ADMINISTRATION AREAS							
Principal's Office	Y	N	Y	Y	N	Y	Y

FUNCTIONAL SPACES	SECURITY PROVISIONS						
	Burglar Proof "Bars" across all the back windows	Burglar Proof "Bars" across all the front windows	Burglar Proof Gates across the doors	Reinforced Concrete Slab above the ceiling	Embedded security barrier in the wall cavity[2]	Surveillance Cameras[3]	Panic Button
Deputy Principal's Office	Y	N	Y	N	N	Y	Y
Heads of Departments' Offices	Y	N	Y	N	N	Y	Y
Staff Room	Y	N	Y	N	N	Y	Y
Staff Toilets	Y	N/A	N	N	N	N	N
Staff Kitchenette	Y	N	N	N	N	N	N
Reception Area	Y	N	Y	N	N	Y	Y
Administration Office	Y	N	Y	N	N	Y	Y
Storage Area for Admin / Records Room	Y	Y	Y	Y	N	Y	N
Printing room	Y	Y	Y	Y	N	Y	N
Strong room	Y	Y	Y	Y	Y	Y	N
Server Room	Y	Y	Y	Y	Y	Y	N
EDUCATION SUPPORT AREAS							
Tuckshop	Y	Y	Y	N	N	Y	Y
Pastoral Care Centre	Y	N	N	N	N	N	Y
Nutrition Centre	Y	Y	Y	N	N	N	N
Caretaker Room	Y	Y	Y	N	N	N	N
Storage Areas	Y	Y	Y	N	N	N	N
Guard House	Y	Y	Y	N	N	N	Y
Multipurpose Hall	N	N	Y	N	N	N	N
Support Area Toilets	Y[1]	N/A	N	N	N	N	N

1 Only on windows on the ground floor.

2 Security barrier such as High Security Mesh Panels or Reinforced Concrete Wall.

3 Cameras not to be installed inside these functional spaces but along the corridor / veranda leading to them.

9 COMPLEMENTARY SAFETY AND SECURITY INTERVENTIONS

The School Infrastructure Safety & Security Guidelines cover only a portion of the total solution required to effectively address problems on safety and security in schools. Focussing only on the infrastructure related provisions will not be sufficient to address the identified problems but has to be complemented by other non-infrastructure related interventions as addressed in other sector policy documents and strategies (SASA; NSSF; Regulations for Safety in Public Schools; Hlayiseka - Be Safe Tool-kit; Guidelines for Prevention & Management of Sexual Violence and Harassment; SACE Code of Professional Ethics, etc.). All these efforts, measures and strategies have to be implemented in unison for effective, holistic and long-lasting solution to be realised. **Figure 2** below depicts the holistic approach that needs to be adopted in this regard.

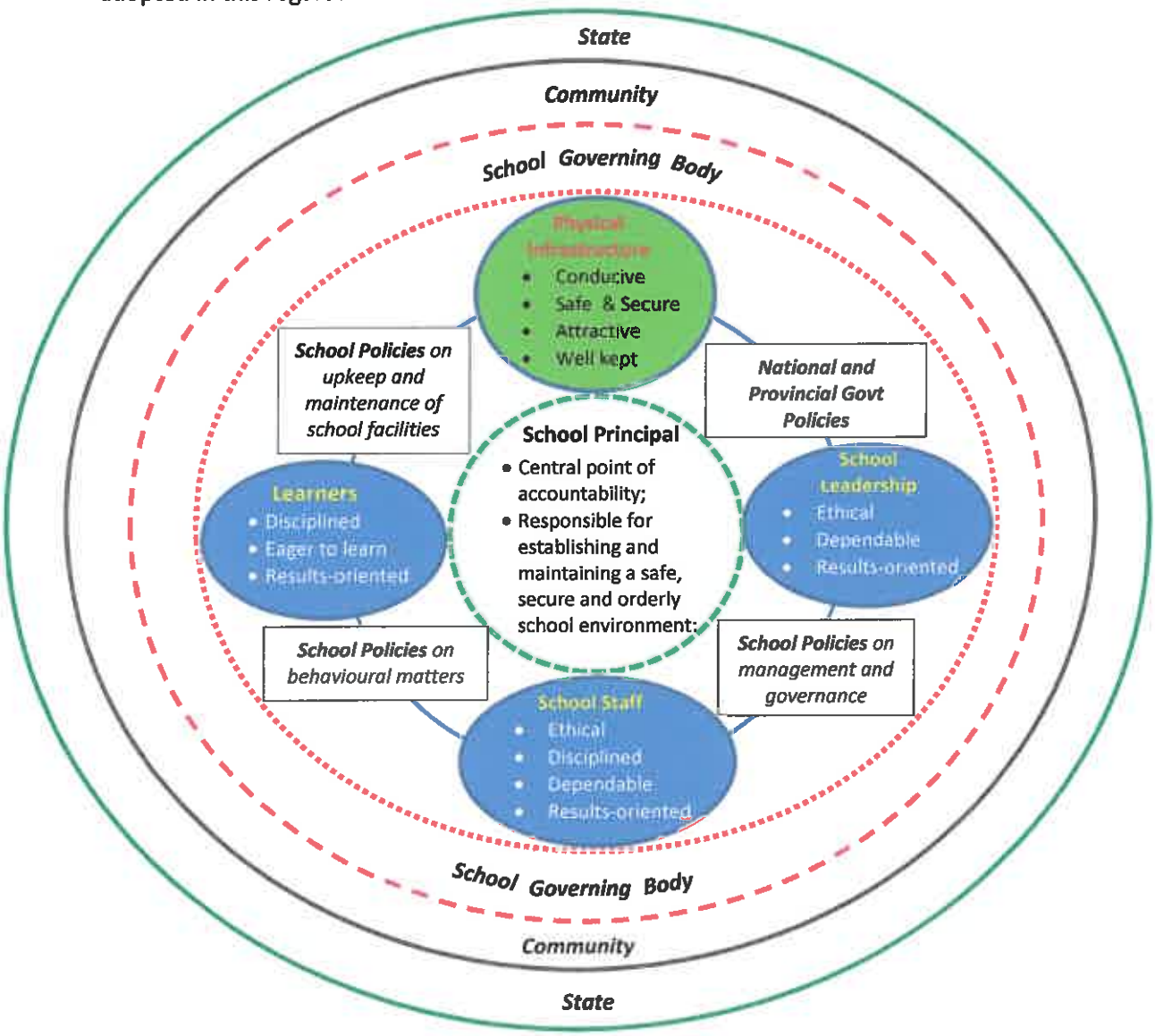
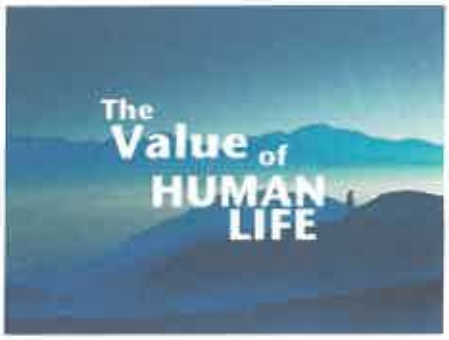


Figure 2: *Provision of school infrastructure safety and security measures in the context of other complementary interventions to address safety and security problems in schools.*

10 PLANNING, FUNDING AND COMMISSIONING ARRANGEMENTS



(a) The provision of infrastructure safety and security measures and the layout of the buildings shall be planned, designed for and included as part of the overall planning and design processes by the appointed Implementing Agent and/or Professional Service Provider and must not be treated as an afterthought under any circumstances.

(b) The extent to which the provisions of the SISSG have been considered and included in the plans must be assessed when the Site Development Plans are submitted for approval.

(c) The sub-contractors for fencing, for window burglar bars and burglar gates, and for providing surveillance cameras, where required, should be procured at the same time as the main contractor to better manage the interfaces and to avoid unnecessary Variation Orders/Contract Instructions at a later stage.

(d) South African products must be used to provide the fencing material to promote the local market. The appointed Supplier should be required to produce a certificate confirming such.

(e) All the infrastructure related safety and security measures should be included and budgeted for as part of the overall infrastructure expenditure for the specific school.

(f) The commissioning activities of the completed facilities should include all the safety and security measures.

(g) Any new infrastructure project shall be regarded as having reached Practical Completion only after the applicable safety and security provisions have been addressed fully.

(h) The appointed Professional Service Providers, main contractors and specialist sub-contractors must submit all the compliance and guarantee certificates and the associated documentation to the Client Department before handing over the section of works and no final payments should be made and no Final Completion Certificate for such works should be issued without these documents been provided.

(i) Where the appointed Implementing Agent and/or Professional Service Provider has omitted any applicable safety and security measures specified in the SISSG, they will be compelled to include them before the facility is handed over to the beneficiary and the costs for undertaking such work shall be sourced from their Professional Indemnity Insurances and from their payable Professional Fees.

11 IMPLEMENTATION PROCESS AND EFFECTIVE MANAGEMENT

(a) These Guidelines are yet another attempt by the Department to curtail school-based violence and crime. Without their effective implementation they will not address their

intended purpose. The obligations set out herein under are intended to ensure their effective implementation and their operational effectiveness.

(b) Regarding the education facilities, the Facility Manager, i.e. School Principal, has a duty of ensuring that the facility that he/she is responsible for is:
  (i) Well-looked after;
  (ii) Well-maintained; and
  (iii) Not vandalised by the learners.

(c) Regarding the Safety and Security System that has been provided, the Facility Manager shall:
  (i) Ensure that such system is operated as was intended;
  (ii) Cause a full assessment of the full functionality of all the safety and security systems to be conducted at the beginning of each week to ensure their full functionality, and
  (iii) Contact immediately the appointed Service Provider to attend to any component of the Safety and Security System that is found to be malfunctioning or broken.

(d) Regarding acts of vandalism, the Facility Manager must:
  (i) Address immediately any acts of vandalism or crime that has been picked up from the Safety and Security System; and
  (ii) Open a civil case with the South African Police Services immediately when any member of public is found vandalising the school property.

12 MONITORING AND EVALUATION

(a) The Chief Directors in the Provincial Infrastructure Units and the Heads of Provincial Education Departments must ensure that the provisions of the SISSG are taken into consideration when new infrastructure projects are planned and implemented.

(b) The Department will monitor the extent to which the provisions of the SISSG are considered during planning and designs and assess their functional effectiveness at the schools.

(c) The Department shall, on regular basis, invite feedback from the facility users on the effectiveness of the Safety and Security Systems that have been provided in their education facility.

13 TRANSITIONAL ARRANGEMENTS

(a) The provisions of the SISSG are intended to be implemented progressively over a period of time, being gradually rolled-out as work continues to be carried out on school facilities. Due to budget constraints and a number of other infrastructure related

interventions required on the schools, the SISSG is not intended to introduce a mass programme on upgrading safety and security measures in the education facilities but does not preclude their implementation on the existing facilities where specific safety and security interventions have been identified and needing urgent attention.

(b) The planners, designers and decision-makers should assess the extent to which the provisions of the SISSG could be accommodated on the projects that are already at detailed design stage and at construction stage, especially for schools that are located in high risk areas, having taken due consideration of the total project costs and the potential time delays.

14 REVIEW OF THE GUIDELINES

(a) The SISSG shall be reviewed as and when necessary and any amendments made during the intervening period shall be included as Annexures to this document; and

(b) The entire document shall be reviewed after every three (3) years and any amendments made during the intervening period shall be incorporated into the main document.

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