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|  | <p>MANAGEMENT CLOSE OUT<br/>REPORT AT 576 SCHOOLS</p> |  |
| <p>Gauteng Department of Education<br/>School Sanitation Programme</p>            |   |  |

Date: 10/12/2014

## EXECUTIVE SUMMARY

Condition Assessments have been conducted on 576 Schools to date and this report summarises the findings into two major sections, viz. Condition Assessment of the Sanitation Facilities visited and Technical Capacity Analysis / Adequacy of Toilets per School in line with Standards and Norms for Sanitation Infrastructure at Public Schools in the Gauteng Province. This report also aims to discuss the overall findings on the total list of schools.

### 1. BACKGROUND

#### 1. ANALYSIS ON FINDINGS OF CONDITION ASSESMENT

A detailed school infrastructure condition exercise was conducted by trained technicians using a template that takes into account the items in the existing maintenance job cards. The assessments were then categorised as per the **TABLE 1 (MANAGEMENT TOOL-SUMMARY OF CONDITION ASSESMENT)**. The management tool has been developed to indicate each condition category as to what the anticipated intervention and time frame should be allocated accordingly.

During these visits, we found out that there were a number of schools that need urgent intervention due to them being in an unusable or bad state. It was found that the number of unusable facilities is 41 and bad condition facilities are 166 schools.

Major contributing factors that were used as a tool to identify whether a school was unusable or in a bad condition were, structural failures, lack of water, dysfunctional boreholes resulting in water shortage, serious water leakages in toilets, exposed electrical cables in toilets, lack of maintenance of toilets (**Refer to ANNEXURE A-TABLE 2**), and the overall state of the building whether it needs renovations, minor or major repairs (**Refer to ANNEXURE A- TABLE 3**).

#### 2. RECCOMENDATIONS ON CONDITION ASSESMENT FINDINGS

- In light of the above it is therefore recommended that schools with unusable toilets and bad toilets be treated with urgency and attended to within the next 0-2 months and 2-4 months respectively. As highlighted in the table condition assessment table annexed.
- In addition, an immediate instruction is to be sent to the School's Principal at Fairsand Primary School to lock toilets with visible structural failure and use the two mobile ablutions available at the school. While a solution is being sought out.

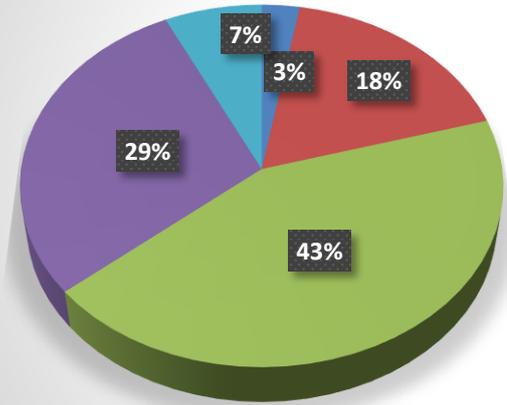
- Furthermore, Prohibit usage of all ablution blocks with exposed electrical connections. Investigate the cause of low water pressure in some facilities and rectify accordingly.
- Professional investigations have to be commissioned in schools (38%) that have low water pressure to get the root causes of this problem and professional recommendations have to be presented to the department thereafter.
- The contractor's workmanship is currently satisfactory to good, however there are discrepancies as far as material specifications are concerned, and each contractor uses his own specification despite the fact that there are standard payment rates and standard specifications adopted by the department. These has to be rectified because it affects the design life of the different components and the facility
- We recommend the department categorize the quality of contractor's workmanship according to their previous performance in the emergency maintenance database so that the contractors are motivated to perform.
- We recommend that the department insists for a skilled artisan be part of every maintenance project so that the trade standards are maintained

It is also recommended that the Facilities/Maintenance department that is responsible for continuous maintenance of ablution facilities adhere to the time frames as indicated in the MANAGEMENT TOOL for all the other categories. By so doing, this will gradually boost compliance of facilities with the ultimate goal of reaching category A for all ablutions.

**Table 1**

| <b>MANAGEMENT TOOL - SUMMARY OF CONDITION ASSESMENTS TO DATE (576)</b> |              |                              |                            |       |         |
|--|--------------|------------------------------|----------------------------|-------|---------|
| Category   | Condition    | Anticipation of intervention | Scheduled intervention     | Total | %       |
| A  | Excellent    | 9 – 12 months                | Conduct an assessment      | 16    | 2,78%   |
| B  | Good         | 6 – 9 months                 | Conduct an assessment      | 104   | 18,06%  |
| C  | Satisfactory | 4 – 6 months                 | Job card for minor repairs | 249   | 43,23%  |
| D  | Bad          | 2 – 4 months                 | Job card for major repairs | 166   | 28,82%  |
| E  | Unusable     | 0 – 2 months                 | Job card for renovation    | 41    | 7,12%   |
|  |              |                              | Total                      | 576   | 100,00% |

## SCHOOL CATEGORY IN %



- A Excellent 9 – 12 months Conduct an assessment
- B Good 6 – 9 months Conduct an assessment
- C Satisfactory 4 – 6 months Job card for minor repairs
- D Bad 2 – 4 months Job card for major repairs
- E Unusable 0 – 2 months Job card for renovation

**Table 2**

| FINDINGS ON CRITICAL ITEMS IN ABLUTION AND SANITATION FACILITIES PER SCHOOL |                      |                 |     |  |                |          |                           |              |     |
|---|----------------------|-----------------|-----|--|----------------|----------|---------------------------|--------------|-----|
| Electrical  |                      | Sewer Pipe Type |     |  | Water Pressure |          | School Maintenance Regime |              |     |
| No Electricity  | Electricity in order | Steel           | PVC |  | Problems       | In order | Good                      | Satisfactory | Bad |
| 234   | 342                  | 302             | 274 |  | 215            | 361      | 132                       | 342          | 102 |

**Table 3**

| SUMMARY FINDINGS ON TOILET BUILDINGS PER SCHOOL |                        |                        |               |                    |
|---|------------------------|------------------------|---------------|--------------------|
| Require Facility Renovations                    | Major Facility Repairs | Minor Facility Repairs | Good Facility | Structural Failure |
| 42  | 152                    | 236                    | 146           | 1                  |

**Table 2 & 3** above give a summary of the overall condition findings and highlights the major problem items under plumbing, building and electrical infrastructure in the schools. It also gives an opinion on the school maintenance regime where it can be recorded that poor internal housekeeping (e.g cleaning and hygiene) by the school can lead to deterioration of infrastructure **Table 3**:

Most schools(83%) already have a satisfactory to good maintenance regime. These need to be encouraged by introducing a system that reminds them of their maintenance schedules.

Some capital budget has to be set aside to deal with the replacement of the steel pipes with the PVC pipes. There is currently about 302 schools(52%) that still have the old regime of pipes.

Electricity is a necessity for facilities, most contractors that were appointed did not have electrical items on their job cards although the facilities had challenges in this regard. The department has to include the electrical items in the contractors job card so that it gets addressed with the plumbing items

There is also a need to look at the buildings works because they affect the look and feel of the facilities, the better looking the facilities the better managed they are because students and staff are comfortable to be in the facilities environment. Most job cards were had did not address the building works, especially Tilling, painting, ceilings, granolithic floors, doors, ironmongery and plastering.

Temporary structures should be replaced with permanent structures that are easier to maintain, user friendly and are safer to use.

Renovations are those facilities which are completely **unusable** (Category E) and must be attended to within the tool category time frame, starting with those with Structural failures and exposed electrical infrastructure.

**Table 4**

| ESTIMATED ANNUAL MAINTENAINCE BUDGET COST( BASED ON CATEGORY OF SCHEDULED INTERVENTION-576 SCHOOLS TO DATE) |                |                   |                |                  |
|---|----------------|-------------------|----------------|------------------|
| ESTIMATED ANNUAL MAINTENANCE BUDGET COST  | No. of schools | Percentage factor | Estimated Cost | Totals           |
| Category E  | 41             | 100%              | R 476 940,84   | R 19 554 574,44  |
| Category D  | 166            | 80%               | R 381 552,67   | R 63 337 743,22  |
| Category C  | 249            | 60%               | R 286 164,51   | R 71 254 962,99  |
| Category B  | 104            | 40%               | R 190 776,34   | R 19 840 739,36  |
| Category A  | 16             | 30%               | R 143 082,25   | R 2 289 316,00   |
| Total estimate for 576 schools  |                |                   |                | R 176 277 336,01 |

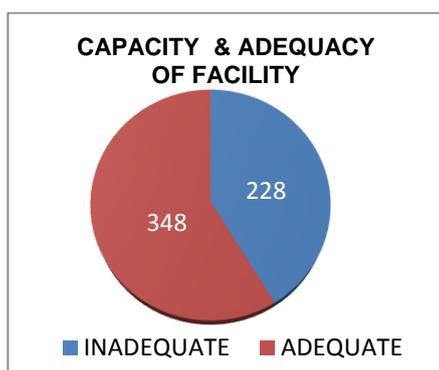
**Table 4** above gives an estimated cost for the proposed interventions mentioned in **Table 1**. An estimate was done based the GDE Rates and took into consideration the size of the school and the interventions required per condition category.

This is the budget that is required to maintain the standard of the facilities in the very good category. This budget will be hefty on the first year but once all the facilities have been taken to the very good category the maintenance budget will go down to manageable levels.

## 2. CAPACITY ASSESSMENT

Capacity and adequacy analysis - Government gazette of 29 November 2013 (No. 37081) is the legislative guide used to determine the adequacy of Sanitation Infrastructure at each school assessed (576) - Standards and Norms.

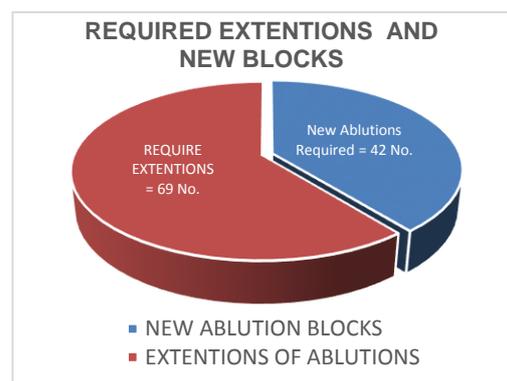
**Table 5**



**Table 6**



**Table 7**



**Table 5** above gives a split between schools that have enough/adequate sanitation and those that are lacking/inadequate sanitation infrastructure. Out of the total of 576 schools done to date 237 have inadequate sanitation facility.

The enrolment used in the above calculations are based on the 2014/15 student enrolment. It is important that growth patterns of schools be studied and any infrastructure planning should be influenced by this statistics.

Building extensions and construction of new blocks should have a medium term growth view in mind, that is new blocks and extensions should target student enrolment of 5 years or so into the future in order to stay compliant with the Government gazette of 29 November 2013 (No. 37081).

**Table 6** gives a breakdown of the outstanding sanitary items in order to meet minimum legislative requirements as per government gazette.

**Table 7** gives indication of the required intervention where toilets were found inadequate. Two options have been identified;

- If 4 blocks or more are required we propose construction of a new block to increase capacity to acceptable standards.
- If less than 4 blocks are required we propose extension of existing block to increase capacity to acceptable standards.

Therefore 69 schools require extensions whilst 46 schools will require new blocks.

**Table 8**

| <b>UPGRADING OF SANITATION SCHOOL INFRASTRUCTURE TO MEET GAZETTED STANDARD &amp; NORMS</b> |                 |             |                        |
|--|-----------------|-------------|------------------------|
| <b>DESCRIPTION</b>   | <b>QUANTITY</b> | <b>RATE</b> | <b>AMOUNT</b>          |
| Urinals  | 355             | R 3 603,60  | R 1 279 278,00         |
| Toilets(brickwork, fittings)   | 426             | R 66 000,00 | R 28 116 000,00        |
| Wash hand basins   | 439             | R 450,00    | R 197 550,00           |
| Sub-total excl. vat  |                 |             | <b>R 29 592 828,00</b> |
| Add Professional fees / Disbursements @ 25%  |                 |             | R 7 398 207,00         |
| Sub-total excl. vat  |                 |             | <b>R 36 991 035,00</b> |
| Add Contingences @ 10%   |                 |             | R 2 959 282,80         |
| Total estimated Project Cost excl. vat   |                 |             | <b>R 39 950 317,80</b> |

**Table 8** above gives an estimated cost (based on GDE Standard Rates) for the proposed sanitation infrastructure capacity additions mentioned in **Tables 5, 6 & 7** above.

### **Capacity Assessment Recommendations**

- The above capital works budget has to be provided for in phases so that pressure is relieved on facilities that are already overburdened. Failure to extend facilities may overstretch the current facilities and deteriorate them.
- Alternative technologies options for sewer treatment and superstructure should be investigated to reduce costs and expedite construction.

### **3. COMMON CONCERNS IN VARIOUS GAUTENG SCHOOLS WITH REGARD TO ABLUTION BLOCKS**

During inspection of various schools in Gauteng there were some common concerns that were discovered that lead to the schools facilities being in a vulnerable state. These common concerns are identified below together with possible solutions, namely:

#### Common concerns

1. It was found in most schools that their premises are being hired out to communities thus ablution facilities are being easily exposed to vandalism and improper use by the hiring communities.
2. We have also found out that many schools do not have a proper maintenance system or cleaning schedule. This leads to the facilities becoming a health hazard and most schools opting to close most of the ablutions to accommodate the manpower to service the facilities.
3. We have also observed a lot of theft and vandalism due to social ills e.g. drug related theft for the steel elements of the facilities and just plain destructive naughtiness displayed by students.
4. Toilets being used as storeroom in most schools especially schools using prefabricated structures.
5. Learners and teachers sharing the same ablution block. this is in contravention of the South African Schools Act, 1996 (ACT NO.84 OF 1996) Annexure G.
6. Ablution that are situated far from the classrooms hinder efficient supervision of learners during school hours.
7. Lost keys in most schools lead to ablutions being permanently unavailable for the use of the students.
8. In certain schools where there is water shortages especially in the Gauteng North Region, eg. Insufficient capacity of borehole or poor servicing of such boreholes, the schools are forced to close off most of the ablution blocks as a means of managing hygiene risk. But this also leaves the issue of overpopulated usage of these facilities unattended.
9. In Primary Schools where there are Grade R's and Grade 1's, the small toilets are not user friendly for some of the bigger sized pupils, which end up messing up all over the toilets.
10. Increase in the school's annual enrolment in most institutions also increases the usage of ablution facilities of which the initial construction these facilities was to accommodate a certain number. This now leads to insufficient septic tank storage and could be the cause of blockages of sewer lines in the long run.

#### Recommendations

- We recommend that works for ablution facilities are signed off by a qualified plumber.
- We recommend that if a school hires out their premises then a system should be put in place to monitor the activities of the function i.e open one boy and one girl blocks of toilets and lock the others. Put a maintenance person at the toilets make sure that individuals do not abuse the facilities.
- There is an urgent need to strengthen the Quality Control measures on work done by GDE maintenance contractors by ensuring qualified artisans (e.g. a registered plumber) signs off completed specialist maintenance works and provides a guarantee for work done at each facility.

- It is proposed that the condition assessment management tool be implemented immediately starting with Job card for the unusable(Category E) facilities
- The sanitation infrastructure capacity upgrading programme should be drawn up taking into cognisance the available budget and the proposal is that if the budget is limited the priority should be the schools that have higher requirements.
- The department's maintenance teams should be trained on the new system that is being implemented so that they are also part of the process and their inputs and experiences are incorporated into the management tool.
- We recommend that a standard ratio of enrolment and cleaners be clearly defined so that they have enough capacity to deal with the daily challenges of the facilities.
- We recommend that burglar guards and permanent security be a rule for every school as this undermines the department's efforts to improve the facilities.
- Build storerooms for schools without storerooms, or extend existing storerooms.
- Build new administration blocks with male and female staff toilets.
- Check if school has an approved plan then improvise on that plan.
- Change door locks and have a common place where the keys are kept
- Investigate water supply in the area or where there are existing boreholes, service or built new boreholes with more than sufficient capacity.
- Place at least one or two normal sized toilets in the Grade R or Grade 1 blocks, to accommodate these bigger sized pupils.
- Review institutions enrolment history vs the institution current ablution facilities and intervene with corrective measures where necessary.