



## TERMS OF REFERENCE FOR A DIRECTED WRC PROJECT

<b>KEY STRATEGIC AREA</b>	<b>3</b>
<b>THRUST</b>	<b>Sustainable Municipal Wastewater and Sanitation</b>
<b>PROGRAMME</b>	<b>5</b>
<b>TITLE</b>	<b>Quantities and Quality of Poop and Pee in School Sanitation Facilities</b>

**Objectives:** To provide scientific support for the design of school sanitation facilities by quantifying the volumes and/or mass of urine and faeces generated, quality of faecal-origin products produced at schools and including innovative approaches in school sanitation infrastructure design to deal with current servicing challenges.

### **General:**

Rural school sanitation has in the recent years been under the spotlight due to unfortunate incidents of school learners falling into latrine structures. Research produced by the WRC has shown the challenge to be linked to deficiencies in sanitation infrastructure management, limited technical options for rural schools which are largely confined to dry, latrine toilets, and user behavior challenges. In response to challenges experienced with school latrine toilets, President Cyril Ramaphosa requested an audit of school sanitation infrastructure. The audit revealed that there are 3 898 schools that require appropriate sanitation interventions. To address this challenge, President Cyril Ramaphosa launched the “Sanitation Appropriate for Education” (SAFE) initiative that aims to replace latrine structures with new models that take into account the joint water-energy constraints. New engineering approaches would need to be guided by data that define the operational limitations for rural school sanitation. The WRC has identified a knowledge gap in this regard and this project aims to provide a combination of observational data coupled with empirical research to understand the relationships that can inform the development of new school sanitation options.

### **Specific Aims:**

The main objectives of the proposed project are as follows:

1. To quantify the mass and / or volume of urine and faeces generated in rural schools.
2. To characterize the physical-chemical properties of faecal sludges generated in rural schools.
3. To provide observational data that related to servicing and hygiene practice challenges associated with current rural school sanitation facilities.
4. Develop a design guideline for rural school sanitation infrastructure based on information gathered.

### **Rationale:**

There is a knowledge gap with respect to quantities and qualities of faecal-origin wastes generated in schools. This data is key for designing and developing sanitation solutions.

### **Deliverables:**

Deliverables should include at least the following:

1. Inception Report including a comprehensive literature review.
2. Quantities of urine and faeces generated in rural schools.
3. Physical-chemical quality of urine and faeces from selected rural schools.
4. Development of Guideline for School Sanitation Infrastructure Design based on information gathered including observational component.
5. Final Report
6. Dissemination of project outputs with national stakeholders.

**Lighthouse:**

- Not specific to WRC Lighthouse

**Knowledge Tree**

- Sustainable Development Solutions

**Time Frame:** 2-years

**Total Funds Requested:** R 700,000 inclusive of VAT (R350,000 available in year 1).