



# POUR FLUSH SANITATION

*The Future or a 'Flash in the Pan'?*



**Jonny Harris**

## WESTERN CAPE PILOT PROJECT

- **Western Cape (15 total)**
  - Peri Urban and High Density Informal Settlements
  - Discharge to range of downstream systems
  - Working well for 15 months

# WRC POUR FLUSH SANITATION – *THE FUTURE OR A FLASH IN THE PAN?*

## KLIPHEUWEL INFORMAL SETTLEMENT



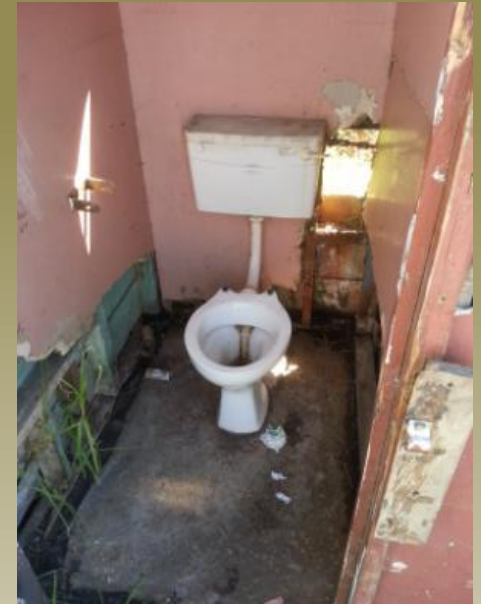
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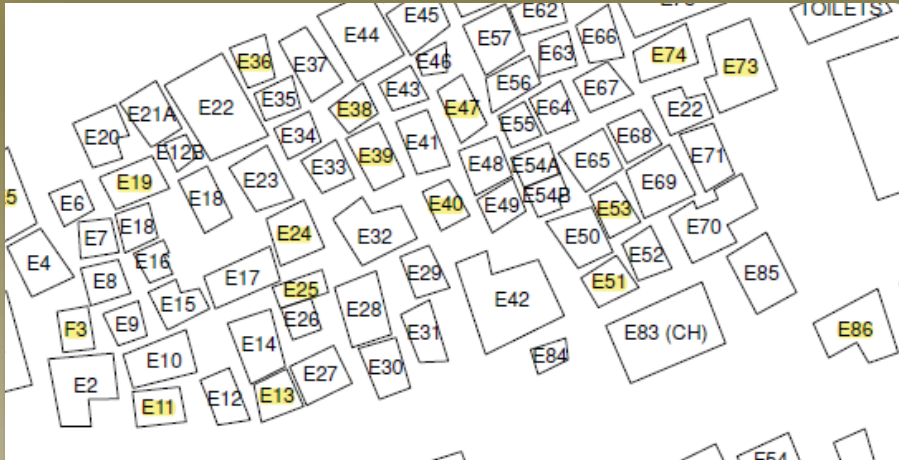
## KLEIN BEGIN, GRABOUW





# WRC POUR FLUSH SANITATION – *THE FUTURE OR A FLASH IN THE PAN?*

## ENKANINI INFORMAL SETTLEMENT







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## KEY FINDINGS

- No problems with flushing toilet paper
- Typical Water use **1 – 2 litres** per flush
- Sewers flow without blockage at **gradients 1 in 50**
- Participants extremely enthusiastic about technology
- Increased interest to install inside the home
- Reduced Hydraulic load compliments Biogas Systems
- Concerns over use of **Greywater**
- Desire for **Flushable** Version

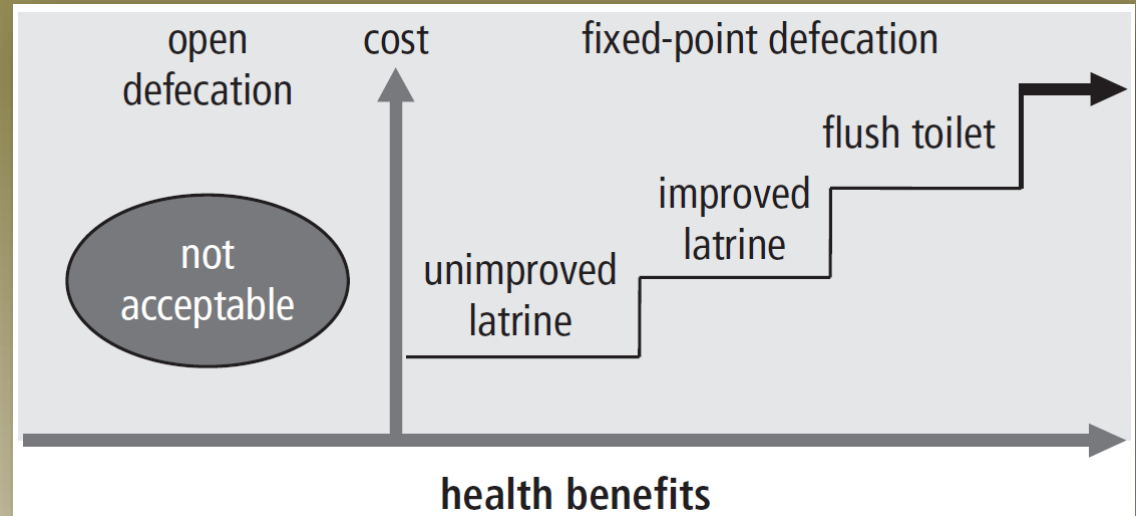


## THE SANITATION LADDER

- Flush toilet  
not necessarily  
top rung of ladder
- VIP latrines can  
have equal benefit

### *BUT with Pour Flush*

- Stepping 'up' the ladder:
  - Does not have to cost more
  - Does not have to use more water
  - Will increase convenience and health benefits
- Consider an *Incremental upgrading* approach for Urban Settlements



## MICRO FLUSH

- Develop a ROBUST high quality LOW flush toilet (1-2 litres)
- Meet the needs of both the affluent and poor communities alike.
- Easily retrofitted into existing plumbing.
- Versatile (upstream & downstream)

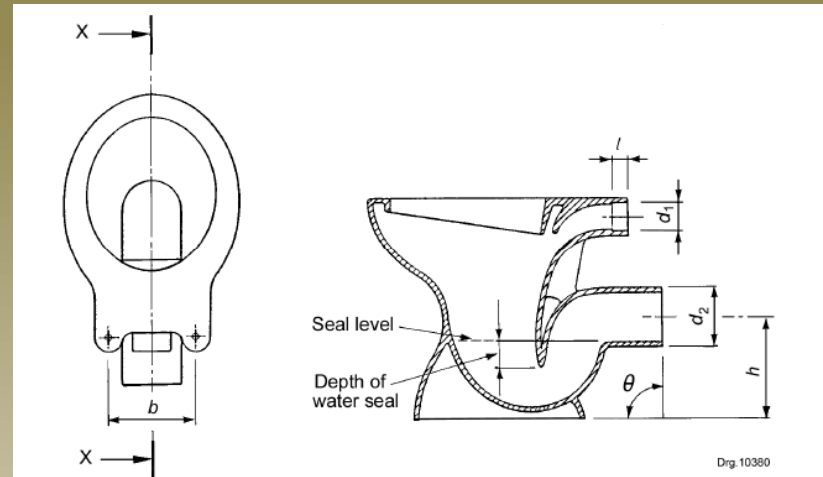


# SANS 497:2011

## Glazed Ceramic Sanitaryware

5.4.2.3 The depth of the water seal in the trap shall be at least 50 mm.

5.4.2.4 When the pan is filled to seal level, the area of the water surface shall be at least 130 cm<sup>2</sup> in the case of pans other than close-coupled pans and at least 90 cm<sup>2</sup> in the case of close-coupled pans.



Type A pan (with seat fixing holes)

Section X - X (pan with straight "P" trap)

1	2	3	4	5	6	7	8
Dimensions for "P" and "S" trap							
Pan type	Angle of outlet $\theta$ degrees	$l^a$ min.	$b$ mm	$h$ mm	$d_1$ mm	$d_2$ mm	Seat fixing hole mm
P	$90^{+10}_{-5}$	30	$165^{+10}_{-5}$	$190 \pm 10$	$55 \pm 3$	$102 \pm 5$	$16 \pm 1$
	$104 \pm 3$	30	$165^{+10}_{-5}$	$190 \pm 10$	$55 \pm 3$	$112 \pm 5$	$16 \pm 1$
S	$180 \pm 3$	30	$165^{+10}_{-5}$	N/A	$55 \pm 5$	$112 \pm 5$	$16 \pm 1$

<sup>a</sup> Not applicable to close-couple pans.

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## THANK YOU

