

# Cape Town's Sanitation

Progress, challenges, future outlook



**Gisela Kaiser**

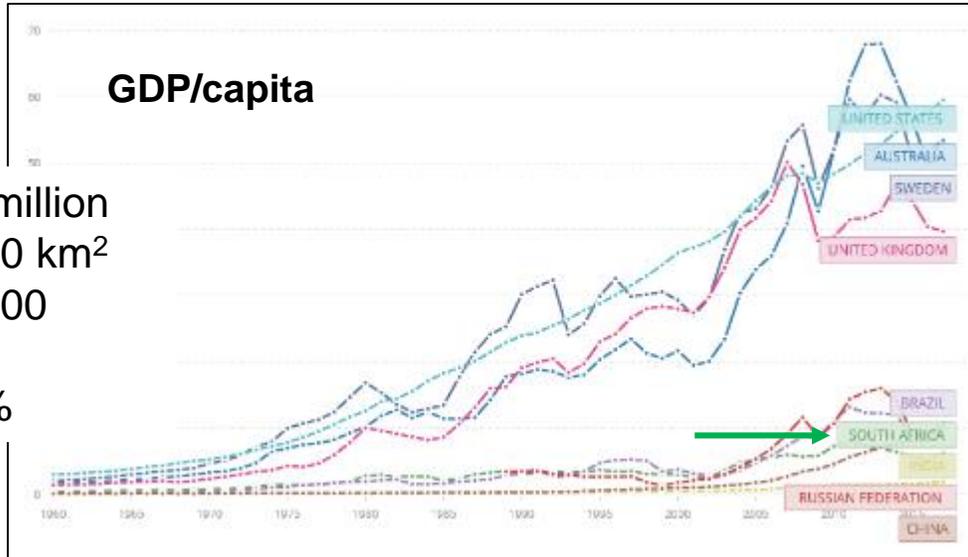
Executive Director: Water & Waste

**City of Cape Town**



**Population**  
**Area**  
**SA GDP/capita**  
**Gini coefficient**  
**Unemployment**

~4.2 million  
 ~2,500 km<sup>2</sup>  
 ~\$6,000  
 0.61  
 22.7%



**HOUSEHOLDS**  
**Total**  
**Informal**  
**Indigent**

~1,200,000  
 ~250,000  
 ~270,000

**ACCESS TO SERVICES**

**Piped water** 99.8%  
**Electricity** 97.3%  
**Telephone** 93.5%



# Cape Town Sewer Reticulation

- Sewerage reticulation network: formal households, business & industry
- 9,410 km reticulation
- 647,020 sewer connections
- 385 pump stations and more than 200,000 manholes
- Approximately 175,000 informal households in informal settlements
- 26 Waste Water Treatment Works
- 456 MLD treated (Dec 2018)

[pre-drought ~660 MLD; capacity 724 MLD]



# Impediments to services

- Nature of informal settlements – unplanned
- Service impediments:
  - Density
  - Land ownership
  - Safety:
    - Floodplains
    - Under Power lines
    - Above Servitudes
  - Locality to existing infrastructure



4032 dwellings @ 176/ha  
175 taps,  
665 shared toilets

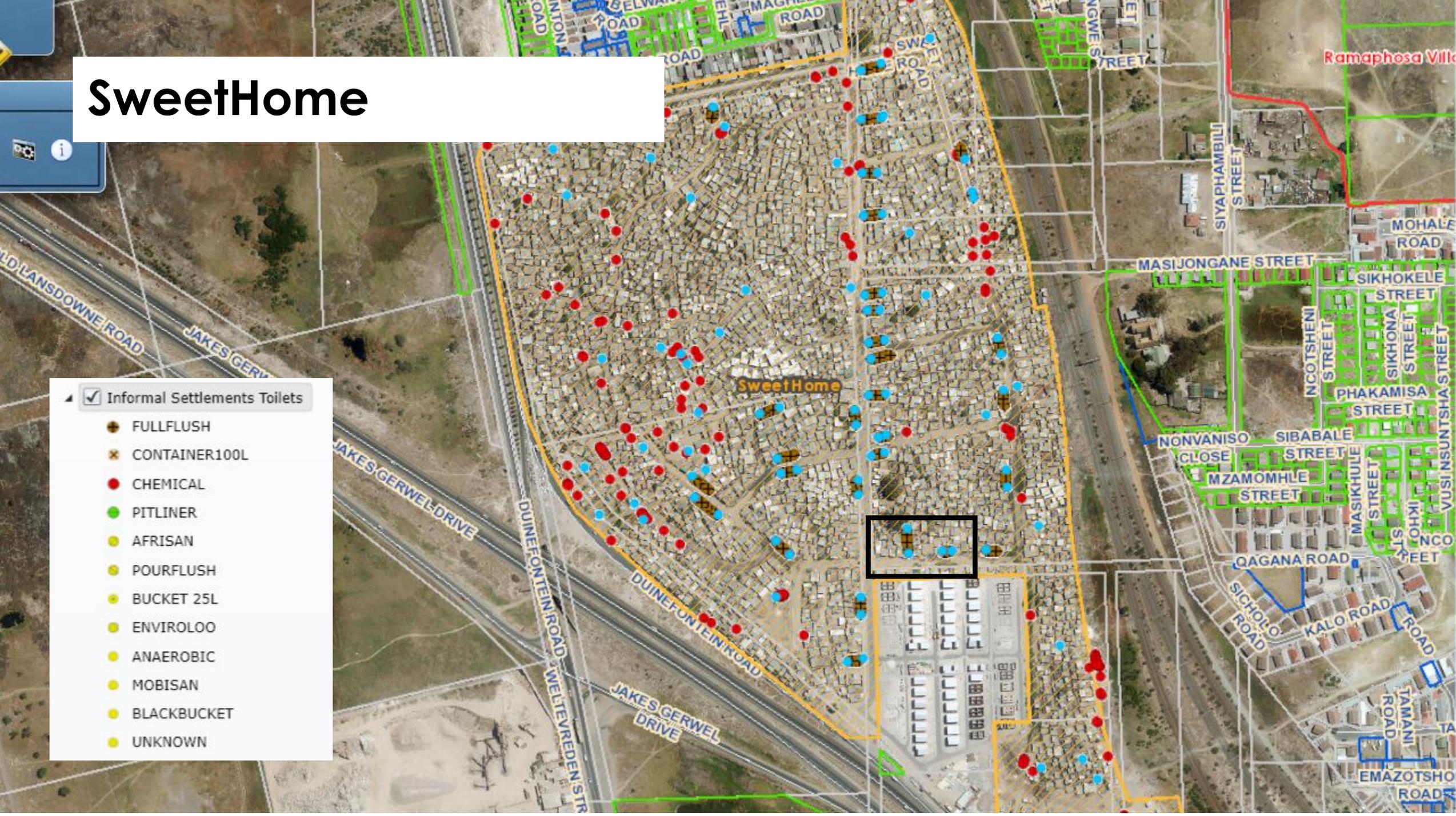
Feb 2018



**MARIKANA LAND INVASION**

# SweetHome

- Informal Settlements Toilets
-  FULLFLUSH
-  CONTAINER100L
-  CHEMICAL
-  PITLINER
-  AFRISAN
-  POURFLUSH
-  BUCKET 25L
-  ENVIROLOO
-  ANAEROBIC
-  MOBISAN
-  BLACKBUCKET
-  UNKNOWN



# Using GIS to map taps & toilets

- Informal Settlements Toilets
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# SweetHome in-situ upgrading



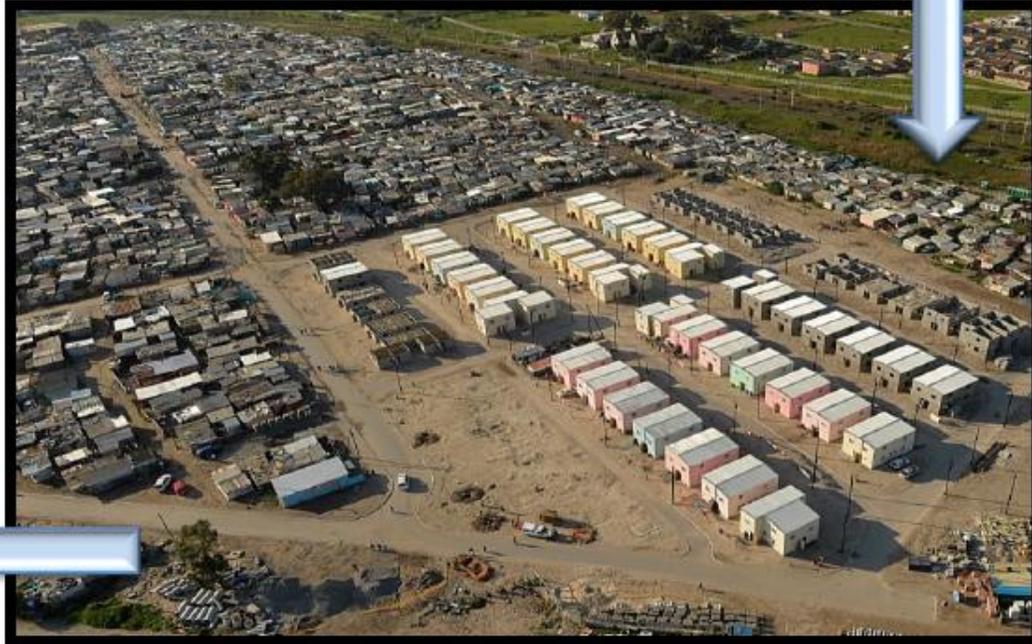
- Established ~ 1996 on ~23ha
- Doubled in size 2007 – 2011
- Now ~ 4,000 households



- PSC elected in 2013
- Acceptance by community 2014
- Detailed township plan 2015



- Engineering design of IDA
- Detailed service designs
- Now in Construction



**SWEETHOME PROGRESS**

# National standard

Service	National Standard (*)	City Standard
Sanitation	Easy access to a safe, reliable, private toilet facility which is protected from the weather, ventilated, low smell, hygienic, minimises the risk of spreading diseases and enables safe treatment and/or removal of human waste and wastewater in an environmentally sound manner including communicating hygiene.	Ditto but with an added minimum specification of at least 1 toilet per 5 households.
Water	A basic water supply facility within 200m of dwelling, delivering at least 25 l/ person/ day at a minimum flow of 10 l/min in the case of communal water points, or 6 000 litres of water per month in the case of yard or house connections.	Ditto but with an added minimum specification of at least 1 tap per 25 households.

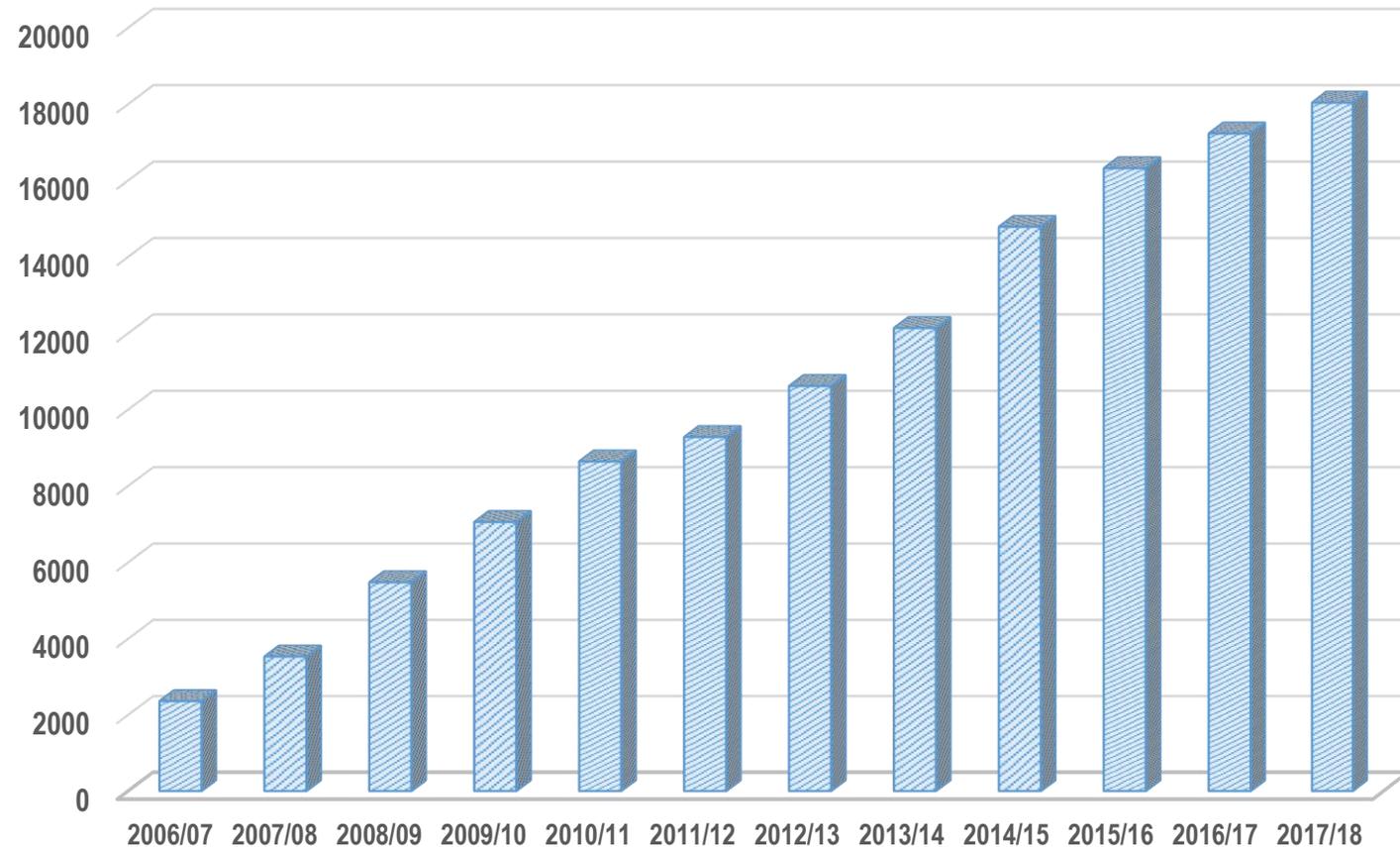
# Types of toilets in informal settlements

## Considerations:

- Space available (density)
- Infrastructure
- Access
- Community interaction
- Cost

Full Flush Toilets	13 764
Chemical Toilets	7 397
Container Toilets	7 822
Portable Flush Toilets	20 011
Other	1 056
<b>CURRENT ASSET TOTAL</b>	<b>50 050</b>

## CUMULATIVE FULL FLUSH TOILETS INSTALLED



## FULL-FLUSH

- Unencumbered land
- Bulk services in place
- Space available
- Janitorial services
- 46% of shared toilets
- Cost in reticulation



## PORTABLE FLUSH TOILETS (PFTs)

- *Supplementary service*
- Encumbered land
- Capital outlay per unit
- Serviced 3 x per week
- Disinfectant added at service



## CHEMICAL

- Encumbered land
- Vehicular access
- No capital outlay
- Serviced 3 x per week
- Costly
- 25% of shared toilets

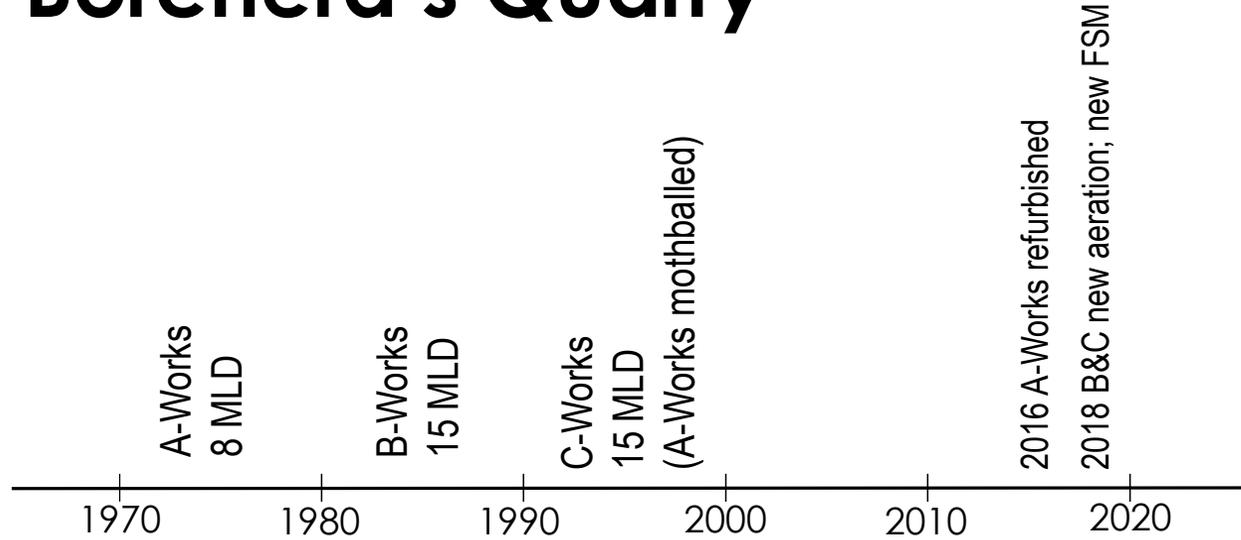


## CONTAINER

- Encumbered land
- No Vehicular access
- Concrete slab and structure
- Serviced 3 x per week
- Disinfectant added at service
- 26% of shared toilets



# Borcherd's Quarry



- Current Capacity 41 MLD
- Compliance standards
  - Pre-drought
  - During construction and drought
  - Current
- Effluent discharge
  - Salt River
  - Future Managed Aquifer Recharge
  - Airport



# NEW FSM FACILITY @ BORCHERD'S QUARRY



# Future outlook for sanitation

- Structure & responsibility
- Commitment in Water Strategy
- Pursue partnerships
- Improve lived experience



\* engage \* engage \* engage \* engage \* engage \* engage \*



CITY OF CAPE TOWN  
ISIXEKO SASEKAPA  
STAD KAAPSTAD

**Thank You**

<http://www.capetown.gov.za/thinkwater>

**Making progress possible. Together.**