



## Low-cost, pre-cast toilet designs for households and institutions in Ugandan small towns and low income areas

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Implemented by

**giz** Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH





# Project Background

Aim of the project is to make tangible improvements to sanitation services delivery in the six participating towns in Northern Uganda

“by supporting town councils in six (...) towns in (...) Northern Uganda to develop and implement comprehensive town-wide sanitation plans.”

Funders: GIZ – USAID

Implementing partners: WSDF-N (MoWE), 6 town councils



# Project Background



legal  
framework



construction

1

Capture & storage



2

Transport



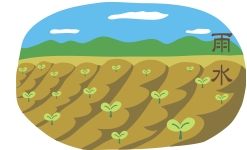
3

Treatment



4

Safe disposal/  
Reuse



Stakeholder  
coordination



Institutional  
capacity



Data-base +  
reporting



sanitation as  
a business



san. marketing &  
lobbying



encourage  
innovation



products





## Situation in the six towns

- Unlined pit latrines (>85%)
- Toilets abandoned when full – leading to space constrains
- High water table – ground water pollution
- No standards for toilet design – poor quality of construction
- Fragmented supply chain for sanitation products – High cost of construction
- Cost of single lined pit in Kampala: \$350 – 500 vs Up-county: \$1000 - 1200



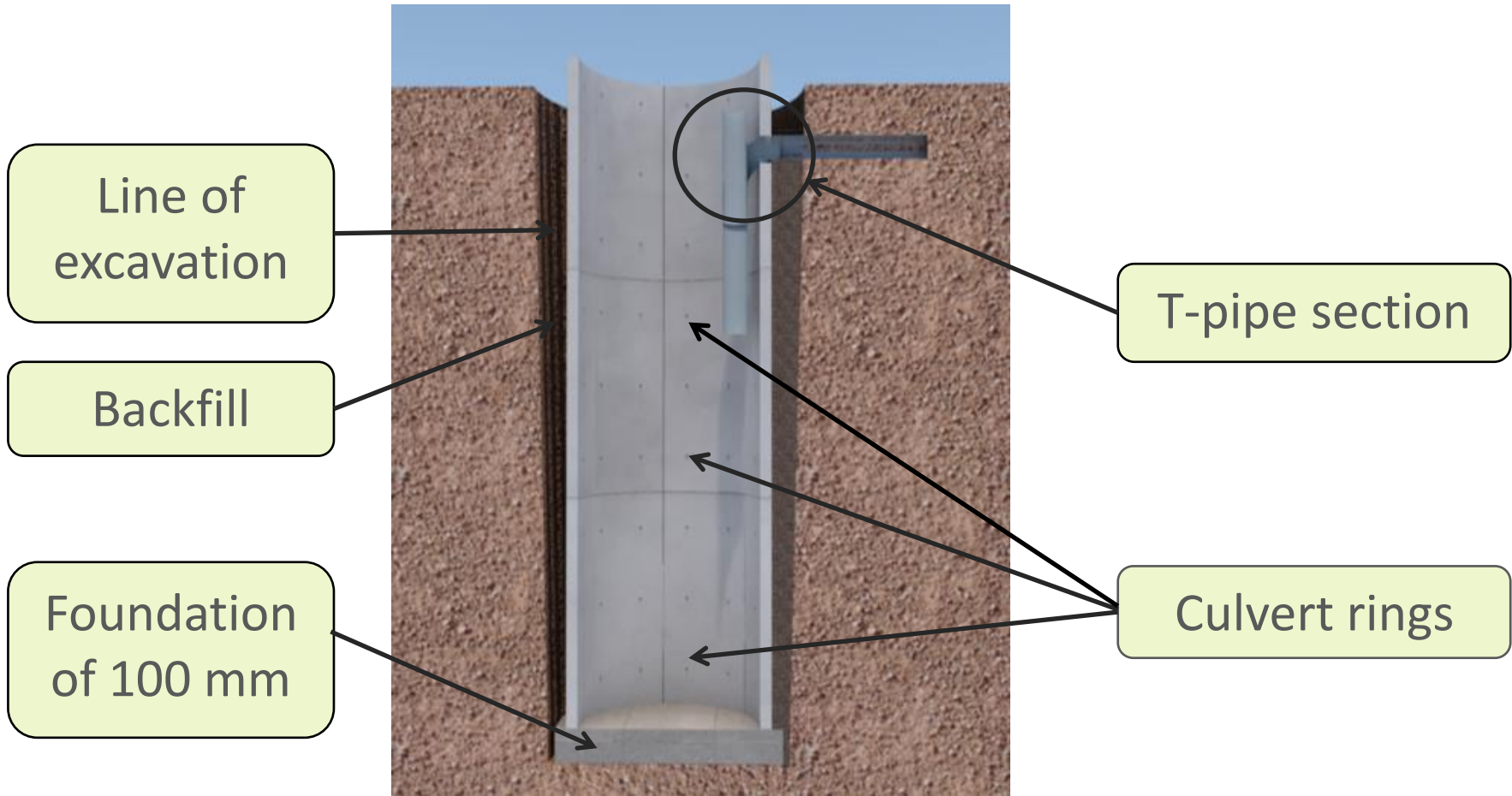
# Proposed ideas

- Design low cost emptyable toilets to support FSM
- Faeces to be completely contained
- Standardised design
- Work with what is available in the market
- Must be aspirational – look good
- Modular design for up-grades
- Work with local concrete block manufacturers
- Costs under \$400/ toilet block





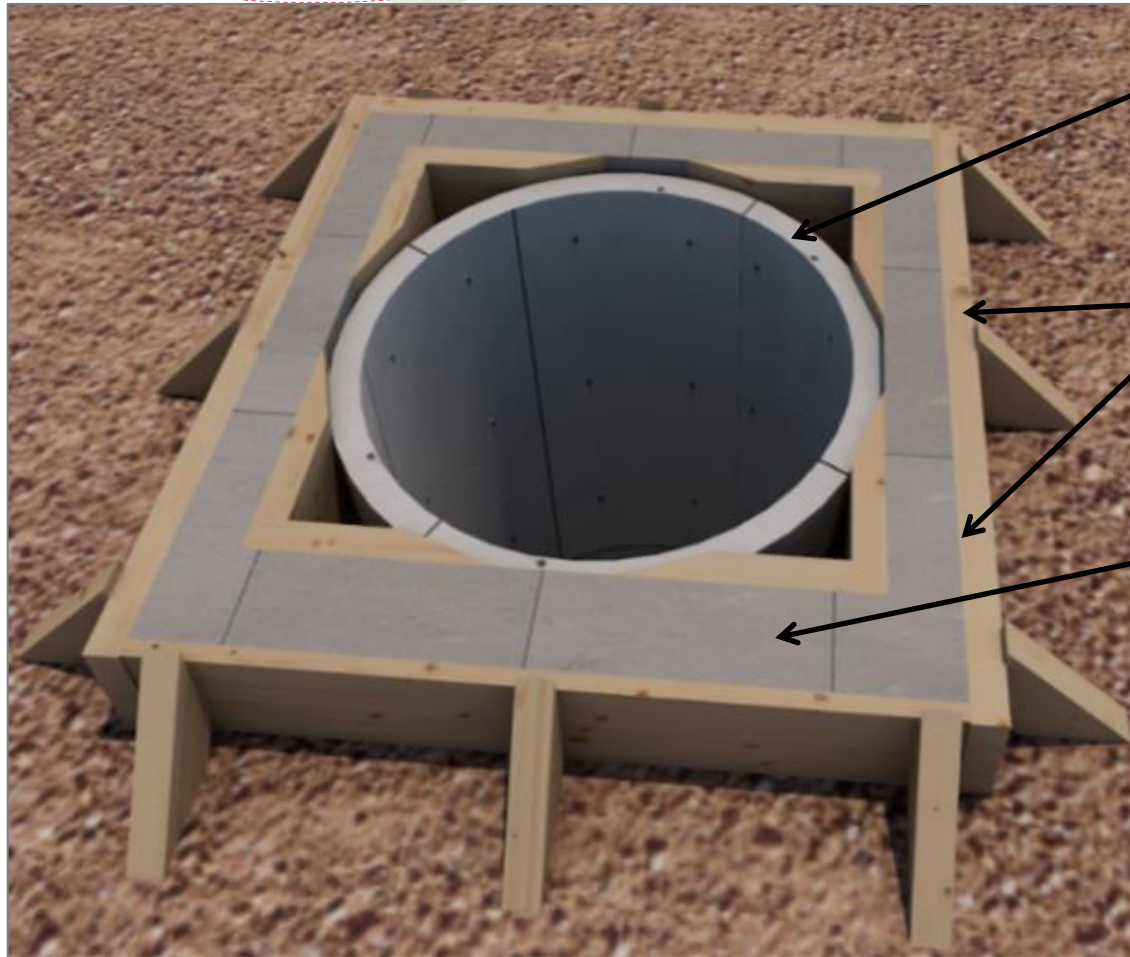
# Containment – Lined Pit Latrines







# Foundation for Superstructure



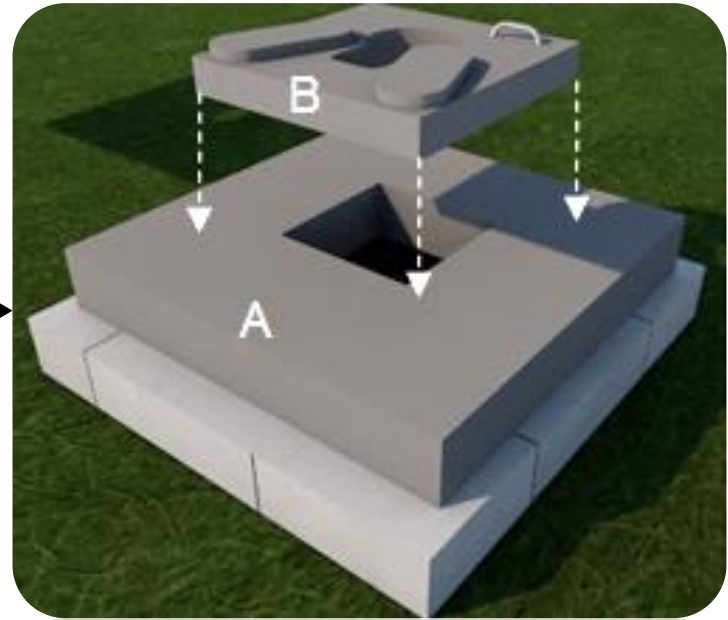
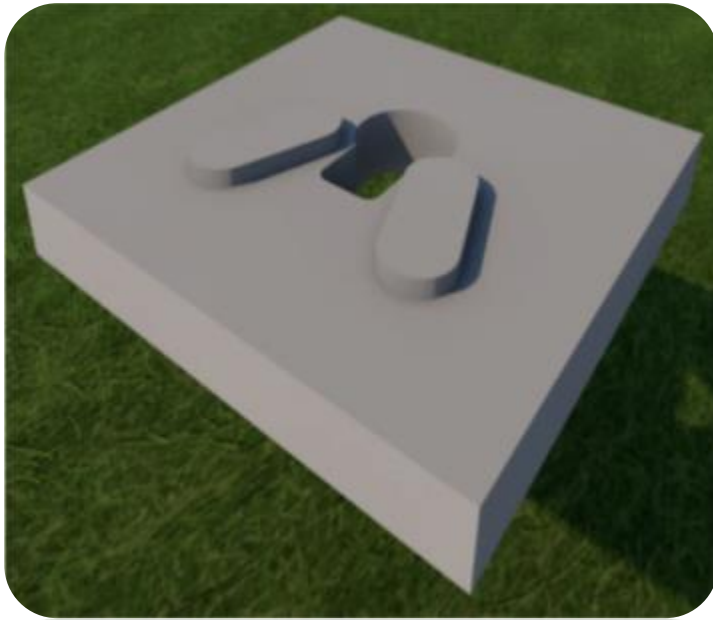
Culvert ring

Wooden framework

Cast concrete



# User Interface – Lined Pit Latrines







# Super Structure – Dry Pit Latrines

Precast corner pillars

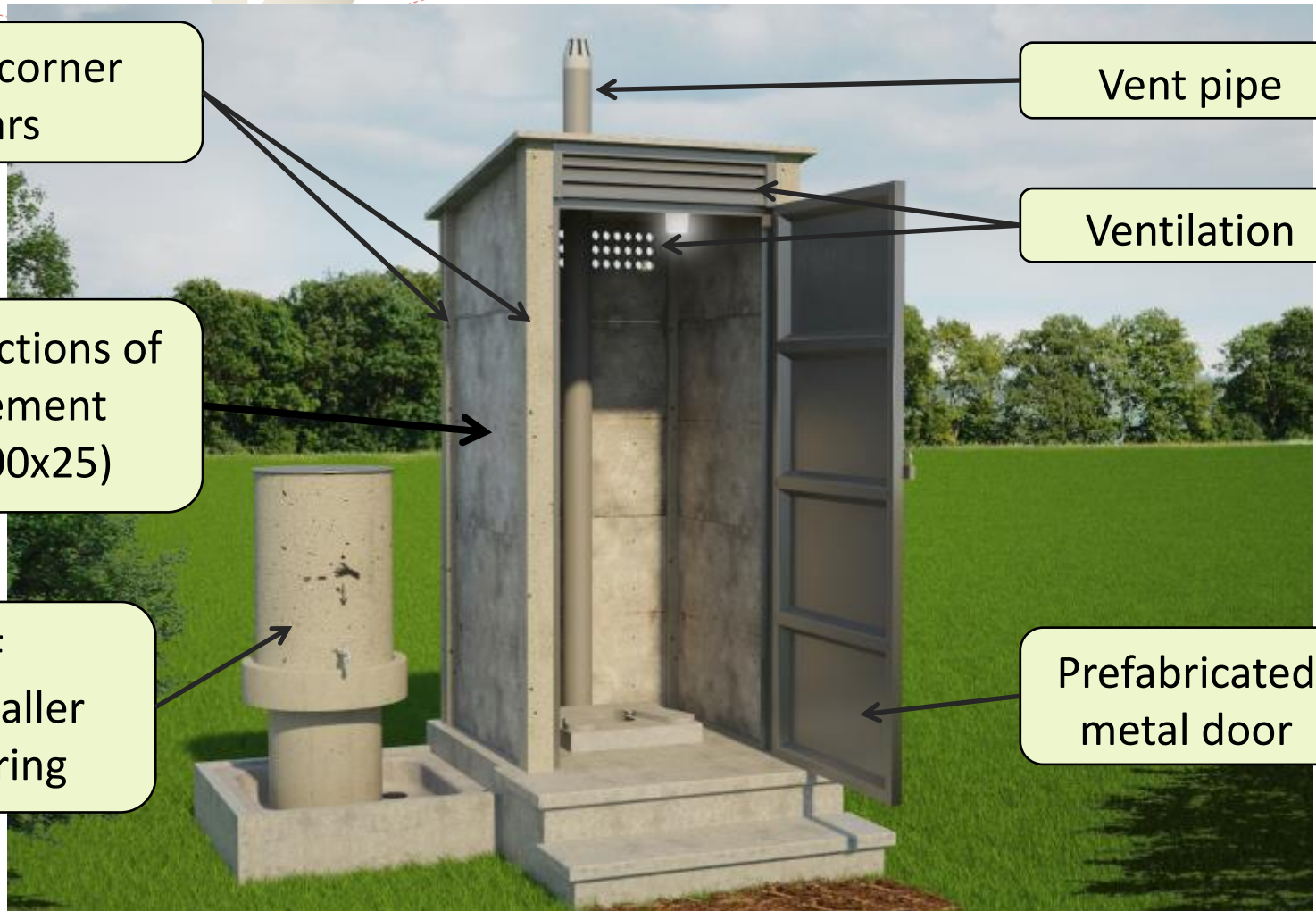
Vent pipe

Precast sections of ferro cement (950x400x25)

Ventilation

HWF using smaller culvert ring

Prefabricated metal door

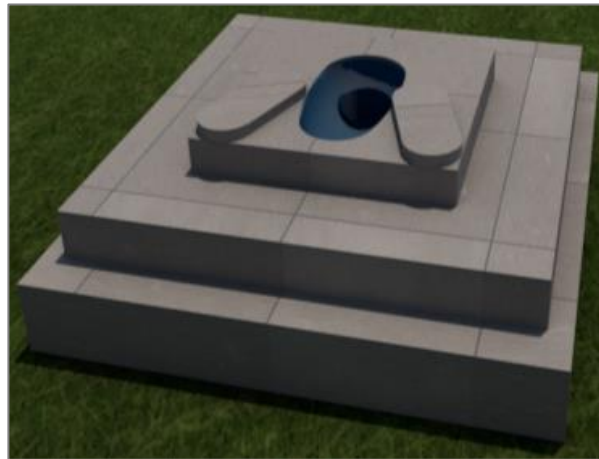




# User Interface – Water-borne Latrines

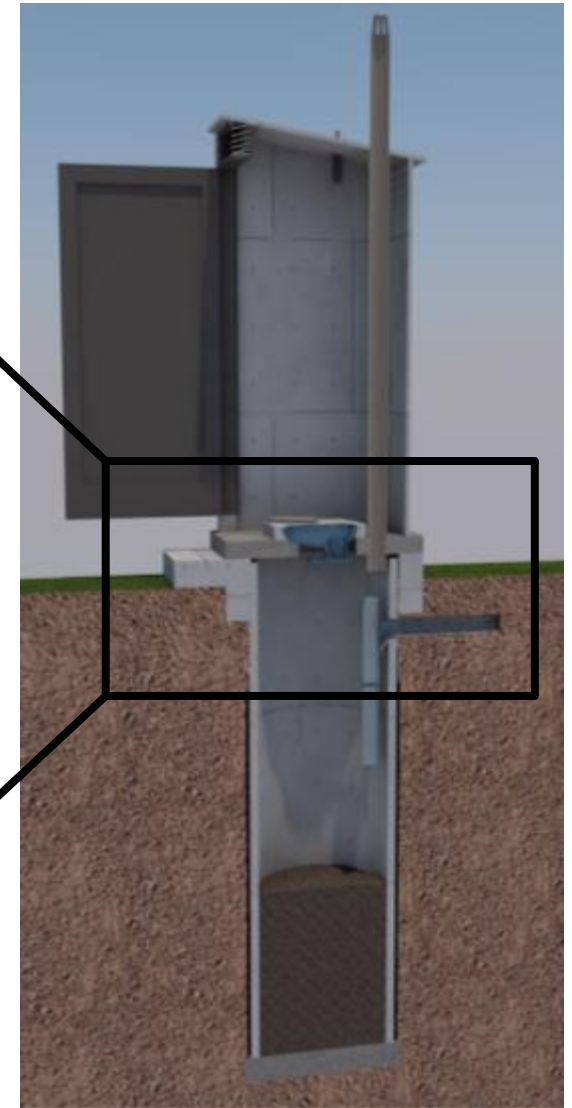


SaTo pan



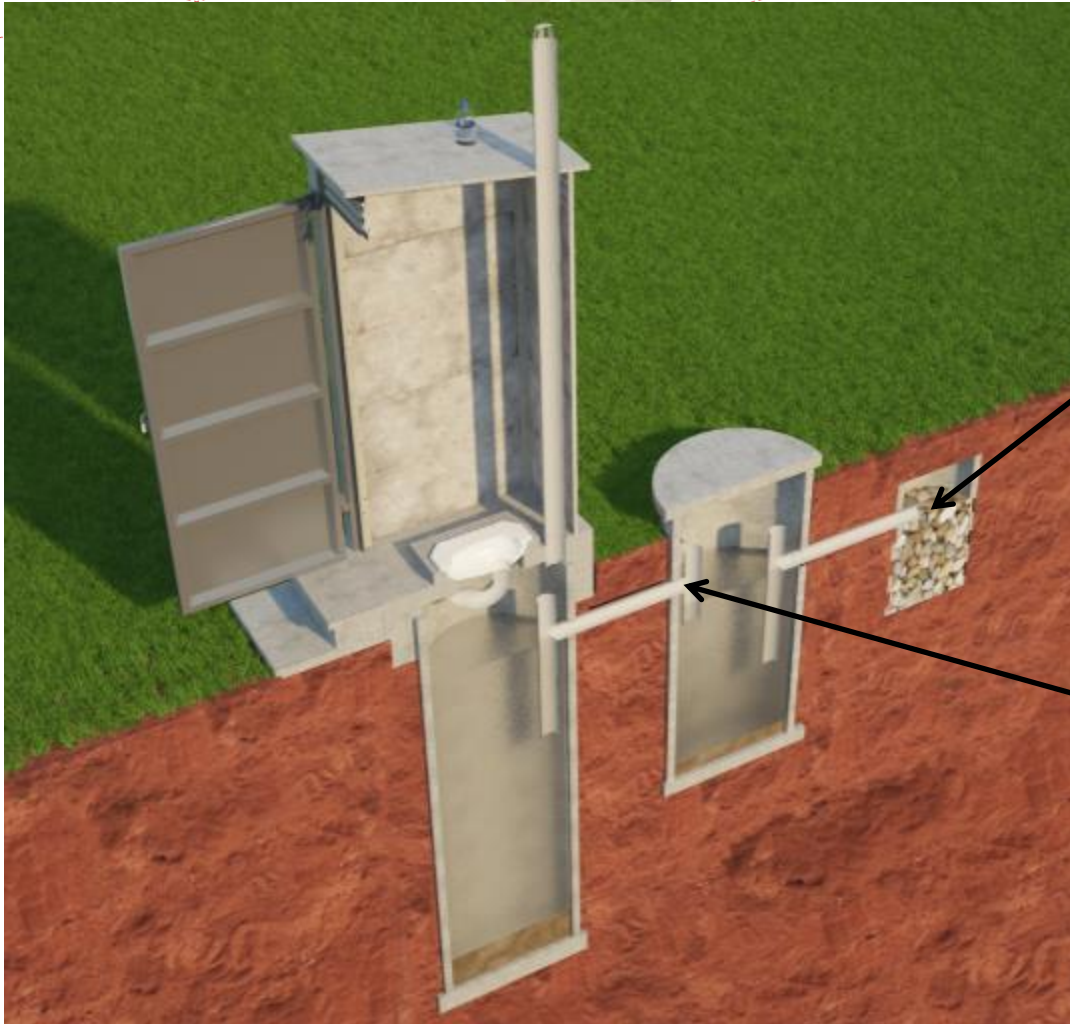


# Containment – Water-borne Latrines





# Pour Flush with Septic Tank



Soak pit for final effluent disposal

Second holding tank (connected by T pipe) that acts as baffles of a septic tank to increase retention time

# Institutional Toilet Facilities

Block For  
Females: HWF,  
Wash Room &  
Incinerator







# Hand Washing Facilities

0.6 m culvert as reservoir

Embedded push button taps

Drainage basin







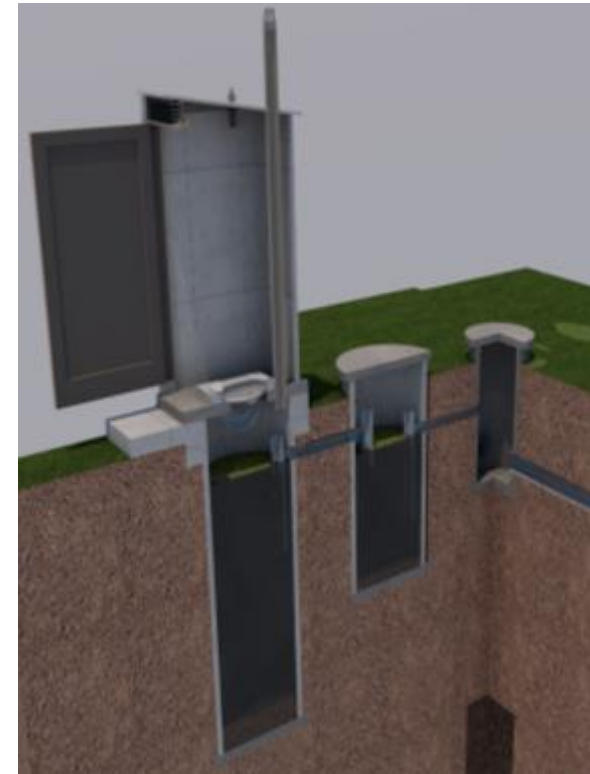
# Modular design

Lined Dry  
Latrine

SaTo Pan  
toilet

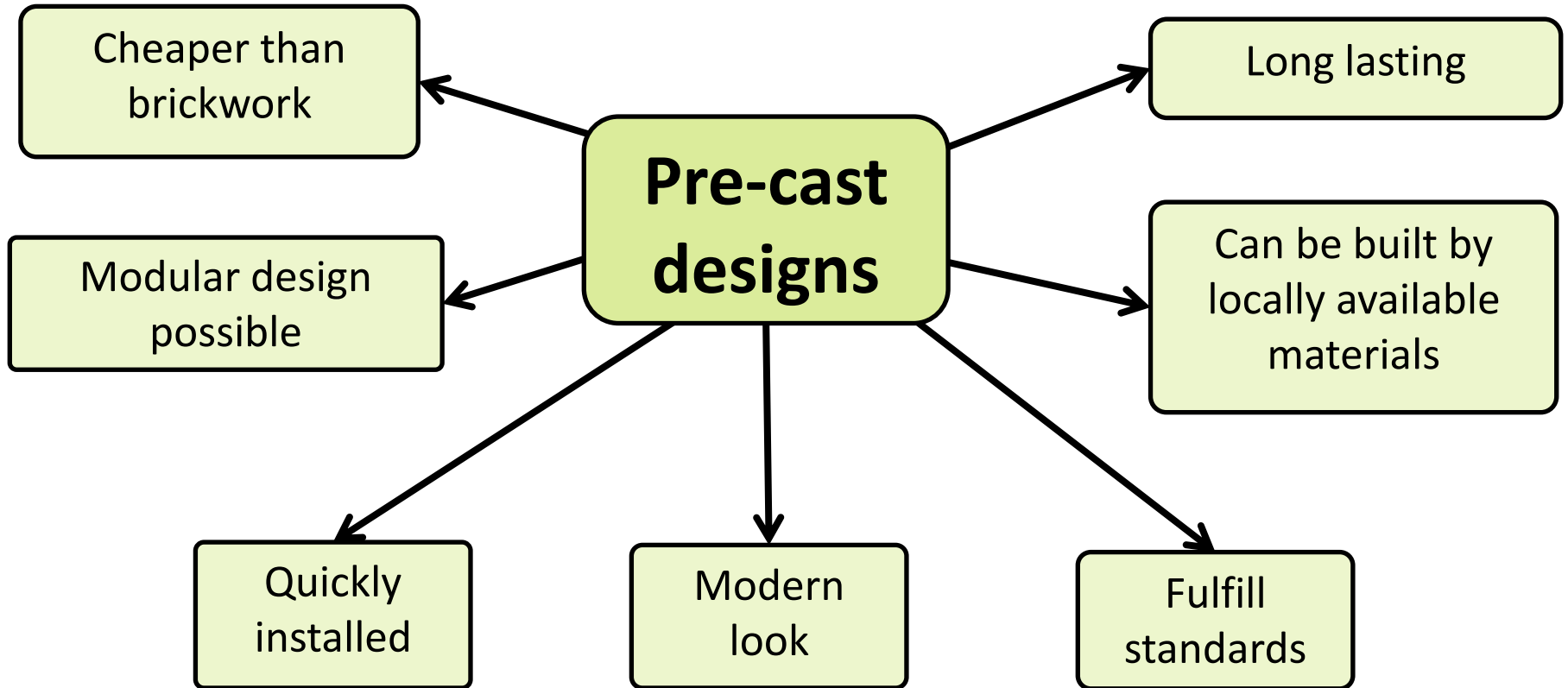
Pour flush with  
septic tank

Pour flush connected  
to solids free sewer





# Take Home Messages





# Discussion / Questions / Contacts

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