

## Compendium of Girls/ Women Friendly Toilets



**Construction of Girls/Women Friendly Toilet**

**Upgrading Existing Toilets to Girls/Women Friendly Toilet**

**Operation and Maintenance**

**Bill of Quantities and Cost Estimates**

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## Preamble

Pakistan has made significant progress in improving access to sanitation, yet 25 million people still practice open defecation. Lack of access to proper sanitation facilities negatively impacts the health and wellbeing of everyone in some way . However, lack of adequate sanitation affects girls and women in particular. They face unique challenges in accessing sanitation facilities. Their ability to properly manage their menstrual hygiene and tackle diseases may be particularly compromised when facilities do not provide for the space and materials they need.

WaterAid Pakistan is committed to promoting dignified access to inclusive sanitation facilities for girls and women across Pakistan. WaterAid Pakistan has demonstrated its model Girls/ Women Friendly Toilets (GFT/WFTs) in schools of Federal Capital, Khyber Pakhtunkhwa, Punjab and Sindh. WaterAid is trying to address the dearth of designs for Girls/ Women Friendly Toilets (GFT/WFTs) in institutions, public spaces, and private sector through this compendium. Based on its experiences in the realm of construction of Girls/ Women Friendly Toilets (GFT/WFTs), WaterAid has developed this compendium to facilitate government departments, private sector and development sector stakeholders interested in designing and constructing Girls/ Women Friendly Toilets (GFT/WFTs). This will not only help in ensuring availability of Girls/ Women Friendly Toilets (GFT/WFTs), but will also support in budget allocation, planning and operation and maintenance of the Girls/ Women Friendly Toilets (GFT/WFTs).

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## Abbreviations

<b>BOQs</b>	Bill of Quantities
<b>CGI</b>	Corrugated Galvanized Iron
<b>GFT</b>	Girls Friendly Toilet
<b>HDPE</b>	High Density Poly Ethylene
<b>MHM</b>	Menstrual Hygiene Management
<b>O&amp;M</b>	Operation and Maintenance
<b>PCC</b>	Plain Cement Concrete
<b>PF</b>	Pour Flush
<b>PVC</b>	Poly Vinyl Chloride
<b>PWD</b>	Persons with Disabilities
<b>RCC</b>	Reinforced Cement Concrete
<b>WC</b>	Water Closet
<b>WFT</b>	Women Friendly Toilet

# INTRODUCTION

## What is this compendium about?

This compendium is to compile and consolidate guidance on construction and/or rehabilitation of institutional toilets that cater to the requirements of girls and women who use them, especially during their menstruation days – thus called Girls/Women Friendly Toilets (GFT/WFTs). It provides guidance on the design, construction, upgradation and management of girls/women friendly toilets that are easily accessible to girls and women to ensure their safety, privacy and dignity during their menstruation, and also have features which makes these facilities accessible to women/girls with special needs, particularly pregnant women, older ladies, younger girls and women with disabilities.

This Compendium contains only essential features of girls/women friendly toilets.

Designs presented for suggested girls/women friendly toilets have features of disaster resilience as well.

## Who will be able to use it?

- This compendium is for all individuals and organisations involved in the design, construction, rehabilitation and promotion of girls/women friendly toilets in public and institutional settings, and all local authorities in towns and cities in charge of public toilets. This includes leaders and officials responsible for financing, planning, designing, regulating, monitoring or managing these facilities.
- It is also useful for national governments, public and private service providers, NGOs, donors and civil society organisations who have a role in this basic provision.
- It has not been designed to be read from start to finish; different parts may be useful to different users. Sections included in this compendium are meant for users ranging from beginners who want to understand the basic structure and components, to technical staff who would like to design and construct the infrastructure.

## How to Use this Compendium

This Compendium is not a one-size-fits-all blueprint for girls/ women friendly toilets. We have drawn key features and practical steps from existing literature and toilet designs that WaterAid Pakistan has demonstrated over the past few years.

The design, construction and management of toilets need to be adapted according to context. This involves considering national guidelines, standards and resources on the provision of public and institutional toilets, and taking into account local preferences informed by participation of women's organisations and views of people with diverse needs.

It covers all aspects of sanitation provision along with dignity, safety and security to girls/women using toilets outside their homes.

This compendium can also be used in various other ways:

- As a starting point for discussion with municipal corporations, public works development directorates and institution owners
- By disabled people's organisations working to make communities a more acceptable place for persons with disabilities
- As flashcards, i.e. images from this compendium can be used for developing promotional material
- As posters, since images can be printed and used for group discussions

## Section 1 – Construction of Girls/Women Friendly Toilet

### 1.1 Prerequisites for Girls/Women Friendly Toilets:

Women and girls need a private, safe and accessible toilet to manage their menstruation, with water and soap to wash their hands and any reusable menstrual product, and a disposal mechanism to dispose the same. Not having access to private, safe, clean and appropriate toilets during menstruation can cause discomfort and psychological stress for girls/women, and adds to the discrimination women and girls already face because of menstruation-related taboos. There are additional requirements for older, pregnant and nursing women, and for those with disabilities.

#### Girls/Women Friendly Toilets must

- Be safe and private i.e. be in a safe location and have a clearly marked female toilet section with a separate entrance, good lighting, female caretakers, attendants and cleaners, and robust, private cubicles. Women need to undress at least partially for both urination and defecation, which requires more space, privacy and time – even more so when managing menstruation.
- Cater to menstrual and other hygiene requirements by providing water and soap, hooks, shelves and mirrors, provision of menstrual materials and supplies on regular basis, and means for washing and/or disposing of menstrual products.
- Be accessible to all female users. In case of institutional toilet, it should be at a reasonable distance from the activity centre, reachable via an accessible path, and have at least one cubicle accessible to all users, including girls/women with disabilities.
- Be affordable (if paid), available when needed and have enough cubicles to avoid long queues, which means allocating extra space and cubicles for girls and women.
- Be well maintained and operated more vigilantly than regular toilets i.e. have adequate management arrangements and cleaning and maintenance budgets, with safe management of faecal, liquid and solid waste.
- Meet the requirements of caregivers and parents i.e. have a baby changing station, and have a female family-friendly cubicle.
- Have Menstrual Hygiene Management (MHM) information provided to both users and maintenance staff.

### A Model Girls/Women Friendly Toilet should have

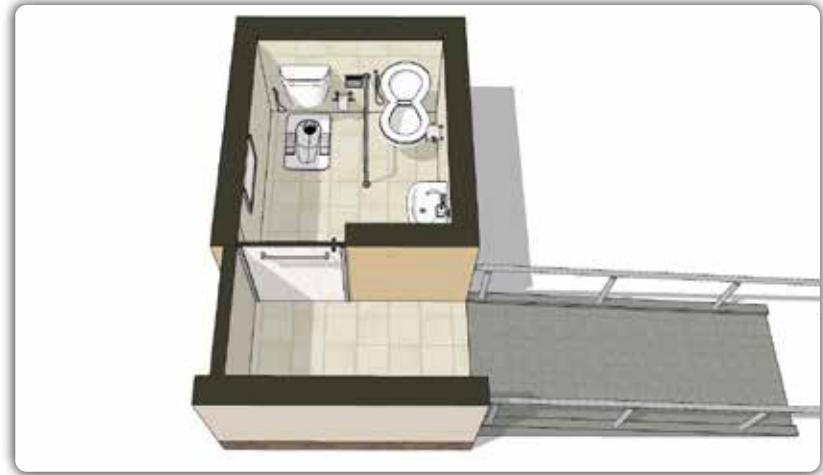
- a. capacity to serve 150 girls / women per day per single cabin
- b. a separator (with clear signage) from male toilets
- c. easy access to girls/women with disabilities
- d. safety and privacy with an inside door latch
- e. walls, door and roof made of non-transparent materials with no gap or spaces
- f. screened entrances to block view
- g. shelf/hook for storing belongings hygienically during facility use
- h. clear signs, including guidance for disposal of menstrual materials
- i. night time light source both inside and outside toilets
- j. burning unit for safe disposal of menstrual materials or trash bins (with lids)
- k. access to water (ideally inside the toilet)
- l. hand rails to assist pregnant, elderly or girls/women with disability
- m. baby changing station



## 1.2 Possible Types of Girls/Women Toilets

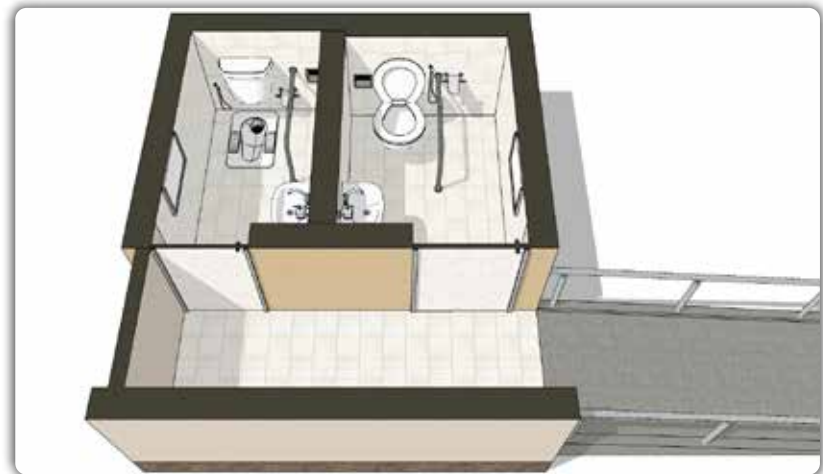
### Single Cabin Girls/Women Friendly Toilet

A single cabin girls/women friendly toilet should be accessible to girls/women with disabilities.



### Twin Cabin Girls/Women Friendly Toilet

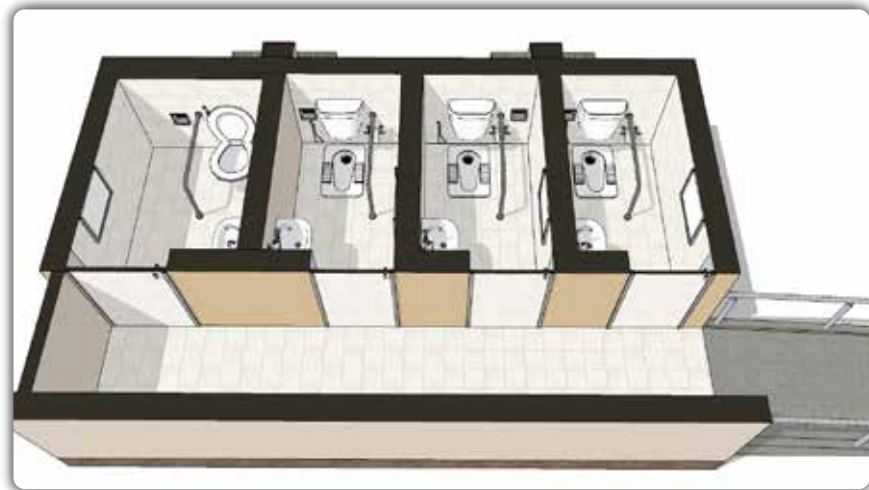
Twin cabin blocks of girls/women friendly toilets serve offices, factories, public parks, bus stands and markets adequately.





#### 4 Cabin Girls/Women Friendly Toilet Block

A four cabin girls/women friendly toilet block is most suitable for schools, markets, hospitals, railway stations and bus stands.



## 1.3 Site Selection

Site selection of girls/women friendly toilet requires inclusivity, safety and privacy, meaning it should be safe enough for girls/women to access it due to its location. Technical feasibility will include availability of water supply, drainage system and electricity, and enough space for construction of all features of GFT/WFT.



### Land Acquisition

Government's buy in regarding availability and allocation of land at appropriate locations should be ensured at the onset of planning.

### Available Systems:

Site must be selected where water and drainage system is available at nearest possible distance. The water and power supply and sanitation systems of the new girls/women friendly toilets (single or twin cabin) must be integrated seamlessly with the existing systems.

### Site Elevation:

Elevation of site should be such that waste water can be easily and safely disposed of without taking costly structural measures.

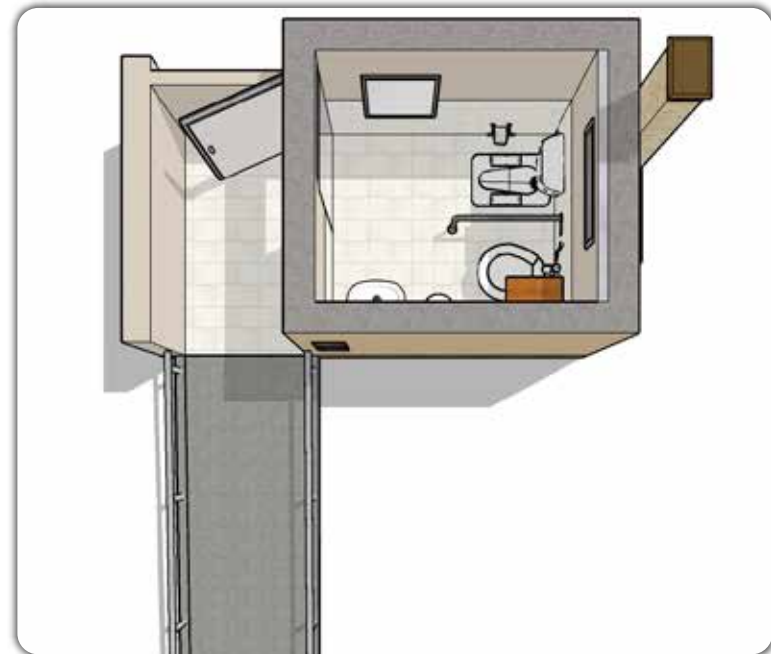
### Septic Tanks:

On-site\* wastewater treatment / disposal system must only be constructed if a connection to the existing system is not possible / feasible, and / or where municipal sewer system does not exist within a distance of 250 m.



## 1.4 Preferred Orientation of Structure

Features	Requirements
View	The building should be in clear view and unobstructed by trees or other buildings or structures in the vicinity for the girls/women to feel safe in accessing and using the facility.
Entrance	Ideally the doorway of the toilet should face the wind and the toilet block may be within 50m (or as per available space) of any activity area
Toilet Face	Latrine can face any direction depending upon availability of space.
Commode	In a GFT/WFT, the commode is the main accessory which needs to be properly oriented. In Muslim communities, this should be fixed in north-south direction to avoid facing or backing the Qibla (Ka'aba).
Disaster Resilience	Toilet must be built on an elevated platform in flood prone areas. The design should be able to withstand moderate earthquakes in earthquake prone areas.



## 1.5 Materials for Construction

The construction materials to be used for constructing GFT/WFT should be location specific, safe and long-lasting.

Features	Requirements
Walls	Bricks, Concrete blocks or Coarse Rubble Masonry (Stone)
Roof	Reinforced Cement Concrete (RCC); T-Iron & Tiles or Corrugated Galvanized Iron (CGI) sheet with minimum of 26 gauge not suitable for cyclone and high velocity wind prone areas
Door	Steel or wooden frame & shutters
Ventilator	Frame, wire gauze and safety grill
Floor	Plain Cement Concrete (PCC) for VIP latrine and PCC with non-slip ceramic tiles for PF latrine
Water Supply Plumbing	GI, High Density Poly Ethylene (HDPE) pipe or PVC which shall not be concealed inside the walls
Storage Tank	Concrete / Steel / Fiberglass / Plastic
Storage Tank Stand	Masonry/Angle Iron Frame over PCC pads or over the roof of latrine
Sewerage Drains	Poly Vinyl Chloride (PVC) pipe
Cement	Sulphate Resistant Cement
Sand	Coarse sand free from clay, debris and organic matter
Aggregate	Crushed stone, natural gravel fully washed
Water	Water used in concrete or mortar should be fit for drinking



## 1.6 The Foundation, Floor Details and Layout

### Single Unit Toilet with Incinerator

The site of latrine block should not be founded on loose or black soil or fill. Rather it should be either on firm soil or rock.

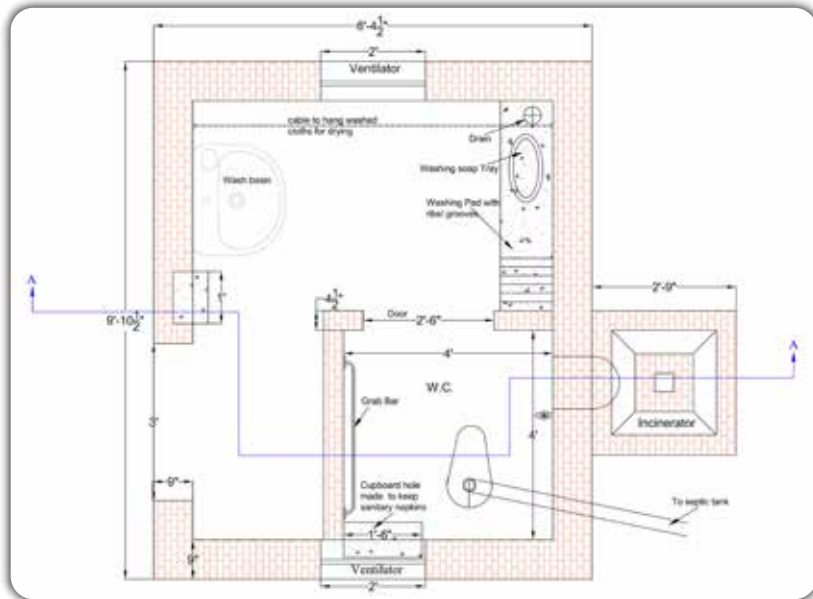


Figure 1: Top View of Single Unit GFT/WFT

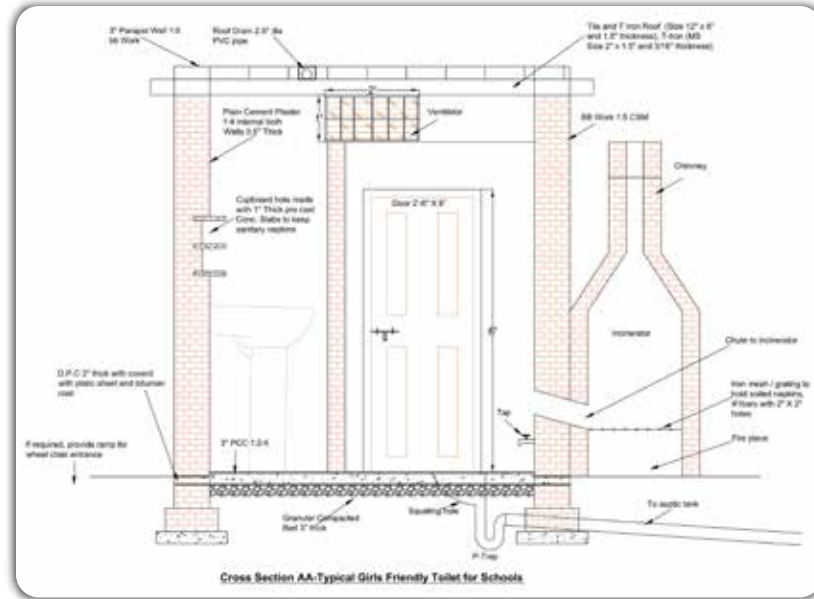


Figure 2: Front View of Single Unit GFT/WFT



## 1.7 Super Structure

In special circumstances, additional design considerations must be accommodated: like snow load to the roof in snowy regions; roof anchorage in windy regions; animal damage in the areas where wild animals are prevalent.

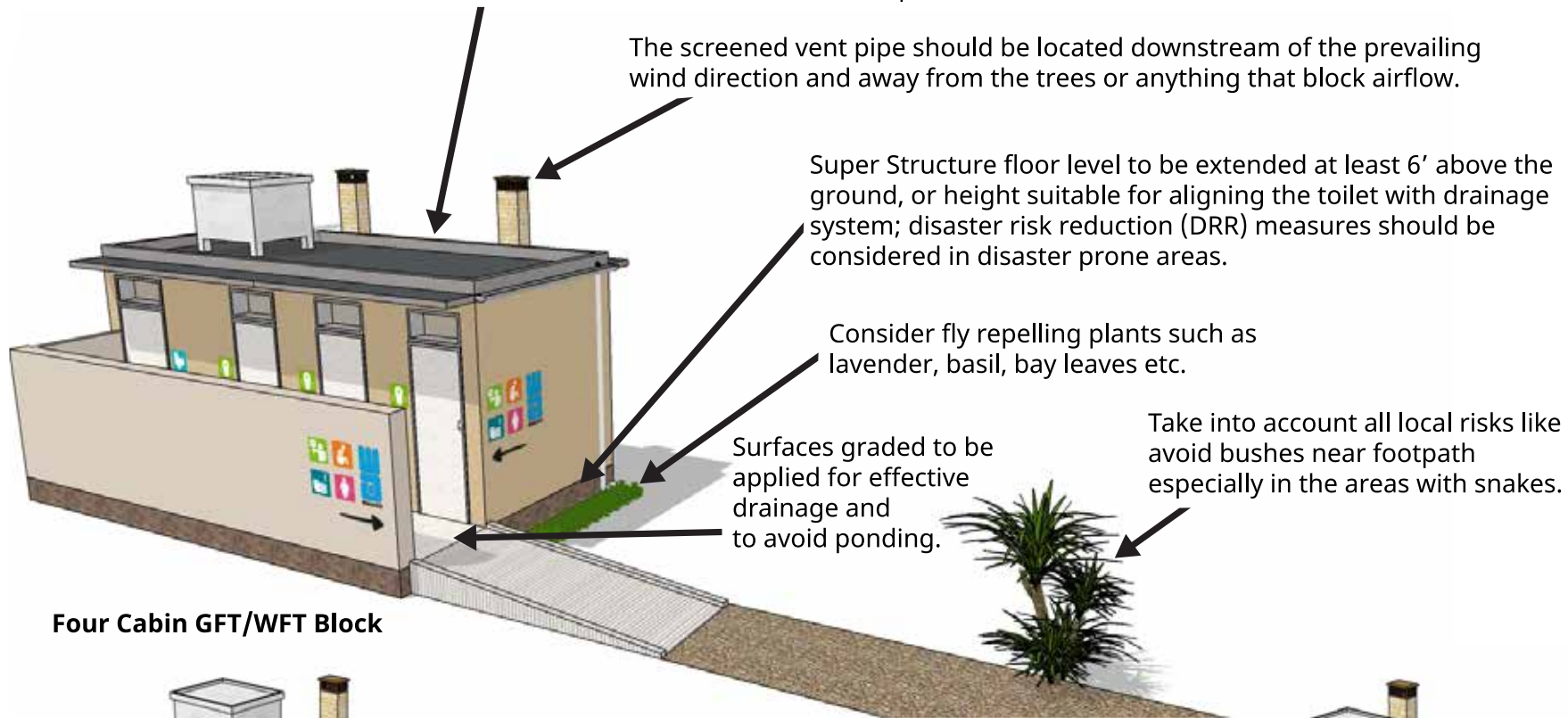
The screened vent pipe should be located downstream of the prevailing wind direction and away from the trees or anything that block airflow.

Super Structure floor level to be extended at least 6' above the ground, or height suitable for aligning the toilet with drainage system; disaster risk reduction (DRR) measures should be considered in disaster prone areas.

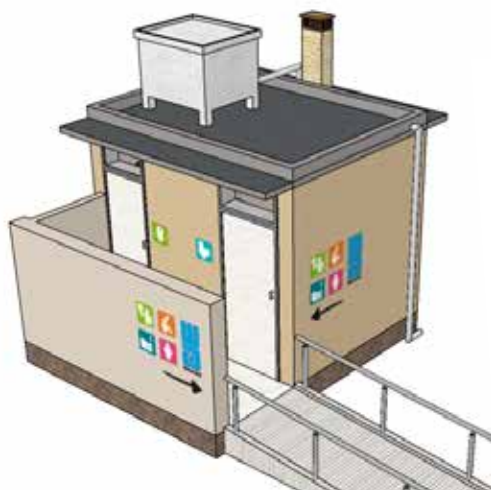
Consider fly repelling plants such as lavender, basil, bay leaves etc.

Surfaces graded to be applied for effective drainage and to avoid ponding.

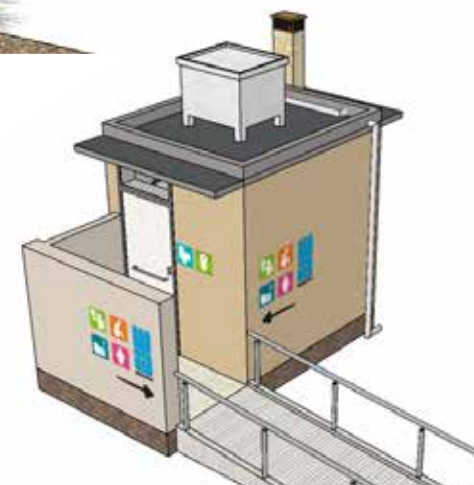
Take into account all local risks like avoid bushes near footpath especially in the areas with snakes.



Four Cabin GFT/WFT Block



Twin Cabin GFT/WFT



Single Cabin GFT/WFT



**Suggested Interior Features**

Consider durability and security of all hardware and software. Use durable materials and anti-vandal, theft-proof fittings as far as possible.

In case of GFT/WFT, breastfeeding facilities can be provided as community preference following consultation.

If toilets are to be used after dark, ensure connection to power for lighting. Consider solar or other energy sources instead of fluorescent lights if no main power is available in the area.

Large flap or pedal-operated bins to be provided.

Shelves, hooks etc. to be provided as appropriate/agreed with stakeholder consultation

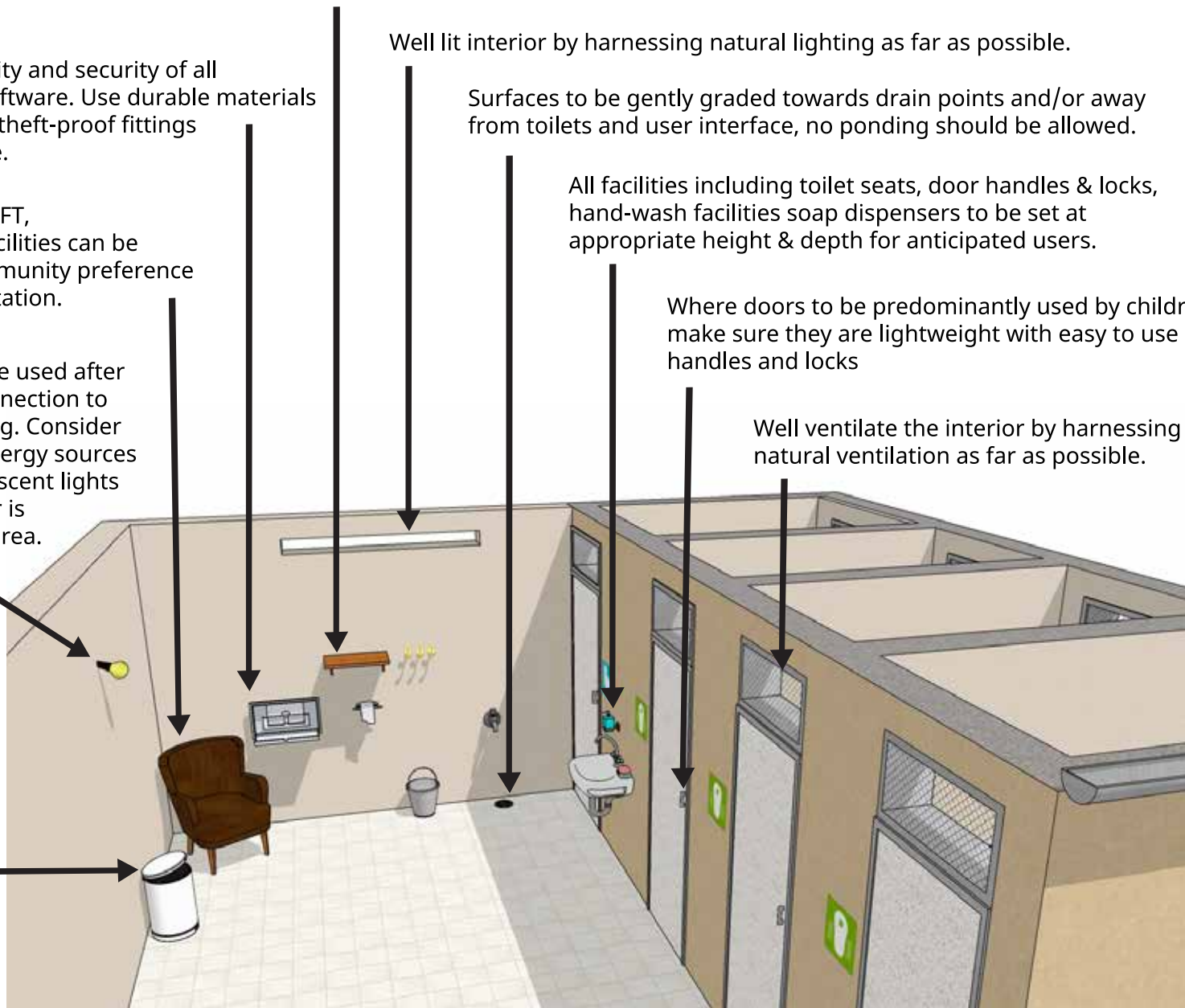
Well lit interior by harnessing natural lighting as far as possible.

Surfaces to be gently graded towards drain points and/or away from toilets and user interface, no ponding should be allowed.

All facilities including toilet seats, door handles & locks, hand-wash facilities soap dispensers to be set at appropriate height & depth for anticipated users.

Where doors to be predominantly used by children make sure they are lightweight with easy to use handles and locks

Well ventilate the interior by harnessing natural ventilation as far as possible.



**Interior View - Four Cabin GFT/WFT Block**

## 1.8 General Features

### a. Safety and Privacy Measures

Features	Requirements
Safe Location	Privacy in a girls/women friendly toilet is not provided at the cost of safety or security. Toilet must be located at a safe site within audible distance from nearest activity area with the possibility of immediate help around.
Privacy	At least 5 ft high privacy wall in front of the toilet to avoid visual contact with girls/women entering or exiting the toilet Robust doors with secure locking mechanisms Safe position of ventilator Proper supervision must be warranted
Lighting	The facility should have adequate arrangement of lighting the facility both inside and outside especially after dark.
Signs, Symbols and Directions	Clear instructions and directions should be displayed at visual ease.



**b. Access / Pathways**

Features	Requirements
<p>Clear level path</p> <p>Guide string/railing</p> <p>Landmark posts catering to users with visual or physical impairment, including wheelchair users, pregnant women, and women carrying infants</p>	<p>A clear 4'-6" wide footpath of thick grass or bushes, paved with bricks, PCC or gravel must be built to the toilet building.</p> <p>Path should be flat where possible, unobstructed and non-slip.</p> <p>Entrances, exits, walkways, paths and open areas used to access the toilet should be well-lit with natural light or bright enough lighting, especially when facilities are open at night.</p> <p>Tactile paving and/or guiding posts for visually impaired people should be erected.</p>





c. Ramps and their Gradients

Features	Requirements
<p>Wide concrete, low gradient concrete ramp</p> <p>Raised sides for safety to prevent wheelchairs from rolling off</p> <p>Handrails for support</p>	<p>Smooth, firm, durable ramp at door entrance with maximum slope of 1:10. It should be absolutely no steeper than 1 in 12</p> <p>Maintenance will be needed to keep the ground at the same level as the end of the ramp</p> <p>Handrails must be provided in locations where the required length of ramp is more than 4 feet long. 3 feet height of handrail is standard. It may be of any material, such as stainless steel, polished wood or rope, as long as it is strong enough with a smooth surface.</p>

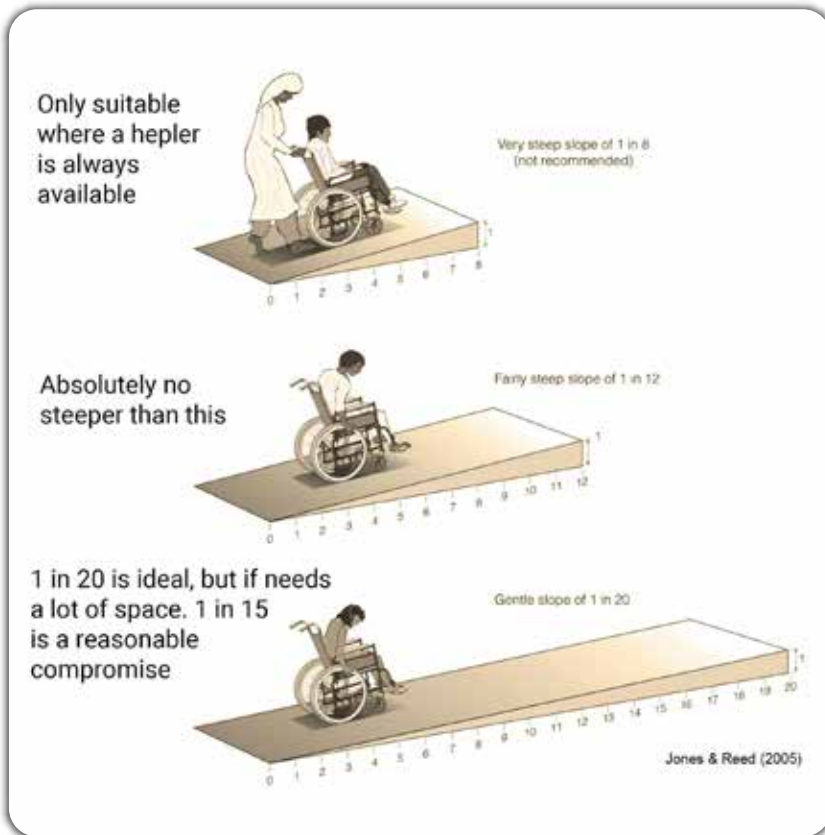


Figure 3: Slope Gradients for Different Users



d. Steps

Features	Requirements
<p>Low concrete steps with a handrail</p>	<p>Steps with cross-hatching or non-slip marble should be used to reduce the risk of slipping. Cross-hatching is easy to apply; concrete is scored while wet.</p> <p>Painting steps white or in bright color increases visibility.</p> <p>Handrail will prevent injury from slipping on wet steps.</p>

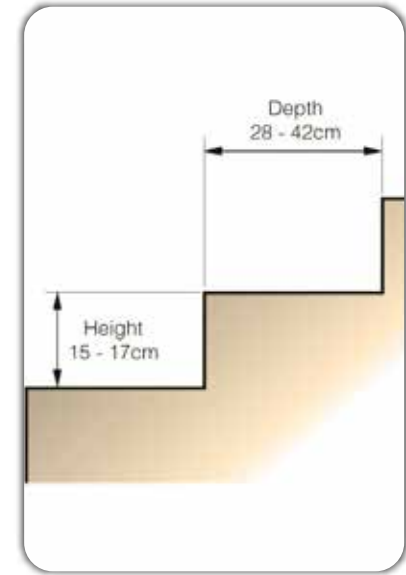


Figure 4: Height and Depth of Steps

e. Doors and Ventilators

Features	Requirements
Strong Doors	<p>Doors should be made of strong material (iron/wood) in a hollow steel frame filled with concrete during installation for provision of maximum resilience and security.</p> <p>The door should not obstruct internal space of toilet.</p> <p>It must have a handrail and internal bolt, and should be easier to open and close for older and disabled users.</p> <p>It should be 3 feet wide to especially cater to those with mobility devices, a mother carrying a small child or overweight users.</p> <p>It should be varnished or painted to reduce risk of termite damage and rust.</p>
Wire mesh Ventilators	<p>Ventilators above doors should have wire mesh in a solid frame at a height that does not compromise privacy</p>

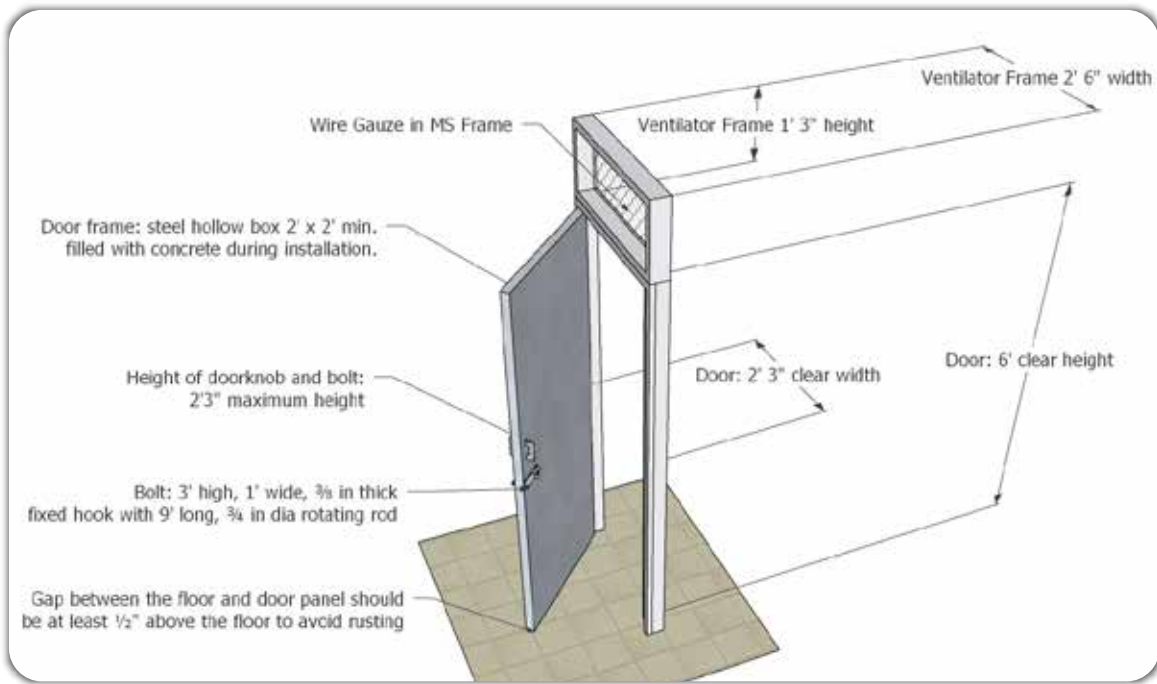


Figure 5: Features of GFT/WFT Doors

## f. Aesthetics

Aesthetics of a structure can add positively to the surrounding ambience through attraction of its own.

Features	Requirements
Painted facilities	<p>A suggestively feminine color can itself make the facility stand out as NOT an All User facility, and being exclusively meant for girls/women. Color should be decided in consultation with girls/women.</p> <p>Messages related to proper use of toilets are to be made part of the decor, and with cartoons in case of schools.</p>
Ceramic or marble tiles on floor and walls	<p>Floor tiles (nonslip rough) matching with the wall tiles make the toilet look aesthetically beautiful, while also making the facility easy and effective to clean.</p>



### g. Internal Space and Accessories

Girls/Women friendly toilets should have enough space granted for wheelchair users to enter, turn, close door, and park by the toilet with close enough walls to reach handrails. Minimum required space for a girls/women friendly toilet should be 6'x7', while wall height should be more than 8' tall and not less than 7'.

Accessories	Requirements
<ul style="list-style-type: none"> <li>Full-length mirror</li> <li>Shelf</li> <li>Hooks</li> <li>Baby Station</li> </ul>	<p>Regular cleaning, maintenance and provision of menstrual hygiene supplies will be required</p> <p>There should be no ventilator / opening in the common wall of adjacent toilets.</p>





## h. Handrails

Handrails assist disabled, pregnant, weak or sick girls/women in moving around and getting up easily inside the toilet. It is the most convenient feature to be added to existing toilets.

Features	Requirements
Durable material	Handrails must be strong enough to bear user's weight. Use steel material to avoid corrosion.
Non-slip surface	If non-steel material is used, rails should be painted to reduce corrosion and increase durability.
Height and Location of Handrails	Handrails should be placed at appropriate locations and height. 3 feet height is standard.

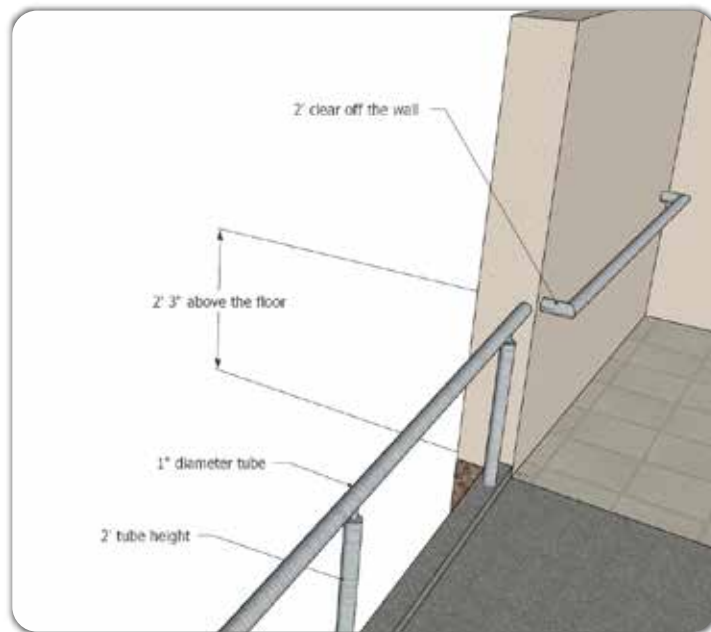


Figure 6: Handrail Specifications

**i. Commodes**

Commodes should be used according to users' need and cultural/contextual practices.

Features	Requirements
Commode Selection	Use commodes that are cost efficient and easily available in the market
Placement of Commode	Commodes should be suitably spaced with appropriate height for users of all ages
Use of Commode	Put posters for proper usage of the commodes prohibiting throwing in menstrual hygiene waste products, baby diapers, tissues, napkins, etc.
Cleaning	Appropriate detergents should be used to keep commodes clean and to avoid stains
Water Conservation	Preferably use flush with half-full pouring option and prefer the use of bidet shower to avoid wastage of water

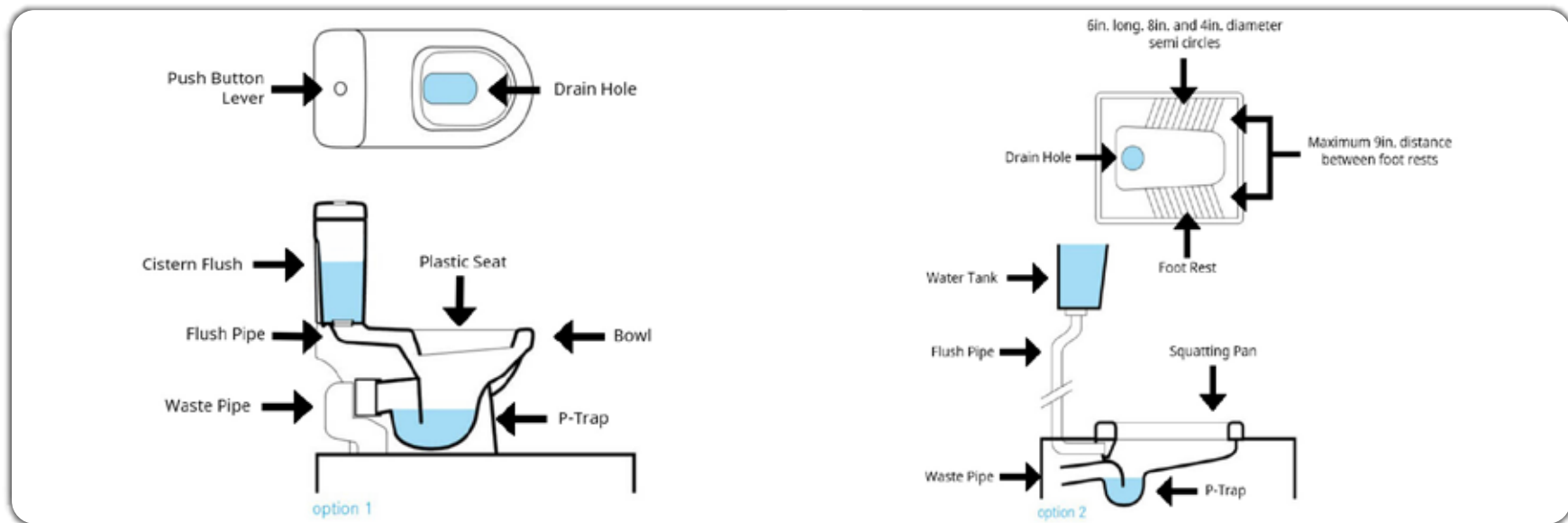
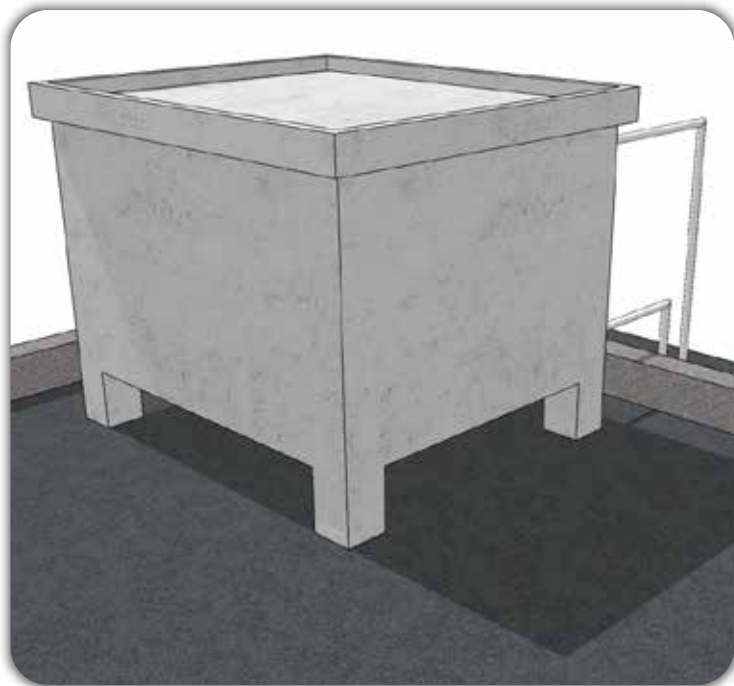


Figure 7: Specifications of Commodes (European and Indian)

## 1.9 Water Supply and Storage

Regular water supply and storage ensures constant availability of water in the GFTs/WFTs for sanitation and cleaning of the toilet. The best option is to connect the girls/women friendly toilet with the exiting water main or institutional networking where available.

Features	Requirements
Water Supply	A reliable supply of water should be ensured through municipal water supply network or existing borehole on the premises.
Storage Tank Material	An RCC or brick masonry overhead tank is the best preferable option. However, in case of unavoidable circumstances, plastic or LDPC overhead water storage tanks can be considered.
Storage Tank Capacity	Storage requirements estimation for girls/women friendly toilet for schools: Assuming 10 girls will attend the toilet for one hour during 6 hours of school/college time using 10 liters per head, then the required storage capacity will be minimum $60 \times 10 = 600$ liters. A tank of around 1000 liters capacity will be used in the above context.



RCC Elevated Tank



Plastic Storage Tank

## 1.10 Menstrual Waste Disposal

### i. Incinerators / Burning Units

Burning units are an integral part of GFTs/WFTs. These are recommended to be constructed at a distance of minimum 3m from other structures or activity areas.





**a. Exterior of Burning Unit**

Features	Requirements
Burning Unit Chimney	Height of the chimney of the burning unit must be at least 7' (ideally 10') above the chamber roof.
Ignition Fuel	Recycle products such as paper, cardboard, newspaper and paper-based wrappers can be used as ignition fuel. Avoid putting highly inflammable materials such as cans and plastic bottles, etc.
Safety	The outer door of the unit should always be kept closed, except during the burning process, to avoid ingress of rodents and insects.
Disposal	Burning unit ashes should be disposed of by mixing with soil and organic waste.

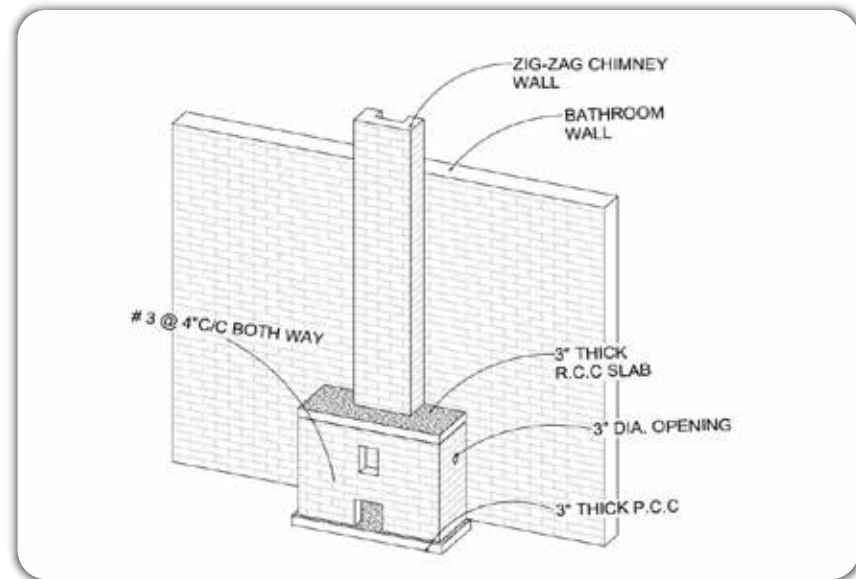
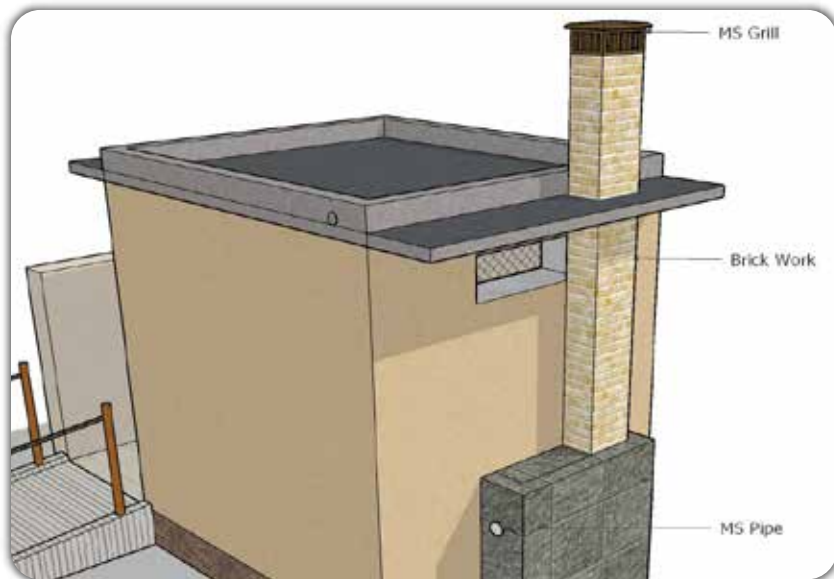


Figure 8: Exterior Specifications of Burning Unit

**b. Chimney of Burning Unit**

A specially designed zigzag exhaust chimney helps to minimize carbon emission by 75 to 80 percent.

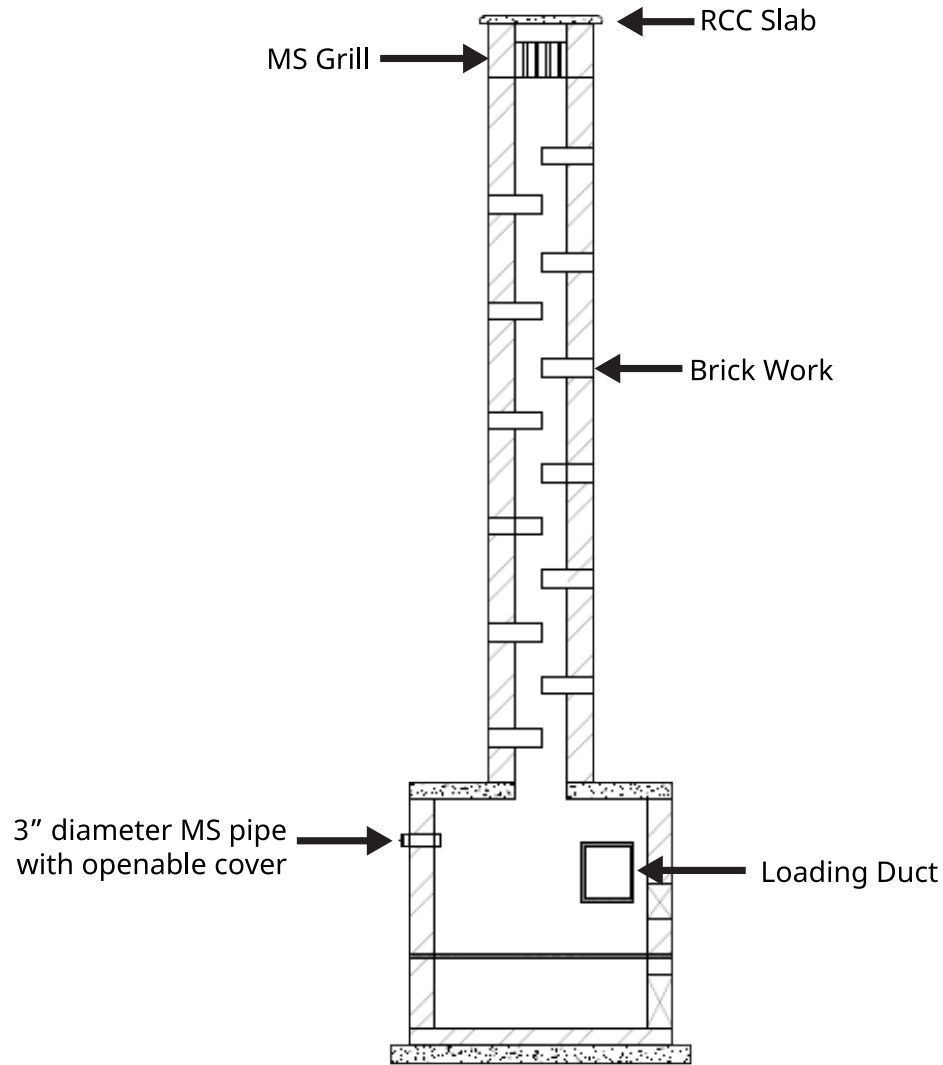


Figure 9: Interior of Burning Unit Chimney

## ii. Disposal Bins

As a general practice, menstrual waste is directly put into disposal bins or other containers. This method is most commonly found in communal or institutional toilets.

Features	Requirements
Waste bins	<p>A bin with a flap rather than a lid and pedal should be preferred to better conceal waste inside.</p> <p>A frequent and reliable cleaning schedule to clean out the bins must be in place.</p> <p>Polyethene lining assists with easy emptying of the waste.</p>
Storage capacity	Bins should have a suitably large capacity that caters to the need and frequency of toilet use.
Material	Prefer steel or plastic material for bin to avoid corrosion and wear and tear of material.



## 1.11 Septic Tanks

A septic tank is used for treating black and grey water of a GFT/WFT. Efficiency of septic tanks can be lower in colder climates. Where the municipal water borne sewer system exists, girls/women friendly toilets must be connected to that system.

Features	Requirements
Material of Septic Tank	A septic tank is a watertight chamber made of bricks, concrete, fiberglass, PVC or plastic.
Inputs to the System	Inputs to the system can include faeces, urine, flush water, cleansing water, dry cleansing materials and greywater.
Sludge Management	The sludge that is removed from septic tanks should be in a safe and useable form. Proper personal protection should be used during removal, transport and use of sludge. Generally, septic tanks should be de-sludged every 2 years. This is best done by using a Motorized Emptying and Transport technology; however Human-Powered Emptying can also be an option.
Capacity	The capacity of a septic tank depends on the number of users, amount of water used per capita, average annual temperature, desludging frequency and the characteristics of wastewater.

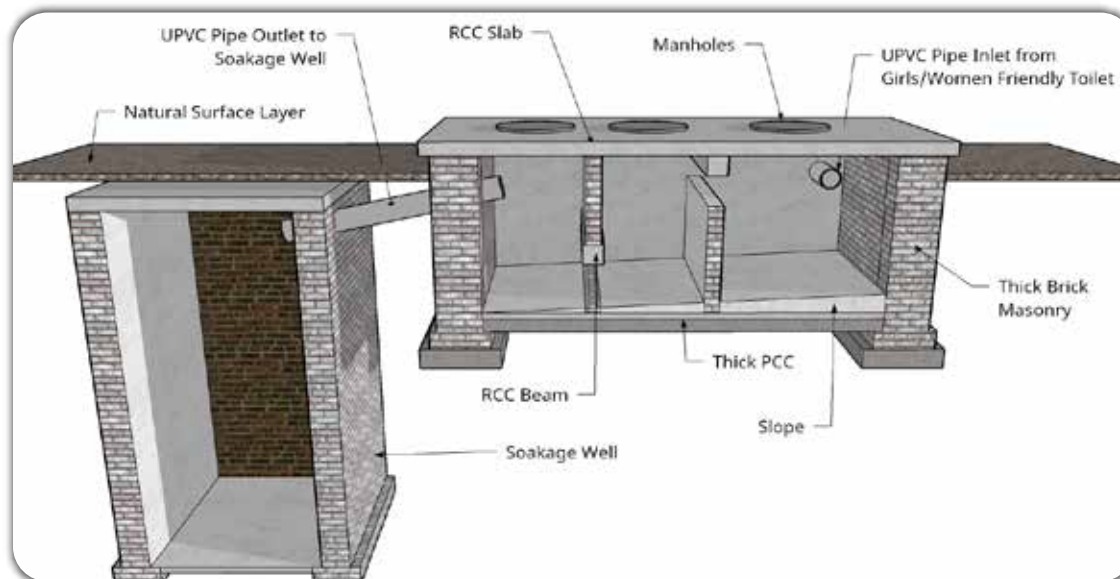
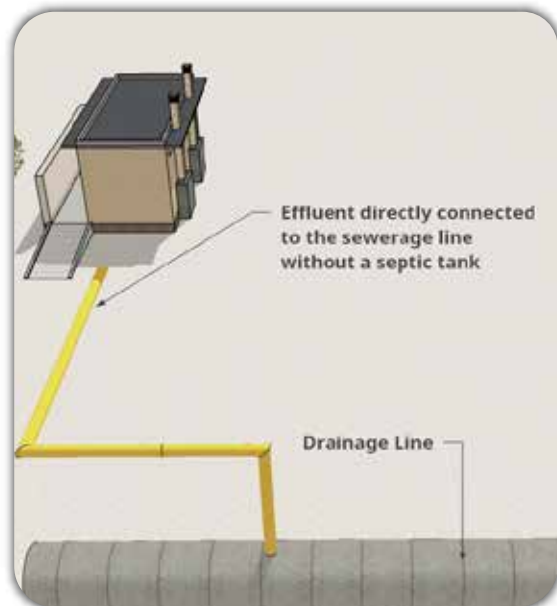


Figure 10: Components of Septic Tanks

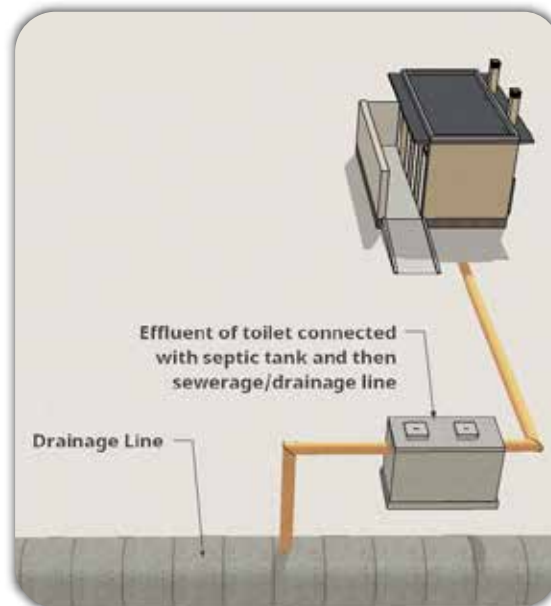
## 1.12 Sewage Management Options

While sewerage components are an integral part of every toilet and are not specific to girls/women friendly toilets, it is important to decide which model is most suitable to adopt to dispose of sewage waste.

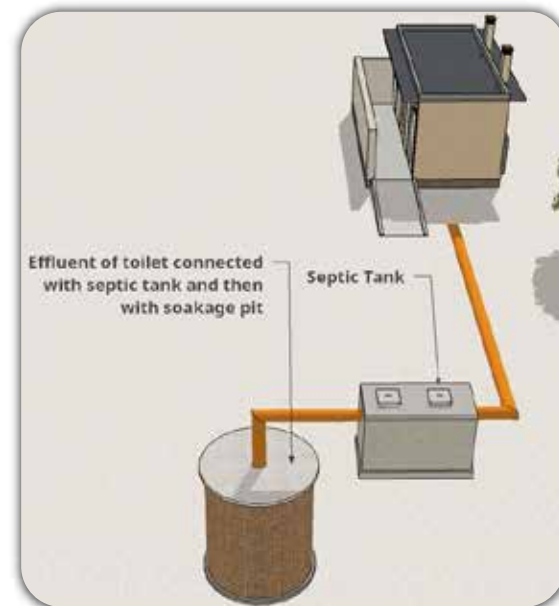
Features	Requirements
Affluent Management	In case of septic tank, only black water will be connected with it and greywater must be addressed separately. The effluent or sludge of a septic tank can be connected with the existing surface drainage system. If surface drainage system is not available then as a last resort the septic tank's effluent can be connected with a soakage pit.
Slope of Pipes	The sewerage system should be designed at an appropriate slope of 0.7%-2.0%, so that water and fecal sludge flows gravitationally through the system avoiding electricity and mechanization requirements



Model 1: 1st Priority



Model 2: 2nd Priority



Model 3: Last Resort

Figure 11: Sewage Waste Disposal Options

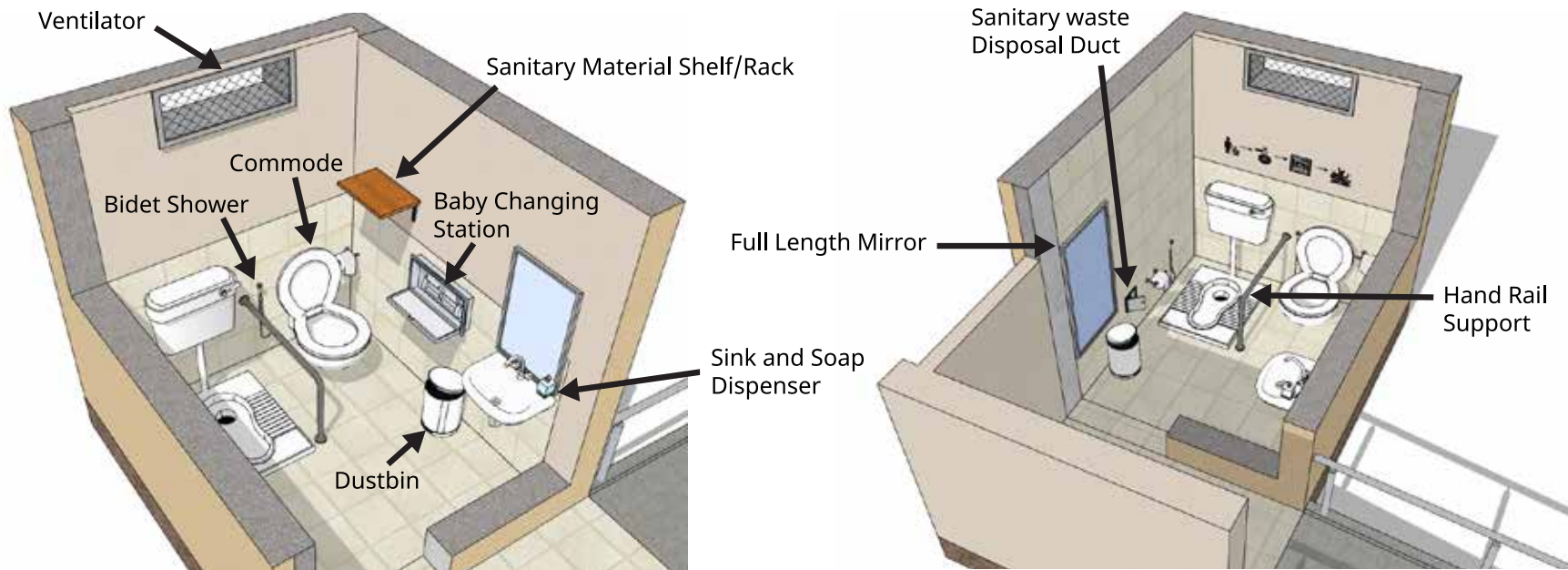
## Section 2 – Upgrading Existing Toilets to Girls/Women Friendly Toilet Level

### 2.1 Features for Retrofitting in Existing Toilets

Retrofit measures focus on provision of menstrual hygiene management, safety and accessibility to otherwise previously lacking toilets, allowing girls and women to have access, privacy, and dignity for menstrual hygiene management.

Features	Requirements
Accessibility	Ramps, steps and hand rails
Interior	Adequate space for wheel chair in the toilet, commode, bidet shower, sink and soap dispenser, dustbins, mirror, sanitary material shelf / rack, baby changing station, locks
Exterior	Privacy wall and clear signage
Burning Unit	Burning unit / incinerator
Ventilator	15"x30" 'fan-light' / ventilator provided above the walk-in shutter of the toilet door; and a ventilator of the same size in the opposite wall. Both ventilators should be fitted with wire gauze to keep flies / mosquitos away.





Interior Features of Retrofitting



Exterior Features of Retrofitting

## 2.2 Prerequisites for upgrading to Girls/Women Friendly Toilet Level

Upgradation of a toilet to a GFT/WFT successfully achieves check and balance through energy-efficient lighting and controls, building services and management systems and controls. It also looks into usage of water and production of waste to move the structure forward towards a sustainable system.

Features	Requirements
<b>Toilet Structure</b>	<ul style="list-style-type: none"> <li>Existing toilets must have a stable structure, with no signs of settlement and dampness in the walls and / or roof. If that is not the case, necessary repairs need to be carried out as a part of the upgrading process.</li> <li>In order to accommodate a sink with shelf for hand / cloth washing, and dust bin (other than the WC), the minimum size of a standard toilet should be 4' x 6'. The minimum size of the toilet for girls/women with disability must be 5' x 6'.</li> <li>Since minimum quality standard for a girls/women friendly toilet is that it should be inclusive for women and girls with disabilities, the 3 feet width of door is to be a standard practice. If the minimum size of the cabin and potential to install a 3' wide door are not available, construction of a new girls/women friendly toilet for users with disabilities should be considered.</li> <li>The toilets must be well lit and ventilated. If that is not the case, the size of ventilators must be increased or additional ventilators should be added as necessary.</li> <li>The toilets must have an easily washable floor and walls up to a minimum height of 36". Finishes with ceramic tiles or marble mosaic are acceptable. Conglomerate floor or plastered walls will require an engineered overlay of ceramic tiles. The overlay will be provided towards the end of the retrofitting process.</li> </ul>
<b>Water Supply and Sanitation</b>	<ul style="list-style-type: none"> <li>There must be in place an operational system of clean water supply within the toilets. Water should be available in sufficient quantity, i.e. 10 liters per capita for a duration covering 1 hour.</li> <li>In order to ensure uninterrupted water supply, it is useful to have overhead tank(s) of sufficient capacity.</li> <li>The existing toilets must either be connected to a municipal sewer system or an onsite wastewater treatment and disposal system in the form of a functioning septic tank and soakage well. Direct disposal of excreta to pits is not acceptable, as it does not support cistern flushed latrines. It will be necessary to replace this system with a septic tank-soakage well system as a part of the upgrading process.</li> </ul>
<b>Access Path to Toilet / Passage</b>	<ul style="list-style-type: none"> <li>4'-6" wide paved foot path leading to the toilets</li> <li>Ramp with 1:10 slope for girls/women on wheel chair</li> </ul>



## 2.3 Sequence of Retrofitting

1. Ensure that the pre-requisites are met.
2. Remove WC and complete masonry work for wall mounted commode for girls with disabilities.
3. Complete plumbing for sink and commode for standard toilets, with minimum damage to walls and floor.
4. Create the duct for disposal of sanitary pads to the burning unit, avoiding damage to the wall finishes.
5. Construct the burning unit, complete with zigzag chimney.
6. Install shutter of the duct to the burning unit inside the toilet.
7. Construct privacy wall.
8. Carry out necessary repairs and floor / wall finishes.
9. Install sanitary ware and fittings
10. Install supports for girls/women with disabilities at appropriate heights by ramps and steps, beside commodes and washing facilities.



Exterior Front



Exterior Back



Interior

## Section 3 – Operations and Maintenance

### 3.1 Operations and Maintenance Protocols

Girls/Women friendly toilets need both periodic maintenance and emergency cleaning. Protocols need to be set that include the criteria, guiding principles, and standards/ practices regarding various aspects of girls/women friendly toilets.

#### Protocols for Construction, Waste Management, Operation and Maintenance

Criteria	Guiding Principles	Recommended Standards & Practices
Memorandum of Understanding	Ensure future use and maintenance of the toilet and provide evidence for accountability against future sustainability.	<ul style="list-style-type: none"> <li>An agreement with the institution to whom the facility is being handed over needs to be put in writing with clear terms and conditions for operations and maintenance, along with any financial burden (for example, costs associated with safe disposal of faecal sludge) and responsibilities made clear.</li> </ul>
Securing location	The site of the toilet should not pose a threat to users.	<ul style="list-style-type: none"> <li>Location of toilet should be ideally within 50m of activity area.</li> </ul>
Availability	Toilets should be available in sufficient number, so that girls/women with disabilities do not have to wait too long for their turn.	<ul style="list-style-type: none"> <li>The ratio of girls/women per toilet should be less than 40 in schools (40:1), and less than 80 per cubicle toilet (80:1).</li> <li>All girls/women friendly toilets must have menstrual hygiene management features incorporated by design, or through additions in existing toilets.</li> </ul>
Accessibility	Toilets should be easily approachable and located within a comfortable walking distance.	<ul style="list-style-type: none"> <li>Maximum distance of 30ft (where space is available) from existing buildings should be maintained.</li> <li>Paved access should be provided to the toilet, with necessary ramps and handrails for PWDs (person with disabilities).</li> </ul>

Criteria	Guiding Principles	Recommended Standards & Practices
Quality	<p>Toilets should be well ventilated and well lit.</p> <p>Toilet floor must be well drained and wiped dry after use.</p>	<ul style="list-style-type: none"> <li>• The exhaust fan should be functional and running when toilet is in use, and ventilation should be maintained all the time. Electricity should always remain connected and fused lights should be replaced.</li> </ul>
Acceptability	<p>Toilet should be designed for privacy, and equipped to enable menstrual hygiene administration by girls/women in a safe, secure, and dignified manner.</p>	<ul style="list-style-type: none"> <li>• Running water should be available in taps continuously.</li> <li>• Taps should be replaced at a regular interval, or if broken or damaged.</li> <li>• The waste bin should be cleaned and emptied at regular intervals.</li> <li>• If not in use, (e.g., activity area closed down due to pandemic, restrictions or holidays), the commodes may be flushed at least twice a week.</li> <li>• All leakages must be attended to and fixed immediately.</li> </ul>
Waste Management	<p>Used napkins/pads should be handled preferably by female workers without unnecessary exposure</p>	<ul style="list-style-type: none"> <li>• An attached burning unit receiving the napkins/pads directly from the toilet is preferred.</li> <li>• If an attached unit cannot be provided owing to lack of space or environmental reasons, the transport of the material to a burying pit must be done during least toilet-use activity hours.</li> </ul>
Comfort	<p>Girls/women should be able to trash the used napkins/pads privately and comfortably.</p>	<ul style="list-style-type: none"> <li>• Women/girls should be guided to securely close the hatch over the duct of the burning unit after use.</li> <li>• In case of absence of an attached burning unit, napkins/pads should be disposed of in the especially provided dustbins with cover.</li> <li>• The dust bins containing used MHM material must be carried un-opened and emptied directly in the burying pit.</li> </ul>

Criteria	Guiding Principles	Recommended Standards & Practices
Environmental Protection	<p>The menstrual hygiene waste and the wastewater must be managed and disposed of in an environmentally safe manner.</p>	<ul style="list-style-type: none"> <li>• An especially designed zigzag exhaust chimney is introduced to minimize carbon emissions.</li> <li>• Excessive use of acids or acidic compounds should be avoided to prevent erosion of pipes and sanitary fittings</li> <li>• The burning unit ashes should be disposed of by mixing with soil and organic waste in a compost bed.</li> <li>• If the napkins/pads are disposed of by burying, the pit must be at least 1.5m deep. On laying in the pit, each layer of napkins should be covered with a 2" thick layer of soil. Top layer should be covered with a 1" thick layer of lime, followed by a 6" thick layer of soil, and hand compacted.</li> </ul>
Health & Safety	<p>Health and Safety of girls, women and sanitary workers must be protected.</p>	<ul style="list-style-type: none"> <li>• Toilet cabins must be cleaned with appropriate detergent so that spread of infection is contained.</li> <li>• Soap and or handwash should be available at all times, and girls/women should be guided to wash hands with soap after using the toilet.</li> <li>• Wearing gloves, masks, and glasses should be mandatory for burning unit operators for igniting/ cleaning the burning unit.</li> <li>• The burning unit must be operated only after toilet-use activity hours.</li> <li>• Toilet door must have a functional lock from inner side for safety of girls/women.</li> </ul>

## 3.2 Responsible Institution and Management Structure for Girls/Women Friendly Toilets

Duty bearers need to be involved from the beginning of planning stage of the toilet. Responsibility for ongoing operation and maintenance, along with any financial burden (for example, costs associated with safe disposal of faecal sludge) should be made clear during pre-planning phase.

In any case, following responsibilities need to be taken up:

- Have designated people responsible for cleaning toilet areas (a woman attendant is highly preferable).
- Develop and implement procedure to inspect and maintain the toilet during the day.
- Train toilet cleaning attendants to do the tasks required. Training might include:
  - > Appropriate means, resources and working conditions for the attendants to perform the task of regular clean out
  - > Tools and procedures for the safe removal and disposal of waste, including used menstrual products and soiled nappies
  - > Understanding the use of cleaning equipment/tools for toilet areas
  - > Cleaning equipment regularly in a designated cleaners' area
  - > Proper waste water drainage
  - > Safe use of chemicals and detergents
  - > Protocols for disposing of different types of solid waste
- Provide a written/illustrated cleaning schedule for cleaning tasks, including what tasks are required with frequency (cleaner's adherence to routine schedules for menstrual waste removal can enhance the acceptability of the toilet facilities). Cleaning tasks can typically include:
  - > cleaning all toilet accessories and tools at least twice a day
  - > cleaning the items with frequent hand contact, such as flush handles, taps, doorknobs and waste bins at the start of each day
  - > filling handwashing containers
  - > replenishing soap/ handwash
  - > restocking anal cleansing materials
  - > restocking menstruation and incontinence materials where supplied
  - > disposing of different types of solid waste
  - > scheduled cleaning of burning unit
- Although flush water continuously rinses the bowl, the toilet should be scrubbed clean regularly to maintain hygiene and prevent buildup of stains.



- Menstrual hygiene products should be collected in a separate bin where burning unit is not available.
- Consider an air freshener where appropriate to make toilets more pleasant to use.
- Implement a system to monitor the cleanliness of toilet areas, such as regular checks. These checks could be recorded on a monitoring sheet/checklist. Any monitoring system must have a link to action for immediate cleaning if necessary.
- Maintenance is required for the replacement or repair of some hardware parts or electric appliances/fittings. Have a training manual for institution's toilet management committees on Operations and Maintenance of the GFTs/ WFTs, including key message signs/pictures. For example:

**(واش گروپ کی ذمہ داریاں)**

- ۱- تمام کلاسز میں حفظانِ صحت کے اجلاس کو منعقد کرنا۔
- ۲- اس بات کو یقینی بنایا جائے کہ ہر بچی کو ذاتی صفائی کے بارے میں آگاہ کریں اور تمام بچیاں اپنی ذاتی صفائی کا ہمیشہ خیال رکھیں۔
- ۳- اس بات کو یقینی بنائیں کہ لڑکیاں GFT کی صفائی کا خاص خیال رکھیں اور اسے ماہواری کے دوران استعمال کریں۔
- ۴- اس بات کو یقینی بنائیں کہ ماہواری کے دوران استعمال ہونے والی اشیاء INCINERATOR کے اندر مناسب طریقے سے ٹھکانے لگائی جا رہی ہیں۔
- ۵- INCINERATOR کو بتائی گئی ہدایات کے مطابق استعمال کیا جا رہا ہے۔
- ۶- پانی کے پینے، جمع کرنے اور استعمال ہونے والی تمام جگہوں کو صاف رکھا جائے۔
- ۷- سکول کے ماحول کو صاف رکھیں۔ پودے لگائیں۔
- ۸- واش گروپ میں نئے نمبر ان کا اضافہ کریں اور آگے تربیت کریں۔
- ۹- MHM (تجاویز بکس کو) مابا نہ کھولا جائے اور وصول ہونے والی تجاویز پر عمل کیا جائے۔
- ۱۰- ماہواری سے متعلق ہر تین مہینے کے بعد کھلی پکھری کا انعقاد کیا جائے۔
- ۱۱- ہر تین مہینے کے بعد واش گروپ کے اجلاس منعقد کروائے جائیں اور ان اجلاس کی کارروائی کو ریکارڈ کیا جائے۔

Figure 12: Responsibilities of Caretaking Group

**ہدایات برائے واش روم استعمال**

۱- استعمال کے بعد غسل ضرور کریں۔

۲- کوا میں ٹشو پینا یا برکڑ نہ پھینکیں۔

۳- استعمال کے بعد سسٹم ٹھیک کرنا اور کھرابی کو ٹھیک کرنا۔

۴- کوا کو توڑیں، دھکیں، دھکیں یا دھکیں کے مطابق استعمال کریں۔

۵- دروازے لاکھڑی رکھیں۔

۶- واش روم کے فرش پر پانی ڈالیں۔

۷- استعمال کے بعد کھلے رکھیں۔

۸- ہاتھوں کو صابن سے دھو لیں۔

۹- پینا کو INCINERATOR میں ڈالیں۔

۱۰- پینا کو INCINERATOR میں ڈالیں۔

۱۱- واش روم کے استعمال کے بعد لاکھڑی رکھیں۔

۱۲- EXHAUST FAN کو ہر وقت ON کریں۔

۱۳- واش روم کے استعمال کے بعد لاکھڑی رکھیں۔

Figure 13: Guidelines for Toilet Use

## Section 4 – Costs Related to Girls/Women Friendly Toilets

Since girls/women friendly toilets need to be better equipped and have adequate supplies as compared to ordinary toilets, a clear understanding of the operation and maintenance expenses over their life span is imperative to their successful functioning. While capital costs are required to build a girls/women friendly toilet, recurring costs are needed to ensure the toilet continues to function. It could include smaller daily costs related to cleaning to larger costs related to repairs or emptying septic tanks.

In this perspective, this compendium better equips the decision makers and girls/women friendly toilet advocates by presenting rationally calculated Lifecycle Cost Estimates of different girls/women friendly toilet models.

**Disclaimer:** Costs presented in this compendium are not the lowest costs, and are based upon ‘Life Cycle Costing’ estimates. These are the costs needed to ensure best value for money, and therefore cover the features that lead to users’ comfort and privacy, environmental conservation, and occupational health and safety. The costs mentioned below are based on financial year 2019; we assume that inflation rate is approximately 10-15% per year on total cost.

### i. Capital Cost Calculations for Girls/Women Friendly Toilet

Sr.#	Description	Capital Cost (PKR)			
		GFT/WFT Cabin, Complete with Fittings	Burning Unit(s)	Septic Tank & Soakage Well	Total
1	Single Cabin GFT/WFT	306,485	15,325	92,717	414,527
2	Twin Cabin GFT/WFT	410,541	15,325	92,717	518,583
3	Four Cabin GFT/WFT Block	725,701	30,650	115,217	833,743

## ii. Summary of Cost for Facilities at Schools

Sr.#	Type of Facility	Cost (PKR)
1	Twin cabin ventilated improved pit (VIP) latrine	67,563
2	Twin cabin ventilated improved pit (VIP) latrine without pit lining and privacy wall	55,353
3	Triple cabin ventilated improved pit (VIP) latrine with one cabin for children having special needs	94,245
4	Single cabin VIP latrine for children having special needs	35,961
5	Twin cabin pour flush (PF) latrine	86,259
6	Triple cabin pour flush (PF) latrine with one cabin for children having special needs	122,605
7	Single cabin pour flush (PF) latrine for children having special needs	50,986
8	Hand washing point - RCC sink attached to wall	9,278
9	Hand washing point - taps attached to pipe	13,309
10	2000 liters water storage tank with hand washing facilities	35,308
11	Hand pump installed on bore hole	60,527
12	Hand pump installed on dug well	61,997
13	Electric pump installed on dug well with bore hole	222,043
14	Electric pump installed on bore hole	35,000
15	Spring Box (without pipe)	21,762

**iii. Recurrence Cost Estimate for 1 Year for Girls/Women Friendly Toilet**

Description	Cost Per Annum (PKR)		
	Single Cabin GFT/WFT	Twin Cabin GFT/WFT	Four Cabin GFT/WFT Block
Detergent	450	675	1,350
Liquid Soap for Hand Washing (Diluted)	1,800	2,700	3,600
Phenyl	1,980	2,970	5,940
Replacement of Cleaning Brush	200	300	600
Cleaning Agent	270	405	810
Replacement of LED Bulb	250	500	1,000
Operations & Management of the Burning Unit and Chimney	1,200	1200	2,400
Repair and Replacement of sanitary ware	2,400	3600	7,200
Cleaning Staff Salaries	6,000	9,000	18,000
<b>TOTAL</b>	<b>14,550</b>	<b>21,350</b>	<b>40,900</b>
Repair and Renovation of Civil Works from Year - 6 onwards	2400	3600	7200
Yearly Cleaning of Septic Tank (Amount for Year-3)	3000	3000	5000

**iv. Life Cycle Cost for Girls/Women Friendly Toilets for Fifteen Years**

Sr.#	Description	Lifecycle Cost for 15 Years (PKR)		
		Capital Cost	Recurring Cost	Lifecycle Cost
1	Single Cabin, Multi-User GFT/WFT	414,527	364,383	778,910
2	Twin Cabin, User Segregated GFT/WFT	518,583	526,211	1,044,794
3	Four Cabin GFT/WFT Block	833,743	1,006,836	1,840,579

## Review Resource Material

A number of tools and documents have complemented this compendium, which in turn adds to the growing body of sustainable ideas on Girls/Women Friendly Toilet reference materials and practical guides. Some of these resources are presented below:

i. Female-friendly Public and Community Toilets – A guide for planners and decision makers:

<https://washmatters.wateraid.org/publications/female-friendly-public-and-community-toilets-a-guide-for-planners-and-decision-makers>

ii. Compendium of Accessible WASH Technologies:

[https://washmatters.wateraid.org/sites/g/files/jkxoof256/files/Compendium%20of%20accessible%20WASH%20technologies\\_3.pdf](https://washmatters.wateraid.org/sites/g/files/jkxoof256/files/Compendium%20of%20accessible%20WASH%20technologies_3.pdf)

iii. Compendium of Sanitation Systems and Technologies:

[https://www.ircwash.org/sites/default/files/compendium\\_2nd\\_ed\\_highres\\_1p.pdf](https://www.ircwash.org/sites/default/files/compendium_2nd_ed_highres_1p.pdf)

iv. Menstrual Disposal, Waste Management and Laundering in Emergencies – A Compendium:

[https://www.globalwaters.org/sites/default/files/mhm\\_disposal\\_wm\\_laundrerling\\_in\\_emergencies.pdf](https://www.globalwaters.org/sites/default/files/mhm_disposal_wm_laundrerling_in_emergencies.pdf)

v. Compendium of WASH in Schools Facilities in Emergencies:

[https://resourcecentre.savethechildren.net/node/12301/pdf/266.\\_unicef\\_compendium\\_of\\_wash\\_in\\_schools.pdf](https://resourcecentre.savethechildren.net/node/12301/pdf/266._unicef_compendium_of_wash_in_schools.pdf)

vi. Technical Guideline for Construction of Institutional and Public Toilets:

<https://washmatters.wateraid.org/sites/g/files/jkxoof256/files/technical-guidelines-for-construction-of-institutional-and-public-toilets.pdf>

vii. Training Manual for School Management Committee on O&M of Water and Sanitation Facilities – Ensuring Girl’s Rights through Schools and Community-based WASH and Improved MHM: <https://schools.punjab.gov.pk/system/files/11.pdf>

viii. O&M Manual and Training Text: <https://www.ircwash.org/sites/default/files/822-01OM-19255.pdf>





## WaterAid

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