Step by Step

Implementation Guidelines for Community toilet

SBM URBAN

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Introduction

Approximately 37.5 % of the Punjab State's population lives in urban areas which in terms of number is more than 1 crores. The present coverage of households in urban areas having individual sanitary latrine is 92.4%. The remaining 7.6% of households do not have access to individual sanitary latrines. The members of these households, presently, either must be using public Community Toilets if existing or must be going for open defecation. This practice of such large number of people going defecation results in not only creating environmental degradation, but it also poses serious health problems for the human beings, the community and the society as a whole. Coupled with the above issues, there is a problem of huge flowing and migrant population not having access to clean sanitary facilities, although they may be willing to pay for it. Also most of the work places in the towns and cities like shops, small restaurants, small offices etc., do not have provision for toilet facilities and this working population also may be resorting to open urination and defecation. The Swachh Bharat Mission recognizes Community toilets as one of the options to reduce open defecation and has provision of a maximum unit cost of 65000 per seat for construction of community toilets with a 40% VGF from central government and remaining from the state/ULB share

1.1 Purpose and Use of this Guideline

This Guideline has been prepared to meet the following purposes:

- To guide the planning, design, implementation, operation and maintenance of community toilets in a participatory approach by involving the relevant stakeholders.
- The Guidelines will be used as a Handbook for the frontline staff as well as professionals.
- The Guidelines will ensure involvement of community, committee / association (say bazaar committee) and other concerned stakeholders as relevant through promotion of transparent, accountable, gender sensitive and pro-poor implementation of latrine option facilities.

- The Guidelines will guide the ULBs to implement the constructions with a certain level of flexibility allowing addressing local context.

Implementation of Community Toilets

- Implementation of Community Toilets will take place at public places under the SBM (Urban) programme.
- The type of Community toilet will be selected on the basis of land availability as well as willingness and ability of the recipient body (e.g., Mohalla committee, bazaar committee, association, caretaker group etc.) to provide matching fund as contribution money.

The following steps should be adopted for implementation of Community Toilet.

Step 1: Need Identification.

In order to proceed for construction of a Community Toilet in a proposed area, the following activities have to be undertaken as a part of need identification.

- ✓ Situation Analysis (SA): the frontline staff of ULBs will make an assessment of the existing situation of the proposed public place which will cover basic information of infrastructure, population, existing sanitation facilities, committee / association available in that place etc. **(Please see detail in Annex-1)**
- ✓ An assessment of slums/pockets/localities shall be made in the ULBs where open defecation practice is going, irrespective of the reason whether due to constraint of space for IHTs or due poor financial status of the community
- ✓ Situation Analysis of the proposed location must be done in consultation with respective authorities (Community, bazaar committee/ association etc.).Once the situation is analyzed, an Action Plan (AP) to be prepared by respective authority with facilitation from frontline staff.
- ✓ During preparation of AP, the situation analysis report **(as per Annex-1)** should be carefully reviewed to identify and prioritize the need; and assess the requirement for new/ rehabilitation of

Community toilet for the concerned public place.

- ✓ On the basis the above analysis, the ULBs will prepare the AP using following Format.

Format

Type of community Toilet	No. of community toilet Toilet		Approx. No. of users / day		No .of seats proposed			Responsibility of O&M			Budget for Construction/Rehab. In Rs.				Total
	New	Rehab	New	Rehab	M	F	Other	ULB	NGO	Outsourced	Grant	ULB	NGO	CSR	
Community Toilet with Sewer connection															
Community Toilet with Septic Tank															
Others															
Total:															

Step 2: Information to Community for Construction of Community Toilet.

- ✓ The respective frontline staff of ULBs will have a meeting with the authority (Mohalla Community, bazaar committee/ association etc.) and explain the conditions for implementation of Community toilet in details.
- ✓ Respective frontline staff should clarify about the estimated total cost of Community toilet, matching fund for construction by the respective authority from ULB/NGO/CSR/Community/ bazaar committee/association etc.), modality of contributing matching fund, responsibilities of the concerned authority with respect to construction and O&M, caretakers' selection process, caretakers' responsibilities, leasing out procedure, etc.

Step 3: Selection of Community Toilet Design

- ✓ The design is an important aspect of a community toilet. A well designed community toilet reflects the preference of the community it serves and enhances its use and sustainability. While designing a community toilet, factors like the preference and convenience of the users, durability of construction, ease of operation and maintenance and cost effectiveness should be taken into account.

3.1 Classification by Location

1. The location-of a community toilet influence the type and range of facilities to be provided. These are as follows:

i) Residential: The facilities provided in a common unity toilet block in a residential area and primarily used by residents of the area including the pavement dwellers. The users normally prefer to have toilet, urinal, bathing and washing facilities in the toilet block. However, urinals are not used extensively since people leave their homes for work in the morning and return late in the evening. In the night the urinals are used occasionally.

The facilities are normally includes:

- **a)** Independent compartments or toilet blocks for men and women with separate entries from a lobby.
- **b)** Toilet seat for children in the section for women
- **c)** Circulati.ng area in each section.
- **d)** Lobby for entry into the toilet block and also to seat the caretaker
- **e)** Separate bathing cubicles for men and women
- **f)** Separate places for washing clothes in the male and female sections.
- **g)** Urinal facility for men (women may use toilets).
- **h)** Water supply.
- **i)** Electricity.
- **j)** Wastewater disposal system.
- **k)** Superstructure
- **l)** A room for the caretaker to live in.
- **m)** A store for keeping the cleaning materials and equipment.

ii) Non-residential: The community toilets/Public Toilets located near railway stations, bus terminals, truck stands, beaches, bathing ghats, market places, hospitals and religious places come under ,this category. They are used mainly three wheeler/taxi/truck drivers, pavement travelling public). In comparison to residential areas, more people use

urinal and bathing facilities. While a community toilet near a bus terminus or a railway station is generally used round the clock, use is generally restricted to day time and evening in the case of toilet blocks located near markets, hospitals and religious places. In addition to the facilities mentioned in 1(i) above, a non-residential community toilet may have additional facilities like:

a) Room for keeping the luggage of users; and

b) Special bathrooms with toilet seat, shower and washbasin. Items like tooth paste/tooth powder, soap and towel can be made available to users on payment. Items (a) and. (b) are normally provided in community toilets near a railway station or a bus terminus.

3.2. Design Parameters

2. Important design parameters of a community toilet are:

i. **No. of Facilities:** The number of facilities required can be worked out based on the norms for users per day given in Table 3.1.

ii. **Size of** the **Facilities:** The optimum and minimum sizes of toilet cubicle, bathroom, urinal and washing area are given in table below:

The following norms***** for number of seats, urinals, bathrooms and may be adopted:

Type of toilets	**Toilet seats**		**Bath units**	**Urinal units**
	Male	**Female**		
Community Toilet	One seat for 35 men;	One seat for 25 women	One unit per 50 users	One unit per 200 – 300 users
Public toilet near railway stations/Market places (may be used at all hours by nearby residents also)	One per 100 persons up to 400 persons; For over 400 persons, add at the rate of one per 250 persons or part thereof	Two for 100 persons up to 200 persons; over 200 persons, add at the rate of one per 100 persons or part thereof	One unit per 70 users	One for 50 persons or part thereof for male only

***** The Guidelines for Community Toilets, 1995; Ministry of Urban Affairs & Employment, Government of India and Guidelines of SBM

i) At least 50% of female WCs may be Indian pan and 50% EWC. ii) *Special arrangements may be made for physically challenged.*

NOTE: These norms are reported to be developed on the basis of experience and rapid survey; but ULB's, in consultation with the community, taking into

consideration the locally prevailing situation may modify the norms.

The recommended areas for different facilities*****:

Description	**Optimum (mm)**	**Minimum[1] (mm)**
Toilet cubicles	900 x 1200	750 x 900
Bath rooms	1050 x 1200	900 x 1050
Urinals (divided into units by partition walls)	575 x 675	500 x 600

[1] *In case of space constraint the minimum sizes may be adopted*

***** *The Guidelines for Community Toilets, 1955; Ministry of Urban Affairs & Employment, Government of India*

iii) **Circulating Area:** Adequate circulating area (free area for users to move inside the toilet block) should be provided. Usually it 2-3m wide was depending upon the land area available. Circulating area should, as far as possible, be kept open to the sky for fresh air and sunlight. In places which are subjected to snowfall or heavy rains, the circulating area should be covered. Wherever it is not possible to keep the circulating area open to the sky, adequate lighting and ventilation arrangements should be provided.

iv) **Layout:** Based on the type of waste disposal and water supply arrangements, and the number of toilet seats, baths, urinals and washing areas to be provided, a layout plan of major components the community toilet including disposal system may be provided, keeping in view the land area available. The primary objective of a community toilet is t provide toilet facilities. In case of space con strains, priority should be given to the provision of an adequate number of toilet seats and urinals. Thereafter, subject to the available of space, provision of bathrooms and washing area can be considered. To economize on the use of space, the septic tank can be constructed under the circulating area, toilet cubicles of the minimum size can be provided and consideration given to building a basement, although basements are difficult to drain and protect from flooding. Consideration should be given to the positioning of the mirrors and to the gaps created by the hinges. For example, the access entrance to male public toilets should not open directly to the urinal area. Avoid entrances opening onto a wall surface with the mirror reflecting the urinals. (**See Illustration 1**).Single

entrance/exit plans work satisfactorily provided the path of the users do not cross each other and the main entrance is wide enough. Dispensing with the main entrance door to the public toilet not only helps to improve the ventilation within the toilet but also minimizes hand contact for hygiene reasons **(See Illustration 2)**. Location of accessible toilets should not be too remote from the main traffic area to avoid long travel distance. It should be easily accessible for those with urgency for the users. Directional signs leading to such toilets should be provided. (See **Illustration 3**).

v) **Store, Caretaker Room: A** store room and a caretaker room should be provided. A pump house may also be provided where required.

vi) Superstructure: Superstructures should be well ventilated and designed with materials and specifications suitable for a 30 year life. Superstructures should provide convenience and privacy to the users as well as ease in operation and maintenance.

vii) Water Supply: Lack of an adequate and continuous supply of water has been observed as one of the contributory factors to the unhygienic conditions in community toilets. It is therefore necessary that each community toilet is provided with a dependable water supply system. Wherever an uninterrupted supply of water cannot be provided by the municipal water supply system, a tube well should be constructed exclusively to meet the requirements of the toilet block. Water requirement for each use of the toilet facility, including washing hands and floors, is 7 liters. The requirement for bathing is about 15 liters per user, for flushing urinals 0.20 litre and for washing clothes about 20 liters. If water is to be drawn from the municipal supply, an underground reservoir of half a day's capacity an overhead tank of similar capacity and pumping arrangements with a standby pump will have to be provided. If a tube well is constructed exclusively for the toilet block, it will be preferable to keep a stand by pumping unit. In such a case, an underground reservoir will not be necessary as water can be pumped directly into the overhead tank. It is desirable to RCC or a PVC water storage tank. To minimize the wastage of water, the use of self closing water taps is recommended.

viii) **Sanitary & Water Supply Fixtures:** Fixtures (like the wash hand basins, toilet pans, traps and foot – rests) to be provided should be of a approved standard. The squatting pans should be made from ceramic and be of a Pour Flush (PF) design. Traps should be of a 20 mm water seal. Use of traps with water seal of 50 mm should be avoided to minimize water use for flushing. Where the community toilet block is to be connected to the municipal sewerage system, a master trap should be provided before connection to the sewer. Wash hand basins should be provided for in both the male and female compartments. **For convenience in maintenance, a perforated pipe with water dripping continuously should be fixed on the wall for flushing the urinals**. The urinals should not be fitted with urinal pots as their replacement is expensive. The design features of a urinal should include: a) dividers, (b) walls (up to 2m height) and floor with ceramic tiles, and (c) perforated pipe to ensure water supply to-keep urinals clean. A urinal should not be set closer than 450mm from its centre to any side wall, partition, vanity or other obstruction, or closer than 900mm centre-to-centre between adjacent fixtures. **(See Appendix I).** Urinals should be separated by modesty boards of not less than 300mm x 1800mm (Height) to act as a visual barrier between urinals. The modesty boards should be high enough to block the view of other users. However, it should not extend right down to the floor as this makes cleaning considerably harder. The presence of modesty boards will prevent shy users from using the WCs and wetting the toilet seat. **(See Illustration4**).Full-length urinals **(See Illustration 5**) should be installed to cater for children's use. If 2 or more non-full length urinals are installed; one urinal should be installed at child's height. Pedestal (sitting) type WCs shall preferably be wall hung, without leg support, so as to facilitate cleaning. Installation of squatting type WC pans in all cubicles is discouraged so as to cater to the needs of various demographic groups and an ageing population. A WC should not be set closer than 450mm from its centre to any side wall, partition, vanity or other obstruction. There should be at least a 900mm clearance in front of the WC to any wall, fixture or door. If a squatting WC is to be

installed; only one should be installed in the cubicle furthest from the main entrance. For cubicles where a squatting WC is provided, grab bars shall preferably be installed. Wash basins should be substantial in size. The basins should have a minimum size of 500mm in length and 400mm in width. A wash basin should not be set closer than 450 mm from its centre to any side wall, partition, vanity or other obstruction, or closer than 900 mm centre-to-centre between adjacent fixtures. There should be at least a 900 mm clearance in front of the wash basin to any wall, fixture or door. (**See Appendix II).**The use of flat bottom wash basins is not recommended. Such wash basins do not effectively allow dirt and debris to be washed into the drain pipes. All wash basin taps shall be self-closing delayed-action mechanical or sensor type Taps. For requirements of sanitary appliance, please refer to the IS: code 2064-1993(with latest amendment). The pipe and fittings used for water supply should be of a reputed make.

ix. Lighting Arrangement: The toilet block should be well lit, both inside and outside. One common light point may be provided for in each pair of toilet cubicles by limiting the partition wall to door height. The bathrooms, pump house, lobby and the caretaker room should have separate light points. Areas for circulating, washing and urinal together with the outside of the toilet should be well lit. The lobby and the caretaker room should be provided with ceiling fans. Natural lighting can be used to help create a softer, friendlier environment. Harsh lighting can create a cold and unwelcoming air while being inappropriate for the tasks being performed. It can also highlight hard-to-clean areas. Thoughtful selection of fixtures and lamps coupled with careful placement is essential. The minimum lighting level shall be 300 lux to ensure that areas with water closets, wash basins and urinals are sufficiently illuminated. This minimum lighting level will facilitate thorough cleaning of water closets, wash basins and urinals.

x. Disposal System: There can be four alternatives for disposal of wastewater from a community toilet block, (a) sewer, (b) septic tanks with effluent discharge (c) leach pits, and (d) a digester to generate

biogas with effluent discharge. For detail design of disposal technology, please refer to the "Guidelines of Swacch Bharat Mission".

xi. Ventilation System: Proper ventilation of a public toilet is one of the highest priorities in the design of toilets. An ineffective ventilation system can make a public toilet unbearable, even if it is well designed. An effective ventilation system ensures that vitiated air is quickly extracted, and helps to avoid dampness and subsequent growth of mould on floors and walls. However, the system shall dispel the air directly outdoors without causing any nuisance to neighbouring premises.

a) **Mechanical Ventilation:** Where mechanical means are used for ventilation, there should be cross ventilation and the air exchange rate should have a minimum of 15 air changes per hour. The mechanical ventilation system of exhaust fans and, where applicable, ventilation ducts and grilles should ensure that every part of the toilet is within 3m of the fan inlet or an intake grille, measured horizontally. Preferably, intake grilles should also be provided at low levels near the WCs to enable foul-air to be extracted quickly before diffusing into other areas of the toilet. The exhaust air should be discharged to the exterior of the building at a position at least 2 m above the pavement level and at least 5 m from any window or fresh air intake.

b) **Natural Ventilation:** For natural ventilation, suitable fresh air inlet grilles shall be provided to ensure an air exchange rate of 5 air changes per hour. Natural ventilation should be achieved through windows, doors, louvers or other openings to the outdoors. Such openings should be accessible and controllable by the building occupants. It should also be securable in the event the toilet is prone to vandalism.

xii. Provision of Facilities: A one-stop provision (See **Illustration 6**) of self-closing delayed-action mechanical or sensor type Taps, soap dispenser, litter bin, Air Fresheners and electronic hand-dryer or paper towel dispenser at wash basin area is strongly recommended to minimize wetting of floors and provide the ease of keeping the toilet clean and dry.

Step 4: Calculation of Balance Fund OR Funding Option.

Under SBM, Central Grant of Rs 26,000/- per seat is available & GoP share of Rs 8000/- (Minimum) per seat is available.

Once the Model is selected or re-designed context specific Model (along with cost-estimate) is approved by ULB, the balance amount (After taking into Account of available grant under SBM) of fund for the completion of the Toilets of the approved design will be calculated by the concerned front line staff.

The balance funds shall be contributed by ULB itself OR from CSR / NGO /Public with appropriate operation and maintenance contract mechanism. In case any donor agency came forward to construct, that can be accepted and ULB shall provide power supply, sufficient water supply and on site (Septic tanks /bio-digester) / off site (UGD) sanitation system.

Step 5: How such facilities should be taken up in urban local bodies.

Option 1: Community toilet facility can be established On BOT basis in which the selected operator will have to invest its own funds to construct the total facility including the different services to be provided like water supply, lighting, security arrangements etc. The urban local bodies can permit the use of land on long term basis on the condition that the user charges will be fixed by the operator in consultation with the Municipal Commissioner. However, there shall not be transfer of title in any form. The urban local bodies can, however, help in providing and facilitating the obtaining of different permissions wherever required by the operator. The operations and maintenance will be fully managed by the operator, and the urban local body will not have to contribute anything towards O&M costs. There shall be a contract entered into between the operator and the urban local body duly specifying the scope of responsibilities for both the operator and the urban local body; provision for compensation in case

of non-operation of the facility by operator, provision for appointment of arbitrator in case of a dispute provision for mutually agreed user fee etc.

BOT route, in urban sanitation field, can be successful if:

- ✓ Users are willing to pay substantially higher user fee than what is generally presumed.
- ✓ The premises (CTBs) can be used for other commercial activities from where the franchise owner expects to get considerable cash flows. Other commercial activities can be:

  Franchisee can construct shops / offices on first floor / along the boundary walls of the CTB and let them out on annual lease Franchisee can itself operate such shops.

ULB's can explore this route *for public toilets near market places / transport hubs* etc. It has limited potential for success in community toilets to be constructed in slums.

Option 2: The community toilet shall be constructed by the ULBs from out general funds etc. including water supply connection, electricity connection, a room for operator to stay etc. The maintenance should however preferably be outsourced.

Option 3: ULB's can engage one NGO/TRUST/FOUNDATION (*For example, Sulabh International Social Service Organization)*for the entire city / town or can engage more than one NGO/TRUST/FOUNDATION with clearly demarcated areas of Construction of Toilets along with long operation and Maintenance agreement. After engaged, the NGO/TRUST/FOUNDATION should submit the plan/drawing/specification and cost estimates as per requirement and situation of the site to the ULBs. After the approval of the proposal, the plan, drawing and specifications the cost estimate be prepared which should be based on the PWD current Schedule of rates (CSR) with current premium of Govt. of Punjab.20% of the total cost should be charged by NGO/TRUST/FOUNDATION as supervision and implementation Charges. After the construction of Public/Community Toilets, the same should be taken over for operation and maintenance on "pay & use" basis for period of 30 years.

NGO/TRUST/FOUNDATION should not charge any amount on account of operation and maintenance. The use of urinals should be free of charges. The other user's charges to be charged should be decided mutually by ULBs & NGO/TRUST/FOUNDATION The funds and land for setting up Community toilets should be provided by local bodies' and. voluntary organizations/NGO should maintain them round the-clock on the pay-and-use basis.

Option 4: The corporate sector in India has started taking Corporate Social Responsibility (CSR) rather seriously. ULB's therefore must approach all major corporate having works / industries/ offices in or around the city for capital contribution towards creating community toilets.

Step 6: Operation and Maintenance: Construction of a community toilet block (CTB) shall, of course, start only after the three S's- site, size, and system - are agreed upon by the community. Just as any other public work of modest value, a CTB can be constructed in four ways as stated above. The civic authorities, in a hurry to meet the rising demand of sanitation facilities, set up strings of toilets in city centres but again they could not maintain them for want of funds and, possibly, willingness. Once clean and hygienic toilet services were provided to the people, they would not hesitate to pay for it and it proved to be true. The people having found clean public toilets started paying for it and more such pay-and use toilets were set up in Calcutta, Delhi, later in Orissa, besides Patna, and finally all over the country. The concept of maintaining public toilets-cum community on the pay-and-use basis has become very successful in the Indian cross cultural settings, covering length and width of the country. These community toilets should be taken up on BOT basis by duly calling for expression of interest through a transparent method of newspaper advertisement etc.

- These toilets shall be constructed by the interested firms at their own costs and shall be operated and maintained by them on Pay and Use basis. Rights for advertisement through glow signboards may be permitted on the interior and exterior walls (maximum of 75%) of the

building of the Toilet Complex but mounted hoardings on roof would not be permitted. The firms having the expertise in this field may be asked to bring forth their capacity, capability and experience in constructing and maintaining such facilities.

- Involving non-governmental organizations offers a better route. There are a few NGO/TRUST/FOUNDATIONs that have built social mobilisation and technical expertise in sanitation through work in urban area *(for example Pune model, which was later adopted in Mumbai also was far more successful)* ULB's can build partnerships with the NGO/TRUST/FOUNDATION sector to leverage on their technical expertise in construction and maintenance of Community-cum Public Toilets. The NGO/TRUST/FOUNDATION will not charge any amount of operation and maintenance of the Toilets complexes except the cost of construction & Supervision and implementation charges. The toilets complexes taken over for operation and maintenance on "Pay & use" basis or service charges basis for period of 30 years
- The community toilets which shall be built up by ULBs, there operation and maintenance should be outsourced.

Resent Initiative towards design of Public/Community Toilet Blocks:

A. **NAMMA TOILET**:

The concept of Namma Toilets was adopted by various states which were implemented in Tamil nadu for the past couple of years. Namma model was evolved on the idea of Late APJ Abdul Kalam, who had suggested this based on composite materials when he was Principal Scientific Advisor to former Prime Minister A B Vajpayee in 1998. Namma toilets were also appreciated by PM Narendra Modi when he saw them at the exhibition during the launch of three new urban missions.

Advantages of Namma Toilet:

Modular Toilet made with FRP (Fibre Reinforced Polymer) Material Modular Unit – easy to install at any place

Salient Features:

- Universal design – privacy & safety.
    - Easy maintenance - easy to clean due to composite material.

- Modules to fit varying site size, user requirement and shapes.
- Signage for easy entry – Common logo

❖ User – centric approach.

- Easy to install - Accessible 24 x 7.
- Concealed plumbing.
- Provision for over head tank (2000 L capacity).
- Provision for Flush Cistern (9 L capacity).

❖ Sensor based automated LED lights (3 W) with Solar Power.

- Full ventilation.
- Vandalism Proof.

❖ Privacy area for ladies- provision for hygienic disposal of sanitary napkins.

- Provision for separate wash basin.
- Provision for physically challenged persons.

***Area of site required is 50 to 80 Sq. Yards for 1 PC +5 General Toilet*.**

- Traditional Toilets Vs Namma Toilets. **(See Appendix III).**
- Cost requirement - Namma Toilet. **(See Appendix IV).**
- O & M Requirement of Namma Toilet. **(See Appendix V).**
- Design **(See Appendix VI) {17 toilet complexes drawing can be downloaded from *MoUD website: www. swachhbharaturban.gov.in {Go to-- state/city--Best case studies in different areas}***
- Namma Toilet – Complex Configurations along with Complex costing can be downloaded from PMIDC website: *www.pmidc.punjab.gov.in*

Namma Toilets FAQ & Model bid document for Namma Toilets can be downloaded from *MoUD website: www. swachhbharaturban.gov.in {Go to--- state /city---Best case studies in different Areas}*

B. DUAC (Delhi urban Art Commission) Design Toilets:

The Commission on the basis of a design competition has developed a prototype for a low cost self sustaining High-Tech Public/Community Toilets in New Delhi. What makes the model different is that unlike mobile toilets, these toilets are assembled and only need to be installed at a site. DUAC's smart toilets are carved out of galvanized iron. This makes them more durable, unlike the toilets that use fibre-enforced plastic that starts eroding in a few years. The surface of the smart toilet will be coated with polyurethane paint.

The prototype developed has the following key features:-

- Aluminum Honey Comb panel structure with stainless steel veneers.
- Use of Bio Digesters developed for environment friendly waste disposal.
- Solar panels with LED lighting.
- Ample Light and cross ventilation.
- Resistant to tampering and vandalism.
- Tough and heavy duty water saving fixtures in stainless steel.
- Advertisement panels for revenue generation.
- Design for easy cleaning and maintenance.

Cost Requirement-- The price per composite unit, excluding taxes having stainless steel urinals, and equipped with six water closets and a universal toilet for the physically-challenged will be Rs 12.28 Lakhs.

- Design of DUAC Design Toilets **(See Appendix VII).**

C. Sulabh International Social Service Organization design Toilets.

Sulabh International is an India-based social service organization that works to promote human rights, environmental sanitation, non-conventional sources of energy, waste and social reforms through education. Sulabh has constructed and is operating and maintaining more than 8500 public Toilets complexes on "pay & use" and on service charges basis at important places all over the country.

Key advantages of Sulabh toilets are:

- Hygienically and technically appropriate, and socio-culturally acceptable.
- Affordable and easy to construct with locally available materials.
- The system of operation and maintenance of community toilets evolved by Sulabh has proved a boon to the local bodies in their endeavour to keep the towns clean and improve environment. This is a unique example of partnership between local authorities, a nongovernmental organisation and the community.
- **Cost Design of Sulabh toilet (See Appendix VIII).**
- Standard expression of interest (EoI), request for proposal (RFP), and model agreement for construction, operation and maintenance of public/Community toilets in urban local bodies of Punjab can be downloaded from PMIDC website **www.pmidc.punjab.gov.in**.
- Cost Requirement - Sulabh Toilet. **(See Appendix IX).**

ANNEXURE 1

Situation Analysis of PublicPlace

1	Name of Public Place:	
2	Location:	
3	Need for Community toilet (*Tick the response*)	Yes No
4	No. of average daily users of each Community toilet: (*Tick the response*)	
	a. Male:	
	b. Female:	
	c. Children (under 12):	
5	No. of seat proposed:	
6	Availability of water near proposed Community Toilet facility	
7	Willingness to provide matching fund (Except Grant) for the completion of Construction from: (*Tick the response*)	
	a. ULB funds:	
	b. Contribution of funds from CSR / NGO:	
Rehabilitation of Existing Toilet		
1	Condition of Existing Community toilet: (*Tick the response*)	
	a. Hygienic	
	b. Unhygienic: *Need for rehabilitation in existing Community toilet*	
2	No. of seats Exist:	
3	Condition of existing Public toilet: (*Tick the response*)	
	a. Hygienic.	
	b. Unhygienic: *Need for rehabilitation in existing Community toilet*	
4	No. of seats Exist	
5	If the existing Public toilet is also used by Community	Yes No
6	If yes, ULB Declared Public Toilet as Community Toilet as per definition of SBM Guidelines	Yes No
7	No. of potential daily users in the Community Toilet, if rehabilitation is done	
8	Willingness to provide matching fund (Except Grant) for rehabilitation of Existing Public/ Community toilet. (*Tick the response*)	
	a. ULB funds	
	b. Contribution of funds from CSR / NGO	
9	Any other information which may be useful:	
10	Comments (If any):	

Signed by Nodal officer

Illustrations

Illustration 1: Avoid entrances opening onto a wall surface with the mirror reflecting the urinals

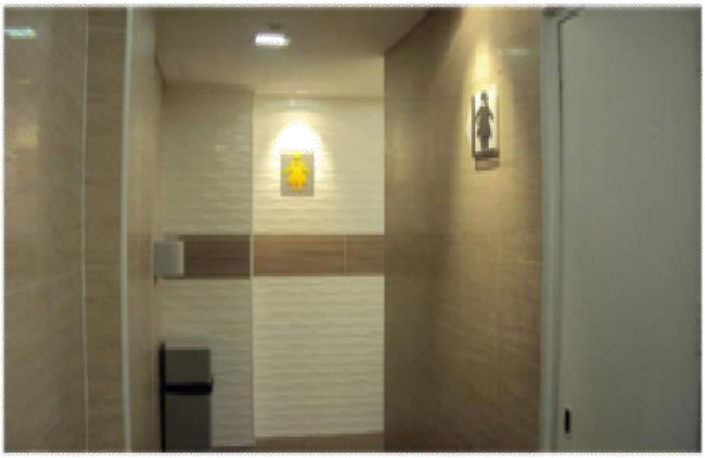


Illustration 2: Off-set entrance maze without doors Illustration

Illustration 3: Directional signage

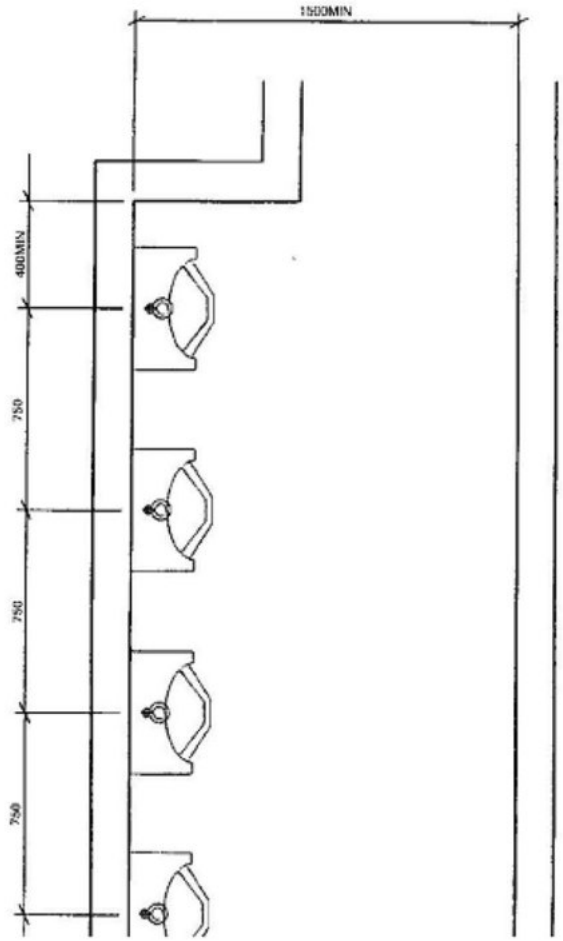
Illustration 4: Wall hung full-length urinals separated by modesty board

Illustration 6: One-stop provision of auto sensor tap, soap dispenser, litter

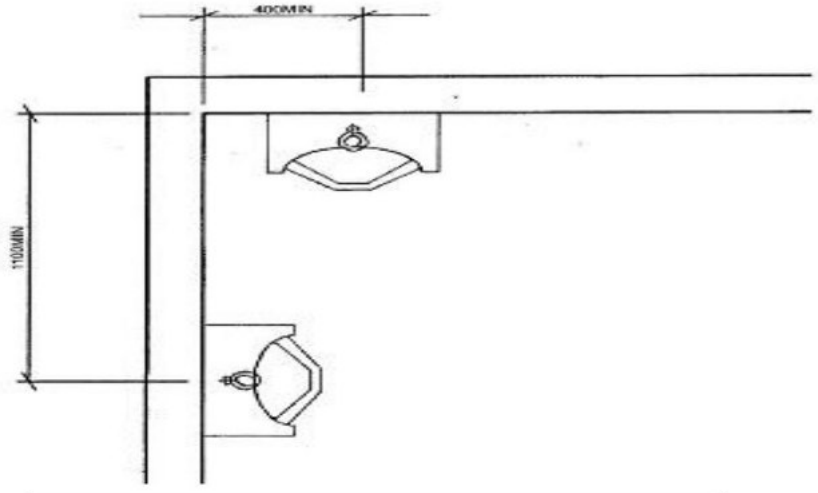
Illustration 5: Adult height and child height urinals Stainless steel grating over drainage

Appendix

APPENDIX I

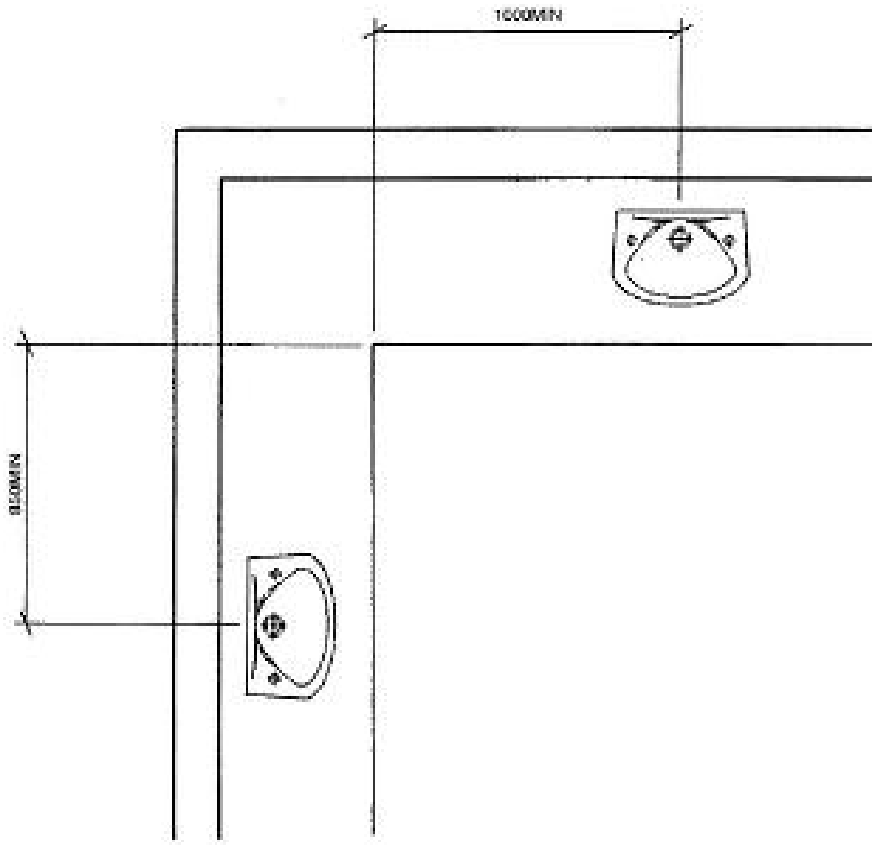


MULTIPLE URINAL



URINAL IN RIGHT ANGLE

APPENDIX II



WASH BASIN IN RIGHT ANGLE

Appendix-III

Traditional Toilets Vs Namma Toilets

S. no	Feature	Vambay Toilet	Namma Toilet
1	No of seats	(3+3=6)	1+2, 1+3,1+5 – flexibility
2	Cost (Rs in Lakhs)	6 seats:-5.00 Lakhs	1+2 - 8.50 Lakhs 1+3 - 11.50 Lakhs 1+5 - 15.00 Lakhs
3	Material of Construction	Masonry (Brick and Concrete)	Composite Material
4	Doors and Ventilators	MS Steel	Stainless steel/ Composite Material
5	Toilet for Physically challenged	No provision	Provision made for physically challenged/ elderly persons
6	Lighting	Conventional electric supply	Solar power(in built) with motion sensor
7	Flushing with water	Manually	Automatic flushing tank with knob for flushing inside the toilet
8	Period of Construction	6 Months	2 months –Waste water treatment system alone require time.
9	O&M	Self Help Group/ Municipality/ Private	By the Contractor who Constructed the toilet complex for seven years.
10	User fee	Nominal fees	No fees…. Free of cost.
11	Penalty for Non compliance	Nil	2 times the unit cost of the O&M charges per day.
12	Working hours	Limited period	24 hours.

Appendix-IV

Cost requirement - Namma Toilet

Cost Estimation for various combinations:

- ✓ 1 Physically challenged + 5 regular for Women Rs.13.60 Lakhs
- ✓ 1 Physically challenged + 5 regular for Men : Rs.13.40 Lakhs
- ✓ 1 Physically challenged + 5 regular for Men : Rs.13.40 Lakhs
- ✓ 1 Physically challenged + 2 regular for Men : Rs.8.60 Lakhs
- ✓ 1 Differently able + 2 regular for Women + 2 regular for Men = Rs. 13.45 Lakhs

Unit cost: Average cost per single seat toilet unit is ranging from Rs.2.30 Lakhs to Rs. 2.90 Lakhs.

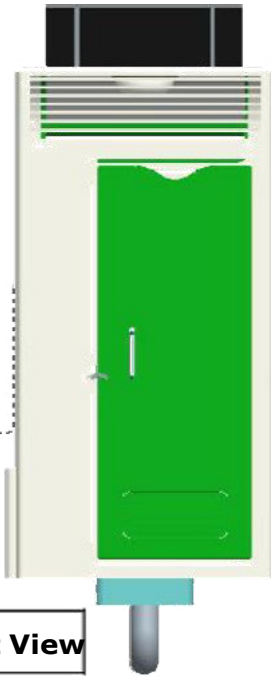
- Unit cost includes modular structure with all fixtures, wash basin, water tank, LED lights, patricians, railings, sign boards & stickers, dust bins, Civil work for the platform preparation (Rs1.00 Lakhs to 1.35 Lakhs), water & sewer connections as per the design of structure.
- Unit cost excludes cost of supply of water (if water supply pipe line not exists nearby) and septic tank cost (if no UGD exists nearby). If so, cost of septic tank ranges from Rs 1.00 Lakhs to Rs. 1.20 Lakhs.

Appendix-V

O & M Requirement of Namma Toilet—

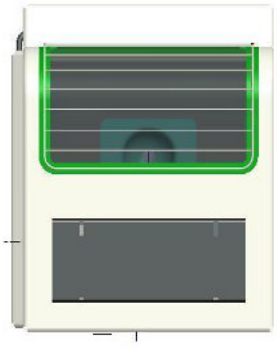
- No user charges.
- Done by Municipal Corporations.
- Maintenance also under CSR.
- Monthly Expenditure – Rs.17,000/- to Rs.27,000/-

Appendix-VI



Front View

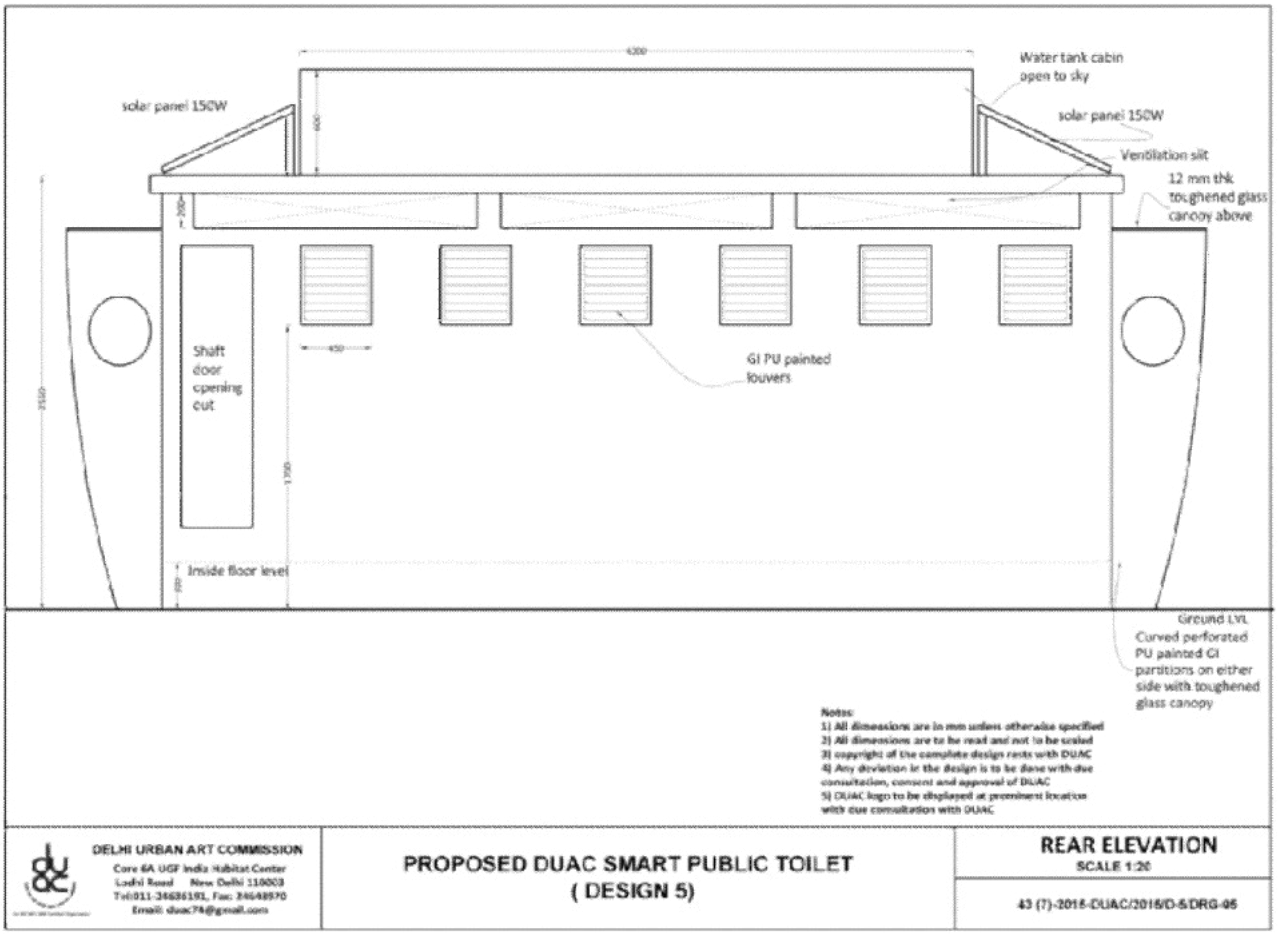
Isometric views of Single stall



Top View

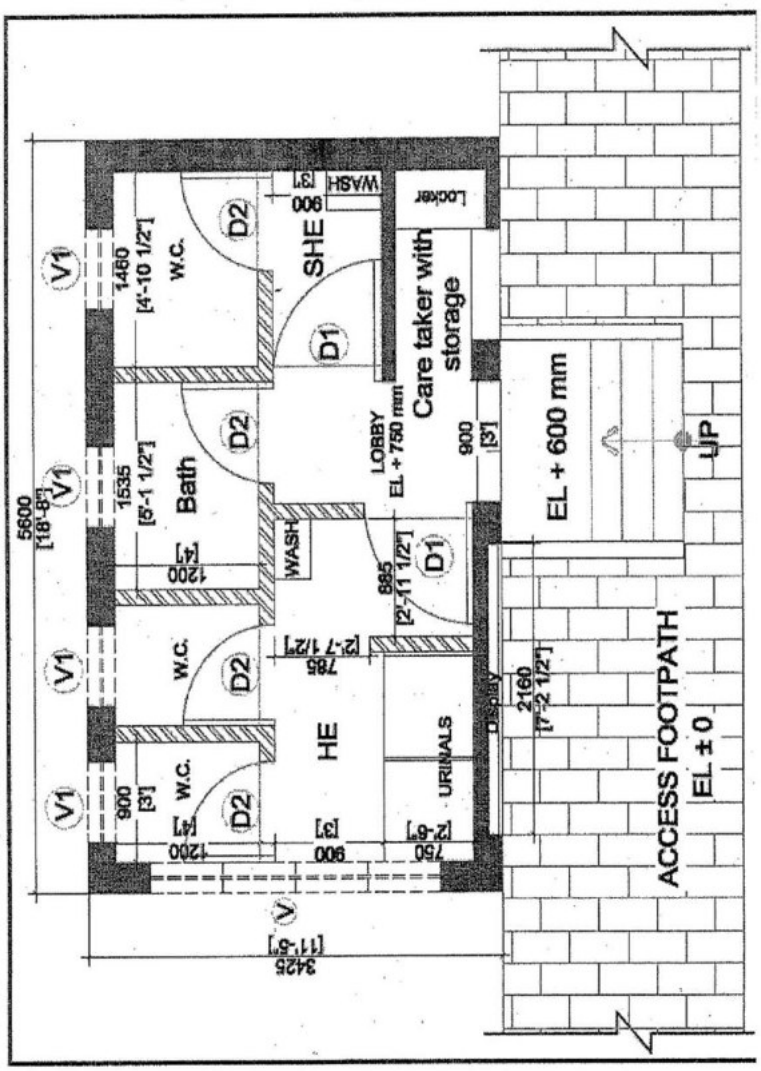
Appendix VII

DUAC TOILET


Water tank cabin open to sky
solar panel 150W
solar panel 150W
Ventilation slit
12 mm thk toughened glass canopy above
Shaft door opening cut
GI PU painted louvers
Inside floor level
Ground LVL
Curved perforated PU painted GI partitions on either side with toughened glass canopy
Notes:
1) All dimensions are in mm unless otherwise specified
2) All dimensions are to be read and not to be scaled
3) copyright of the complete design rests with DUAC
4) Any deviation in the design is to be done with due consultation, consent and approval of DUAC
5) DUAC logo to be displayed at prominent location with due consultation with DUAC
DELHI URBAN ART COMMISSION
Core 6A UGF India Habitat Center
Lodhi Road New Delhi 110003
Tel:011-24686191, Fax: 24648970
Email: duac79@gmail.com
PROPOSED DUAC SMART PUBLIC TOILET
(DESIGN 5)
REAR ELEVATION
SCALE 1:20
43 (7)-2016-DUAC/2016/D-5/DRG-05

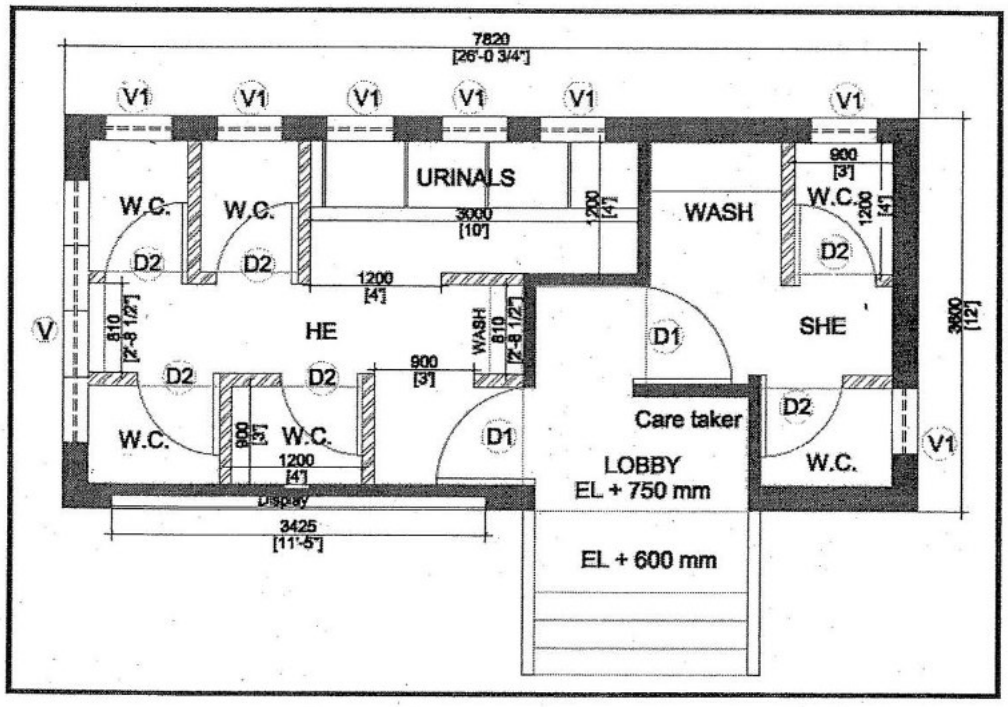
Concept 2

The total area of concept 2 is 206.45 Sq ft. Two numbers of water closets and urinals and one wash basin are provided for the male and one water closet and one wash basin is provided for the female. A common bathroom of size 20 Sq ft. is provided in this module. The lobby space at the entrance shall be used by the caretaker and a wooden cupboard with a lock has been provided behind the caretaker.



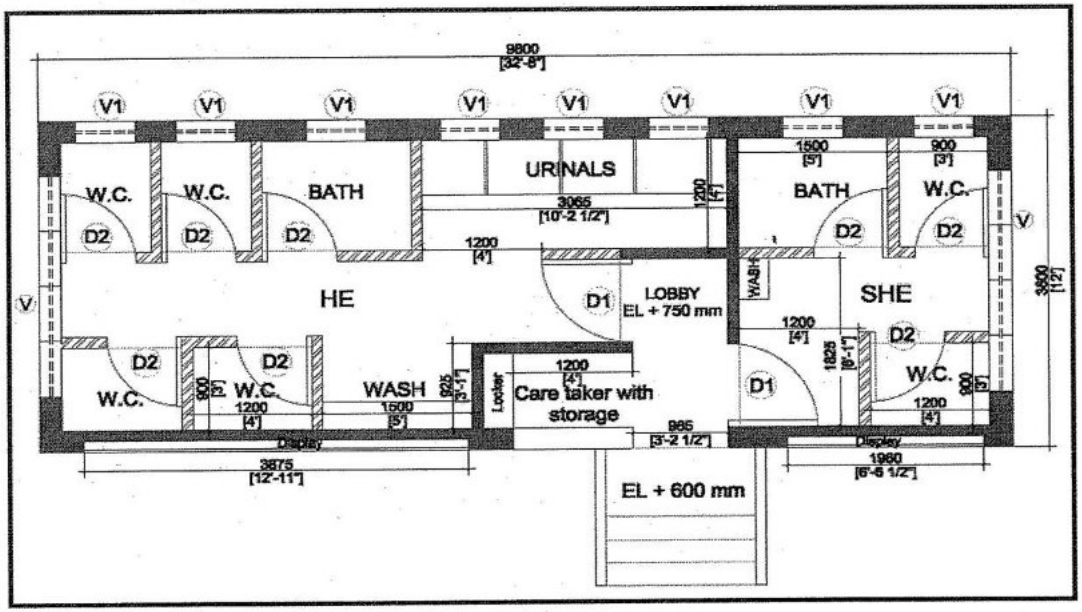
Concept 3

The total area of concept 3 is 303 Sq ft. Four numbers of water closets and urinals and two wash basins are provided for the male and two water closets and one wash basin is provided for the female. The lobby space at the entrance shall be used by the caretaker.



Concept 4

The total area of concept 4 is 379.75 Sq ft. Four numbers of water closets and urinals and two wash basins are provided for the male and two water closets and one wash basin is provided for the female. One 20 Sq ft. bathroom is provided each for both male and female. The lobby space at the entrance shall be used by the caretaker and a wooden cupboard with a lock has been provided behind the caretaker.



Appendix IX

Cost Estimation of Sulabh Toilets

1	Six (06) seated Toilets consisting of 2 Bath, care taker room,3 Urinals, wash basin etc.complete water and electrical arrangement with sewer connection	Rs. 18.00 Lac
2	Ten (10) seated toilet block consisting of 3+3 Bath, care taker room,4 urinals, wash basin etc. Complete water and electrical arrangement with sewer connection	Rs. 22.00 Lac
3	Approximate monthly cost for maintenance on service charges for 6 to 10 seated toilet block	Rs. 12,000.00 P.M