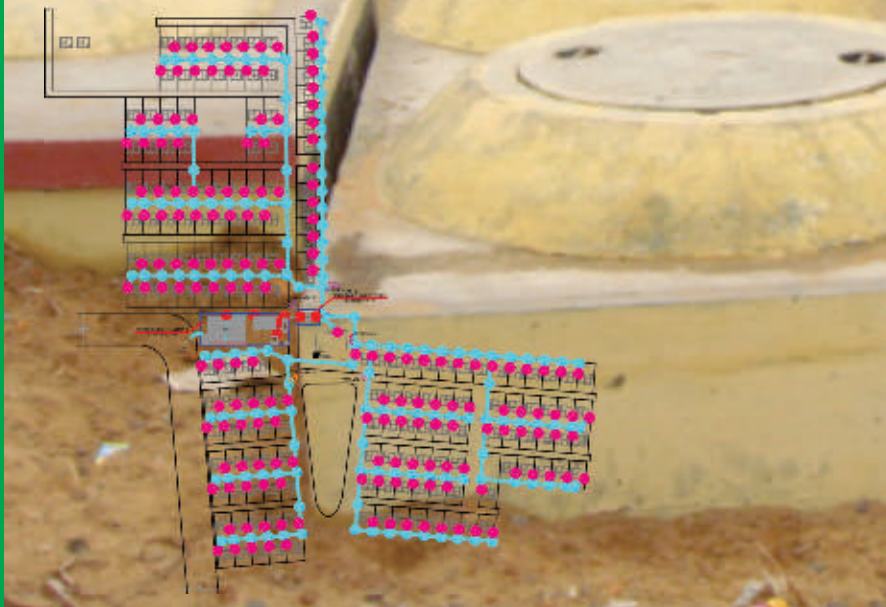




SIMPLIFIED SEWER SYSTEM

28th February 2014

Simplified sewer system combined with decentralised wastewater treatment system has an enormous potential in contributing to the development of sustainable environmental sanitation. The Consortium for DEWATS Dissemination (CDD) Society aims to use this technology option to facilitate the process of conveyance of wastewater more safely and building more sanitized cities in India.



Simplified sewerage offers the same level of user convenience as conventional sewerage.

The merits of SSS over Conventional Sewer System are;

- Reduction in the cost of construction - 30% - 50%
- Reduction in the cost of operation and maintenance
- Less conservative design assumptions
- Use of smaller diameter pipes
- Minimum depth at which the pipe cover is laid, can be as low as 0.2 m

Therefore, a simplified sewerage system has the potential to provide a high-quality low-cost sanitation service in poor urban areas. Simplified sewerage system has been found to be reliable, upgradeable and extendable. It could be suitable for areas characterized by gently sloping topography, high and low-density population with reasonable water supply, small homesteads with lack of space, high water table, impervious soil and shallow bedrock.

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BACKGROUND

Rapid urbanization and the associated pressure on existing sanitation infrastructure require innovative and affordable solutions for meeting the needs of the growing population. A major requirement towards building a totally sanitized city is to facilitate the safe collection, treatment and disposal of all wastewater produced in a town (NUSP). An efficient conveyance system to transport wastewater is therefore essential. A sewerage network is the intermediary arrangement to convey wastewater from the source to the treatment unit. The installation of sewers contributes towards considerable improvement in sanitary conditions by isolating the effluents during the conveyance stage. However, a conventional sewerage network requires large diameter pipes and also, the installation is done at a great depth, all of which incurs high life-cycle costs.

The WSP's report on 'Economic Impacts of Inadequate Sanitation in India' states that only 29.1% of India's flush/pour-flush latrines are connected to a piped sewer system. Most cities in India do not have a sewerage system, as in most cases they pose a question of financial viability. In addition, those urban areas that have an existing system, do not provide adequate coverage and treatment facilities, thus affecting overall coverage of sanitation.

There have been efforts by the developing countries to identify technologies for sanitation which are less costly than waterborne sewerage, while providing health benefits and being both socially and environmentally acceptable to the users. A majority of these technologies rely on the onsite disposal of human wastes. Space for such disposal facilities is usually available in rural and low density to middle density urban areas. Their use in high density urban areas, which are being supplied with water distribution services, is limited. Unfortunately, the bulk of slum and squatter housing in the cities of developing countries is high density and very few options are available for providing low cost waste disposal in these communities.

Owing to these site specific characteristics, a new alternative has been adapted as a design standard to suit the physical conditions of a majority of the low income settlements and taking advantage of advance in knowledge on the mode of operation of sewer systems. This involves the shallower placement of the smaller diameter sewer pipes in contrast to the conventional or deep sewerage. This is known as the Simplified Sewer System.

VENUE

CASS

CENTRE FOR ADVANCED
SANITATION SOLUTIONS

Kengeri, Bangalore

Rationale for training

The latest available edition of the Manual on Sewerage and Sewage Treatment of the Central Public Health and Environmental Engineering Organisation (CPHEEO), Ministry of Urban Development introduces 'small bore' and 'shallow sewerage' as appropriate technology options (CPHEEO, 2013). However, as they have not been adopted by consulting organisations, municipal engineers and urban local bodies, contractors in many cities are also not familiar with simplified sewerage system. Therefore, there is a need to disseminate appropriate knowledge and skills about simplified sewerage system among engineers and planners in government and private sector. This training programme constitutes a unique opportunity to learn more on this innovative technology.

Training Objective

To introduce and impart engineering skills to professionals for design and implementation of Simplified Sewer System.

Training Venue

The training will be conducted at Centre for Advanced Sanitation Solutions (CASS), located in Kengeri, Bangalore. CASS has been jointly established by CDD Society, BORDA and RGRHCL, Karnataka.

Programme Overview

The course duration is one day and is scheduled for 28th February 2014. The sessions are timed from 9.00 am to 6.00 pm. Various training methods like; lectures, presentation, case studies, field visits, individual and group exercises shall be used.

Course Outline

- Introduction to Simplified Sewer System
- Data collection for design of Simplified Sewer System
- Planning perspectives
 - Design approach for Simplified Sewer System
 - Design calculations for Simplified Sewer System

Participants

The participants should have a minimum of 1-2 years of work experience in water, sanitation /or wastewater management sector.

Potential participants for this training course are from government and private organisations;

- Engineers (sanitary, environmental), etc.
- Wastewater management practitioners
- Other Technical professionals with a background in related sectors such as; infrastructure, water resource management, etc.

English language skills are required as that will be the medium of instruction and teaching.



Attendee Benefits

The participants will be awarded a certificate on satisfactory completion of the training programme. Also each trainee will be linked with CDD/BORDA's International Engineer's network which provides them with access to regular and skill upgradation.

Travel & Insurance

- All expenses towards the onward and return travel to and from Bangalore are to be borne by the participants (or their organisations) individually.
- All daily local travels during the programme will be provided by CDD Society.
- The organisers and sponsors are not responsible for any risk of illness, accidents, loss of money, property, etc. incurred by participants.
- The participants are strongly advised to insure themselves against such mentioned risks.

Registration

The programme is designed for a maximum of 20 participants. The application form should be filled in all respects and returned to the contact address given below by 21st February 2014. As seats are limited, CDD Society will screen and select the most eligible applicants.

Programme Fee

The course fee is Rs.8,000/- (Rupees Eight thousand only) for Indian residents and 145€ (One fourty five Euros) for International participants.

The selected participants need to send DD/Cheque for the above amount in favour of CDD Society, payable at Bangalore to the address given below.



Consortium for
DEWATS
Dissemination
Society



BORDA



Consortium for DEWATS Dissemination (CDD) Society is a not-for-profit organisation comprising of like-minded network partners seeking to promote the provision of basic needs services in urban and rural environment through the promotion of decentralised solutions in

- Community Based Sanitation (CBS)
- Wastewater Treatment Systems (DEWATS)
- Solid Waste Management (DESWAM)
- Citywide DBNS Planning (CSP)

Bremen Overseas Research & Development Association (BORDA) is a German non-profit organisation with headquarters in Bremen.

Since 1979, BORDA has been working in India with local partners to implement and disseminate sustainable solutions to the related problems of poverty and environmental degradation. Through the integration of appropriate eco-friendly technology into a holistic framework, including technical, social, economic and environmental components, BORDA facilitates the provision of basic needs services to urban, peri-urban and rural populations and technical support to small and medium sized enterprises, institutions, settlements and communities.

Rajiv Gandhi Rural Housing Corporation Limited (RGRHCL) is a Government of Karnataka Public Ltd. Company. It has set up diverse training infrastructures across the State of Karnataka. RGRHCL is experienced in the construction, coordination and facilitation of housing provision for the Economically Weaker Sections (EWS) of society under various State Government schemes.



For any enquiries contact:

Consortium for DEWATS Dissemination (CDD) Society

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