

LifeRain™ Modules - Modular Rain Water Harvesting

Project Location: New Delhi

Date of Commencement: 14th April 2014

Date of Completion: 9th May 2014

Transformed a decade old conventional rain water harvesting tank into Life Green Systems' high efficient & innovative Modular Rain Water Harvesting for our client.

Life Green Systems has designed and developed modular rain water harvesting at client's site based out at Mansingh Road, New Delhi to facilitate the easy maintenance & re-ensuring the adequate functionality. Our Modular Tanks are a crucial element of this execution.

This project makes use of:

- Borewell – 02 Numbers.
- Dual step filtration: - Desilting chamber then filtration tank
- 40,000 liters recharge Capacity

This system provides spatial flexibility to ensure maximum available water volume is captured and stored. Rainwater can fall onto the courtyard, being filtered through the grass, soil, river sand and geo-textile layers into the tank, clean as a whistle, ready for use.

Modular Rainwater Harvesting Tank

It is becoming increasingly obvious to municipalities across India that the cost of providing a usable water supply is increasing rapidly. Decaying infrastructure and storm water system pollution is not only contaminating ecosystems but this valuable source of water is literally going down the drain. Life Green Systems Modular Rain Harvest Systems has solutions that can be tailored to your requirements for the complete control of water, our most precious resource

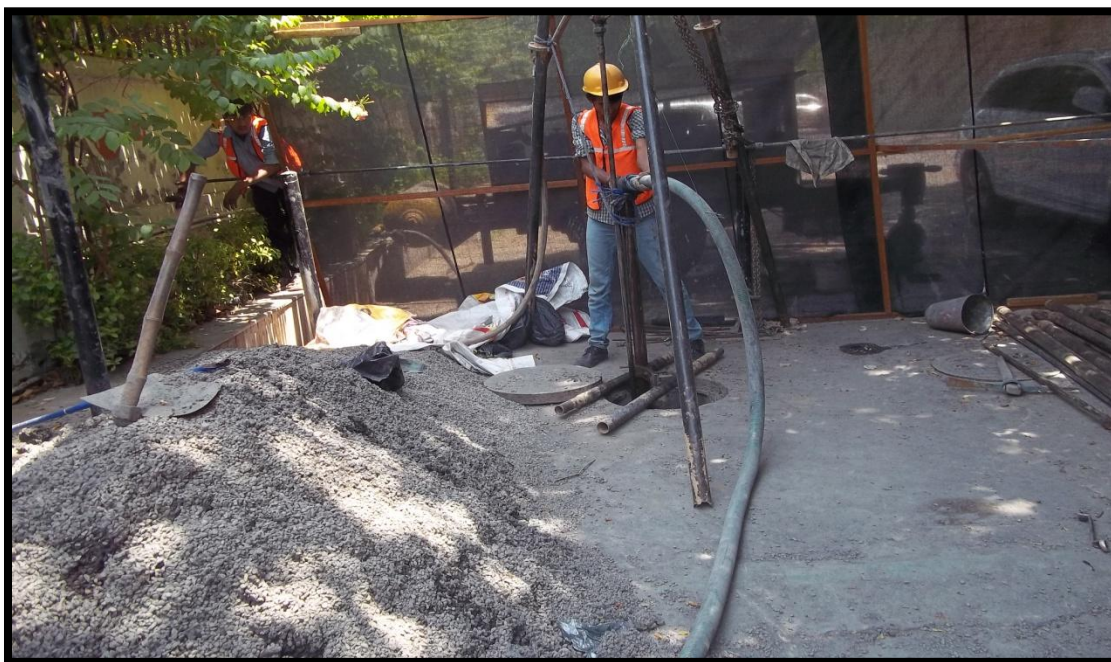
Steps of Construction:

1. **Cleaning of Existing RWH Pit & Desilting Chamber**
2. **Bore Well Installation**
3. **Construction of Modular Pit**
 - a. Preparation of Sand Bed.
 - b. Placing of Geotextile.
 - c. Placing of Module Matrix.
 - d. Wrapping of Geo Textile & Stitching.
 - e. Filling of Sides with Sand.
4. **Filter Installation**
 - a. Dismantling of Floor PCC.
 - b. Filter Installation.
5. **Connection of Filter to Existing Chamber.**

Step #1 Cleaning of Desilting Chamber



Step #2 Borewell Installation



Step #3 Geotextile Wrapping of Matrix Modules



Step# 4 Preparation of sand bed



Step# 5 Execution of Filtration tank



Benefits & Value Additions of Modular Technology – for Harvesting Rainwater

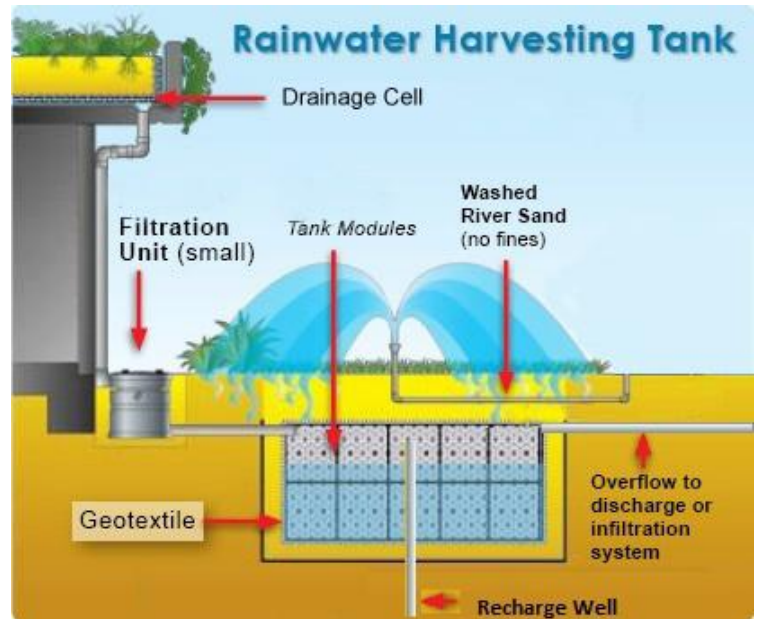
Criteria	Life Green Systems Modular RWH	Conventional RWH
Clog prevention and reliability	Advanced dual-step external filtration, subjected to prompt maintenance	Gravel based filtration
Time for installation (tank only)	This process takes merely 1 to 15 days irrespective of the tank size.	45 days to several months to lay out PCC, brickwork, plaster, steel framework, RCC roofing
Effective Detention Volume (storage capacity)	95% of tank volume Very compact, optimal space utilization	Tank Volume Less – Free board space (0.5 to 2m) Filter media volume (20 – 30% of tank volume)
Space utilization	Top surface may be used for Parking lots, Gardens, Lawns, Children's playground, sports fields, etc	Generally, located where land use is demarcated as unusable Requires overdesigning of cover slab - to accommodate lawns or parking lots at the surface level
Load bearing challenges	Load bearing capacity of these panels is very high and can take up to 24 tonnes/m ² without requiring special load bearing designs	Architects involvement and civil contractors honest work, essential to ensure load bearing of cover slab.
safety	Completely underground and no easy access to storage space No risk, even for applications in schools	Manhole access to hollow storage space. History of accidents during maintenance Accumulation of poisonous and odorous gases, owing to deterioration of organic matter inside the tank
Environmental	Material is made of 85%	Sourcing gravels and pebbles is

Impact	recycled Polypropylene. Can be recycled in the future as well. Eco-friendly, qualifies for Green Rating	a challenge. RCC material is used for construction
Capacity	Holding/Recharge capacity with begins from 1 meter cube to any size imaginable without significantly affecting the time of installation.	Design, financial and logistic challenges with large structures
Life and material standardization	Modules, Geotextile, and waterproof liners are lab tested based on various criteria. Quality assured Very long shelf life (50 years for the RWH structure) and can be endlessly recycled.	Life with good quality work is 20-30 year. Poor quality of work may cause the project to fail Quality assurance is a challenge
Reduce/extend	Tank size could easily be extended or reduced or even relocated as per future use	Requires construction of a new tank, if future usage or requirement changes
Aesthetics	Does not affect aesthetics of the property, rather helps to improve the same.	Non aesthetic
Seasonal challenges	Could be installed between rainfall events, as 1 or 2 days are sufficient for installation of tank, generally.	Work completion dependent on good weather. Monsoon season pretty much stalls all work.

Why Our Modular Rain Water Harvesting?

Unlike others, who offer individual components, we provide end-to-end turnkey modular rainwater harvesting systems:

- There is no need to source individual components, perform due diligence to ensure reliable operation, or contact multiple vendors for service and support, Life Green Systems delivers the complete modular rain water harvesting solutions along with consultancy
- Dual Step Filtration through distillation chamber & filtration tank ensures the right water quality for the intended end use
- We hold the experience & expertise to design and develop the most-suited rain water harvesting systems
- Installations of high-end modular rain water harvesting systems
- Recharge structure can be relocated easily. Tank can be relocated and size of tank can be increased.
- The site top surface can be used as various purposes like green area or parking lot
- Water from top surface enters the modular tank after passing from soil, sand and geotextile. Therefore the quality of water getting recharged is good.



Together we can work to achieve water resource goals. We look forward to helping you find your balance.

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