CONSULTANTS RAINWATER HARVESTING & WATER MANAGEMENT

Rain Water Harvesting

A Presentation by Mr. Nirav Saraiya

RWH Expert

Conserve WATER

VIVAAN WATER & ENVIRO SOLUTIONS PVT. LTD.

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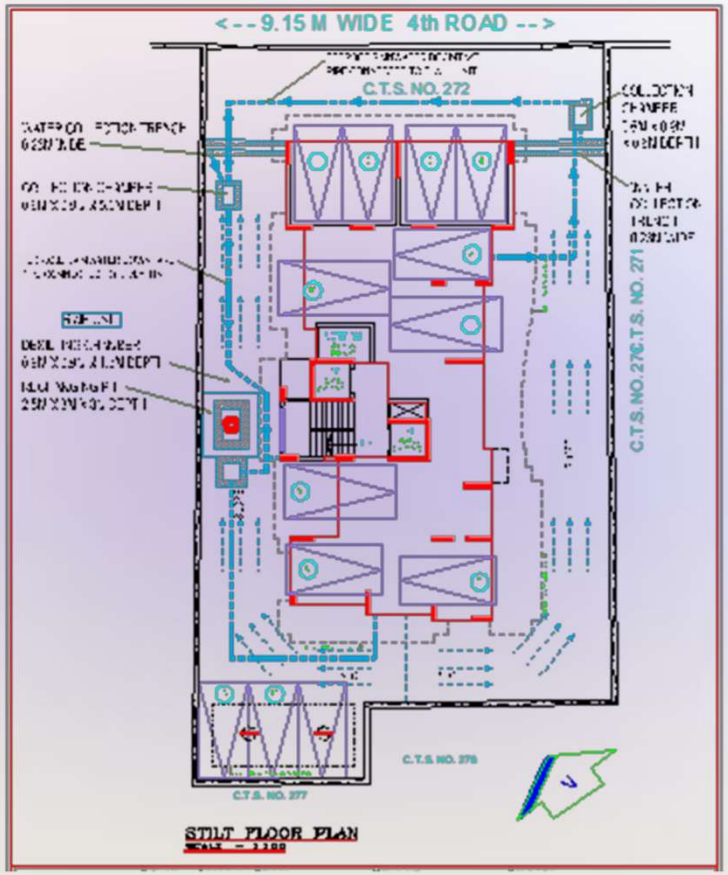
Our Success Stories

- Multiple projects completed across diverse sites
- Significant groundwater recharge accomplishments
- Improved water availability and sustainability

Project: Ambrosial Heights – Santacruz.

Significant improvements in groundwater, water reuse, and cost savings were achieved within six months of project implementation.

- The groundwater table has been observed in 6 months.
- Non-potable water reused for flushing, gardening, and car washing.
- Implementation cost: Rs. 3,50,000, recovered in 4-5 years through reduced water bills.
- Borewell yield improved post-installation from 500 Ltrs to 1500 Ltrs / Hrs
- Year-round water availability ensured, reducing dependency on municipal supply.
- Enhanced community awareness on sustainable water practices
- Positive feedback from residents and local authorities



Visual Overview of RWH Installation

Project: BARC Colony - Boisar

Installation Details

- Rooftop Rainwater Harvesting implemented.
- Recharge pit dimensions: 3m x 3m x 4m depth.
- First flush chamber: 0.9m x 0.6m x 1.0m.
- 6" diameter, 0.5m height single filter screen.

Water Recharge and Conservation

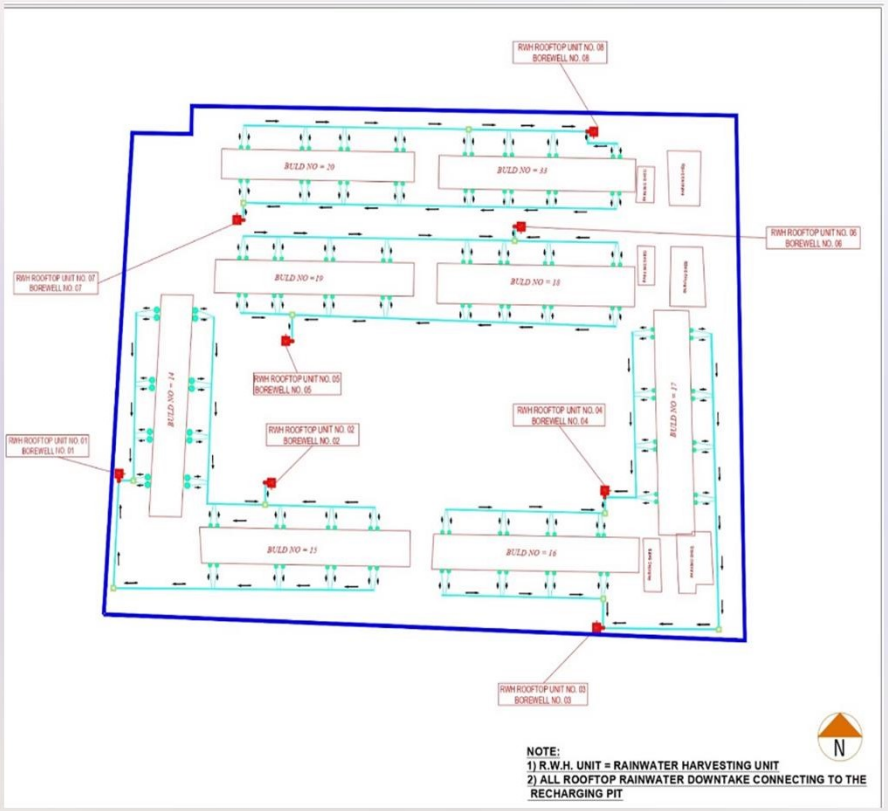
- Increased groundwater table and aquifer recharge.
- 12.730 Cu.mt. rainwater recharged annually.

Benefits and Outcomes

- Continuous water availability during summer.
- Borewell yield and water dependability improved.
- Significant cost savings on water bills.
- Environmentally sustainable solution.

Compliance Guidelines

- Complies with local rainwater harvesting regulations.



Visual Overview of RWH Installation

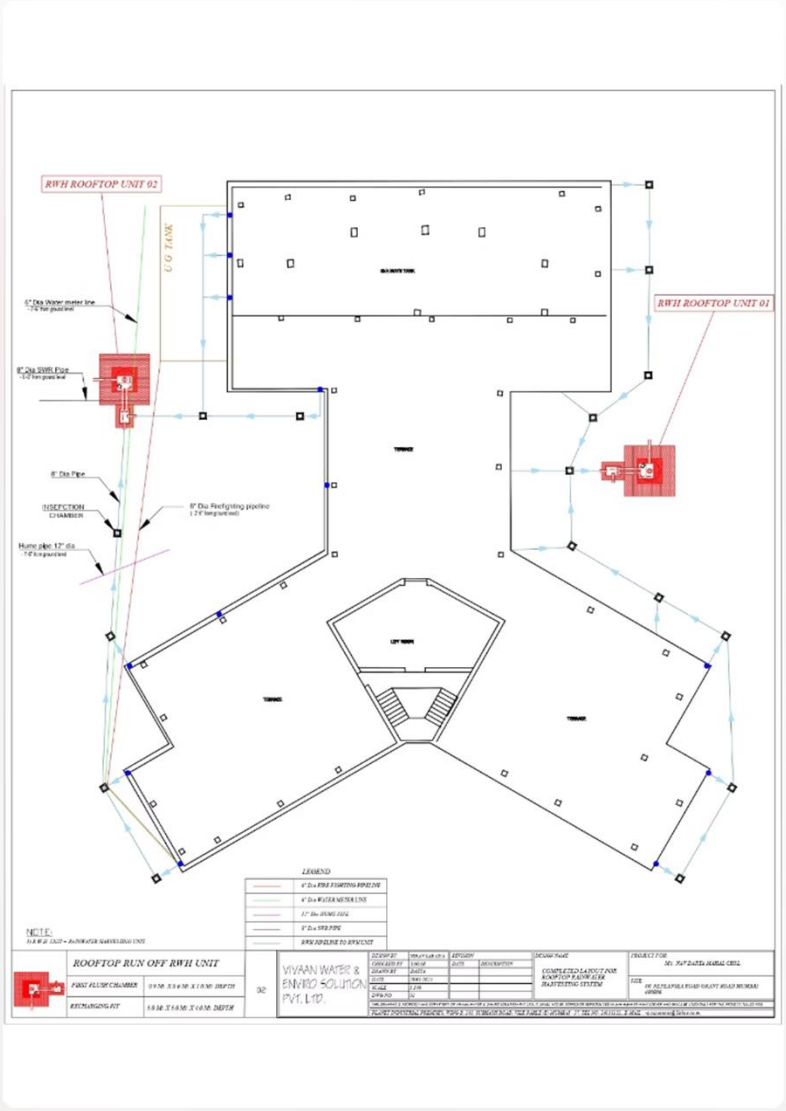
Project: Nav Dariya Mahal - Napean Sea Road

- RWH rooftop units: 2.
- Recharge pit: 3m x 3m x 4m depth.
- First flush chamber: 0.9m x 0.6m x 1.0m depth.
- Filter screen: 6" diameter, 0.5m height.

- 3,600 cu.mt. rainwater is recharged annually.
- Rooftop Rainwater Harvesting installed.
- Borewell yield increased significantly.

Implementation Images: Nav Dariya Mahal

Visual Overview of RWH Installation



Project: Vimal CHS – Vile Parle (W), Juhu.

System Details

- Borewell water yield increased by over 30% following RWH system installation.
- Reliable water supply for landscaping and restroom flushing throughout the year.
- An annualrainwater recharge volume of 1200 cubic meters was achieved.
- Detailed rooftop rainwater harvesting system components:
- Recharge Pit Dimensions: 3 meters (length) x 1.5 meters (width) x 3 meters (depth) for optimal groundwater infiltration.
- First Flush Chamber Size: 0.9 meters x 0.6 meters x 1.0 meter.
- Filter Specifications: 6-inch diameter with 0.5-meter height single filter to trap debris and sediments effectively.

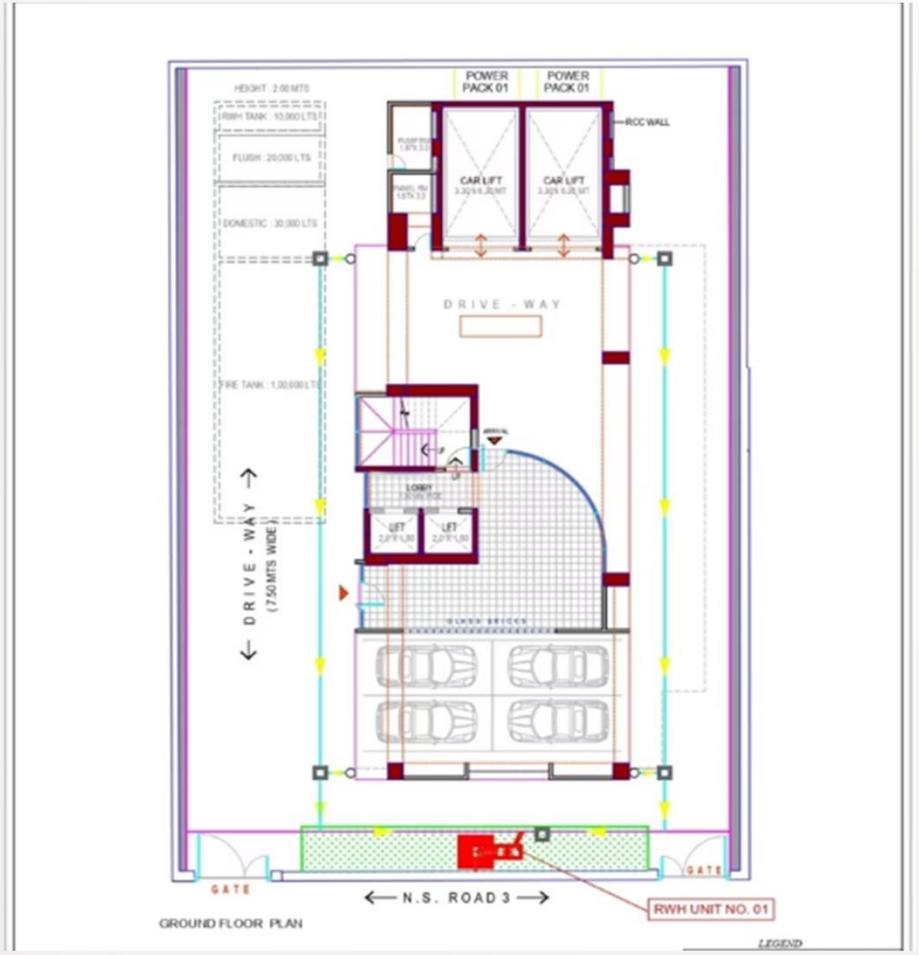
Key Benefits

Significant water conservation reducing dependency on external water sources.

Enhanced groundwater recharge contributing to long-term water table stabilization.

Protection of the local environment by reducing strain on natural water resources.

Promotion of sustainability through eco-friendly water management practices.



Visual Overview of RWH Installation

Project: Poddar School – Malad (E).

> Implemented rooftop rainwater harvesting increased groundwater recharge by 1575 cu.mt annually and enhancing yield, making the school self-sustainable.

- Recharge Pit:- 2.0 Mtr x 2.0 Mtr x 2.0 Mtr. Depth
- Filter Screen Kit:- 6” dia. and 0.5 mtr. height.

Rooftop Rainwater Harvesting Implemented.

There is 1 unit of rooftop rainwater harvesting system.

After Installation -

- Ground Water Table Increased & School became self-sustainable for flushing & gardening purpose.
- The yield in the summer season has increased.

Visual Overview of RWH Installation

Project: 96 Tagore – Santacruz (W).

Key Features

1. Rooftop Rainwater Harvesting Implemented.
2. After installing the Rainwater Harvesting (RWH) system, the yield of borewell has increased.
3. It also ensures a consistent water supply throughout the year for gardening and
4. 1809 cu.mt. Rainwater recharged into Borewell Annually.
5. Size of First flush Chamber - 0.9 Mt x 0.6 Mt x 1.0Mt depth.

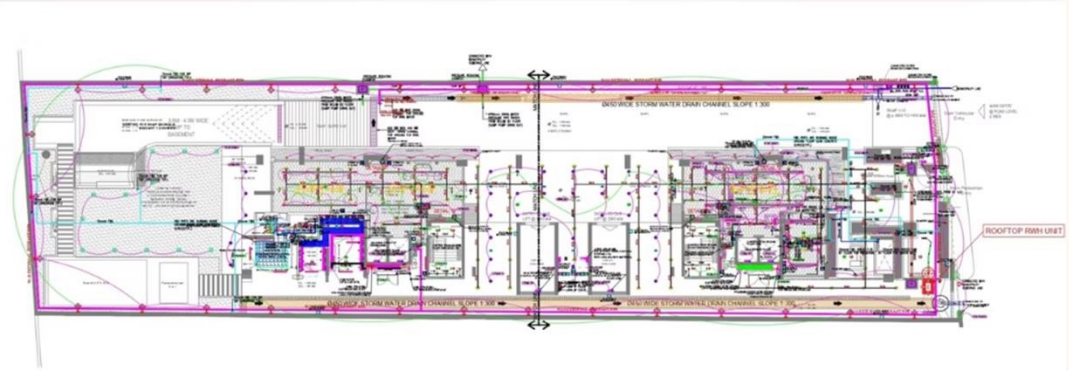
Size of ringwell : 1.2 mtr. Dia. & 3.0 mtr. depth.

Single filter screen: 6” dia. and 0.5 mtr. height.

With happy results, the clients has recommended doing Rainwater harvesting in another two of his projects.
Earlier it was hard water now after recharging the water chemical quality has improved.

Implementation Pictures

On- site Pictures of
96 Tagore



Visual Overview of RWH Installation

Project: Raheja Heights – Goregoan.

Surface Rainwater Harvesting Implemented

captures and utilizes rainwater that falls on the ground surface to recharge groundwater levels effectively.

Annually, approximately 2250 cubic meters

of rainwater is recharged into the borewell, significantly boosting water availability and sustainability in the region.

One dedicated unit

for surface water recharging has been implemented to optimize water infiltration into the soil and replenish aquifers.

The recharging pit measures 3 meters by 3 meters in area and extends 4 meters deep, designed to enhance the percolation of surface water into underground water reserves. Additionally, a grease cum desilting chamber measuring 2 meters by 0.9 meters by 2 meters has been installed, which plays a critical role in filtering out grease, debris, and sediments, thereby maintaining the cleanliness and efficiency of the recharge system.

Implementation Pictures
On-site Pictures of Raheja Heights

Visual Overview of RWH Installation

Project: Solitaire Edge – Kandivali (East).

Prevents Water Shortages

Prevents Water Shortages: Collecting rainwater ensures a reserve supply of water, reducing the risk of shortages during the dry, hot months when water demand is higher.

Reduces Water Bills

Reduces Water Bills: By harvesting rainwater early, households and businesses can use it for non-potable purposes like gardening and cleaning.

Key Implementations

- Rooftop & Surface Rainwater Harvesting Implemented.
- 3000 cu.mt. Rainwater recharged into Borewell Annually.
- 4 Nos of Recharge pits implemented
- Size of rooftop RWH :

Size of Recharging Pit:–3.0 Mt x 3.0 Mt x 4.0Mt depth

First flush Chamber: 0.9 Mt x 0.6 Mt x 1.0Mt depth.

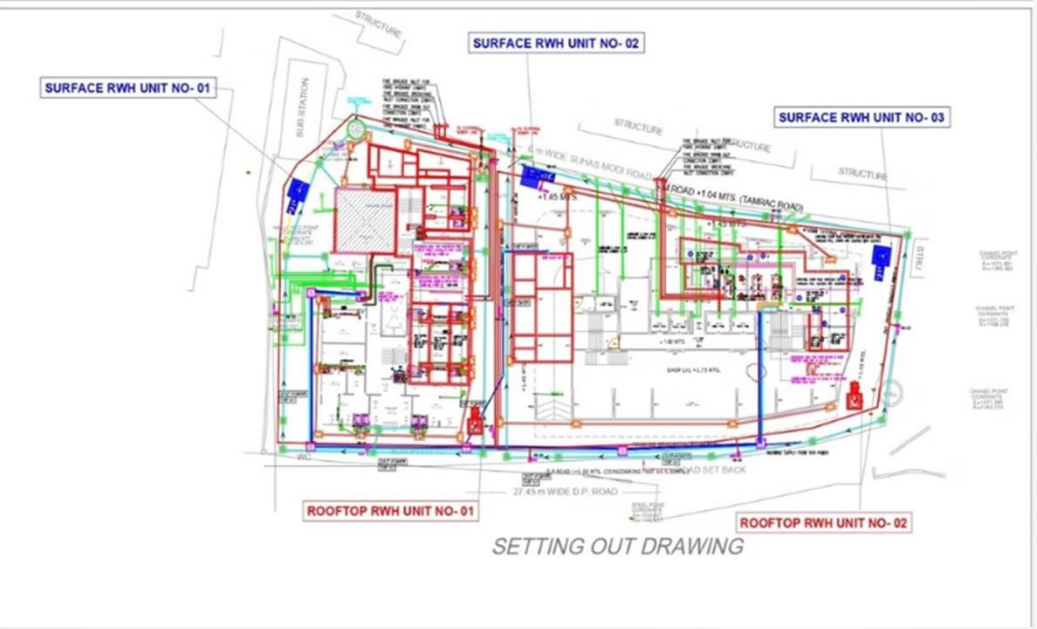
Single filter screen: 6” dia and 0.5 mtr height

- Size of surface RWH:

Size of Recharging Pit:- 3.0 Mt x 3.0 Mt x 4.0Mt depth

Grease Cum Desilting Chamber:- 2.0Mtr. x 0.9Mtr x 2Mtr depth.

Filter Screen Kit:- 6” dia and 0.5 mtr height.



Visual Overview of RWH Installation

Project : Bhaveshwar Plaza – Ghatkopar (W).

- Ground water table increased.
- After a few years, non-potable water was repurposed for uses such as flushing and gardening.
- Annual Maintenance cost: Rs. 10,000. Cleaning is required once a year, before the onset of monsoon season.
- More than 1500 cu.mt. was conserved from rainfall in 2024.
- Society has happily recharged the water from Rain water Harvesting unit.
- No more water shortage, efficient water supply in every household

Implementation Pictures
On-site pictures of Bhaveshwar Plaza

Visual Overview of RWH Installation

Project: Prince of Wales Museum - Colaba.

1 Before Rainwater Harvesting, the site heavily depended on borewell water for gardening with inconsistent supply.

2 Daily water need for gardening was 10,000 Liters, stressing groundwater resources.

3 Gardening relied solely on borewell water, raising sustainability concerns.

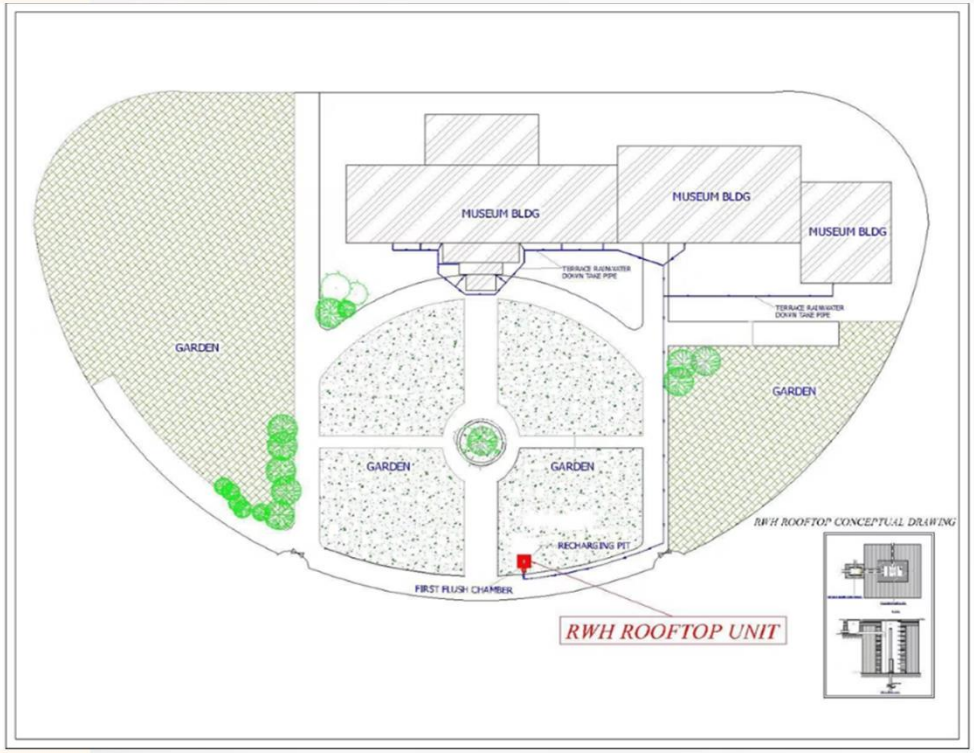
4 Post-installation, water availability and sustainability improved significantly.

5 Borewell recharging capacity rose to over 35,000 Liters per day, boosting groundwater levels.

6 About 50% of rooftop rainwater was captured by redirecting downtake pipes to the borewell.

7 Irrigation efficiency improved, supporting healthier vegetation and sustainability.

8 The project shows effective integration of rainwater harvesting with borewell systems in urban heritage sites.



Rainwater Harvesting System was kept for display for the visitors

Project: HPCL Residential Colony

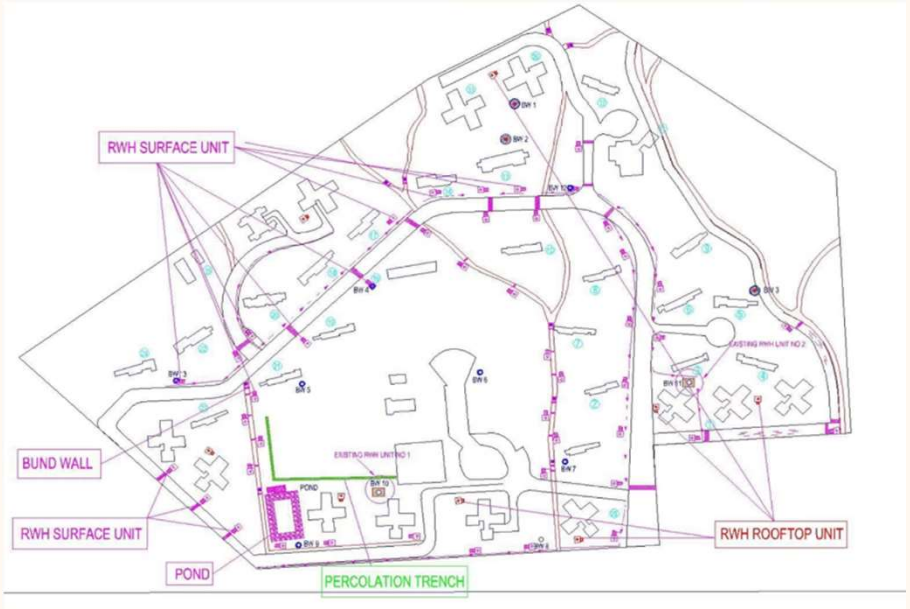
- After Installation of RWH System yield of Borewell increased.
- Water Availability throughout the year for Gardening and Flushing purpose.
- The said project has received GRS Rating Platinum Certification.

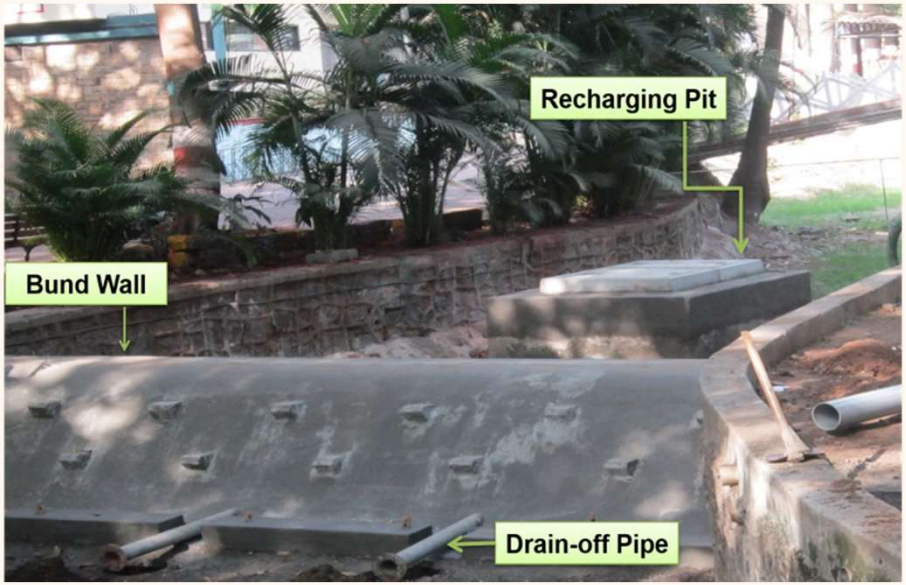
Check Dams

are small barriers built across the direction of water flow on shallow rivers and streams for the purpose of water harvesting.

Retention

The small dams retain excess water flow during monsoon rains in a small catchment area behind the structure.





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