

## Case Study of Dewats Plants at 6 Sites

- Economics of wastewater treatment,
- Costs in treating the wastewater,
- Capital cost, O&M costs , Recurring costs,
- Cost benefit analysis / water costs etc.
- Examples of different sizes of plants



**The Vigyan Vijay Foundation**

**Appropriate technology  
for sustainable development**



# ECONOMICS OF RECYCLED-WATER

## DETAILS OF SIX SITES FOR ASSESSMENT/ ANALYSIS:

<u>Site</u>	<u>Capacity of plant</u>	<u>Cost of plant</u>	<u>Cost per Kilo-</u> <u>Litre</u>
<u>House</u>	<u>300 Litres per Day</u>	<u>15,000/-</u>	<u>50,000/-</u>
<u>CSE</u>	<u>8,000 Litres per day</u>	<u>2,50,000/-</u>	<u>30,000/-</u>
<u>IIT-D</u>	<u>10,000 Litres per day</u>	<u>3,50,000/-</u>	<u>35,000/-</u>
<u>V Vihar</u>	<u>40,000 Litres per day</u>	<u>8,00,000/-</u>	<u>20,000/-</u>
<u>Ashram</u>	<u>30,000 Litres per day</u>	<u>7,50,000/-</u>	<u>25,000/-</u>
<u>Sc Schl</u>	<u>15,000 Litres per day</u>	<u>3,50,000/-</u>	<u>22,000/-</u>

## Data deduced:

Average costs of making Dewats Plant is around Rs.25,000/- per KL flow per day.

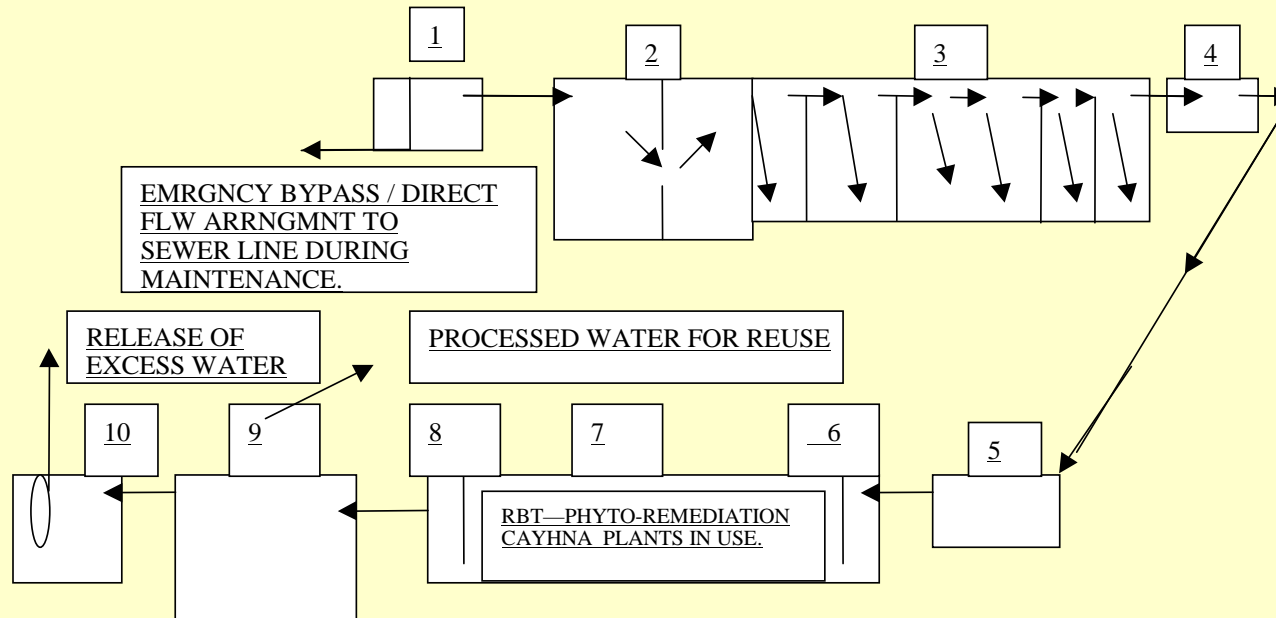
Cost of 1000 KL per day plant is Rs.1,25,00,000/- i.e Rs. 12,500/- per KL per day.

As the capacity increases, upto some level Dewats is effective,  
for larger needs it is needed to be made in multi- units,  
of smaller manageable sizes limited to 100kld



# ECONOMICS OF RECYCLED-WATER

## DETAILS OF DEWATS COMPONENTS : CSE 10 KL/D



**1 DIRECTIONAL CHAMBER**

**2. SETTLR CHAMBR WITH 2 SECTIONS**

**3 BFFLD RCTR 9 CHAMBERS**

**4. OUTLET CHAMBER TO PLANTS**

**5 CONVEYANCE CHAMBER**

**6. INFLW CHMBR TO PLNTD GRVL FLTR**

**7 PHTO RMDTN CAYHNA PLNTS**

**8. OUTFLOW CHMBR W LEVEL CONTROL**

**9 STRGE SUMP FOR PRCSSD WTR & PUMP TO DRAW WATER FOR RE-USE**

**10. OVERFLOW EXCESS WATER / RELEASE TO MAIN SEWER LINE**

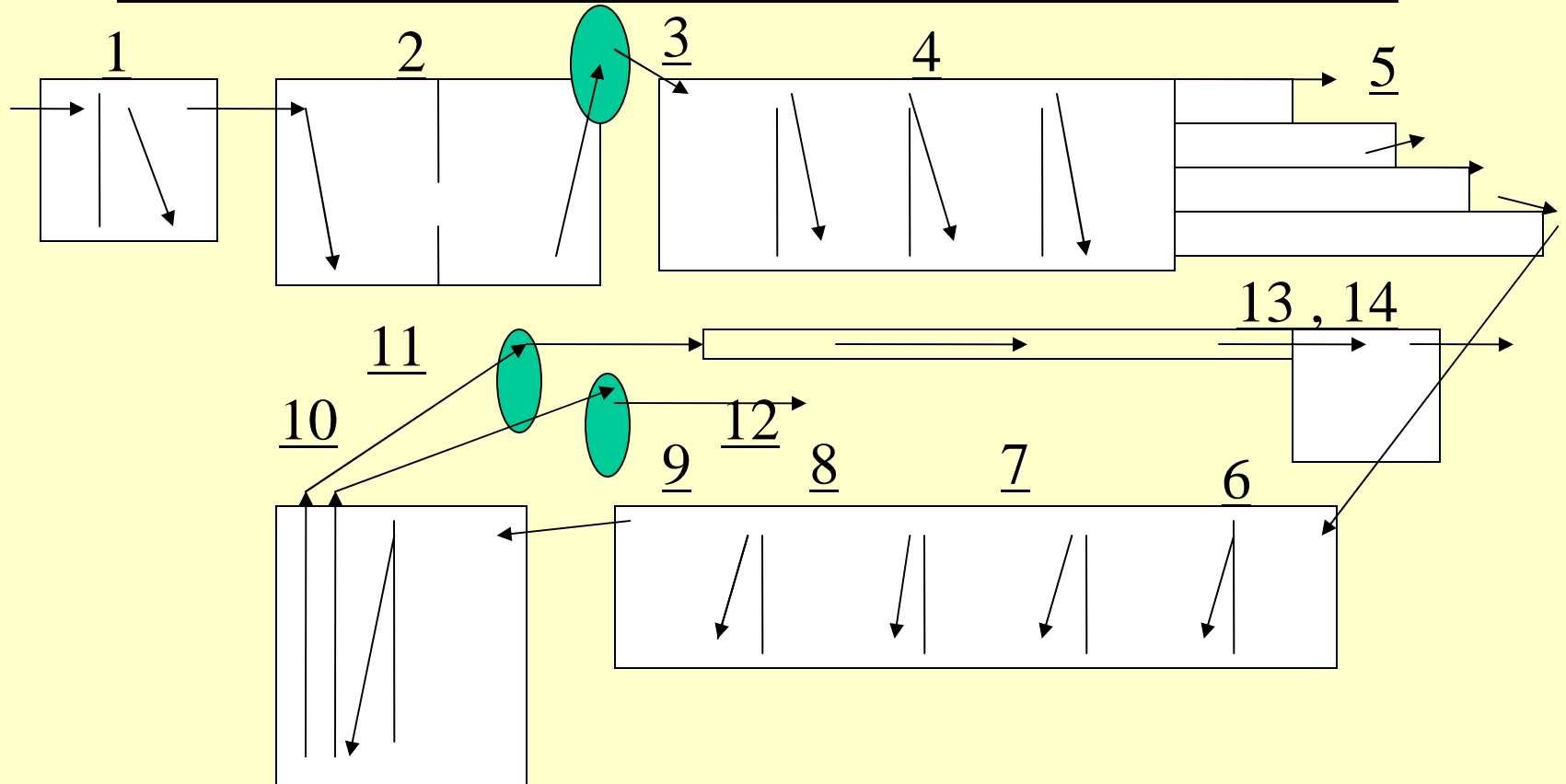


## PICS & DATA ON CSE & IIT PLANT



# ECONOMICS OF RECYCLED-WATER

## DETAILS OF DEWATS COMPONENTS: SITE- VASANT VIHAR 40KL/D



1 DIRECTIONAL CHAMBER

2.BIO- SETTLER CHAMBER

3. PUMP

4 BAFFLED REACTOR 4 CHAMBERS

5.CASCADE FLOW AERATION

6. GRAVEL & PLANTS

7 HORIZONTAL PLANTED FILTER

8. PHYTO-REMEDICATION

9.COIR-PITH & HYACINTHS

10 STORAGE SUMP

11. PUMP TO E-BLOCK WITH LINES

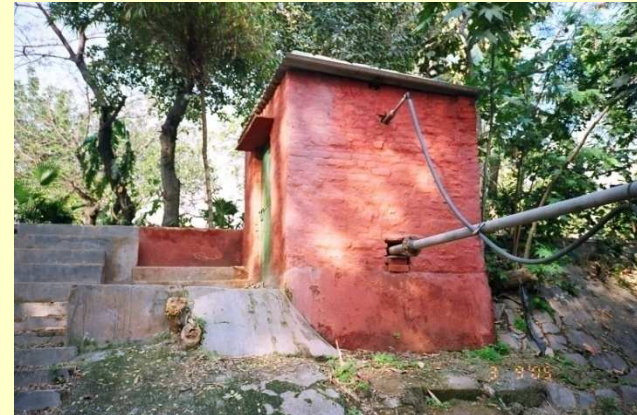
12. PUMP TO A-BLOCK

13 TANK AT E-BLOCK WITH PUMP

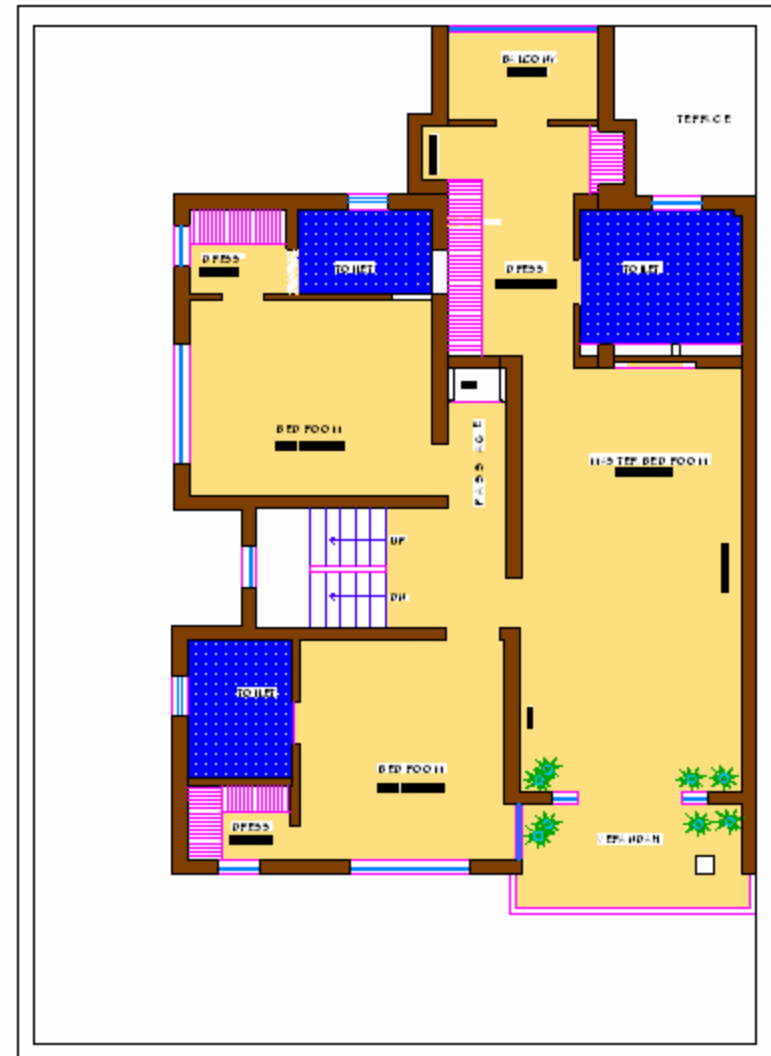
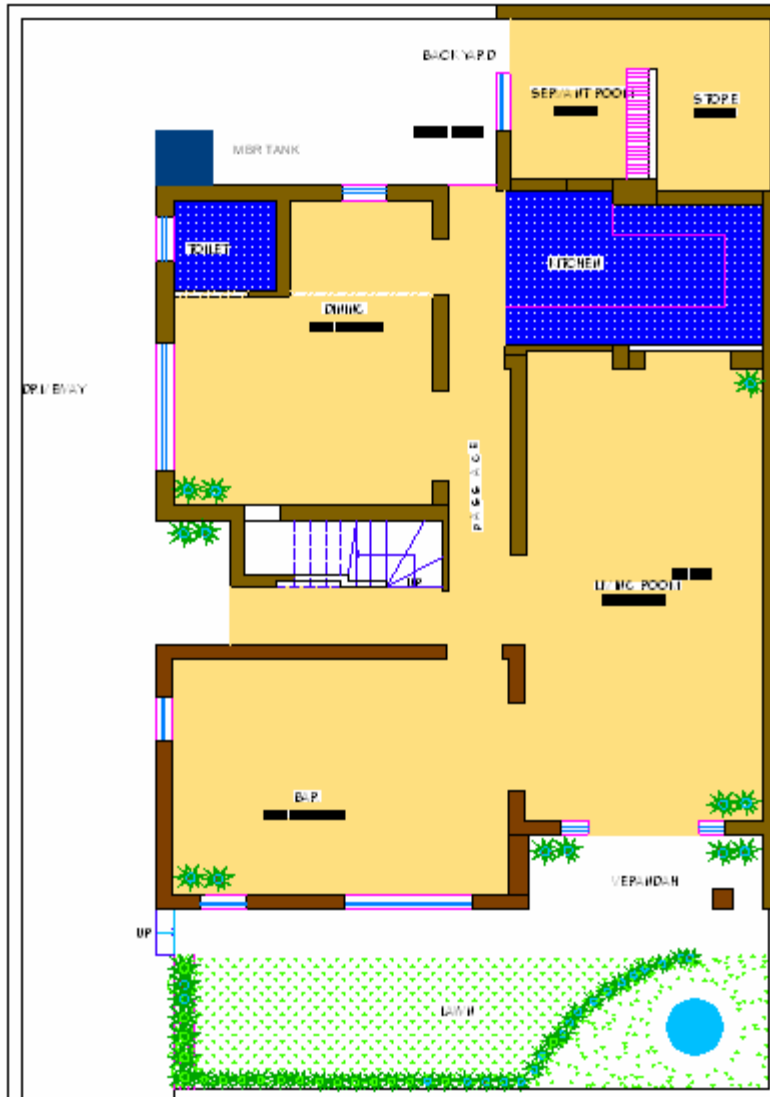
14 PIPELINES TO PARK AREAS



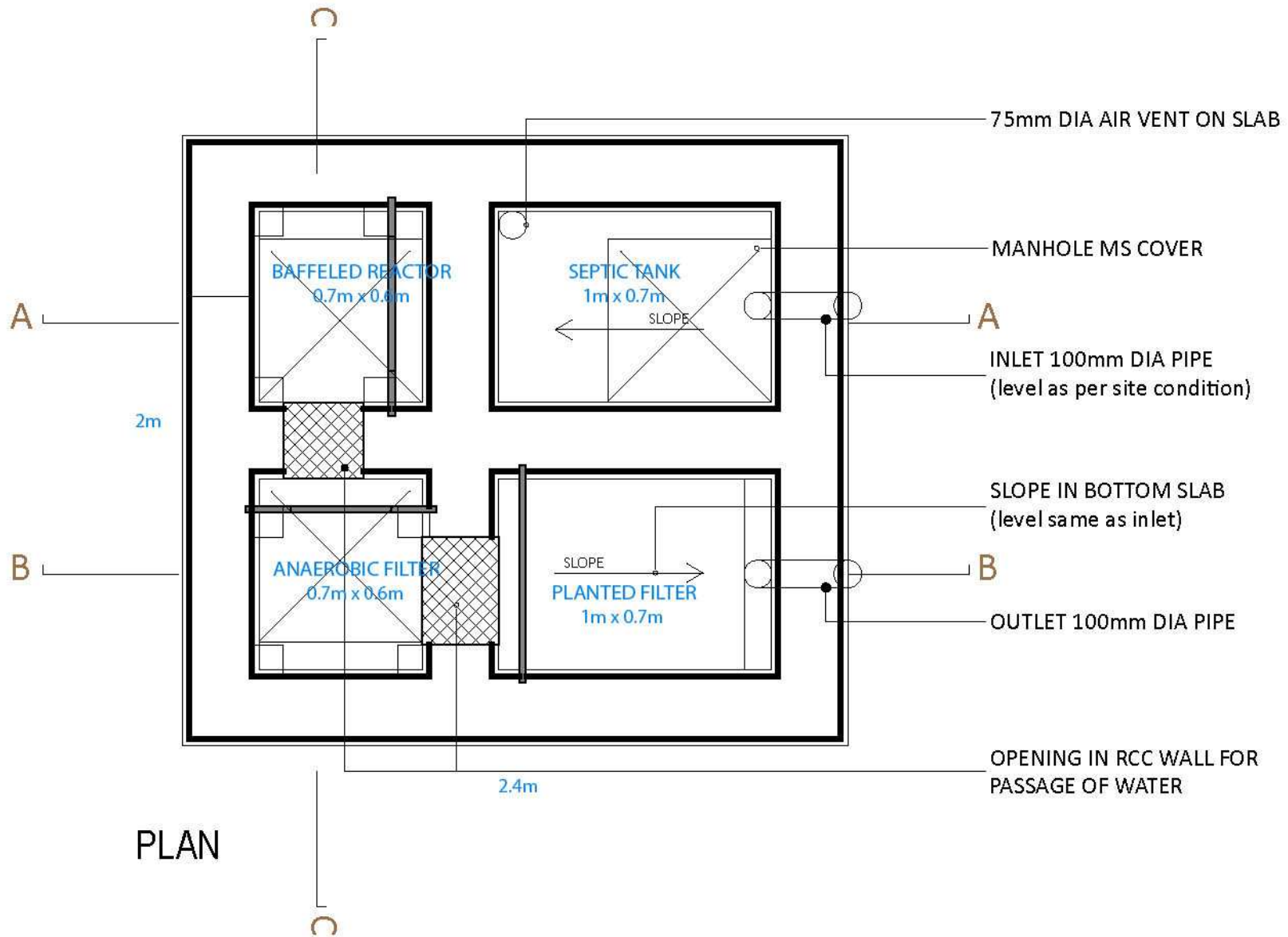
# PICS & DATA ON VASANT VIHAR PLANT



**PLANNING AT MICRO LEVEL :**  
**BUNGALOW TYPE : 4 UNITS/ 20 USERS.**  
**PLOT AREA 500 Sqm./ Wtr. 3000 Litres per day**



# LAY-OUT OF DEWATS IN A RESIDENTIAL HOME:

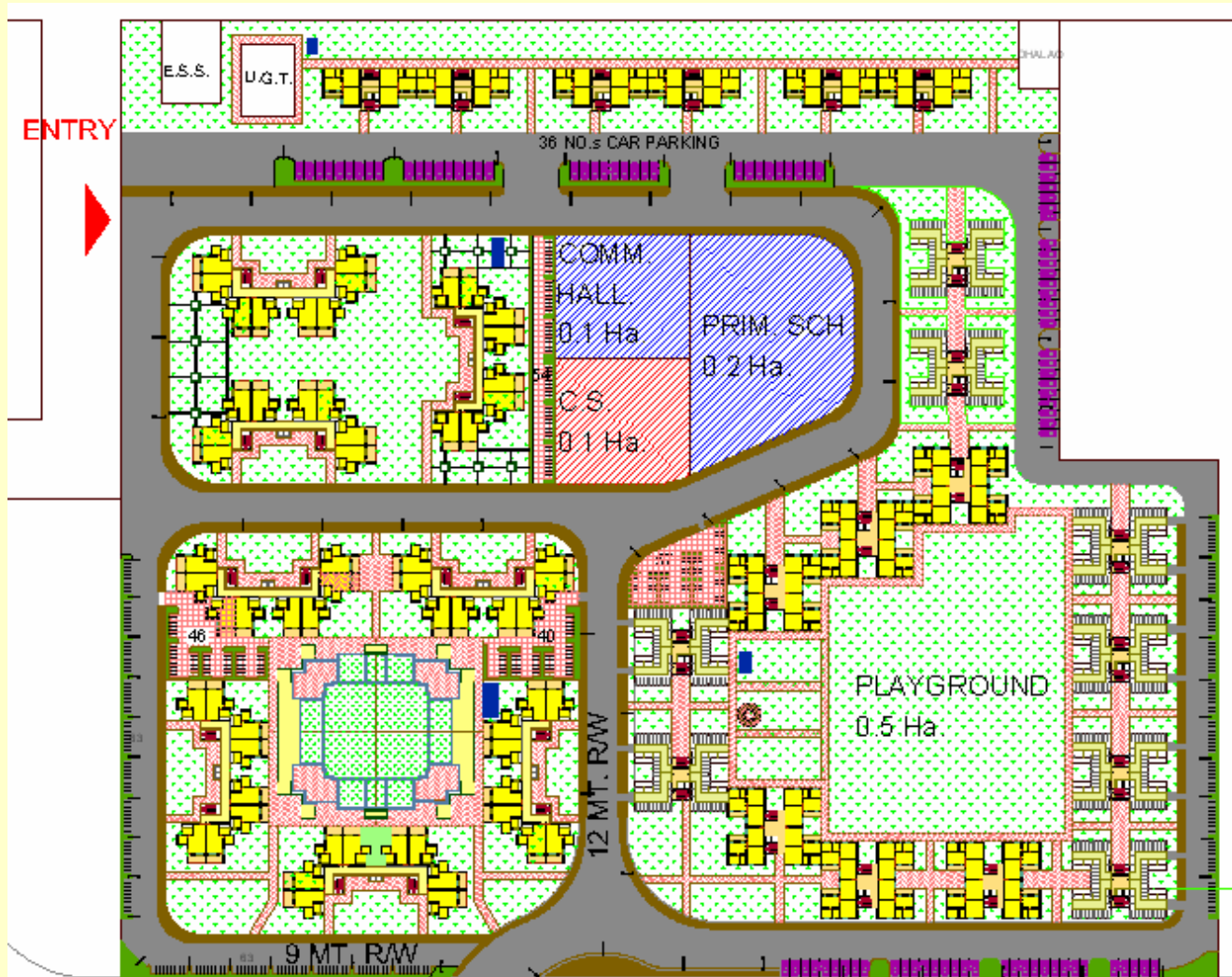




# PLANNING AT MACRO LEVEL :

COLONY/ INSTITUTION TYPE : 600 UNITS/ 3000 USERS.

PLOT AREA 20,000 Sqm./ Wtr. 5,00,000 Litres per day





**THANK YOU TO ASPIRE TO WORK LOCALLY**  
**AND CONTRIBUTE GLOBALLY**

**Contact: Er. Ajit Seshadri, Head - Environment**

**The Vigyan Vijay Foundation**

**Phone: 0-98104 60049**

**Email: [ajit.seshadri@vigyanvijay.org](mailto:ajit.seshadri@vigyanvijay.org)**

**Website: [www.vigyanvijay.org](http://www.vigyanvijay.org)**

