KETKI CONSULTANCY ENGINEERING SERVICES

CIVIL ENGINEERING CONSULTANCY

KARAM TOLI CHOWK, OPP. KARAM TOLI TALAB
RANCHI - 834008, JHARKHAND
MOB. NO. - 9234657476, 9234657477, 7004043636
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Dated: - 05/08/2020

1.	Test conducted as per I.S. Code :-	3025
2.	Name of Applicant	Smt. Saroj Sahu , W/O Taramani Sahu
3.	Proposed to build :-	Residential Apartment
4.	R.S.Plot No. :-	763/65 , 763/65,763/66
5.	Sub Plot No :-	.....
6.	Khata No :-	155
7.	Word No. :-	07
8.	Thana No :-	194
9.	Thana :-	Sadar
10.	Date of Sample Received :-	10/07/20
11.	Date of Test Conducted :-	10/07/20
12.	Approximate B. Area :-	1858.00 Sqm (approx.)
13.	Sample given :-	By the Client.
14.	Type of Test :-	Water test. Required for building construction
15.	Village :-	Gari , Dist- Ranchi (Jharkhand)

This test will be required for Construction of Building.

Sl No.	Parameter	Unit	Results
1	PH		7.0
2	Turbidity	NTU	<5
3	Co lour	Hazen unit	<5
4	Total dissolved solid	Mg/l	255.5
5	Total Hardness (as CaCO3)	Mg/l	150.25
6	Alkalinity	Mg/l	138.35
7	Calcium (as Ca)	Mg/l	30.5
8	Magnesium (as Mg)	Mg/l	200.00
9	Nitrate (as SO4)	Mg/l	4.80
10	Chloride (as Cl)	Mg/l	55.0
11	Sulphate (as SO4)	Mg/l	28.55
12	Fluoride (as F)	Mg/l	Nil
13	Iron (as Fe)	Mg/l	Nil

Praveen Kumar
Engineering Lab.
Ketki Consultancy Engineering & Services
RANCHI

BKA Associates
Partner

A. Discharge: - 3104.00 L/hr.
   i) Extraction allowed: 3104.00 L/hr.
   ii) Maximum extraction: - 16138.00 L/day.

B. Physically water odorless & Colorless.

C. Roof top rain water harvesting (to recharge the aquifer) details enclosed. Applicant of proposed building will have to utilize rainwater on roof top and from open space such as parking, pathway etc. through recharge pits & trenches.

D. I do hereby declare that the informing given hereinabove is true to the best of my knowledge and belief and based on the basis of engineering/ field tests. This is based on data collected.

E. Over all requirement of Water: - Approximate 13500.00 lit.

F. Requirement & store of over Head tank / Surge: - Approximate 13600.00 lit.

G. Number of Flat:- 20 (G+4)

H. Number of Visitors: - 100 persons.

Calculation of Discharged at Bore well

Bore

1. Total depth of Bore well : 540'
2. Diameter of the well : 6"
3. Diameter of outlet Pipe : 4"
4. Details of pump (Type of Pump) : 1.5 hp subm. Pump
5. Static water level (Before starting pump) : 60'BGL
6. Pump started at : 7:50 A.M.
7. Discharge measured up to : 8:50 A.M.
8. Maximum draw –down as noticed at: (After 8:50 A.M. 140')
9. Water level draws down : (200'B.G.L.)
10. Discharge : 3104.00 L/hr

Calculation of discharge of bore well measured by taking volume Vs time method in account a container of 250 liters is taken and found that the container was filled in 290 Seconds.

Hence the rate of discharge can be calculated as follows:
$Q = 250/_{290} \times 60 = 0.86 \times 60 = 51072 \times 60 = 3104.00$ L/hr.

Extraction allowed: - 3104.00 L/hr.
Maximum allowed: - 16138.00 L/day.

Kalki Consultancy Engineering Services

BKA Associates

Partner

Remarks: -

a) Since the bore wells are yielding water 3104.00 L/hr is providing at par sufficient/insufficient water for above-mentioned consumption.

b) Bore well is required: - No more required.
The rate of extraction will not exceed by 3104.00 l/hr and the extraction period will under no circumstances will exceed 3 hrs at a stretch limited to 16138.00 L/day. This will help in recharging the water bodies (Aquifer) falling under cone of depression.

c) The Site has D.W.S.D. water supply connection/Pipe line crossing through the plot will also cater the need of people of apartment which reduces the extraction of ground water.

d) Roof top harvesting of rainwater to recharge ground water on the plot must be restored to as per the design and plan for the same attached with this certificate.

e) Regarding the recharging the aquifer by rainwater proposed apartment has got approximate 465.00 sqm (approx.) open roof area, which can retain annual rainwater of given magnitude area. Average annual rainfall of Ranchi is approx 1.4 mts (1400mm).As per ours calculation annual volume of water recharge approx total 651000.0L/year.

f) The construction of rainwater recharge pit including 4.5" – 6" dia drilling up to desired depth (Depth variable as per litho logy of area) in the recharge pit in the building premises to facilitate harvesting of rainwater to recharge ground water should be technically supervised by Engineer.

Seen and understand.

Signature of Applicant/ Attorney holder.

Date: - 05/08/2020

for Ketki Consultancy Engineering Services

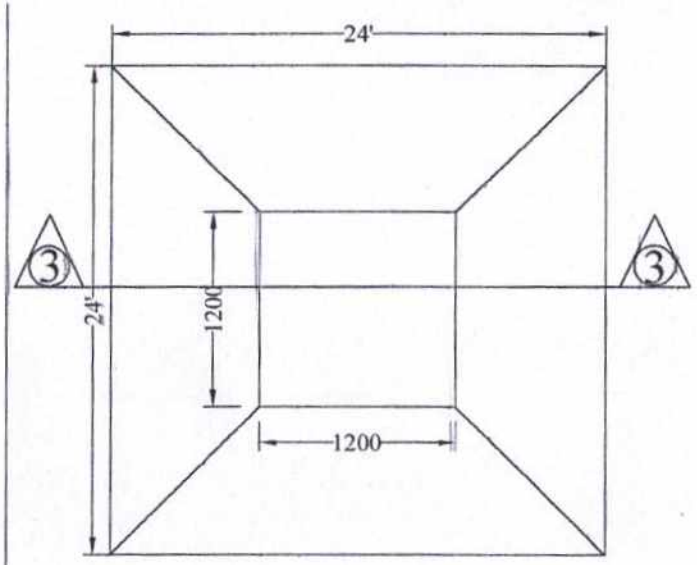
Ketki Consultancy Engineering Services

(Praveen Kumar)

Place: - Ranchi

BKA Associates

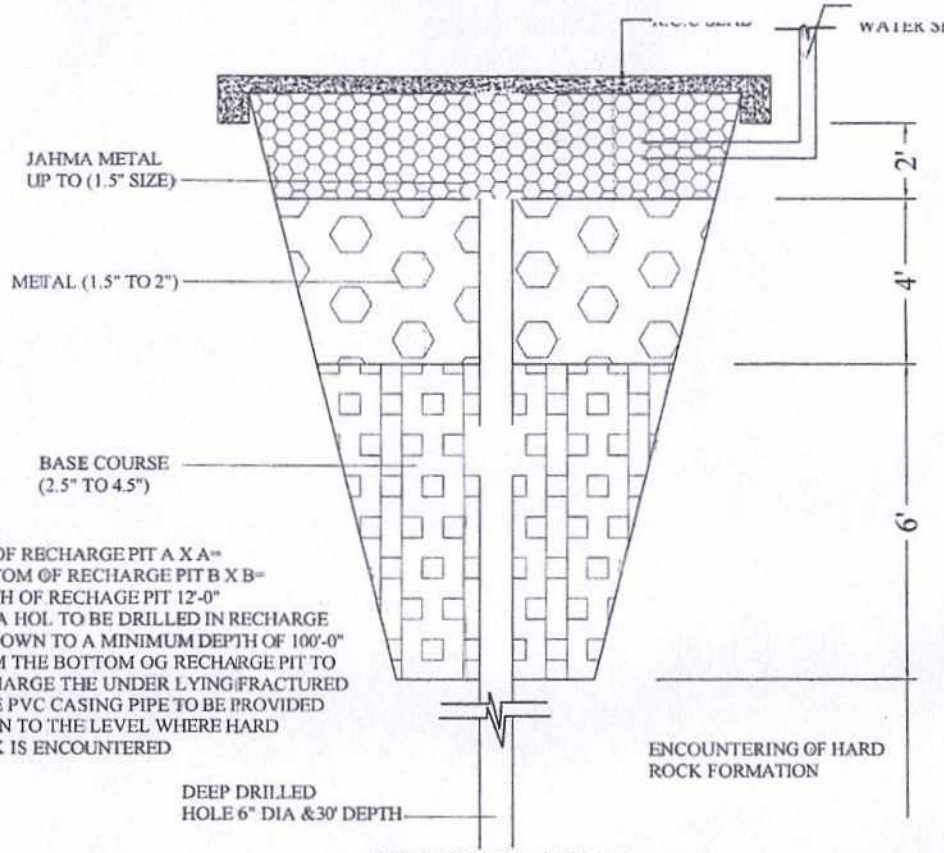
Partner



PLAN

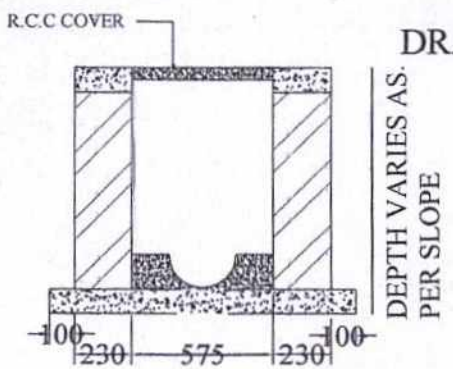
A: 4 rechaging pits are required of 150 sqft with 6-7 cum capacity water settling tank. with each recharge pit. Recharfing trench along boundry of the bldg. shouldibe filled with pebbles & sand

B: 16sqft



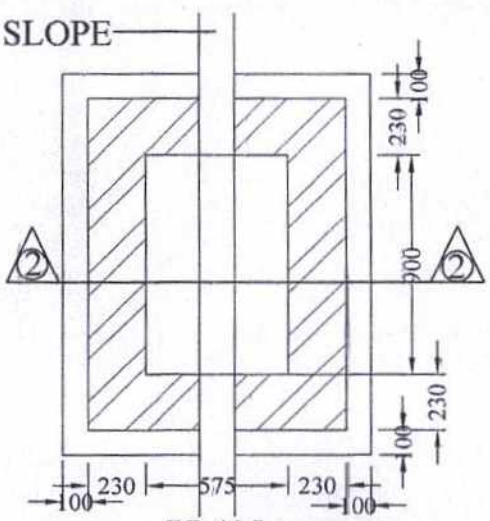
1. TOP OF RECHARGE PIT A X A=
2. BOTTOM OF RECHARGE PIT B X B=
3. DEPTH OF RECHAGE PIT 12'-0"
4. 4" DIA HOL TO BE DRILLED IN RECHARGE PIT DOWN TO A MINIMUM DEPTH OF 100'-0" FROM THE BOTTOM OG RECHARGE PIT TO RECHARGE THE UNDER LYING FRACTURED ZONE PVC CASING PIPE TO BE PROVIDED DOWN TO THE LEVEL WHERE HARD ROCK IS ENCOUNTERED

SECTION AT 3-3



SECTION AT 2-2

DRAIN PIPE IN SLOPE



PLAN

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