अ.क्र.	अर्जदाराचे नाव	गावाचे नाव	तालुका	ग.नं.	विषय	भुजल सवेक्षण विभाग, पुणे आवक क्र.	दिनांक
1	गुडविल आर.व्ही.एन. लॅण्ड वेनच्युर तर्फे श्री. रोहन नाहटा	उर्से	मावळ	256 प्लॉट नं. 57	रहिवास वापराचे अंतिम रेखांकन प्रस्तांव	SG/GSDA/PUNE/TECH/LGW/94/2025	30-01-2025
2	उदयकुमार बंडप्पा भारडे	सांगवडे	मावळ	302..	समुहगृह बांधणी रहिवास प्रस्ताव	SG/GSDA/PUNE/TECH/LGW/1146/2024	15-10-2024
3	निखिल बाबासाहेब औटी तर्फे भगवती ग्रुप	सांगवडे	मावळ	111, 143, 112, 144..	समुहगृह बांधणी रहिवास प्रस्ताव	SG/GSDA/PUNE/TECH/LGW/1145/2024	15-10-2024
4	श्री. रुपेश दादाभाऊ गुंड तर्फे सुभाश्री असोसिएट्स	सांगवडे	मावळ	306..	समुहगृह बांधणी रहिवास प्रस्ताव	SG/GSDA/PUNE/TECH/LGW/1147/2024	15-10-2024
5	श्री. बेजामिन मायकल मॅन्युअल	पाटण	मावळ	310..	रहिवास वापराचे अंतिम रेखांकन प्रस्ताव	SG/GSDA/PUNE/TECH/LGW/869/2024	02-09-2024

Office of the Senior Geologist
Groundwater Surveys and Development Agency, GoM.
Bhujal Bhavan, K.B Joshi Marg, Shivaji Nagar, Pune 05
Phone No 020 25521756/25521754 Email – srgeolpn@rediffmail.com

No. SG/GSDA/Pune/Tech/LGW/ 94 **/ 2025** **Date-** 30/01/25
30 JAN 2025

To,
Goodwill R V N Land Venture
through
RVN Multiservice
Shri Rohan Nahata
Shivajinagar
Pune -411007

Sub: Regarding Hydrogeological Survey at Gat no.256/57 of Village – Urse Tal Maval. Dist Pune

Ref: Your application dated 15/01/2025

With reference to the above subject hydro-geological survey was carried out in the presence of concern personnel/s at the Gat no. 256/57 of Village Urse, Tal Maval. Dist Pune. At the time of Hydrogeological survey the concern personnel Shri. Abhishek Kore was present.

The details of the proposed site are as below.

Name of Village	**Urse, Tal Maval. Dist Pune**
Co-ordinates	Lat -18° 47' 05" N,
	Long -73° 38' 25" E
Elevation (msl)	600.00 m
Toposheet& Quadrant No	47F/10 and 1 B
Watershed No.	BM-38
Morphozone	A ; Ab
Category	Safe (As per Groundwater Assessment 2022-23)
Rock Type	Basalt
Aquifer (Water bearing Zone)	Shallow Aquifer (Jointed and Fractured Basalt)

Location:

Village Urse, Tal. Maval. Dist. Pune is located along the Northern Metropolitan corridor of Pune, just off the Yashwantrao Chavan Express way. The area under study i.e said Gat no.256/57 is located towards NW direction of Village Urse, Tal. Maval. Dist. Pune.

Geomorphology:

The village area has undulating topography with gentle slope towards south direction. The drainage of Village Urse, Tal. Maval. Dist. Pune village shows dendritic drainage pattern.

Geology:

The area of the village Urse, Tal. Maval. Dist. Pune consists of solidified layers of basalt and thickness of each layer varies from 10.00 to 15.00 meters and formed during upper Cretaceous to lower Eocene period of Geological time scale. The basalts are dark grey to black in colour, fine to medium grained, medium jointed and fractured in nature. For the proposed area the geological as well as lithological data is considered as per field observations and reported data.

Lithology	Greyish to brownish coarse grained soil	0.50 –2.5 m
	Highly to moderately weathered Basalt.	2.50 – 5.50 m
	Greyish black coloured, fine to medium grained, jointed and fractured Basalt.	5.50 – 10.00 m
	Greyish black coloured partly jointed and fractured Massive Basalt	10.00 – 12.00 m
	Greyish black coloured compact Massive Basalt	Below 12.00 m.

Rainfall: - Urse, Tal. Maval. Dist. Pune village receives rain from south-west Monsoon. On an average moderate to high rainfall. The average mean annual rainfall in the district is 1296.6 mm.

Hydrogeological Conditions:

At the proposed area the Soil thickness is up to 2.50 m, the weathered basalt thickness ranges 2.50 to 5.50 m, jointed and fractured basalt ranges 5.50 –10.00 m, greyish black coloured partly jointed and fractured massive basalt ranges 10.00 – 12.00 m and below 12.00 m the greyish black coloured compact massive basalt is present. The entire area of the studied Gat no. 256/57 is underlained by the basaltic lava flows of upper Cretaceous to lower Eocene age. Geologically the area is covered by jointed and fractured basalt.

Ground water in Deccan trap basalt occurs mostly in the upper weathered and fractured parts down to 1.00 - 12.00 m bgl under unconfined conditions. The water bearing strata at deeper depth exists under semi confined to confined conditions at a depth of about 30-45 m and 50-55 m. From the groundwater availability point of view the area is moderate yielding groundwater potential zone.

The availability of groundwater as a source depends largely upon surface and subsurface geology, geomorphology, natural drainage pattern, depth of weathering and

fractures present. Actual annual rainfall, groundwater extraction from other sources in the surrounding area, urbanization, topography modification are also the factors which control and affect the availability of groundwater.

Presently, at the said Gat no.256/57 there is no groundwater source, however there is one dug well present NW of Gat no 256/57 which belongs to the applicant. The details of existing groundwater source are given as below.

Sr. No	Source	Location Gat No.	Details of GW Source				Lifting Device	Water availability
			Dimensions /Diameter in m	Depth in m	Water Level in m.			
					Winter	Summer		
1	Dug Well	Gat no.256/ 57	6.00	12.0	5.60 m (PWL)	Moderate yield	2 hp	20 Cum/ day
2	Bore well	Gat no.256/ 57	150 mm	60 m(R)	4.20 m (R)	Moderate to Low yield	3 hp	22 Cum/ day
3	Bore well	Gat no.256/ 57	150 mm	60 m(R)	4.00 m (R)	Moderate to Low yield	2 hp	25 Cum/Day
4	Bore well	Gat no.256/ 57	150 mm	60 m(R)	5.00 m (R)	Moderate to Low yield	Not installed	-

As per reported information from the applicant representative, the sources in the area adjoining Gat no 256/57 are mostly private Bore wells and have low yield during summer season.

Observations:

On the basis of Hydrogeological survey done by this office, one groundwater source (Dug well) and 3 Bore wells are present in Gat no 256/57 and are currently use to supply domestic and drinking water. From the groundwater availability point of view, the surveyed area is moderate to low yielding groundwater potential zone. By considering the existing source 67 Cu. m/Day water may be available presently from the existing source during period of June to February.

Nevertheless, deficit in normal rainfall, increase in population density, excess groundwater extraction from surrounding areas and lack of groundwater recharge may create stress on the availability of groundwater. Following measures are recommended and are mandatory to the applicant.

Recommendations:

1. According to the application it is proposed to develop the area for residential plots at Gat No. 256/57, Village Urse, Tal Maval. However, one dug well and 3 Bore wells are present at the said site it is recommended to take source/s in proportion to the population that will reside at the said site after the development.
2. At the time of any development process the applicant /company /every holder of a said land shall take all possible precautions to avoid the disturbance of the natural drainage system and aquifer system available.
3. The available groundwater should be strictly used for drinking and domestic purpose only. For future development of infrastructure, the requirement of water should be fulfilled by tanker water/untreated raw water so that extraction/utilization of groundwater is controlled.
4. If in future the additional water required for the drinking and domestic purpose, the water requirement should be fulfilled by the water supply connections of local authority and is mandatory to the applicant.
5. For the sustainable availability of groundwater, Roof Top Rainwater Harvesting measures to the existing/new groundwater sources is mandatory.
6. The rainwater harvesting structures should be implemented under the technical guidance of this office (G.S.D.A. Pune) and checked it from time to time.
7. The water quality of existing source should be analyzed regularly by the applicant/firm on its own cost from the water quality laboratory. For drinking purpose treated water should be used.
8. The topographical, hydro-geological conditions and rainfall play very important role for fulfilling the requirement of drinking and domestic water. In view of sustainable groundwater for the drinking and domestic use, the groundwater recharge through rainwater harvesting measures in a quantity equal to the extraction of groundwater from the existing sources is mandatory to the applicant.
9. In view of water requirement for the drinking and domestic use, it is strongly recommended that minimum 70 % of the extracted groundwater must be recycled and reused for further usage.
10. During the Scarcity period the rules of Maharashtra Groundwater (Development and Management) Act 2009 are mandatory to the applicant.

Surveyed by
Assistant Geologist
GSDA, Pune

(Diwakar Dhote)
Senior Geologist,
Groundwater Surveys & Development Agency,
Dist. Pune.
Senior Geologist
Ground Water Survey and Development Agency
Pune

203

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No. SG/GSDA/Pune/Tech/LGW/ 1146 / 2024 **Date-** 15 OCT 2024

To,
Shri.Udaykumar Bandppa Bharade
Sangwade, Tq.Maval
District Pune

Subject- Regarding Hydrogeological Survey at Gat no.302 of Village Sangawade, Taluka Maval, District Pune
Reference- 1. Your Letter dated 10/10/2024
2. Hydrogeological Survey Challan dated 10/10/2024

With reference to the above subject, hydrogeological survey was carried out at Gat no.302 of Village Sangawade, Taluka Maval, District Pune. At the time of hydrogeological survey Shri. Rupesh Gund was present.

The details of Proposed site are as follows:

Name Of Village	Sangawade
Co-Ordinates	18°39'17.8"N 73°42'29.5"E
Toposheet & Morpho Unit	47 F/10
Altitude(m)	580.75
Watershed No.	BM 41
Category	Safe (As per Groundwater Assessment 2022-23)
Rock Type	Basalt
Aquifer (Water Bearing Zone)	Shallow Aquifer (Jointed / Fractured Basalt)

Location

The site location of village Sangawade is in the Northwest Direction of Pune City at 30.00 km. The area under study i.e., said Gat no.302 is located North direction of Village Sangawade at around distance of 0.50 km.

Geomorphology- The topography is undulating to moderately dissected plateau. A gentle to medium slope is in the North direction.

Geology- The area of village Sangawade consists of different layers of Basalt and the thickness varies from 3.00 to 20.00 mt which are formed during the Upper Cretaceous to Lower Eocene period of Geological time scale.

The basalt is dark grey to black in color, fine to medium grained and medium jointed and fractured in nature. The geological/lithological data as per field observations in the surveyed area is as below.

Lithology	Brownish coarse-grained soil	0.00 – 3.00 mt
	Highly to moderately weathered basalt	3.00 – 10.00 mt
	Greyish black colored, fine to medium grained jointed fractured vesicular basalt	10.00 – 20.00 mt
	Greyish black colored compact Massive Basalt	Below 20.00 mt

Hydrogeological Conditions – At the surveyed area the soil thickness ranges from 0.00 to 3.00 mt the weathered basalt thickness varies from 3.00 to 10.00 mt, jointed and fractured basalt from 10.00 to 20.00 mt and from 20.00 followed by massive basalt. The entire area of the studied Gat no.306 is underlain by the basaltic flows of Upper Cretaceous to Lower Eocene. Groundwater in the Deccan Trap occurs mostly in the weathered and fractured, jointed vesicular parts till 8.00 mt bgl under unconfined conditions. The water bearing strata at deeper depths exists under semi confined to confined conditions at the depth of about 20-30 mt. From the groundwater availability point of view, the area has moderate to high groundwater yielding potential zones.

The availability of groundwater depends largely on surface and subsurface geology, geomorphology, natural drainage pattern, depth of weathering and the fractures present. Actual annual rainfall, groundwater extraction from other sources in the surrounding area is also the factor which controls and affects the availability of groundwater.

Observations – On the basis of hydrogeological survey observed the soil thickness of the area is more followed by weathered basalt. The Pavna River which is perennial near to the area and at the time of survey there is no ground water source found at Gat no.302 but from the groundwater point of view the area has moderate to high ground water yielding potential zone.

Recommendations -

1. Two bore wells of 60m depth with 150mm diameter recommend in the Gat no.302 for the groundwater it may fulfil **102cum/day** of water for the drinking and domestic purposes.
2. The category of the area as per the groundwater assessment 2022-23 is Safe, the available water should be strictly used for drinking and domestic purposes.
3. The groundwater quality should be analyzed twice in a year (pre and post monsoon) by the applicant from the water testing laboratory at his own cost.
4. To have sustainable groundwater, groundwater recharge from rainwater harvesting to the existing sources should be implanted so that groundwater will be available perennially.
5. The topographical, hydrogeological conditions and rainfall play an important role in fulfilling the requirement of drinking, domestic use. In view of sustainable groundwater for the drinking and domestic purpose the groundwater recharge through surface runoff and rainwater harvesting measures in a quantity equal to the extraction of groundwater from the existing sources is mandatory to the applicant.

6. In view of sufficient water requirements for drinking, domestic and irrigation use, it is strongly recommended that a minimum of 70% of the extracted ground water must be recycled and reused for further usage.
7. The rainwater harvesting structures should be implemented under the technical guidance of this office (GSDA Pune)
8. During the Scarcity period the Scarcity Rule of Maharashtra Groundwater (Development and Management) Act 2009 are mandatory to the applicant.

Senior Geologist
Groundwater Surveys and Development Agency,
Pune

Senior Geologist
Ground Water Survey and Development Agency
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No. SG/GSDA/Pune/Tech/LGW/ 1124 / 2024 **Date-** 15 OCT 2024

To,
Shri.Nikhil Babasaheb Auti through
Bhagwati Group
Sangwade, Tq.Maval
District Pune

Subject- Regarding Hydrogeological Survey at Gat no.111,143,112,144 of Village Sangawade, Taluka Maval, District Pune
Reference- 1. Your Letter dated 10/10/2024
2. Hydrogeological Survey Challan dated 10/10/2024

With reference to the above subject, hydrogeological survey was carried out at Gat no. 111,143,112,144 of Village Sangawade, Taluka Maval, District Pune. At the time of hydrogeological survey Shri. Rupesh Gund was present.

The details of Proposed site are as follows:

Name Of Village	Sangawade
Co-Ordinates	18°39'03.0"N 73°42'24.3"E
Toposheet & Morpho Unit	47 F/10
Altitude(m)	580.75
Watershed No.	BM 41
Category	Safe (As per Groundwater Assessment 2022-23)
Rock Type	Basalt
Aquifer (Water Bearing Zone)	Shallow Aquifer (Jointed / Fractured Basalt)

Location

The site location of village Sangawade is in the Northwest Direction of Pune City at 30.00 km. The area under study i.e., said Gat no. 111,143,112,144 is located North direction of Village Sangawade at around distance of 0.50 km.

Geomorphology- The topography is undulating to moderately dissected plateau. A gentle to medium slope is in the North direction.

Geology- The area of village Sangawade consists of different layers of Basalt and the thickness varies from 3.00 to 20.00 mt which are formed during the Upper Cretaceous to Lower Eocene period of Geological time scale.

The basalt is dark grey to black in color, fine to medium grained and medium jointed and fractured in nature. The geological/lithological data as per field observations in the surveyed area is as below.

Lithology	Brownish coarse-grained soil	0.00 – 3.00 mt
	Highly to moderately weathered basalt	3.00 – 10.00 mt
	Greyish black colored, fine to medium grained jointed fractured vesicular basalt	10.00 – 20.00 mt
	Greyish black colored compact Massive Basalt	Below 20.00 mt

Hydrogeological Conditions – At the surveyed area the soil thickness ranges from 0.00 to 3.00 mt the weathered basalt thickness varies from 3.00 to 10.00 mt, jointed and fractured basalt from 10.00 to 20.00 mt and from 20.00 followed by massive basalt. The entire area of the studied Gat no.306 is underlain by the basaltic flows of Upper Cretaceous to Lower Eocene. Groundwater in the Deccan Trap occurs mostly in the weathered and fractured, jointed vesicular parts till 8.00 mt bgl under unconfined conditions. The water bearing strata at deeper depths exists under semi confined to confined conditions at the depth of about 20-30 mt. From the groundwater availability point of view, the area has moderate groundwater yielding potential zone.

The availability of groundwater depends largely on surface and subsurface geology, geomorphology, natural drainage pattern, depth of weathering and the fractures present. Actual annual rainfall, groundwater extraction from other sources in the surrounding area is also the factor which controls and affects the availability of groundwater.

Observations - based on hydrogeological survey observed the soil thickness of the area is more followed by weathered basalt. The Pavna River, which is perennial flows near to the area and from the groundwater point of view the area has moderate to high ground water yielding potential zone.

At the time of survey 3 Bore wells were observed in applicant's Gat no. 111,143,112,144. groundwater is obtained from the existing bore wells can be used for drinking and domestic purposes which is 138cum/day at Gat no. 111,143,112,144.

Sr. no	Source	Location Sr.no/Gat.no	Dimensions		SWL (summer)	Pump	Water availability
			Depth	Dia			
1.	Bore well	Gat no. 111, 143,112,144	80 mt (R)	150 mm (R)	7.00 mt(R)	1.5 HP	Approx. 50 cu.m/day
2.	Bore well	Gat no. 111, 143,112,144	60 mt (R)	150 mm (R)	7.50 mt(R)	1.5 HP	Approx. 48 cu.m/day
3.	Bore well	Gat no. 111, 143,112,144	70 mt (R)	150 mm (R)	8.50 mt(R)	1.5 HP	Approx. 40 cu.m/day

Recommendations -

1. The category of the area as per the groundwater assessment 2022-23 is Safe, the available water should be strictly used for drinking and domestic purposes.
2. The groundwater quality should be analyzed twice in a year (pre and post monsoon) by the applicant from the water testing laboratory at his own cost.
3. To have sustainable groundwater, groundwater recharge from rainwater harvesting to the existing sources should be implanted so that groundwater will be available perennially.
4. The topographical, hydrogeological conditions and rainfall play an important role in fulfilling the requirement of drinking, domestic use. In view of sustainable ground water for the drinking and domestic purpose the groundwater recharge through surface runoff and rainwater harvesting measures in a quantity equal to the extraction of ground water from the existing sources is mandatory to the applicant.
5. In view of sufficient water requirements for drinking, domestic and irrigation use, it is strongly recommended that a minimum of 70% of the extracted ground water must be recycled and reused for further usage.
6. The rainwater harvesting structures should be implemented under the technical guidance of this office (GSDA Pune)
7. During the Scarcity period the Scarcity Rule of Maharashtra Groundwater (Development and Management) Act 2009 are mandatory to the applicant.

Senior Geologist
Groundwater Survey and Development Agency,
Pune

Senior Geologist
Ground Water Survey and Development Agency
Pune

215

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No. SG/GSDA/Pune/Tech/LGW/ 1147 **/ 2024** **Date-** 15 OCT 2024

To,
Shri.Rupesh Dadabhau Gund through
Shubhshree Associates
Sangwade, Tq.Maval
District Pune

Subject- Regarding Hydrogeological Survey at Gat no.306 of Village Sangawade, Taluka Maval, District Pune
Reference- 1. Your Letter dated 10/10/2024
2. Hydrogeological Survey Challan dated 10/10/2024

With reference to the above subject, hydrogeological survey was carried out at Gat no.306 of Village Sangawade, Taluka Maval, District Pune. At the time of hydrogeological survey Shri. Rupesh Gund was present.

The details of Proposed site are as follows:

Name Of Village	Sangawade
Co-Ordinates	18°39'27.0"N 73°42'25.1"E
Toposheet & Morpho Unit	47 F/10
Altitude(m)	580.75
Watershed No.	BM 41
Category	Safe (As per Groundwater Assessment 2022-23)
Rock Type	Basalt
Aquifer (Water Bearing Zone)	Shallow Aquifer (Jointed / Fractured Basalt)

Location

The site location of village Sangawade is in the Northwest Direction of Pune City at 30.00 km. The area under study i.e., said Gat no.306 is located North direction of Village Sangawade at around distance of 0.50 km.

Geomorphology- The topography is undulating to moderately dissected plateau. A gentle to medium slope is in the North direction.

Geology- The area of village Sangawade consists of different layers of Basalt and the thickness varies from 3.00 to 20.00 mt which are formed during the Upper Cretaceous to Lower Eocene period of Geological time scale.

217 .3

The basalt is dark grey to black in color, fine to medium grained and medium jointed and fractured in nature. The geological/lithological data as per field observations in the surveyed area is as below.

Lithology	Brownish coarse-grained soil	0.00 – 3.00 mt
	Highly to moderately weathered basalt	3.00 – 10.00 mt
	Greyish black colored, fine to medium grained jointed fractured vesicular basalt	10.00 – 20.00 mt
	Greyish black colored compact Massive Basalt	Below 20.00 mt

Hydrogeological Conditions – At the surveyed area the soil thickness ranges from 0.00 to 3.00 mt the weathered basalt thickness varies from 3.00 to 10.00 mt, jointed and fractured basalt from 10.00 to 20.00 mt and from 20.00 followed by massive basalt. The entire area of the studied Gat no.306 is underlain by the basaltic flows of Upper Cretaceous to Lower Eocene. Groundwater in the Deccan Trap occurs mostly in the weathered and fractured, jointed vesicular parts till 8.00 mt bgl under unconfined conditions. The water bearing strata at deeper depths exists under semi confined to confined conditions at the depth of about 20-30 mt. From the groundwater availability point of view, the area has moderate groundwater yielding potential zone.
The availability of groundwater depends largely on surface and subsurface geology, geomorphology, natural drainage pattern, depth of weathering and the fractures present. Actual annual rainfall, groundwater extraction from other sources in the surrounding area is also the factor which controls and affects the availability of groundwater.
Observations - At the time of survey 2 Bore well and 1 dug well were observed in applicant's Gat no.306. Groundwater which is obtained from the existing bore wells and dug well can be used for drinking and domestic purposes which is **150cum/day** at Gat no.306

Sr. no	Source	Location Sr.no/Gat.no	Dimensions		SWL (summer)	Pump	Water availability
			Depth	Dia			
1	well	Gat no.306	11 mt (R)	5.50 m (R)	7.00 mt(R)	5 HP	Approx. **70 cu.m/day**
2	Bore well	Gat no.306	80 mt (R)	150 mm (R)	8.00 mt(R)	1 HP	Approx. **40 cu.m/day**
3.	Bore well	Gat no.306	60 mt (R)	150 mm (R)	7.50 mt(R)	1.5 HP	Approx. **40 cu.m/day**

Recommendations -

1. The category of the area as per the groundwater assessment 2022-23 is Safe, the available water should be strictly used for drinking and domestic purposes.
2. The groundwater quality should be analyzed twice in a year (pre and post monsoon) by the applicant from the water testing laboratory at his own cost.

3. To have sustainable groundwater, groundwater recharge from rainwater harvesting to the existing sources should be implanted so that groundwater will be available perennially.
4. The topographical, hydrogeological conditions and rainfall play an important role in fulfilling the requirement of drinking, domestic use. In view of sustainable groundwater for the drinking and domestic purpose the groundwater recharge through surface runoff and rainwater harvesting measures in a quantity equal to the extraction of groundwater from the existing sources is mandatory to the applicant.
5. In view of sufficient water requirements for drinking, domestic and irrigation use, it is strongly recommended that a minimum of 70% of the extracted ground water must be recycled and reused for further usage.
6. The rainwater harvesting structures should be implemented under the technical guidance of this office (GSDA Pune)
7. During the Scarcity period the Scarcity Rule of Maharashtra Groundwater (Development and Management) Act 2009 are mandatory to the applicant.

Senior Geologist

Groundwater Surveys and Development Agency, Pune

Senior Geologist
Ground Water Survey and Development Agency
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221

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No. SG/GSDA/Pune/Tech/LGW/ 869 / 2024 Date- 02 SEP 2024

To,
Shri. Benjamin Mickel Manuel,
Patan, Maval
District Pune

Subject- Regarding Hydrogeological Survey at Gat no.310 of Village Patan, Taluka Maval, District Pune

Reference- 1. Your Letter dated 26/08/2024
2. Hydrogeological Survey Challan dated 26/08/2024

With reference to the above subject, hydrogeological survey was carried out at Gat no.310 of Village Patan, Taluka Maval, District Pune. At the time of hydrogeological survey Shri. Benjamin Mickel Manuel was present.

The details of Proposed site are as follows:

Name Of Village	Patan
Co-Ordinates	18°44'30.3"N 73°29'23.5"E
Toposheet & Morpho Unit	47 J/6
Watershed No.	BM 39
Category	Safe (As per Groundwater Assessment 2022-23)
Rock Type	Basalt
Aquifer (Water Bearing Zone)	Shallow Aquifer (Jointed / Fractured Basalt)

Location

The site location of village Patan is in the Northwest Direction of Pune City at 53.00 km. The area under study i.e., said Gat no.310 is located Northeast direction of Village Patan at around distance of 1.00 km.

Geomorphology- The topography is undulating to moderately dissected plateau. A gentle to medium slope is in the Southwest direction.

Geology- The area of village Patan consists of different layers of Basalt and the thickness varies from 2.00 to 10.00 mt which are formed during the Upper Cretaceous to Lower Eocene period of Geological time scale.

The basalt is dark grey to black in color, fine to medium grained and medium jointed and fractured in nature. The geological/lithological data as per field observations in the surveyed area is as below.

Lithology	Brownish coarse grained soil	0.00 – 1.00 mt
	Highly to moderately weathered basalt	1.00 – 3.00 mt
	Greyish black colored, fine to medium grained jointed fractured vesicular basalt	3.00 – 10.00 mt
	Greyish black colored compact Massive Basalt	Below 10.00 mt

Hydrogeological Conditions – At the surveyed area the soil thickness ranges from 0.00 to 1.00 mt the weathered basalt thickness varies from 1.00 to 3.00 mt, jointed and fractured basalt from 3.00 to 10.00 mt and from 10.00 followed by massive basalt. The entire area of the studied Gat no.530,531,532 is underlain by the basaltic flows of Upper Cretaceous to Lower Eocene. Groundwater in the Deccan Trap occurs mostly in the weathered and fractured, jointed vesicular parts till 8.00 mt bgl under unconfined conditions. The water bearing strata at deeper depths exists under semi confined to confined conditions at the depth of about 20-30 mt. From the groundwater availability point of view, the area has moderate groundwater yielding potential zone.

The availability of groundwater depends largely on surface and subsurface geology, geomorphology, natural drainage pattern, depth of weathering and the fractures present. Actual annual rainfall, groundwater extraction from other sources in the surrounding area is also the factor which controls and affects the availability of groundwater.

Observations - At the time of survey 1 Bore well was observed in applicant's Gat no.310. Groundwater which is obtained from the existing bore well can be used for drinking and domestic purposes which is 30cum/day at Gat no.310

Sr. no	Source	Location Sr.no/Gat.no	Dimensions Depth	Dia	SWL (summer)	Pump	Water availability
1	Bore well	Gat no.310	100 mt	150 mm	20 mt(R)	1.5 HP	Approx. 30 cu.m/day

Recommendations -

1. The category of the area as per the groundwater assessment 2022-23 is Safe, the available water should be strictly used for drinking and domestic purposes.
2. The groundwater quality should be analyzed twice in a year (pre and post monsoon) by the applicant from the water testing laboratory at his own cost.
3. To have sustainable groundwater, groundwater recharge from rainwater harvesting to the existing sources should be implanted so that groundwater will be available perennially.
4. The topographical, hydrogeological conditions and rainfall play an important role in fulfilling the requirement of drinking, domestic use. In view of sustainable groundwater for the drinking and domestic purpose the groundwater recharge through surface runoff and rainwater harvesting measures in a quantity equal to the extraction of groundwater from the existing sources is mandatory to the applicant.

5. In view of sufficient water requirements for drinking, domestic and irrigation use, it is strongly recommended that a minimum of 70% of the extracted ground water must be recycled and reused for further usage.
6. The rainwater harvesting structures should be implemented under the technical guidance of this office (GSDA Pune)
7. During the Scarcity period the Scarcity Rule of Maharashtra Groundwater (Development and Management) Act 2009 are mandatory to the applicant.

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