

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

Execution Application No. 41 of 2023  
IN  
ORIGINAL APPLICATION NO. 94 OF 2021

**IN THE MATTER OF:**

Haider Ali

.... Applicant

Versus

Union of India & Ors.

... Respondents

**N.D.O.H - 02-05-2024**

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759

Through



**(BIHU SHARMA)**

Advocate for Respondent No. 2(BCCI)

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New Delhi- 110017

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Mob: 9811055406

Email id- [bihusharma@gmail.com](mailto:bihusharma@gmail.com)

Place: New Delhi

Dated: 29.04.2024



**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,  
PRINCIPAL BENCH,  
NEW DELHI  
EA 41/2023**

**IN THE MATTER OF:**

Haider Ali

...Petitioner

Versus

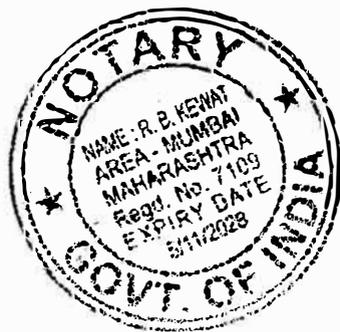
Union of India & Ors.

...Respondent

**REPLY ON BEHALF OF THE BOARD OF CONTROL FOR  
CRICKET IN INDIA (BCCI) RESPONDENT NO.2**

**Most Respectfully Showeth:**

1. That the instant reply is being filed on behalf of the Board of Control for Cricket in India ("BCCI"), arrayed as Respondent no.2 herein for the short purpose of placing on record the relevant facts and documents in support of its stand thereof. All allegations against the Respondent no.2/BCCI of non-compliance of this Tribunal's orders and/or allowing rampant misuse of water in respect of cricket matches, are false and hence denied. The Respondent no. 2 also craves leave to file further reply, if required in the matter.
2. At the very outset it is pertinent to note that the memo of parties wrongly reflects the Respondent no.2 as "Sharath Sridharan, Chairman BCCI". It is submitted that the said individual is not the Chairman of BCCI. It is prayed that the Petitioner be directed to amend the same to correctly reflect the Respondent no.2.
3. It is submitted that BCCI has always abided by directions of this Hon'ble Tribunal and those of the Ministry of Jal Shakti ("MoJS") and Central Ground Water Authority ("CGWA") during



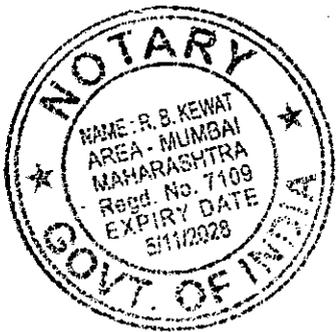
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meetings in compliance of order dated 15.04.2021 passed in OA 94/2021 and EA 41/2023.

**Facts in relation to BCCI with respect to OA 94/2021**

4. - It is submitted that the Answering Respondent complying with directions of this Hon'ble Tribunal *vide* order dated 15.04.2021 had joined the 'Joint Meetings' chaired by the Ministry of Jal Shakti ("MoJS") in respect of resolution of the 'issues' as mentioned in order dated 15.04.2021 in OA 94/2021. Accordingly, meetings were held under the chairmanship of the MoJS, through CGWA, as per orders of this Hon'ble Court and the Respondent no.2/BCCI, through its authorised representatives, attended and actively participated in the said meetings held on 19.04.2023, 02.06.2023, 17.07.2023. Copy of the Minutes of the Meetings dated 19.04.2023,, 02.06.2023 and 17.07.2023 are attached herewith as **Annexure R1(colly)**.

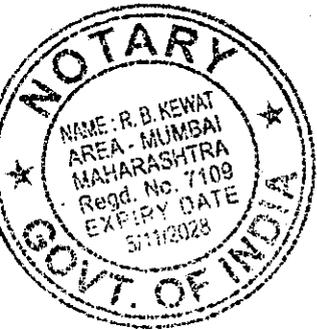
5. It is submitted that the Respondent no.2/BCCI is a registered society under the Tamil Nadu Societies Registration Act, 1975, *inter alia*, for the promotion and development of cricket in India. It is a member of the International Cricket Council ("ICC"), which is the governing body for cricket and sends a team to events organised by the ICC. The BCCI has various state cricket associations as its members. The state cricket associations are responsible for the development of cricket in their respective jurisdiction and for the functioning and maintenance of cricket grounds/stadiums in their states. The state cricket associations receive funds from the BCCI for this purpose. The grounds are therefore under the direct control of the state cricket associations. The state cricket associations are separate and distinct entities and are being represented in the present



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matter separately of their own. It is stated that the Respondent no.2 does not own any stadium and the stadiums are generally owned or managed by the respective state cricket associations. The BCCI has been informing its position regarding control over the stadiums to the CGWA from time to time.

6. It is submitted that the Respondent no.2 has proactively taken up the issue of implementation of scheme of artificial recharge of ground water/rain water harvesting in stadiums associated with its member state associations. The Respondent no.2/BCCI, from time to time has informed the authorities that though it does not own any stadiums (where the matches take place and where the water resources are actually used), hence does not have the management of water resources under its direct control, yet BCCI has been actively informing/requesting all its member state associations (who mostly own the stadiums) to duly comply with all the directions in this regard in letter and spirit..



7. It is further pertinent to mention that Respondent no.2's Chief Executive Officer (interim) BCCI himself attended the meeting dated 17.07.2023 and provided a detailed and complete presentation regarding role of BCCI. The same is reflected in the following extract from the minutes of meeting dated 17.07.2023:

*"BCCI informed that the guidelines and necessary directions for water conservation have been issued to all cricket associations. Tree plantation has also been initiated by BCCI. It was also stated that no potable water is being used for ground maintenance in stadiums. Stadium accreditation is also being considered by National Cricket Academy, Bangalore with special emphasis on RWH structure."*

8. Furthermore, the Respondent no.2 has also been diligent in responding to the various queries, communications issued by the CGWA, from time to time to provide its status and steps taken with



respect to the issues as directed by this Hon'ble Tribunal. Copy of emails/communications dated 10.03.2023, 30.03.2023, 30.06.2023, 1.11.2023, 23.11.2023, 20.2.2024 by the Respondent no.2 apprising the Central Ground Water Authority with regards to its steps taken in the matter are annexed herewith as **Annexure R2(colly)**.

9. It is submitted that the Petitioner is misleading this Hon'ble Court that compliance of issues as enumerated in order dated 15.04.2021 were not taken up during the Joint Meetings between concerned Respondents. All directions including but not limited to 'appointment of environmental expert' was taken up during the joint meetings. Minutes of meeting dated 19.04.2023 reflect that the said issue was discussed and deliberated upon. The extract from the said meeting is as under:

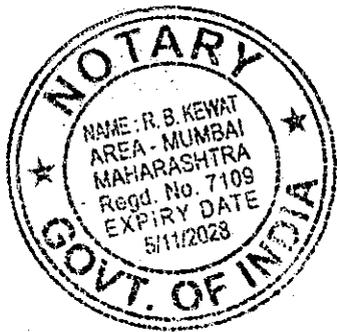
*"The important points discussed during the meeting are as follows:-*

*1. ...., Advocate from BCCI informed that :-*

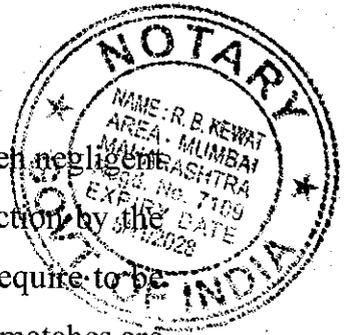
*-BCCI is an association of associations and the stadiums/ cricket playgrounds are either owned or on lease by state cricket associations and the controlling Ministry is MoYAS (Ministry of Youth Affairs and Sports). He informed that they do not have control over engagement of environmental expert and neither on the source of water supply in any of the stadiums. He further informed that they are non-profit earning organization as all the profits are used for giving funds to the state cricket associations and do not organize any sports events and the same is done by state cricket associations.*

*-As regard to CSR initiatives like promotion of environmental protection during big sport events, it was informed that such initiatives have not been taken by BCCI so far. However, BCCI is engaged in other CSR initiatives on other social aspects."*

10. The Respondent no.2's compliances and efforts have been duly reflected in the Action Taken Reports (ATRs) filed by the respective Respondents herein. The Respondent no.2 craves leave to reply upon the same during the proceedings, if required.



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11. The Petitioner's allegations that Respondent no.2 has been negligent in ensuring 'best water practices', hence is liable for action by the State are nothing but bald and false averments, which require to be dismissed at the very outset. It is further denied that IPL matches are being played at the cost of the environment and ecology. The Respondent no.2 has taken and continues to take all measures as per its role and responsibilities to ensure that all directives of this Hon'ble Court are followed.

12. In light of the aforesaid and the documents filed, it is humbly submitted that the Petitioner has failed to make out a case of disobedience, much less, any wilful disobedience amounting to contempt of Court against the Respondent no.2. Hence, it is prayed that the present petition/execution application be dismissed against the Respondent no.2.

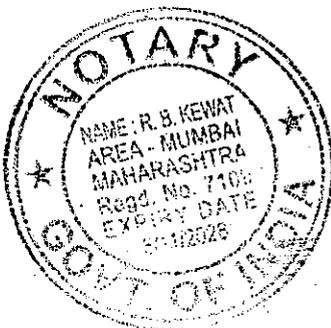
13. It is humbly prayed to dismiss the present petition/execution application and pass any and other appropriate order/s.as deemed fit by this Hon'ble Court.



*Biswa Patraich*



Board of Control for Cricket in India (BCCI)  
Respondent no.2



Through

*Bihu Sharma*

**Bihu Sharma**  
Advocate for Respondent no.2  
D-85, Lower Ground Floor,  
Panchsheel Enclave,  
New Delhi – 110017  
Mobile: 9811055406

**BEFORE ME**

*[Signature]*  
**RAMSHAWAN S. KEWAT**  
Regd. No. 7109/4/2008/LL.B.  
ADVOCATE AND NOTARY  
16-A, Jimmy Bldg., 1st Floor,  
Room No: 10, Parel Station Road,  
Parel (E), Mumbai - 400 012.

**NOTED & REGISTERED**  
Sr. No. 2421 Page No. 20  
Date 26-01-2024

SEEN ORIGINAL AUTHORITY LETTER POWER OF ATTORNEY / BOARD RESOLUTION DATED 27/10/2022 IN FAVOUR OF Biswa Patraich



BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

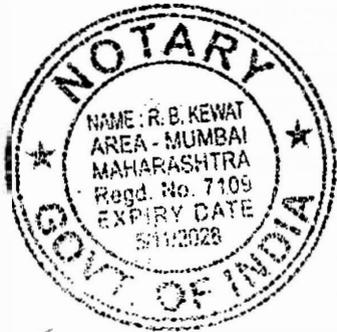
PRINCIPAL BENCH,

NEW DELHI

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in

EA 41/2023



IN THE MATTER OF:

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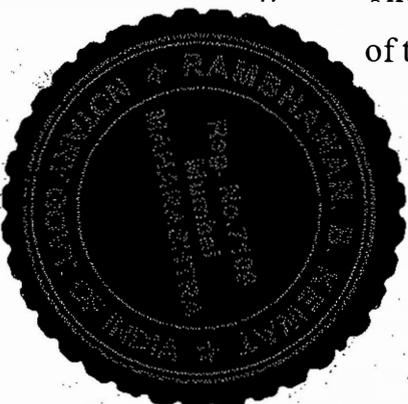
U.O.1. & Ors

...Respondent

**AFFIDAVIT**

I, Biswa Patnaik, s/o, Badri Narayan Patnaik aged about 40 years, having office at Cricket Centre, Wankhede Stadium, D-Road, Churchgate, Mumbai 400 020, do solemnly state and affirm as under:

1. That I am the authorised signatory of the Respondent no.2 (BCCI) and as such I am fully conversant with the facts and circumstances of the case based upon official records and thus competent and authorized to swear and depose the present affidavit.
2. I have read the contents of the accompanying reply and I state that the facts contained therein are true to the best of my knowledge and belief as per records maintained in the office, and legal submissions made therein are based on legal advice received.
3. I adopt the contents of the accompanying reply as part and parcel of my affidavit and the same is not being repeated for the sake of brevity.
4. The Annexure filed along with the reply are true and correct copies of their respective originals.



*Biswa Patnaik*  
 CONTROL FOR CRICKET IN INDIA  
 B.C.C.I.  
 THE BOARD OF CONTROL FOR CRICKET IN INDIA

DEPONENT

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**VERIFICATION:**

Verified at Mumbai on this the 26<sup>th</sup> day April, 2024 that the contents of the above affidavit are true to the best of my knowledge and based on official records. Legal submissions are based on advice of counsel. No part of it is false and nothing material has been concealed therefrom.

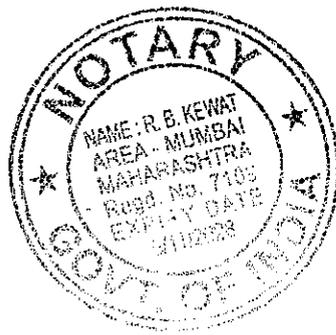
*Biswa Patnaik*  
DEPONENT



**BEFORE ME**

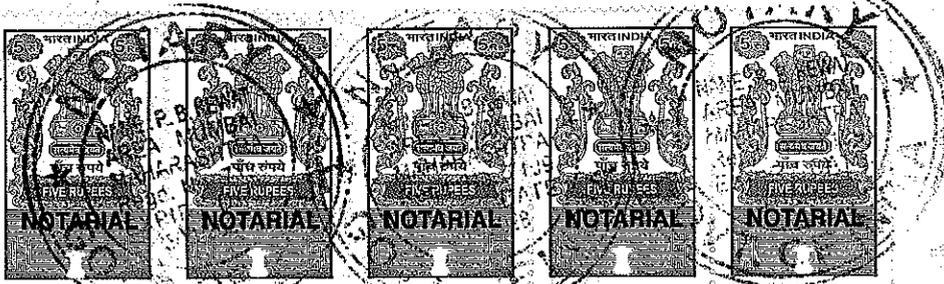
*[Signature]*

**RAMBHAWAN B. KEWAT**  
Regd. No. 7106/4/2004  
ADVOCATE AND NOTARY  
16-A, Jimmy Bldg., 1st Floor,  
Room No. 10, Parel Station Road,  
Parel (E), Mumbai - 400 012.



**NOTED & REGISTERED**  
Sr. No. 2428 Page No. 70  
Date 26-04-2024

SEEN ORIGINAL AUTHORITY LETTER POWER OF ATTORNEY / BOARD RESOLUTION DATED 27/10/2022 IN FAVOUR OF *Biswa Patnaik*



Government of India  
Ministry of Jal Shakti  
Department of Water Resources, River Development & Ganga Rejuvenation  
**CENTRAL GROUND WATER AUTHORITY**  
18/11 Jam Nagar House, Man Singh Road, New Delhi – 110011  
cgwa-noc.gov.in

File No. CGWA-21/31/2020-CGWA

Date: 25.04.2023

**Minutes of the Meeting under the Chairmanship of Chairman, Central Ground Water Authority on 19.04.2023 at 2.30 PM in reference to the ORDER passed by Hon'ble NGT, New Delhi in M.A. No. 16/2023 in Original Application No. 94/2021 (Haider Ali vs. Union of India and Ors.)**

In pursuance to the decision taken in the meeting held under the Chairmanship of JS (Admin, IC & GW), DoWR, RD &GR, Ministry of Jal Shakti held on 11.04.2023 to discuss ATR on Order dated 15.04.2021 in O.A. No. 94/2021 and Order dated 28.03.2023 in M.A. No. 16/2023 (Haider Ali vs. Union of India and Ors), passed by Hon'ble NGT Delhi, a meeting was convened in hybrid mode under the chairmanship of the Chairman, Central Ground Water Authority on 19.04.2023 at 2.30 P.M. with Ministry of Youth Affairs and Sports (MoYAS), Sports Authority of India (SAI) and Board of Control for Cricket in India (BCCI) to discuss the way forward for actions envisaged in the above orders. List of participants is enclosed as **Annexure-I**. There was no representative from MoYAS.

**The important Points discussed during the meeting are as follows:-**

1. Shri Abhinav Mukerji, Advocate from BCCI informed that -:
  - BCCI is an association of associations and the stadiums/ cricket playgrounds are either owned or on lease by state cricket associations and the controlling Ministry is MoYAS (Ministry of Youth Affairs and Sports). He informed that they do not have control over engagement of environmental expert and neither on the source of water supply in any of the stadiums. He further informed that they are non-profit earning organization as all the profits are used for giving funds to the state cricket associations and do not organize any sports events and the same is done by state cricket associations.
  - As regard to CSR initiatives like promotion of environmental protection during big sport events, it was informed that such initiatives have not been taken by BCCI so far. However, BCCI is engaged in other CSR initiatives on other social aspects.
2. Col. Yadvinder Singh, Director (Infra), Sports Authority of India (SAI), informed that SAI has control only over 5 stadiums in Delhi.
3. Shri Sunil Kumar, Chairman, CGWA was of view that since MoYAS is the overall controlling ministry at central level in respect of all sport related activities/ infrastructure, it should get actively involved in taking necessary actions to ensure the compliance of NGT Orders with respect to giving directions to the concerned.

In view of above, a meeting may be held at appropriate level with higher officials of MoYAS and representative(s) of BCCI having authority to take decision for deciding further course of action.

The meeting ended with a vote of thanks to the Chair-person.

\*\*\*\*\*

**Annexure**

**List of the participants**

**In-chair:**

**Shri Sunil Kumar, Chairman, Central Ground Water Authority**

**CGWA**

1. Sh. Ashok Patre, Scientist E, CGWA
2. Dr. Vikas Ranjan, Scientist D, CGWA
3. Sh. Vinod Kumar Dhaundiyal, Administrator, CGWA
4. Ms. Aditi Arora, YP, CGWA

**SAI**

Col. Yadvinder Singh, Director (Infra), Sports Authority of India.

**BCCI (through VC)**

1. Mr. Sumeet Mallapurkar, Assistant Manager
2. Advocate Abhinav Mukerji

Minutes of the Meeting held ON 02.6.2023 under the Chairmanship of Secretary, DoWR on ATR in Hon'ble NGT Matter – OA No. 94/2021 and MA 18/2023 (Haider Ali vs UoI and Ors)

A meeting in hybrid mode was held ON 02.6.2023 under the chairmanship of the Secretary, DoWR, RD&GR, MoJS in the Conference Room of Ministry of Jal Shakti for appraisal of progress made in implementation of directives of Hon'ble NGT in **Original Application (OA No. 94/2021 (Haider Ali Vs UoI & Ors) and subsequent MA No. 18/2023**. The meeting was attended by representatives from MoH&UA, CPCB, MoYA&S (Department of Sports), SAI, NMCG, DoWR and CGWA. The representatives of BCCI attended the meeting online. List of the participants is annexed.

2. At the outset, the Joint-Secretary(A,IC&GW), DoWR, RD & GR, MoJS welcomed all the participants and briefed about the Hon'ble NGT directives in the matter regarding installation of RWH system and use of treated water in cricket stadiums. He informed that the grievance in this application is against the use of ground water for maintenance of Cricket play grounds without availing of alternative of using STP treated water and installing rainwater harvesting systems for storing and recharge of ground water. **The applicant has, in particular, raised the issue of Indian Premium League (IPL) cricket matches, organized by Board of Control for Cricket in India (BCCI) for commercial and entertainment purposes, without concern for water conservation.**

3. CGWA informed that **four meetings have already been convened at various levels** with the representatives of Ministry of Youth Affairs and Sports (MoYAS), Sports Authority of India (SAI), Central Pollution Control Board (CPCB) and Board of Control for Cricket in India (BCCI) to discuss the compliance and implementation of Hon'ble NGT directives. It was also apprised that **BCCI** expressed its inability to implement or enforce the directives explaining that State Cricket Associations are not under its control.

4. The Member (CGWA) made a presentation on outcome of deliberations of meetings with MoYAS, SAI, CPCB and BCCI. It was informed that Public Notice had been issued by CGWA on 07.06.2021, directing all stadiums/playgrounds to install RWH system. In addition, MoYAS/SAI and BCCI were requested to direct the concerned to ensure compliance of directions in Public Notice. Further, MoJS guidelines and amendments thereof, along with DoWR advisory regarding RWH have been circulated to MoYAS, SAI, BCCI, Concerned Principal Secretaries / SGWAs and State Cricket Associations (as per list provided by BCCI). After apprising about the progress in the matter thus far, the Member (CGWA) requested for further directions from the Secretary, DOWR, RD &GR, MoJS, GoI.

5. The Secretary, DOWR, RD &GR sought opinion of representatives of MoHUA, NMCG, CPCB, MoYAS and SAI in the matter.
6. Ms. D. Thara, Addl Secy, **MoHUA** informed that as per MoHUA norms, construction of RWH structures in stadiums is mandatory. It has been suggested that cities and stadiums may be identified and respective State Governments may be directed to ensure compliance of MoHUA norms related to construction of RWH structures by stadiums.
7. Shri Kunal, Joint Secretary, **Department of Sports** informed that the Department of Sports has administrative control over 5 stadiums in Delhi. The stadiums have been constructed by CPWD, following all norms and have RWH system installed in all of them.
8. Lt Col Yadvinder Singh, Director, **Sports Authority of India** informed that treated water is available in Indira Gandhi Stadium and possibility to procure treated water for remaining four stadiums is being explored. It was also informed that in Jawahar Lal Nehru Stadium, activities are held, approximately, for 20 days in a year. Use of STP might not be feasible as cricket matches are not organized regularly. The stadiums have limited arrangements for underground storage. As regard to BCCI, it was informed that BCCI is a separate entity and is not under control of SAI.
9. Shri DP Mathuria, Executive Director, **NMCG** suggested that stadiums may tap sewage from main sewer running through the city and use the treated water by installing small portable package type sewage treatment plant for the purpose.
10. Shri Vishal Gandhi, Addl Director, **CPCB** suggested that directions may be issued to defaulting stadiums under Section 5 of Environment (Protection) Act, 1986.
11. Manager (Legal) the representative from BCCI (joined through VC), informed that a list of 26 stadiums, hosting IPL and international matches has been shared with CGWA. Out of these, there are 10 stadiums where RWH system has been installed, or is under installation. BCCI further informed that they are in touch with State Cricket Associations and would submit ATR by 30<sup>th</sup> June, 2023. Regarding environment protection initiatives, BCCI informed that for each dot ball during IPL play-offs, there is provision for plantation of 500 saplings. There were 250 dot balls during 4 play-off matches during IPL, 2023 and thus 1,25,000 saplings have been planted.
12. Secretary, DOWR, RD &GR expressed his displeasure over presence of only Manager (Legal), BCCI reflecting inadequate response of BCCI on such a vital matter. He expected concerned officials responsible for implementation in BCCI to attend the meeting, who could have taken decisions and acted

accordingly. He further stated that BCCI cannot shrug off its responsibility on the ground that they are a separate entity from State Cricket Associations, because BCCI has a working relationship with State Cricket Associations. He further added that the BCCI has also a responsibility towards conserving/preserving the environment. He directed Manager (Legal) that in the next meeting sufficiently senior authority who could take decision should join the meeting with the compliance report. Shri Gaurav Saxena, Manager (Operations), BCCI assured to comply with directions.

**13. The Secretary, DoWR advised that the following actions may be taken up immediately:-**

**(i)** Inspections of listed stadiums may be carried out by CGWA/SGWA/CPCB/SPCB to ensure the compliance of Hon'ble NGT directives/ CGWA Guidelines/ MoHUA guidelines. Suitable penal action may be initiated in case of violations / non-compliance of guidelines issued by the Government of Indian or State Government as per Groundwater Regulation Guidelines 2020 and the Environment (Protection) Act 1986.

**(Action: CGWA/CPCB)**

**(ii)** SAI may review possibility of expanding capacity of underground tanks in Stadiums of Delhi under its control.

**(Action: MoSYA/SAI)**

**(iii)** BCCI may ensure that MoHUA and CGWA guidelines are being followed by State Cricket Associations where the IPL is organised. For this purpose, BCCI may coordinate with State Cricket Associations by holding regular review meetings for monitoring their implementation.

**(Action: BCCI)**

**(iv)** Rain water storage arrangements must be made in stadiums and the use of ground water/ fresh water must be avoided for playground/ greenbelt maintenance. A plan may be developed for using sewage water, tapping nearby sewer line and using available techniques for treatment, reducing groundwater usage etc for stadiums.

**(Action: BCCI)**

**(v)** Qualified environmental expert may be engaged by State Cricket Associations on part-time basis/need basis for environmental assessment and BCCI should supervise/monitor the same. Water audit of the stadiums should be carried out every two years.

**(Action: BCCI)**

**(vi)** Campaign about water conservation may be made during mega sports events.

**(Action: BCCI)**

**14.** The Secretary, D/OWR, RD &GR concluded the meeting, with direction to hold next review meeting in the next month to review the progress of compliance of the Hon'ble NGT's directions.

The meeting ended with a vote of thanks to the Chairperson.

\*\*\*\*\*

Annex**LIST OF ATTENDEES****In-chair: Shri Pankaj Kumar, Secretary, DoWR, RD & GR, MoJS****DoWR, MoJS**

1. Shri Subodh Yadav, Joint Secretary (A, IC & GW), DoWR
2. Shri Ashish Kumar, Director, DoWR
3. Shri Vinayak Bhat, Director, DoWR
4. Shri Madhukar Singh, Scientist C & TS to JS, DoWR
5. Shri Rajendra Kumar Sahu, Under Secretary(GW), DoWR
6. Shri Mukesh Maurya, SO, GW Desk, DoWR
7. Shri Jaiprakash Yadav, ASO, GW Desk, DoWR

**CGWA**

8. Shri Sunil Kumar, Chairman, CGWA
9. Shri A K Agrawal, Member, CGWA, New Delhi
10. Dr Vikas Ranjan, Scientist D, CGWA, New Delhi
11. Shri V K Dhaundiyal, Administrator
12. Ms Aditi Arora, YP (Legal)

**MoHUA**

13. Ms D. Thara, Additional Secretary, MoHUA

**MoYAS**

14. Shri Kunal, Joint Secretary, Department of Sports  
**Sports Authority of India**

15. Lt Col Yadvinder Singh, Director, SAI

**NMCG**

16. Shri D P Mathuria, Executive Director, NMCG

**CPCB**

17. Shri Vishal Gandhi, Additional Director, CPCB

**BCCI**

18. Shri Gaurav Saxena, Manager (Operations)

- 19. Manager (Legal-1)
- 20. Manager (Legal-2)

By-Email**T-39011/3/2021-GW Section-MOWR**

भारत सरकार

**Government of India**

जल शक्ति मंत्रालय

**Ministry of Jal Shakti**

जल संसाधन, नदी विकास और गंगा संरक्षण विभाग

**D/o WR, RD & GR****(भूजल अनुभाग / Ground Water Section)**

\*\*\*\*

Shram Shakti Bhawan, Rafi Marg  
New Delhi 02-08-2023**MINUTES OF THE MEETING**

**Subject:- Minutes of the Meeting held on 17.07.2023 under the Chairmanship of Secretary, DoWR, RD & GR) to deliberate on the points/issues in the light of judgment by the Hon'ble NGT in the matter of O.A. No. 94/2021 (Sh Haider Ali Vs Uol & Ors).— reg.**

The undersigned is directed to enclose herewith the minutes of the meeting held under the Chairmanship of **Secretary, DoWR, RD& GR**, Ministry of Jal Shakti on **17.07.2023 at 4:30 PM** in the **Committee Room of this Department at Shram Shakti Bhawan**, Rafi Marg, New Delhi to deliberate on the points/issues in the light of judgment by Hon'ble NGT, Principal Bench, New Delhi in the matter of OA No. 94/2021 (Sh: Haider Ali Vs Uol & Ors).

**Signed by Rajendra Kumar Sahu****Date: 02-08-2023 10:43:07****(Rajendra Kumar Sahu)**

Reason: Approved

Under Secretary to the Govt. of India

Ph: 011-23716928

Email: gwdesk-mowr@nic.in

To,

All the participants of the meeting.

Copy to :

PPS to Secretary, DoWR, RD&amp;GR, MoJS

PPS to JS(A, IC&amp;GW), DoWR, RD&amp;GR

PA to Director(GW-I) &amp; Director(GW-II)

**Minutes of the Meeting held on 17-07-2023 under the Chairmanship of Secretary, DoWR, RD & GR, Ministry of Jal Shakti on ATR in Hon'ble NGT Matter - OA No. 94/2021 and MA 18/2023 (Haider Ali vs UOI & Ors)**

A meeting was held in hybrid mode on 17-07-2023 under the chairmanship of the Secretary, DoWR, RD & GR, MoJS for appraisal of progress made in implementation of directives of Hon'ble NGT in OA No. 94/2021 and subsequent MA No. 18/2023, in the matter of Haider Ali Vs UOI and Ors.

2. Meeting was attended by the representatives from MoH&UA, CPCB, MoYAS, SAI, DoWR, CGWA, BCCI and State Cricket Associations. Representatives of Haryana and Delhi Cricket Associations were present physically. Representatives of BCCI and other State Cricket Associations joined the meeting online. There was **no representation** from Shaheed Veer Narayan Singh International Stadium, Raipur (Chhattisgarh State Cricket Sangh). List of participants is enclosed as Annexure-I.
3. At the outset, the Chairman, CGWB welcomed all the participants and presented a brief introduction about the context of the meeting, citing Hon'ble NGT's directives in the matter of Haider Ali vs UOI and Ors (OA No. 94/2021 and MA No. 18/2023).
4. Chairman, CGWB made presentation on Action Taken Report on directives issued by the Secretary, DoWR, Ministry of Jal Shakti in the meeting held on 02-06-2023.
5. **BCCI** informed that the guidelines and necessary directions for water conservation have been issued to all cricket associations. Tree plantation has also been initiated by BCCI. It was also stated that no potable water is being used for ground maintenance in stadiums. Stadium accreditation is also being considered by National Cricket Academy, Bangalore with special emphasis on RWH structure.
6. Secretary, DoWR, MoJS advised BCCI that there must be RWH and STP facilities in the cricket stadiums to improve water conservation. He also stated that BCCI should review the matter regularly with cricket associations.
7. **Sports Authority of India** informed that it is exploring feasibility and viability of rain water harvesting in 5 stadiums in Delhi. SAI further informed that 2 proposals for STP water use are under process. SAI also informed that JLN stadium is located in low-lying area. Indira Gandhi stadium also gets flooded. There is not much space in Dr Shyama Prasad Mukherjee stadium for expansion. Use of running sewage water after treatment is also being considered.
8. **MoYAS** endorsed the submissions of SAI and informed that proposals for STPs are being prepared for next financial year which will be sent to DJB and NDMC. In this regard, Secretary, DOWR advised SAI/ MoYAS to provide written submission.
9. CGWA informed that it had carried out inspection of 26 cricket stadiums to check compliance of MOJS guidelines, viz., NOC for ground water extraction from CGWA/SGWA, Installation of RWH system and use of treated water/STP installation. It was further informed that CGWA had issued Show Cause Notices to 20 cricket associations that were using groundwater but had not obtained permission from CGWA or respective SGWA. Out of 20 stadiums, 16 had responded to show-cause notice, of which 3 stadiums, namely - Arun Jaitley Stadium (DDCA), Delhi, Green Park Stadium (UPCA) and Sports Hub International Stadium, Trivandrum (KCA) sought more time for reply. No reply was received from

Shaheed Veer Narain Singh Stadium, Raipur (Chhattisgarh Cricket Association), Sawai Man Singh Stadium, Jaipur (Rajasthan Cricket Association), Eden Gardens, Kolkata (Cricket Association of Bengal) and DY Patil Stadium, Mumbai (Mumbai Cricket Association).

10. Secretary, DoWR desired to hear the status of NOC, installation of RWH system and use of treated water from each stadium/ cricket association representative. Chairman, CGWB presented observations of individual inspection and reply to show-cause notices and State Cricket Associations apprised the Secretary DoWR about the compliance status. It was gathered from the discussions that out of 26 listed stadiums, 4 stadiums (M Chinnaswamy Stadium, Bengaluru; VCA Stadium, Jamtha, Nagpur; Narendra Modi Stadium, Motera, Ahmedabad; and JSCA International Stadium Complex, Ranchi) are fully compliant and 12 are partially compliant (2 stadiums having RWH and STP, 10 stadiums having only RWH). Nine stadiums did not have NOC, RWH System and STP. Since, there was no representative or reply from Shaheed Veer Narayan Singh International Stadium, Raipur, there was no update on status of compliance.

11. The Secretary, DoWR, RD&GR, MoJS heard responses of each stadium/Cricket Association representative and issued directions to them accordingly. Response of Cricket Associations to show-cause notices and during the meeting are summarized in **Annexure-II**.

12. Following directions were issued by Secretary with the advice to initiate action immediately.

1. All cricket associations/ owner/ management of the stadiums, who have not installed Rain Water Harvesting System (RWH) so far, must install RWH within three months and initiate concrete steps to implement the direction of NGT so as to become less dependent on fresh water. They can engage consultants for feasibility study and seek guidance from CGWB in this regard.

**(Action: Concerned Cricket Associations and Owner/ Management of the Stadiums/ concerned CGWB regional Office)**

2. All stadium authorities may engage consultants to ensure use of treated water. The concerned Stadium authorities may approach local authorities/ Municipal Corporations and explore the possibilities for supply of treated water for maintenance of cricket grounds. Feasibility of installing Sewage Treatment Plant (STP) may be studied by engaging consultants. Concerned Cricket Association shall provide the timeline for installation of Treated Water Facility/ STP.

**(Action: Cricket Associations/ Owner/ Management of Stadiums)**

3. Stadium authorities may approach ground water authorities regulating and controlling ground water in their respective States for obtaining No Objection Certificate (NOC) for ground water abstraction. In case of non-compliance, necessary action/penal action as deemed appropriate as per extant rules/guidelines shall be taken by the concerned authorities. CGWA/SGWA shall provide support to all cricket associations and owner of the stadiums for obtaining No Objection Certificate for extraction of ground water.

**(Action: Cricket Associations and Owner of the Stadiums and**

4. West Bengal Cricket Association shall hold a meeting with Indian Army (on whose land the stadium is situated) and State Water Investigation Directorate (SWID) to resolve the issue related to compliance. CGWA shall issue letter to SWID for ensuring compliance.

**(Action: Cricket Association of Bengal & CGWA/ SWID)**

5. Rajasthan Cricket Association, Jaipur has been directed to provide the status of No Objection Certificate for ground water abstraction, Rain Water Harvesting and Sewage Treatment Plant through e-mail on priority.

**(Action: Rajasthan Cricket Association)**

6. There was no representative from Chhattisgarh Cricket Sangh (CCS) present in the meeting. Also, no reply to show-cause had been received by CGWA. It was directed to confirm the status of ownership of Shaheed Veer Narayan Singh International Stadium, Raipur and issue notice accordingly for compliance of Hon'ble NGT directives.

**(Action: Chhattisgarh Cricket Association & RD, CGWB, Raipur)**

7. It was observed that Kochi stadium was not included in the list provided by BCCI. CGWA has been directed to carry out the inspection of the stadium immediately.

**(Action: CGWA and RD, CGWB, KR, Trivendrum)**

8. Central Ground Water Authority (CGWA) shall regularly monitor the progress made by stadiums towards compliance and adherence to timelines. Secretary directed CGWB to prepare the final ATR to be filed before the Hon'ble NGT.

**(Action: CGWA)**

**Annexure-I**

**In chair: Shri Pankaj Kumar, Secretary, DoWR, MoJS**

**DoWR, MoJS**

1. Shri Ashish Kumar, Director (GW-I)
2. Shri Vinayak Bhatt, Director (GW-II)
3. Shri Madhukar Singh, Sc-B & TS to JS (A, IC & GW)

**CGWA, New Delhi**

4. Shri A K Agrawal, Chairman, CGWA
5. Dr Bhushan R Lamsoge, Sc E & HoO
6. Dr Vikas Ranjan, Sc D
7. Shri Vinod Kumar Dhaundiyal, Administrator, CGWA

**MOYAS**

8. Shri Vimal Anand, Director, DoS, MOYAS

**Delhi District Cricket Association**

9. Shri R.R. Singh, Int. CEO/GM

**NMCG**

10. D.P. Mathuria, ED, NMCG

**SAI**

11. Lt. Col. Y.S. Sandhu, Dir/Infra, SAI

**Haryana Cricket Association**

12. Shri Anirudh Chaudhary, Secretary, HCA.

**JOINED THROUGH VC****BCCI**

13. Shri Hemang Amin, CEO

**Representatives of Cricket Associations/ Stadiums**

<b>Name and designation of the Participant</b>	<b>Name the Stadium represented</b>
14. Shri Anil Patel, Hon. Secretary, Gujarat Cricket Association (GCA)	Narendra Modi Stadium, Motera, Ahmedabad
15. Dhiraj Jogani, CEO, GCA	
16. Shri Himanshu Shah, Secretary, Saurashtra Cricket Association (SCA)	Saurashtra Cricket Association Stadium, Rajkot
17. Shri KKS Prasad, PMP, Project Management Consultant, Andhra Cricket Association (ACA)	Dr. Y.S. Rajasekhara Reddy ACA VDCA Cricket Stadium, Vizag
18. Shri AK Singh, CEO, Jharkhand State Cricket Association (JSCA)	JSCA International Stadium Complex, Ranchi
19. Capt Chinmay Nayak, Interim CEO, Cricket Association of Bengal (CAB)	Eden Gardens, Kolkata
20. Shri Ratnesh Singh, Head Engineering Division, CAB	
21. Shri Farokh Dastoor, CEO & Mr. Paresh Dautkhani, GM-Operations, Vidarbha Cricket Association (VCA)	VCA Stadium, Civil Lines, Nagpur VCA Stadium, Jamtha, Nagpur
22. Shri RR Singh, Interim CEO/GM, Delhi and District Cricket Association (DDCA)	Arun Jaitley Stadium, Delhi

23. Shri Ajay Chaurasia, CE (Civil), <b>DDCA</b>	
24. Shri Suhas Patwardhan, Apex Council Member, Maharashtra Cricket Association ( <b>MCA</b> )	MCA Cricket Stadium, Gahunje, <b>Pune</b>
25. Shri Prateek Chhabra, Senior Analyst, Rajasthan Cricket Association ( <b>RCA</b> )	Sawai Mansingh Stadium, <b>Jaipur</b>
26. Shri Rohit D. Pandit, CAO, Madhya Pradesh Cricket Association ( <b>MPCA</b> )	Holkar Stadium, <b>Indore</b>
27. Shri Avinash Salvi, Sports Secretary and Sports Coordinator, DY Patil Sports Academy	Dr DY Patil Stadium, <b>Mumbai</b>
28. Shri NK Jha, Secretary, Cricket Club of India ( <b>CCI</b> ) Ltd	Brabourne Stadium, <b>Mumbai</b>
29. Shri Shubhendu Ghosh, CEO, Karnataka State Cricket Association ( <b>KSCA</b> )	M. Chinnaswamy Stadium, <b>Bengaluru</b>
30. Shri Sujeet K Srivastava, VP, Finance, Strategy & Corporate Affairs, Nodal Officer Green Park, UP Cricket Association ( <b>UPCA</b> )	Green Park Stadium, <b>Kanpur</b>  Bharat Ratna Shri Atal Bihari Vajpayee Ekana Cricket Stadium, <b>Lucknow</b>
31. Shri K Shivakumar, Hon. Jt. Secretary, Tamil Nadu Cricket Association ( <b>TNCA</b> )	M A Chidambaram Stadium, <b>Chennai</b>
32. Shri U Baghwandas Rao, Member - Apex Council, <b>TNCA</b>	
33. Shri Suneel Kante, CEO, Hyderabad Cricket Association ( <b>HCA</b> )	Rajiv Gandhi International Stadium, <b>Hyderabad</b>
34. Sushri Minu Chitambaram, CFO, Kerala Cricket Association ( <b>KCA</b> )	Sports Hub International Cricket stadium, <b>Trivandrum</b>
35. Shri Dipu Joy, Chief Coordinator, Kariavattom Sports Facilities Limited ( <b>KSFL</b> )	
36. Shri Ram Varma, Manager, <b>KSFL</b>	
37. Shri Kuldeep Singh, Infrastructure Consultant, Himachal Pradesh Cricket Association ( <b>HPCA</b> ). The Secretary of association could not be present, being indisposed.	Himachal Pradesh Cricket Association Stadium, <b>Dharamshala</b>
38. Shri Deepak Sharma, CEO, Punjab Cricket Association ( <b>PCA</b> )	IS Bindra Cricket Stadium, <b>Mohali</b>
39. Shri Subrat Kumar Behera, CEO, Odisha Cricket Association ( <b>OCA</b> )	Barabati Stadium, <b>Cuttack</b>
40. Shri Subhasis Behera, GM Admn, <b>OCA</b>	
41. Shri Bishnu Mohapatra, Principal Consultant, <b>OCA</b>	
42. Shri Jyotishmoy Borah, Manager- Infrastructure Development & Allied Activities, Assam Cricket Association ( <b>ACA</b> )	ACA Stadium, Barsapara, <b>Guwahati</b>
43. Sh. Ajankya Nayak, Secretary, Mumbai	Wankhede Stadium, <b>Mumbai</b>

Cricket Association (MCA)  
44. Shri C S Nayak CEO, MCA  
45. ShriGunjan Patel, MCA

## Annexure-II

## Summary of responses of individual Stadiums/ State Cricket Associations

Status	Name of Stadiums	Response of Concerned State Cricket Association/ Directions from Secretary, DoWR
Fully Compliant (RWH, STP/ Treated Water, NOC/ Not using GW)	1. M. Chinnaswamy Stadium, Bengaluru	Secretary, DoWR expressed his satisfaction over compliance status and advised to maintain the system.
	2. VCA Stadium, Jamtha, Nagpur	
	3. Narendra Modi Stadium, Motera, Ahmedabad	Show-cause was issued as 2 TWs found in the stadium without NOC, Gujarat Cricket Association informed that it has water supply from AMC and that the TWs were not operational and have also been sealed after inspection.
	4. JSCA International Stadium Complex, Ranchi	Jharkhand State Cricket Association informed that it is not using groundwater. The BW in the premises is for recharge purpose.
Partially Compliant (RWH and STP/ Treated water)	1. Wankhede Stadium, Mumbai	Maharashtra Cricket Association: It has permission for borewell from MCGM. MCA was advised to obtain NOC from CGWA as MCGM is not authorized to grant permission of BW.
	2. M.A. Chidambaram Stadium, Chennai	In show-cause reply Tamil Nadu Cricket Association informed that Water supply for greenbelt requirement is from CMWSSB, both in event and non-event days and during event days, increased drinking/ domestic demand is provided by CMWSSB. During the meeting, TNCA informed that STP equipment had been procured and is expected to be made functional within 3 months. Regarding RWH, the association has engaged consultant.
Partially Compliant (only RWH)	1. Arun Jaitley Stadium, Delhi	Delhi & District Cricket Association sought guidance and 15 days time to reply to Show Cause Notice. Secretary, DoWR advised CGWA to send letter to Delhi Jal Board for necessary action.
	2. Ch. Bansi Lal Cricket Stadium,	Haryana State Cricket Association: The stadium is in rural area. There has been no paid

Lehli, Haryana	<p>tournament till date.</p> <p>It has already applied to Haryana GW Authority for NOC. Regarding RWH, it was informed that water level in the area is very shallow.</p> <p>The association is also planning another stadium where STP is planned.</p>
3. Rajeev Gandhi International Stadium, Hyderabad	<p><b>Hyderabad Cricket Association:</b> It has applied for NOC to State GW Authority.</p> <p>Regarding STP installation, the association was advised by Secretary, DoWR to hire services of consultant.</p>
4. Holkar Stadium, Indore, MP	<p><b>Madhya Pradesh Cricket Association</b> informed that the frequency big events is low and assured to explore feasibility for STP/Treated water use to be explored. It also assured to obtain NOC from CGWA.</p>
5. MCA Cricket Stadium, Gahunje, Pune	<p><b>Show-cause notice was not issued</b> to stadium as it was found during inspection that the stadium was not using groundwater.</p>
6. Dr. DY Patil Stadium, Mumbai	<p><b>Mumbai Cricket Association:</b> Did not reply to Show-cause notice. The representative from association acknowledged the receipt of Show-cause and informed that the stadium is owned and managed by DY Patil University and Academy. The Secretary, DoWR directed the association to coordinate with university authorities and comply to the Hon'ble NGT directives.</p>
7. Saurashtra Cricket Association Stadium	<p><b>Saurashtra Cricket Association:</b> The stadium is located in outskirts. After inspection by CGWA, Rajkot Municipal Corporation has offered supply of treated sewage water from STP plant located 8 Km away and feasibility of same is being evaluated.</p>
8. Green Park Stadium, UP	<p><b>Uttar Pradesh Cricket Association</b> representative informed that the stadium is owned by State Government. The Secretary, DoWR advised UPCA to pursue with State Government to ensure compliance of Hon'ble NGT directives.</p>
9. Sh. Atal Bihari Vajpayee Ekana Stadium, UP	<p><b>Uttar Pradesh Cricket Association</b> in its reply to show-cause has informed that stadium has been set up in PPP model. The company, M/s Ekana Sportz City Pvt Ltd, running the stadium is registered as Micro enterprise and claims that GW extraction is less than 10 KLD and hence, is exempted from obtaining NOC.</p>
10. VCA Stadium,	<p>In its reply to show-cause, the <b>Vidarbha</b></p>

	Civil Lines, Nagpur	<b>Cricket Association</b> informed that the stadium is only for training purposes.
Non-compliant	1. Dr. Y.S. Rajasekhara Reddy ACA-VDCA Cricket Stadium, Vizag	In the show-cause reply and during the meeting, <b>Andhra Cricket Association</b> informed that Rain Water Harvesting system is under installation and is expected to be completed by 10.07.2023.
	2. ACA Stadium, Barsapara, Assam	In show-cause reply, <b>Assam Cricket Association</b> informed that the process for obtaining NOC from CGWA has been initiated. During the meeting it was informed by ACA that Rain Water Harvesting system is under installation, The Secretary, DoWR advised to submit timeline for completion of same.
	3. Shaheed Veer Narayan Singh International Stadium, Raipur	Neither Show-cause reply received by CGWA, nor any representative from State Cricket Association was present in the meeting.
	4. Eden Gardens, Kolkata	The <b>Cricket Association of Bengal</b> informed during meeting that the land and property of Eden Gardens belong to Indian Army. The Secretary advised CAB to ensure compliance of Hon'ble NGT directives as it is presently responsibility for looking after affairs of stadium.
	5. Himachal Pradesh Cricket Association Stadium, Dharamshala	In the show-cause reply, the HPCA informed that the area is high rainfall area Appointed consultant for feasibility of RWH and using stored water for irrigation. The Secretary, DoWR advised HPCA to study feasibility of STP by engaging consultant.
	6. Brabourne Stadium, Cricket Club of India (CCI)	CCI is in the process of exploring feasibility of RWH system and setting up STP.
	7. Barabati Stadium, Cuttack, Odisha	In show-cause reply, the <b>Odisha Cricket Association</b> has stated that the stadium is located close to Mahanadiriver bed with elevation below river's HFL and is a waterlogged area, RWH may not be necessary.
	8. I.S. Bindra Cricket Stadium, Mohali	<b>Punjab Cricket Association</b> informed that installation of RWH system is in process and will be completed by next 60 days. Consultant is being appointed to explore feasibility of Sewage Treatment Plant. Stadium authorities confirmed that they have NOC for ground water extraction.
	9. Sawai Mansingh Stadium, Jaipur	Show Cause Notice reply not received by CGWA. Representative from <b>Rajasthan Cricket Association</b> was not audible during the meeting. The Secretary advised RSCA to

	submit their response in writing and comply to Hon'ble NGT directives.
10. Sports Hub International Cricket stadium, Trivandrum	<b>Kerala Cricket Association</b> informed during the meeting that it had applied for groundwater NOC during Covid period, but same is not traceable. The association has hired CWRDM as consultant for RWH system.

March 10, 2023

Government of India,  
Ministry of Jal Shakti,  
Central Ground Water Authority,  
18/11, Jamnagar House,  
Mansingh Road, New Delhi-110011

**Kind Attn: TS Anitha Shyam**

**Sub:** Action taken report regarding Implementation of scheme of artificial recharge of ground water/rain water harvesting in all stadiums-reg

**Ref:**

1. Letter dated June 29, 2021 having file number CGWA-21/312020-CGWA-627
2. Letter dated February 06, 2023 having file number CGWA-21/312020-CGWA-94 (herein after referred to as "CGWA Letters")

Dear Sir/Ma'am,

We refer to the CGWA Letters regarding implementation of scheme of artificial recharge of ground water in cricket playgrounds and requesting Board of Control for Cricket in India ("BCCI") to furnish an action taken report regarding implementation of the mechanism for artificial recharge of ground water/ rain water harvesting in the cricket playgrounds.

We state that, BCCI is a society formed and registered under the Tamil Nadu Societies Registration Act, 1975 for the promotion and development of cricket in India. The BCCI has several State Cricket Associations as its members, who are separate and distinct entities. It is stated that BCCI does not own any stadium and the stadiums are generally owned by the respective State Cricket Associations.



On receipt of the CGWA Letters, BCCI issued communications to all its member state associations for submission of an action taken report on the implementation of the mechanism of artificial recharge of ground water/rain water harvesting in all stadiums owned or managed by the State Associations.

In view of the aforesaid, we submit the following information:

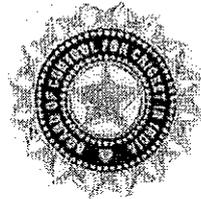
a) **Gujarat Cricket Association (GCA)**

GCA has rainwater harvesting system installed at their complex. GCA has both roof top and surface runoff harvesting, with a dedicated rainwater harvesting tank in place. Further, Narendra Modi Stadium is the first Green Stadium in the country. GCA have been awarded the Indian Green Building Council (IGBC) Gold Green Building rating. It boasts of 100% LED lights, 5 lakh litre rainwater harvesting, 50KW solar & 5000 sq mtrs of biodiversity plantation. **Attached herewith are the drawings of Rainwater Sump and Stormwater layout - outfall.**

b) **Kerala Cricket Association (KCA)**

KCA has engaged Centre for Water Resource Development and Management (CWRDM), Govt. of Kerala and they have submitted feasibility study / project report for grounds owned/managed by KCA namely (1) Mangalapuram Cricket Ground at Thiruvananthapuram District (2) Krishnagiri Cricket Ground at Wayanad District (3) Perinthalmanna Cricket Ground at Malappuram District (4) Thekkumbhagam Cricket Ground at Idukki District. KCA has completed construction of rain water harvesting tank at KCA's St.Xaviers Thumba Cricket Ground , Thiruvananthapuram of 1,00,000 litre capacity. With regards to the other grounds owned/managed by KCA , KCA is awaiting project report and feasibility study and necessary steps in this regard shall be taken on receipt of the relevant reports.

c) **Vidarbha Cricket Association (VCA)**



In VCA's 2 stadiums viz. Jamtha & Civil Lines stadium, VCA has installed adequate Rain Water Harvesting systems through 1) Roof Top Rain Water Harvesting, 2) Road / Paved area Rain Water Harvesting, 3) Green Belt area Rain Water Harvesting & 4) Open land area Rain Water Harvesting which result in total recharge potential of 12956 M<sup>3</sup>/annum for VCA Jamtha Stadium and 10735 M<sup>3</sup>/annum for VCA Civil Lines Stadium.

Further, VCA has the borewell recharge method which also augments the Rain Water Harvesting system at both their stadiums. VCA has received from Central Ground Water Authority NOC No. CGWA/NOC/INF/ORIG/2021/14015 & CGWA/NOC/INF/ORIG/2021/13898 for their Jamtha & Civil Lines stadium respectively after the satisfaction with the rain water harvesting system.

d) **Haryana Cricket Association (HCA)**

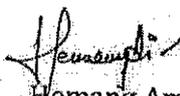
HCA owns the Chaudhary Bansi Lal Cricket Stadium at Lahli, Rohtak (Haryana) and the same was inaugurated in December 2006 and it has a rain - water harvesting system right from its inception i.e. from 2006.

e) **Assam Cricket Association (ACA)**

ACA is in the process of initiating steps for rain water harvesting.

We request you to take the aforesaid on record. BCCI shall provide information regarding its other member cricket associations upon receipt of the same.

Yours Sincerely,

  
Hemang Amin



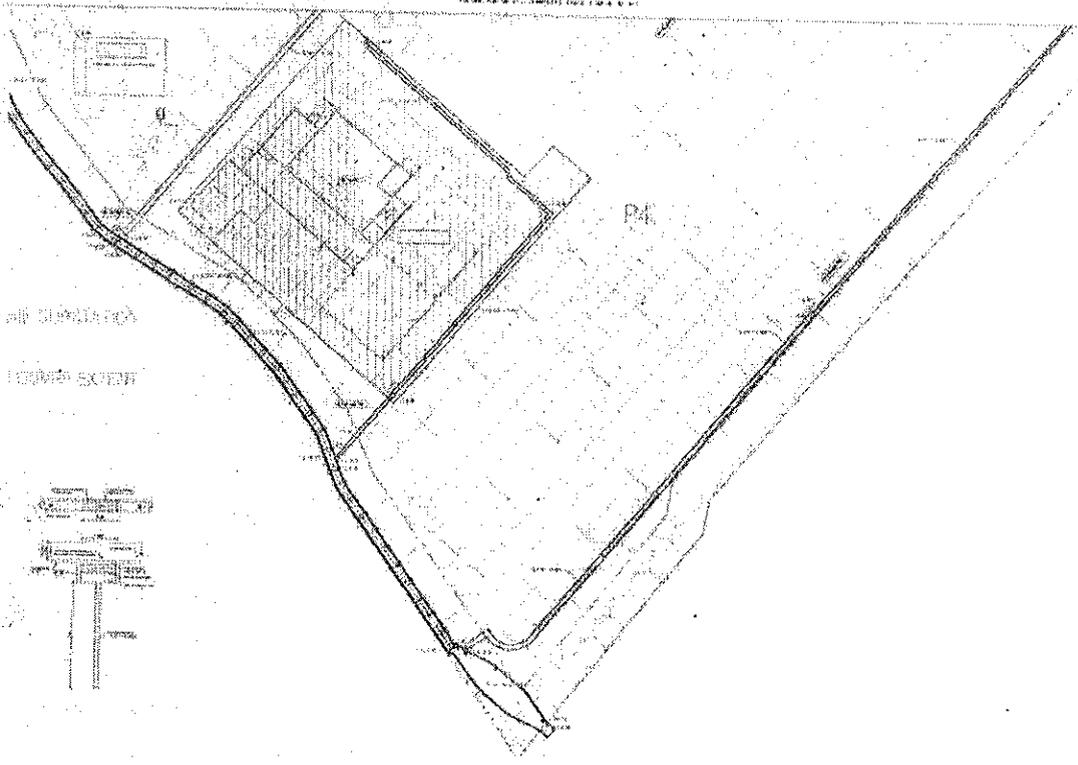
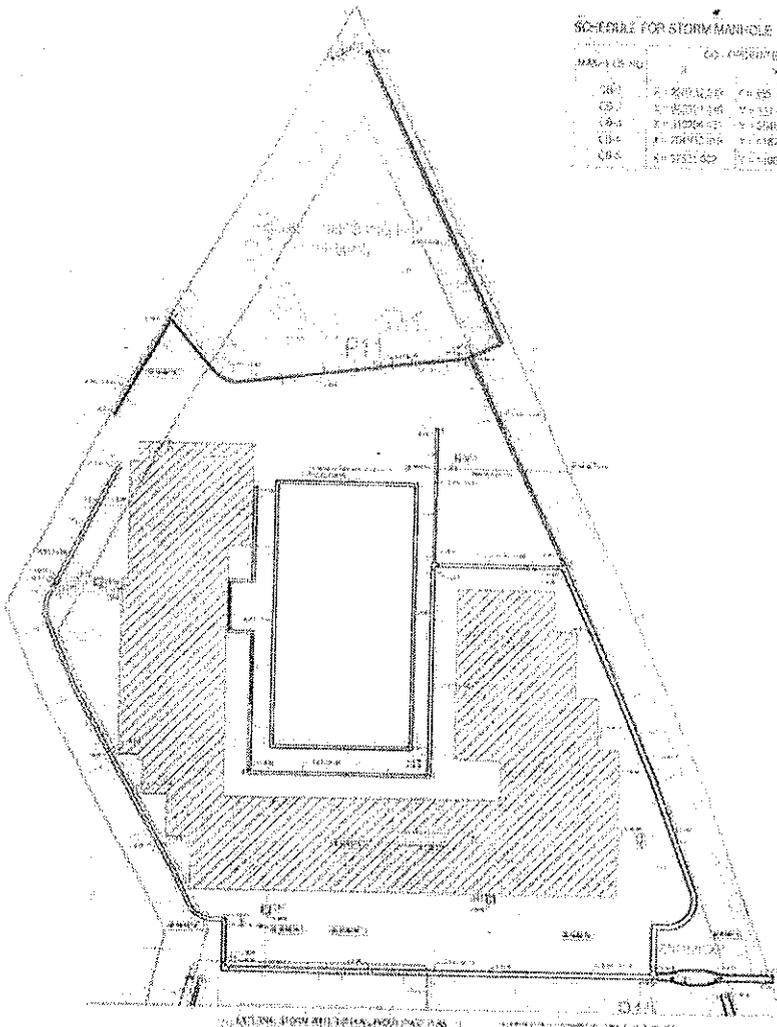
Chief Executive Officer (Interim), BCCI



28

SCHEDULE FOR STORM MANHOLE

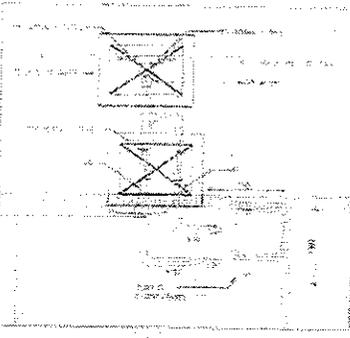
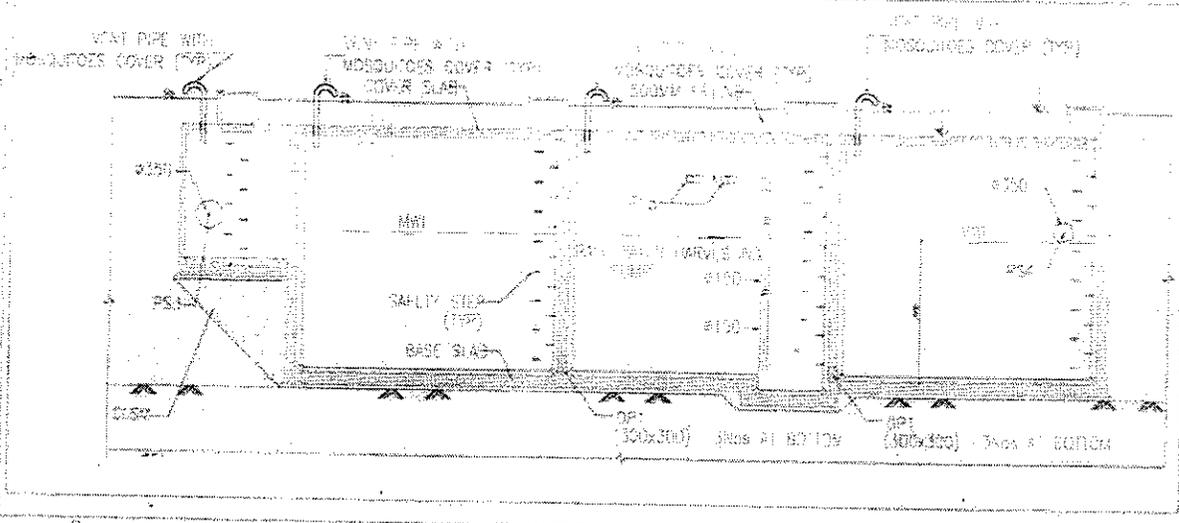
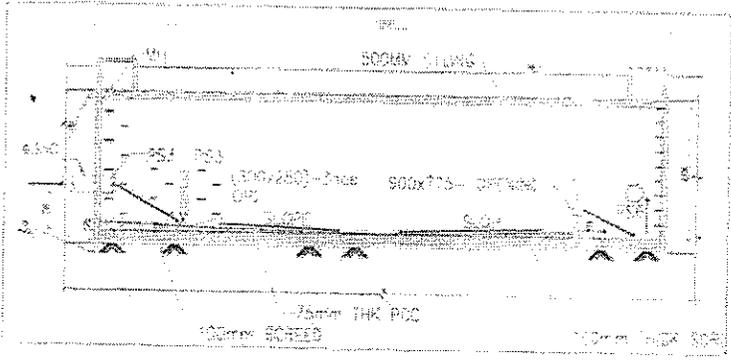
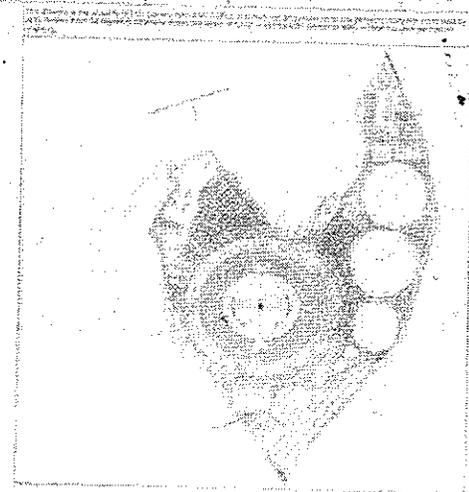
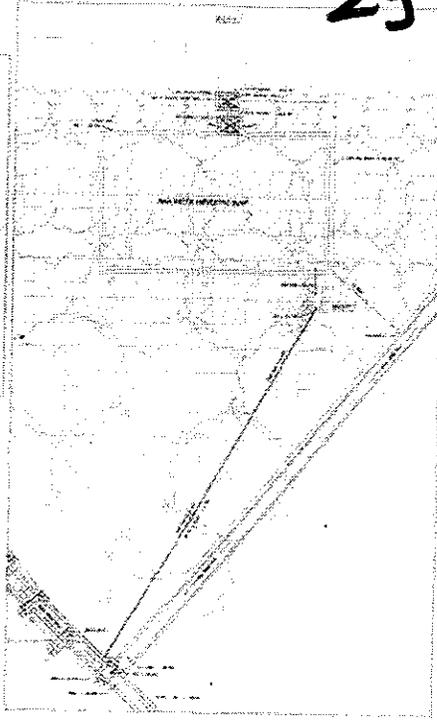
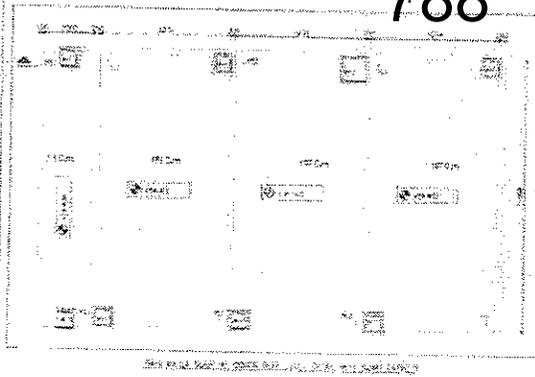
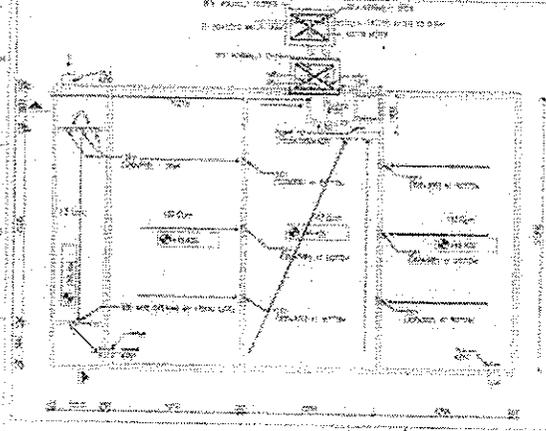
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10-6	...	3.00	36.00



CONTRACT NO. 018212-11-01-00-0010  
 PROJECT NO. 018212-11-01-00-0010  
 SHEET NO. 28 OF 30  
 DATE: 08/14/11  
 DRAWN BY: [Name]  
 CHECKED BY: [Name]  
 APPROVED BY: [Name]

**LET Construction**  
 12345 Main Street  
 City, State, Zip  
 Phone: (555) 123-4567  
 Fax: (555) 987-6543  
 Email: info@letconstruction.com

018212-11-01-00-0010



ITEM NO.	DESCRIPTION	QTY	UNIT	AMOUNT	REMARKS
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- NOTES
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**LAT Construction**

Project: ...

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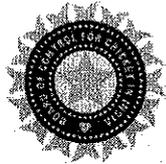
Drawn by: ...

Checked by: ...

Approved by: ...

Date: ...

Project No: O16213-U-SA-06-SD-0020



March 30, 2023

Government of India,  
Ministry of Jal Shakti,  
Central Ground Water Authority,  
18/11, Jamnagar House,  
Mansingh Road, New Delhi-110011.  
Kind Attn: TS Anitha Shyam

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3. BCCI's letter dated March 10, 2023.

Dear Sir/Ma'am,

We refer to the CGWA Letters, inter alia, requesting Board of Control for Cricket in India ("BCCI") to furnish an action taken report on implementation of the mechanism for artificial recharge of ground water/ rain water harvesting in the cricket playgrounds. Further, we refer to BCCI's response dated March 10, 2023 to the CGWA Letters wherein we provided the action taken report of certain members state association of the BCCI. Attached herewith is BCCI's letter dated March 10, 2023 as **Annexure "1"**.

In furtherance to our letter dated March 10, 2023, we submit the following information regarding certain other member state associations;



a) **Delhi & District Cricket Association (DDCA)**

DDCA has submitted a report regarding the implementation of the scheme of artificial recharge of ground water/rain water harvesting which is attached herewith as **Annexure "2"**.

**The Cricket Association of Bengal (CAB)**

CAB's explanation regarding implementation of the said scheme has been attached herewith as **Annexure "3"**.

b) **Baroda Cricket Association (BCA)**

BCA's explanation regarding implementation of the said scheme has been attached herewith as **Annexure "4"**.

c) **Nagaland Cricket Association (NCA)**

The Nagaland Cricket Association Stadium, Sovima, is equipped with an Under-Turf Drain System & Water Storage of 2 Lakh Litres capacity (4 Nos) where rainwater is harvested. Images and master plan of the underground water drainage system installed in the Stadium is attached herewith as **Annexure "5"**.

d) **Cricket Association of Pondicherry (CAP)**

CAP has a system of implementation of ground and rain water harvesting in CAP campus in Pondicherry wherein there are 8 cricket grounds, nets spread across 45 acre estate. CAP spent a lot on STP lines to re-use treated waters too.

Yours Sincerely,



**Hemang Amin**

**Chief Executive Officer (Interim), BCCI**

791  
Annexure 1

32



March 10, 2023

Government of India,  
Ministry of Jal Shakti,  
Central Ground Water Authority,  
18/11, Jamnagar House,  
Mansingh Road, New Delhi-110011

**Kind Attn: TS Anitha Shyam**

**Sub:** Action taken report regarding Implementation of scheme of artificial recharge of ground water/rain water harvesting in all stadiums-reg

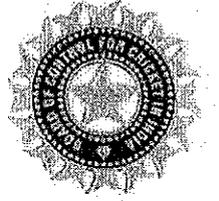
**Ref:**

1. Letter dated June 29, 2021 having file number CGWA-21/312020-CGWA-627
2. Letter dated February 06, 2023 having file number CGWA-21/312020-CGWA-94 (herein after referred to as "CGWA Letters")

Dear Sir/Ma'am,

We refer to the CGWA Letters regarding implementation of scheme of artificial recharge of ground water in cricket playgrounds and requesting Board of Control for Cricket in India ("BCCI") to furnish an action taken report regarding implementation of the mechanism for artificial recharge of ground water/ rain water harvesting in the cricket playgrounds.

We state that, BCCI is a society formed and registered under the Tamil Nadu Societies Registration Act, 1975 for the promotion and development of cricket in India. The BCCI has several State Cricket Associations as its members, who are separate and distinct entities. It is stated that BCCI does not own any stadium and the stadiums are generally owned by the respective State Cricket Associations.



On receipt of the CGWA Letters, BCCI issued communications to all its member state associations for submission of an action taken report on the implementation of the mechanism of artificial recharge of ground water/rain water harvesting in all stadiums owned or managed by the State Associations.

In view of the aforesaid, we submit the following information:

a) **Gujarat Cricket Association (GCA)**

GCA has rainwater harvesting system installed at their complex. GCA has both roof top and surface runoff harvesting, with a dedicated rainwater harvesting tank in place. Further, Narendra Modi Stadium is the first Green Stadium in the country. GCA have been awarded the Indian Green Building Council (IGBC) Gold Green Building rating. It boasts of 100% LED lights, 5 lakh litre rainwater harvesting, 50KW solar & 5000 sq mtrs of biodiversity plantation. **Attached herewith are the drawings of Rainwater Sump and Stormwater layout - outfall.**

b) **Kerala Cricket Association (KCA)**

KCA has engaged Centre for Water Resource Development and Management (CWRDM), Govt. of Kerala and they have submitted feasibility study / project report for grounds owned/managed by KCA namely (1) Mangalapuram Cricket Ground at Thiruvananthapuram District (2) Krishnagiri Cricket Ground at Wayanad District (3) Perinthalmanna Cricket Ground at Malappuram District (4) Thekkumbhagam Cricket Ground at Idukki District. KCA has completed construction of rain water harvesting tank at KCA's St.Xaviers Thumba Cricket Ground , Thiruvananthapuram of 1,00,000 litre capacity. With regards to the other grounds owned/managed by KCA , KCA is awaiting project report and feasibility study and necessary steps in this regard shall be taken on receipt of the relevant reports.

c) **Vidarbha Cricket Association (VCA)**



In VCA's 2 stadiums viz. Jamtha & Civil Lines stadium, VCA has installed adequate Rain Water Harvesting systems through 1) Roof Top Rain Water Harvesting, 2) Road / Paved area Rain Water Harvesting, 3) Green Belt area Rain Water Harvesting & 4) Open land area Rain Water Harvesting which result in total recharge potential of 12956 M<sup>3</sup>/annum for VCA Jamtha Stadium and 10735 M<sup>3</sup>/annum for VCA Civil Lines Stadium.

Further, VCA has the borewell recharge method which also augments the Rain Water Harvesting system at both their stadiums. VCA has received from Central Ground Water Authority NOC No. CGWA/NOC/INF/ORIG/2021/14015 & CGWA/NOC/INF/ORIG/2021/13898 for their Jamtha & Civil Lines stadium respectively after the satisfaction with the rain water harvesting system.

d) **Haryana Cricket Association (HCA)**

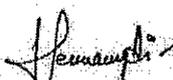
HCA owns the Chaudhary Bansi Lal Cricket Stadium at Lahli, Rohtak (Haryana) and the same was inaugurated in December 2006 and it has a rain – water harvesting system right from its inception i.e. from 2006.

e) **Assam Cricket Association (ACA)**

ACA is in the process of initiating steps for rain water harvesting.

We request you to take the aforesaid on record. BCCI shall provide information regarding its other member cricket associations upon receipt of the same.

Yours Sincerely,

  
Hemang Amin



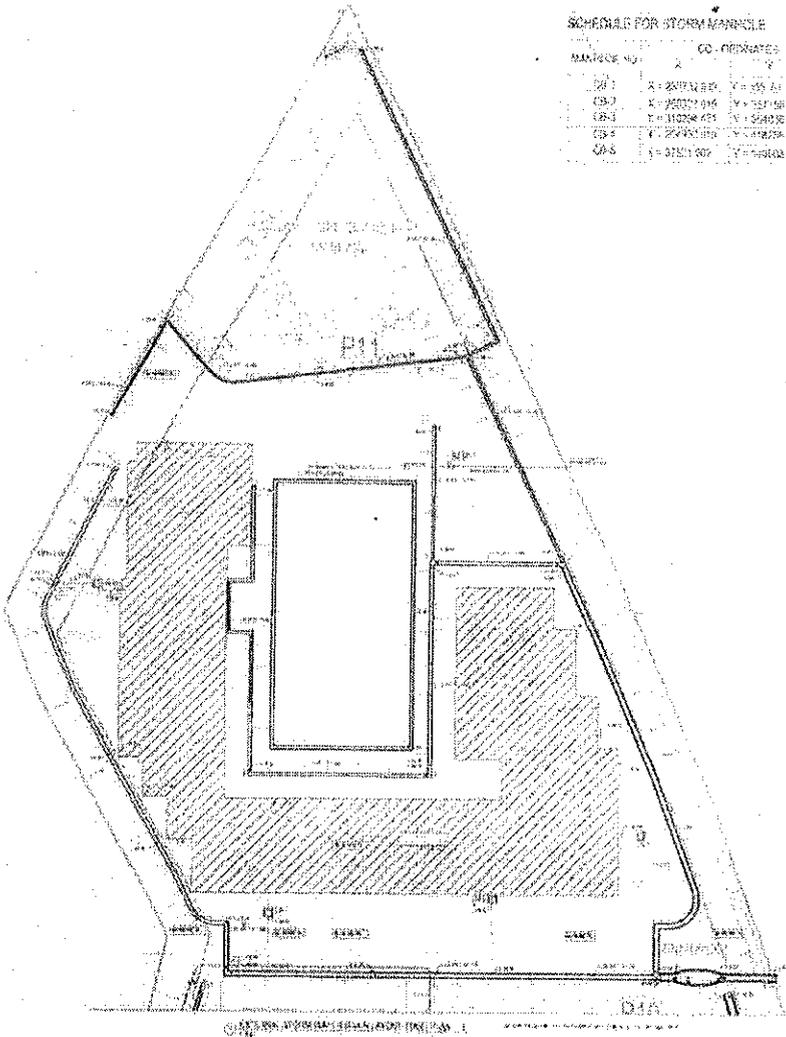
Chief Executive Officer (Interim), BCCI

## SCHEDULE FOR STORM MANHOLE

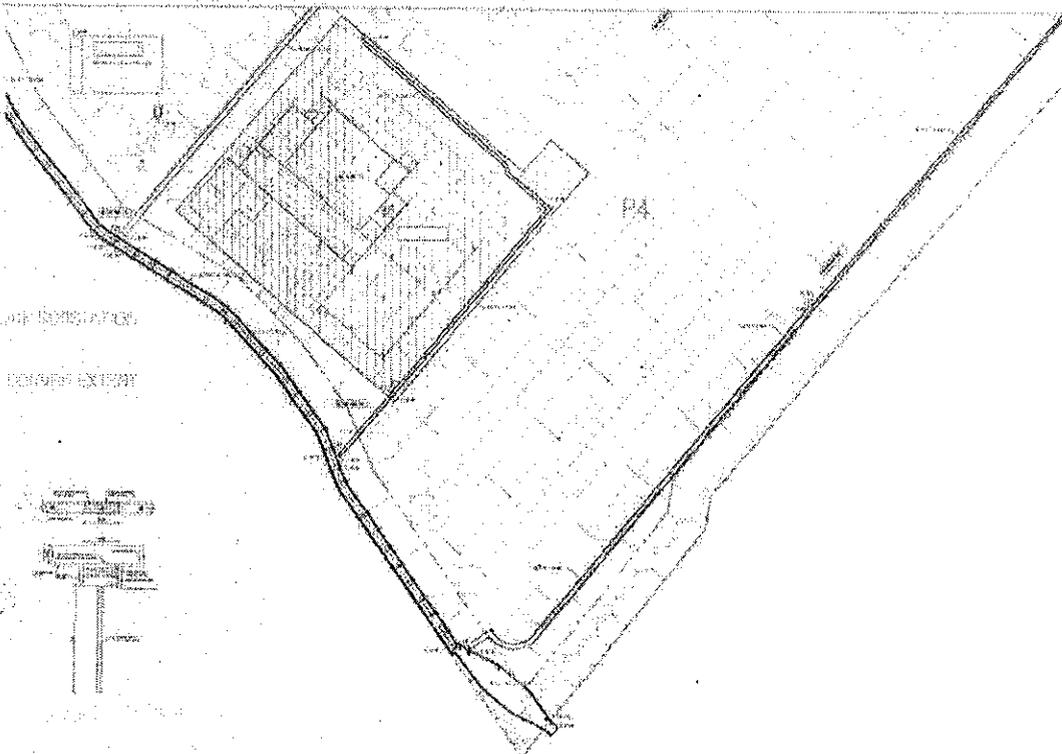
MANHOLE NO.	CO-ORDINATES		TOP OF MANHOLE (ELEV.)	INVERT (ELEV.)
CM-1	X = 207234.000	Y = 125161.175	30.36	30.54
CM-2	X = 207221.000	Y = 125150.000	30.54	30.54
CM-3	X = 207238.421	Y = 125150.000	30.56	30.54
CM-4	X = 207235.000	Y = 125155.000	30.56	30.56
CM-5	X = 207211.000	Y = 125155.000	30.56	30.57



# 35



PLAN VIEW OF THE PROPOSED DEVELOPMENT



PLAN VIEW OF THE PROPOSED DEVELOPMENT

4. THE PLAN  
 The proposed development is shown on the attached plan. The plan shows the location of the proposed development, the location of the proposed storm manholes, and the location of the proposed storm water collection system. The plan also shows the location of the proposed storm water treatment system. The plan is drawn to a scale of 1:1000. The plan is drawn in accordance with the requirements of the relevant legislation. The plan is drawn in accordance with the requirements of the relevant legislation. The plan is drawn in accordance with the requirements of the relevant legislation.

- 1. THE PROPOSED DEVELOPMENT
- 2. THE PROPOSED STORM MANHOLES
- 3. THE PROPOSED STORM WATER COLLECTION SYSTEM
- 4. THE PROPOSED STORM WATER TREATMENT SYSTEM
- 5. THE PROPOSED STORM WATER STORAGE TANK
- 6. THE PROPOSED STORM WATER PUMP
- 7. THE PROPOSED STORM WATER DISTRIBUTION SYSTEM
- 8. THE PROPOSED STORM WATER TREATMENT PLANT
- 9. THE PROPOSED STORM WATER STORAGE TANK
- 10. THE PROPOSED STORM WATER PUMP
- 11. THE PROPOSED STORM WATER DISTRIBUTION SYSTEM
- 12. THE PROPOSED STORM WATER TREATMENT PLANT

NOTES:  
 1. THE PROPOSED DEVELOPMENT IS SHOWN ON THE ATTACHED PLAN.  
 2. THE PROPOSED STORM MANHOLES ARE SHOWN ON THE ATTACHED PLAN.  
 3. THE PROPOSED STORM WATER COLLECTION SYSTEM IS SHOWN ON THE ATTACHED PLAN.  
 4. THE PROPOSED STORM WATER TREATMENT SYSTEM IS SHOWN ON THE ATTACHED PLAN.  
 5. THE PROPOSED STORM WATER STORAGE TANK IS SHOWN ON THE ATTACHED PLAN.  
 6. THE PROPOSED STORM WATER PUMP IS SHOWN ON THE ATTACHED PLAN.  
 7. THE PROPOSED STORM WATER DISTRIBUTION SYSTEM IS SHOWN ON THE ATTACHED PLAN.  
 8. THE PROPOSED STORM WATER TREATMENT PLANT IS SHOWN ON THE ATTACHED PLAN.  
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 10. THE PROPOSED STORM WATER PUMP IS SHOWN ON THE ATTACHED PLAN.  
 11. THE PROPOSED STORM WATER DISTRIBUTION SYSTEM IS SHOWN ON THE ATTACHED PLAN.  
 12. THE PROPOSED STORM WATER TREATMENT PLANT IS SHOWN ON THE ATTACHED PLAN.

NO.	REVISION	DATE	BY	CHKD.
1	ISSUED FOR TENDERS	15/01/2010	...	...
2	...	...	...	...
3	...	...	...	...
4	...	...	...	...
5	...	...	...	...
6	...	...	...	...
7	...	...	...	...
8	...	...	...	...
9	...	...	...	...
10	...	...	...	...
11	...	...	...	...
12	...	...	...	...

**LBT Construction**  
 A Group of Companies  
 1. LBT Construction  
 2. LBT Construction  
 3. LBT Construction  
 4. LBT Construction  
 5. LBT Construction  
 6. LBT Construction  
 7. LBT Construction  
 8. LBT Construction  
 9. LBT Construction  
 10. LBT Construction  
 11. LBT Construction  
 12. LBT Construction

PROJECT NO: 01/210-11-CA-00-00-0010  
 DRAWING NO: 01/210-11-CA-00-00-0010  
 DATE: 15/01/2010  
 SCALE: 1:1000  
 SHEET NO: 35  
 TOTAL SHEETS: 35



**Annexure 2****37**FOR OFFICIAL USE ONLY

**FEASIBILITY REPORT  
FOR CONSTRUCTION OF RAIN WATER HARVESTING STRUCTURES  
AT ARUN JAITLEY STADIUM,  
FEROZSHAH KOTLA GROUNDS, DELHI**

**V. Praveen Kumar  
STA (HG)**

**MINISTRY OF JAL SHAKTI  
DEPARTMENT OF WATER RESOURCES, RD & GR  
CENTRAL GROUND WATER BOARD  
STATE UNIT OFFICE, DELHI**

**MAY 2022**

## 2. PURPOSE AND SCOPE

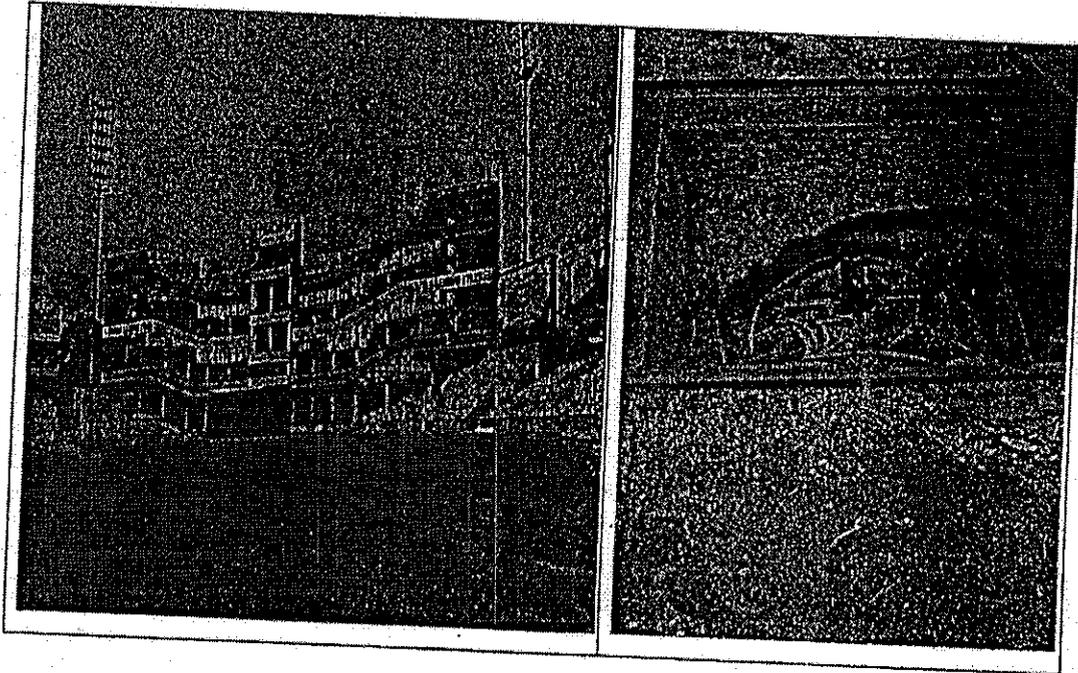
The purpose of the investigation is to study the feasibility for construction of Rain Water Harvesting Structures in and around the Sports Stadium.

## 3. HYDROGEOLOGY

Central district of NCT Delhi is in hard rock terrain of Delhi quartzite at one end and alluvium underlain by Delhi quartzite at another end. The eastern part of district is bounded by the river Yamuna. The other parts of the area are occupied by unconsolidated Quaternary alluvium underlain by Pre Cambrian meta sediments of Delhi system. Quaternary alluvium is comprised of fine sand, silt, clay along with the occurrence of kankars. The aquifer system consists of sand, which is fine to medium grained, yellowish in colour, with kankars of medium to high grade. The basement rock which is highly weathered and moderately fractured possesses substantial amount of ground water.

## 4. OBSERVATIONS

- Total Area of the Campus is 14.28 acres
- 17 RWH Structures (3m dia-circular pits with 6" dia recharge tube well up to a depth of 7.5mtrs) are already constructed and functional.
- 4 no. of tube wells with the depth of 33mtrs are existed in the Campus and functional.
- Water Level monitored in two tube wells details are given below
  - ◆ Bore well-1(East Gate)  
Coordinates: 28.63753 N, 77.24390 E  
Elevation: 214m amsl  
Water Level: 6.20mbgl (Pumping)
  - ◆ Bore Well-2 (West Gate)  
Coordinates:28.63680N, 77.24239E  
Elevation: 219m amsl  
Water Level: 5.5 mbgl (Pumping)



#### 6. RECOMMENDATIONS

After carrying out the investigation, there is no further scope ~~for~~ to recharge groundwater due to shallow water levels in the campus. It is recommended that surface storage RCC tanks may be constructed and direct the roof top rain water in to these RCC tanks. This rain water can be used for horticulture and other non-drinking purposes like flushing and washing of floors etc., after filtration.

**FEASIBILITY REPORT**  
**FOR CONSTRUCTION OF RAIN WATER HARVESTING STRUCTURES AT ARUN**  
**JAITLEY STADIUM,**  
**FIROZSHAH KOTLA GROUNDS, DELHI**

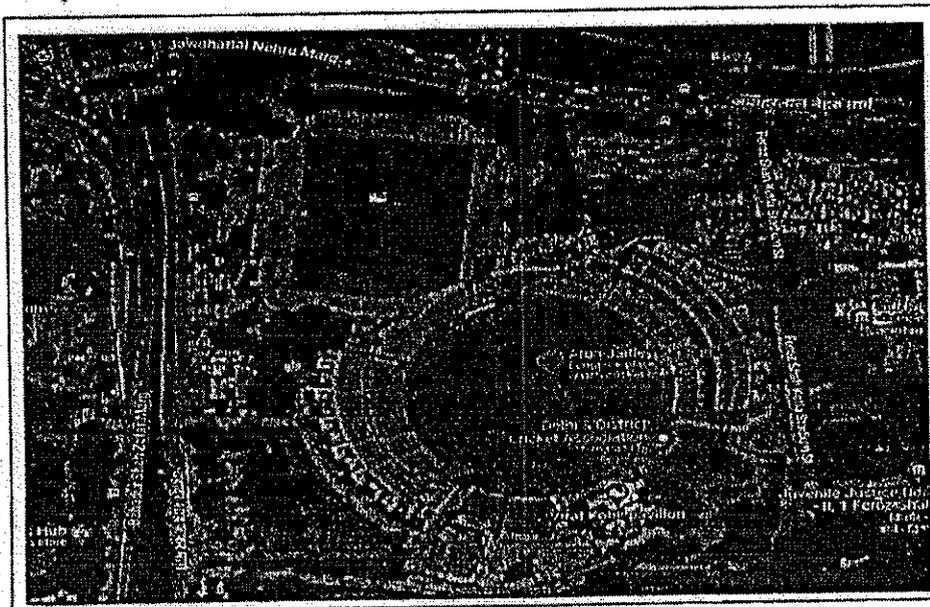
**1. INTRODUCTION**

Sh. Siddharth Sahib Singh, Secretary, DDCA vide his letter dated 14/03/2022 requested for hydrogeological investigation to suggest suitable site for construction of Rain Water Harvesting Structures at Arun Jaitley Stadium, Ferozshah Kotla Grounds as per the circular no. CGWA-21/31/2020-CGWA-627 in r/o Rain Water Harvesting at sports Stadiums.

In view of the above, Officer in charge, Central Ground Water Board, SUO Delhi had deputed Sh. V. Praveen Kumar, STA (HG) to investigate the hydrogeological and ground water condition in the area and to suggest suitable sites for construction of Rain Water Harvesting Structures. This report embodies the finding of the above investigation carried out in the area on 04/05/2022.

**1. LOCATION**

The investigated area is located at Kotwali Tehsil, District Central and falls in the Survey of India topo-sheet No. 53 H/2.



Map showing Surveyed area.

## Annexure 3

Web : www.cricketassociationofbengal.com  
E-Mail : cab@bengalcricket.com

FAX NO. : 2248-7555  
PHONE : 2248-0411  
2248-2447



# THE CRICKET ASSOCIATION OF BENGAL

DR. B.C. ROY CLUB HOUSE, EDEN GARDENS, KOLKATA-700 021

Ref. No. 105/23/2329/2023

March 18, 2023

**The Hony. Secretary,**  
The Board of Control for Cricket in India  
Cricket Centre, Wankhede Stadium  
'D' Road, Churchgate  
**MUMBAI - 400 020**

Sir,

Please refer to your mail dated 12<sup>th</sup> February, 2023 regarding implementation of scheme of artificial recharge of ground water / rain water harvesting in stadium wherein you sought the relevant report within 7 (seven) days on receipt of the mail.

In view of the above, please note that we have already contacted as well discussed with M/s. WAPCOS Ltd., a PSU under Ministry of Jal Shakti for the same and we have not been able to compile the above date as M/s WAPCOS Ltd. has requested us to give some time for a technical study relating to a structure of the status of Eden Gardens, Kolkata. A copy of the mail dated 18/03/2023 received from M/s. WAPCOS Ltd. is enclosed herewith for your kind perusal.

Request your good self to allow us additional 20 to 22 days time as required by WAPCOS Ltd. for submission of the technical report and expect we will be able to submit the report by this time.

Hope you will understand our situation and will kindly consider it by granting us an extension of time.

Thanking you,

Yours faithfully,

  
Naresh Ojha  
Hony. Secretary

Encl: **As stated above.**

**Fwd: Rain Water Harvesting Structures 001.jpg**

2 messages

Naresh Ojha <ojha1@me.com>  
To: cab@bengalcricket.com

Sat, Mar 18, 2023 at 12:09 PM

**From:** WAPCOS Kolkata <kolkata@wapcos.co.in>  
**Date:** 18 March 2023 at 12:05:43 PM IST  
**To:** Naresh Ojha <ojha1@me.com>, subhashismkhrj@yahoo.com  
**Subject:** Re: Rain Water Harvesting Structures 001.jpg

Sir,

Thank you so much for inviting WAPCOS, a PSU under Ministry of Jal Shakti for a technical study relating to a structure of the status of Eden Gardens, Kolkata.

Our response is as follows:

1. The study will require a reconnaissance site visit and stock taking of the measures already taken, if any, in connection with Rain Water Harvesting of the Eden Gardens area.
2. Collection of secondary data of seasonal fluctuation of Ground Water Levels in the study area. Such data may be collected from institutions like Central Ground Water Board (CGWB) / State Water Investigation Division (SWID).
3. Based on such visit and data collected, a study report may be prepared and submitted to you.
4. **Kindly note that we would require 15 to 20 days to submit the report after the reconnaissance survey of the area.**

In case the time frame suits you, we are ready to submit our financial proposal by **today (18/03/2023)** and **having received the work order**, would be able to take up the site visit as early as **tomorrow (19/03/2023)** in the morning subjected to availability of your staff associated with the project.

Looking forward to hear from your end.

Truly yours,

**Mousumi Chatterjee**  
**Chief Engineer - II(Civil) &**  
**Project Manager(Kolkata)**

वॉपकोस लिमिटेड

(भारत सरकार का उपक्रम)

जल शक्ति मंत्रालय

WAPCOS Limited

(A Government of India Undertaking)

Ministry of Jal Shakti

कोलकाता कार्यालय, 10 वाँ तल

Kolkata Office, 10<sup>th</sup> Floor

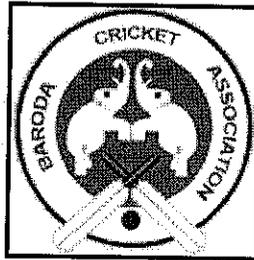
जलसंपद भवन, सॉल्ट लेक सिटी

Jal Sampad Bhawan, Salt Lake City

कोलकाता - 700 091

Kolkata - 700 091

**REPORT ON GEOPHYSICAL AND GEOHYDROLOGICAL SUB-SURFACE MICRO LEVEL  
INVESTIGATION WORK CARRIED OUT FOR  
"RAIN WATER HARVESTING/ TECHNIQUES"**



**NAME OF CLIENT**

**"JAGAJI CONSTRUCTION COMPANY VADODARA "  
SITE—BARODA CRICKET ASSOCIATION STADIUM  
VILLAGE-KOTAMBI  
TALUKA : VADODARA  
DIST.-VADODARA-391510**



**Submitted by  
"GLOBAL WATER MANAGEMENT CONSULTANT."  
VADODARA.**

**DATE- 12/04/2022**

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2	SCOPE AND OBJECTIVES OF THE STUDY
3	LOCATION AND EXTENT
4	PHYSIOGRAPHY AND GEOMORPHOLOGY
5	DRAINAGE PATTERN
6	CLIMATE AND RAINFALL
7	SOIL CHARACTERISTICS
8	GEOLOGY & SUB SURFACE GEOLOGY
9	HYDROGEOLOGY
10	GEO CHEMISTRY
11	METHODOLOGY
12	GEO PHYSICAL INVESTIGATION
13	CONCEPT OF RECHARGE
14	NEED FOR RECHARGE
15	BORE WELL RECHARGE
16	RAIWATER HARVESTING POTENTIAL
17	RAIWATER HARVESTING
18	LOCATION FOR PROPOSED RECHARGE STRUCTURES
19	SPECIFICATIONS AND CONDITIONS OF RECHARGE WELL
20	RECOMMENDATIONS

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PLATE-8	GEOLOGICAL MAP OF DISTRICT
PLATE-9	HYDROLOGICAL MAP OF DISTRICT
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TABLE-V	PROBABLE RECHARGE POSSIBILITY IN AREA

**ANNEXURE**

ANNEXURE-I	VES DATA SHEET OF LOCATION 1 TO 8
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## 1.0 INTRODUCTION :

The Ground water resources are divided into dynamic and static resources. The dynamic resources is one, which is annually replenished through rainfall, where as the static resources are ones where water is accumulated in deep aquifers over a long period of time when the annual development of ground water was less than the annual recharge.

In a progressive country like India it is but natural that demands of water will increase day by day due to population growth, urbanization, industrialization etc. In this context the issues are varied and complex in our country, because in India there is remarkable variation in the availability of water on account of the regional rainfall and geography. Industrial growth is developing fast in our Gujarat State as compared to the other states of the country. There are many existing industries which are going to increase their production capacity in near future as well as new more industries are also coming up in the state. But due to lack of enough surface water resources available as compared to the rapid industrial as well as infrastructural development and urbanization, over exploitation of ground water has resulted in certain areas of the state. Moreover, due to insufficient & irregular pattern of rainfall & lack of planning, monitoring & management for its long-term sustainable use for drinking as well as for irrigation & industrial purposes, rapid declining stage of ground water is also observed in the state. This has affected not only hydrological but also environmental balance of the state. Planning for sustainable use of ground water resources should therefore be made. Indiscriminate ground water development has led to substantial ground water level declines. Long-term decline of ground water levels is being observed in many areas of Gujarat State.

Ground water development, therefore, needs to be regulated and augmented through suitable measures to provide sustainability and protection. Dependence on use of ground water for agriculture due to monsoon failures is accelerating ground water depletion. Excessive withdrawal of ground water is further compounding the stress on ground water system along with the quality deterioration. In this situation the activity of artificial recharge to ground water is an indispensable measure which is substantially beneficial, as this will help in storing the surplus rainwater in the form of ground water and in turn, arrest the decline of ground water level and degradation of its quality. At the same time, it is eco-friendly also. Artificial recharge practice can be adopted by constructing recharge tube wells or Rain Water Harvesting structures, wherever their feasibility is assured by proper survey & investigation. The **“Jagaji Construction Company”** authorities has shown keen interest in rainwater harvesting techniques along with ground water withdrawal planning for water supply as well as for green belt maintenance in the premises of the **“Baroda Cricket Association New international Stadium”** near Village –Kaotambi Taluka - Waghodiya, Dist- Vadodara, where ground Water development is **23.01 %** & categorized as **Safe** . For the same, they have entrusted Vadodara based **“Global Water Management Consultants”** to carry out detailed studies in & around the premises for identification of probable feasible sites for proposed Rain Water Harvesting structures to be constructed in its premises to recharge ground water regime & also to identify spots of sources from the ground water exploration point of view.

## 2.0 SCOPE & OBJECTIVES OF THE STUDY

- ❖ To visit site and study hydro-geological & topographical condition of the area.
- ❖ To study soil characteristic of the area.
- ❖ To study the potential of ground water recharging
- ❖ To highlight the various methodologies for rain water harvesting and to suggest the most suitable & feasible scheme to be adopted for the **“Baroda Cricket Association New international Stadium”**
- ❖ To provide specific design for construction of bore well structures in the given area along with its plan & reports
- ❖ To submit suitable design of rain water harvesting system along with its plan & reports
- ❖ To locate feasible sites for the construction of suitable Rain Water Harvesting structures so that the maximum rain water can be recharged easily.
- ❖ To study the aquifer parameters and ground water behavior in the study area for better design of Rain Water Harvesting structures.
- ❖ To study aquifer chemistry of the area.
- ❖ To assess the ground water resource availability for planning its further development within the safe limits of its exploration.
- ❖ To identify the low lying areas along with its topography in the **“Baroda Cricket Association New international Stadium”** premises for the prevention of surface water logging condition in future.
- ❖ To suggest measures to avoid contamination, this may affect the quality of Ground Water.

### **3.0 LOCATION & EXETENT :-**

The proposed study area of falls in of the premises of “Baroda Cricket Association New international Stadium” located near, Village-Kotambi, Taluka - Waghodiya, District Vadodara, Gujarat. Total land area of the proposed project is 200670 Sq.m. The upcoming stadium, situated at Kotambi, is set to be an iconic structure exemplifying the Barodians’ passion for cricket. After the lush green ground, the stadium catches up the speed as the development is leading to the infrastructural progress on a fast track.

Kotambi is a Village in Waghodia Taluka in Vadodara District of Gujarat State, India. It is located 15 KM towards East from District head quarters Vadodara. 13 KM from Waghodiya and 133 KM from State capital Gandhinagar. Rahkui ( 3 KM ) , Intoli ( 3 KM ) , Kamrol ( 3 KM ) , Bhaniyara ( 4 KM ) , Rasulabad ( 5 KM ) are the nearby Villages to Kotambi. Kotambi is surrounded by Vadodara Taluka towards west , Savli Taluka towards North , Halol Taluka towards East .

#### **Approach & connectivity to BCA Stadium site**

##### **By Road**

The site is approachable through a road from Vadodara – Halol Highway i.e. SH-87 & 15 km East of Vadodara .

##### **By Rail**

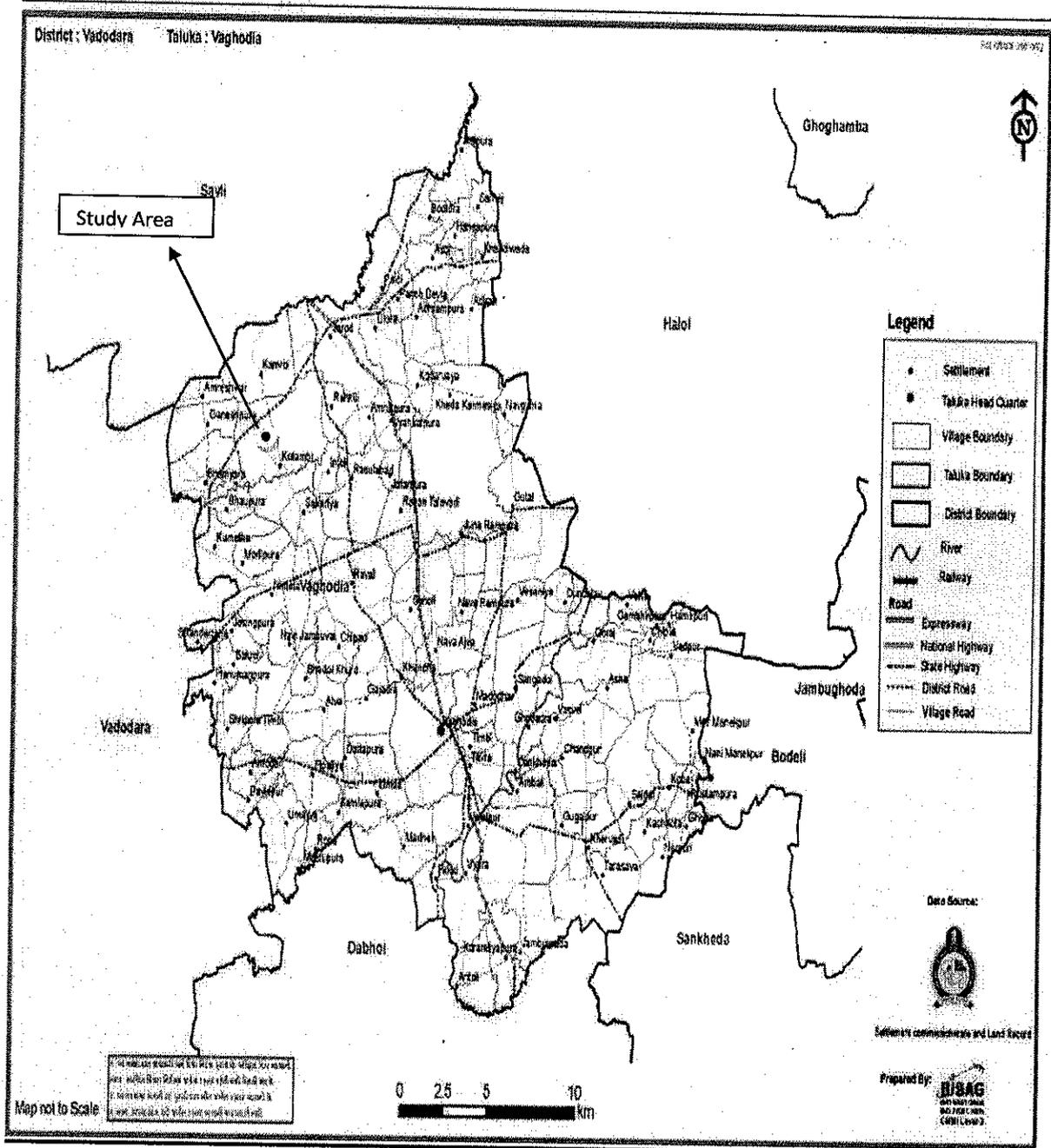
Vadodara Railway station is 24 km from the site to links with Mumbai, Ahmedabad and Delhi .

##### **By Air**

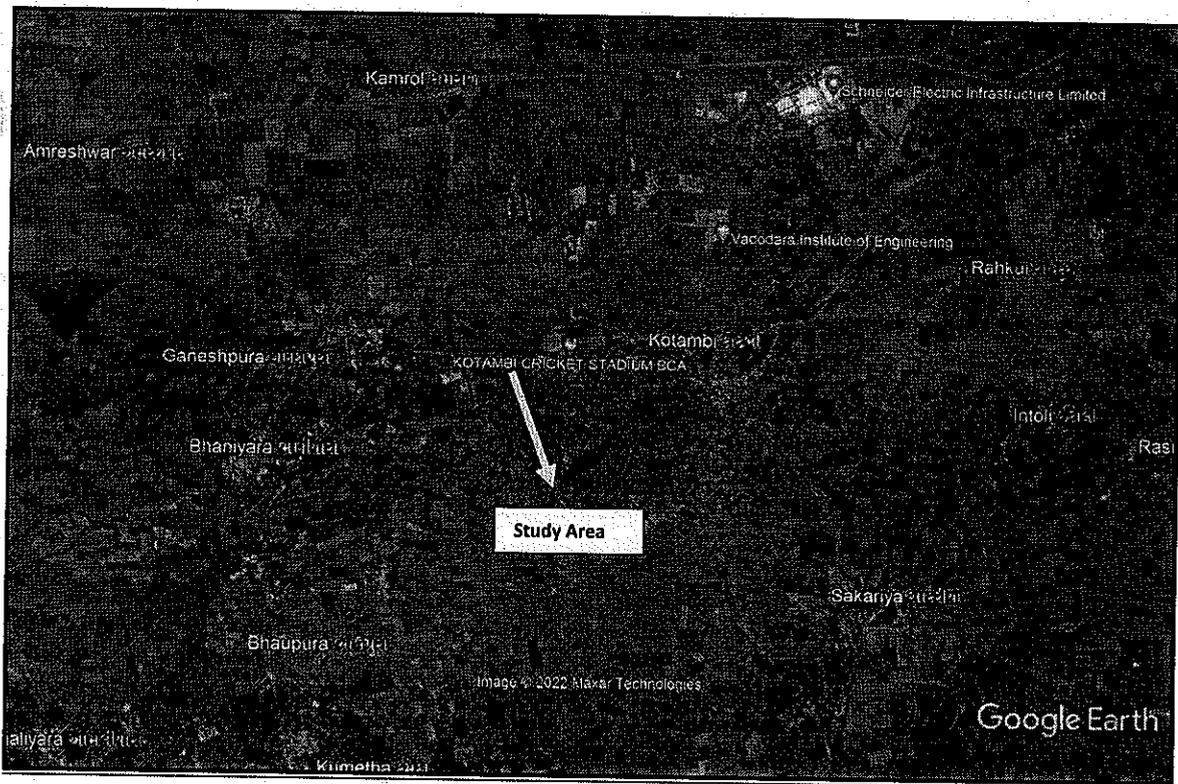
Nearest Airport from the site is, Vadodara Airport at ~ 20 km in SW direction from the site.

The area under investigation lies at 22° 23' 58.9" N & 73° 17' 39.3" E Longitudes as per Geographical Survey of India & Falls in Indian Toposheet No. 46 F 07

Location plan of investigated area is shown in **PLATE NO – 1-LOCATION MAP**



Source – revenue department gujarat

**PLATE NO – 2-LOCATION ON GOOGLE MAP****4.0 PHYSIOGRAPHY AND GEOMORPHOLOGY :-**

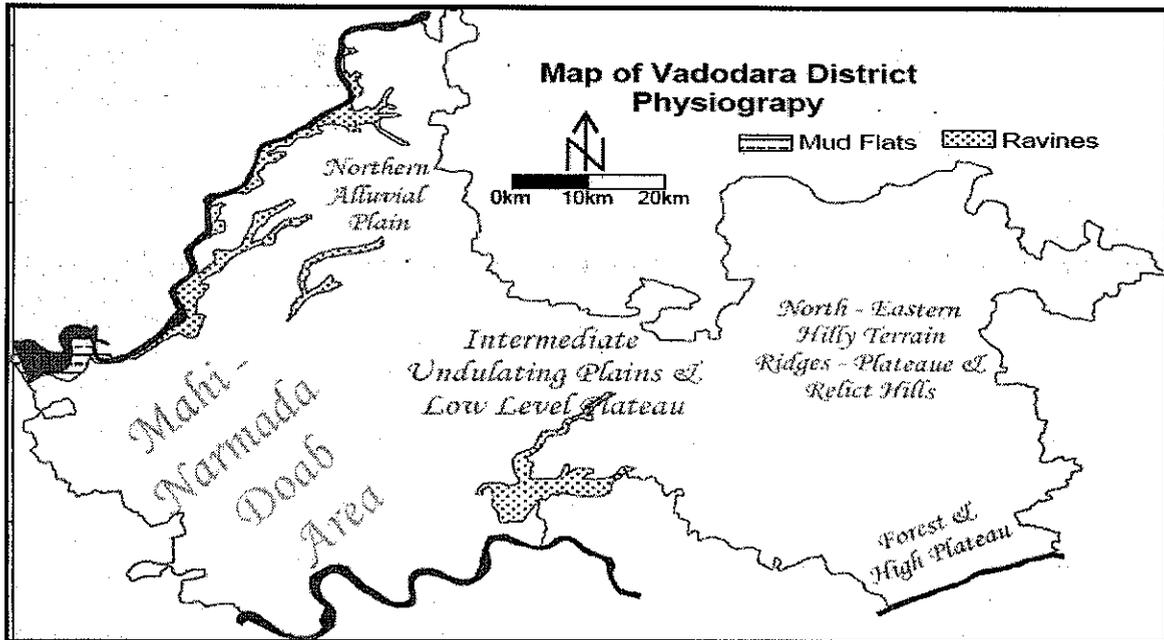
The General topography of the entire taluka including proposed area under investigation is more or less flat .The area comprise thin pile of unconsolidated sediments deposited by a combination of fluvial and Aeolian agencies mainly during quaternary period. These form western mainland and fall within the altitude range of 25 to 75 mt with gradual sea ward slope.

Pavagadh hills, south of the Halol, rises abruptly to a height of 829.36m amsl and is with high relief and steep slopes.

However, the general topography of the entire area does not show any remarkable variation, the proposed area under investigation is also more or less flat with gentle slope of about 1.0<sup>o</sup> gradient due NNW towards river Vishvamitri.

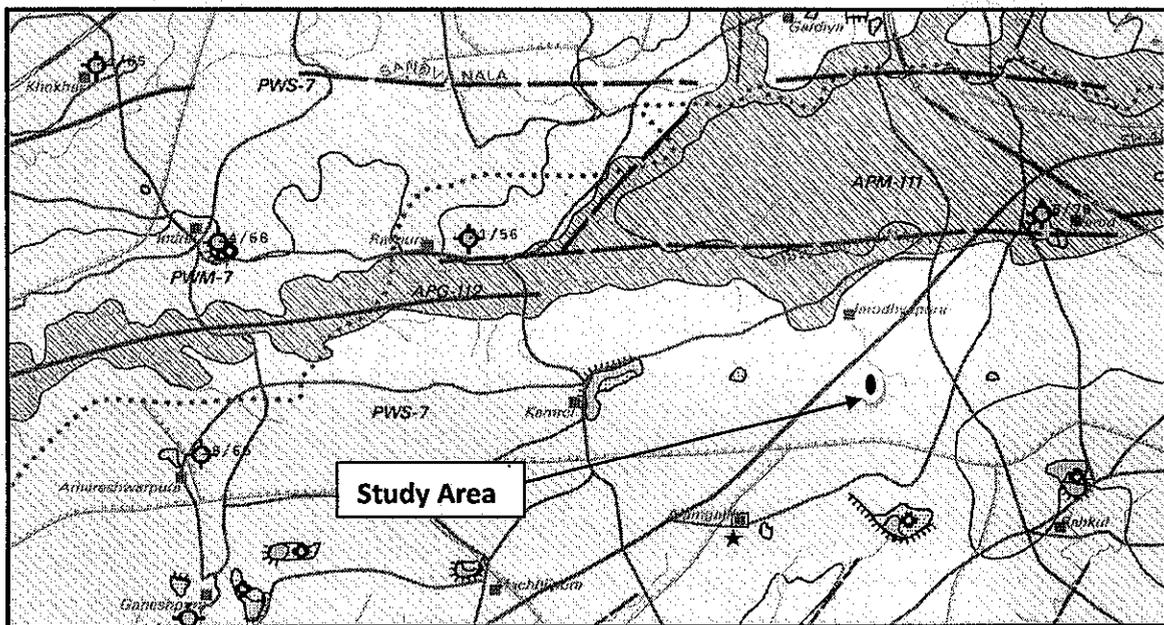
In general, topographical gradient is from NE to SW. However, there is not much remarkable variation in topography of the study area.

**PLATE NO.3-PHYSIOGRAPHICAL MAP OF AREA**



Source- District Survey Report of Office of Geologist

**PLATE NO.4-GEOMORPHOLOGICAL MAP OF AREA**



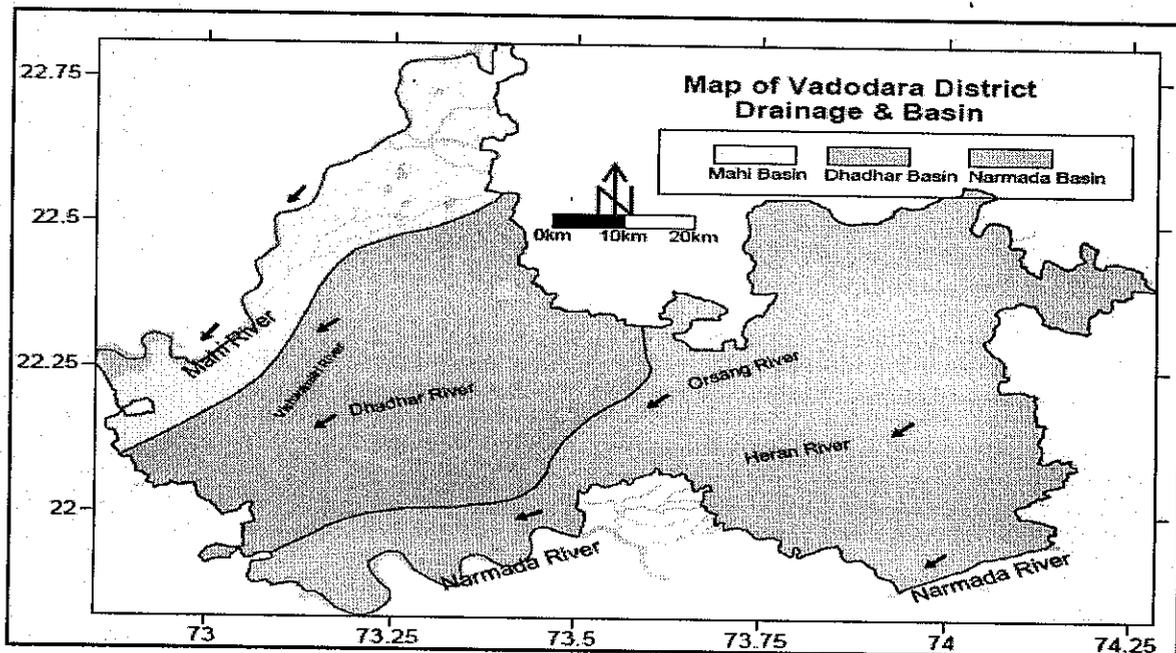
Source- NRSA MAP OF GWSSB

### 5.0 DRAINAGE PATTERN:

Different types of drainage and stream order are very important for understanding the infiltration and run off of water, especially River like Vishvamitri observed near proposed area. These different types of drainage pattern mainly depend on the local geography, geology, structures and tectonics movements and it also depends on the slope of the area. The river Vishvamitri flowing from NNE to SSW, passing through the extremely Southern boundary of the taluka drains out into river Dhadhar. The river Dhadhar rising from Shivrajpur hills and flow in to Gulf of Khambhat.

The Vishvamitri is major tributary of Dhadhar river , and met 25 km SW of Vadodara . Hydrologically, the area is under the influence of the river Vishvamitri being the main recharging & controlling source of the drainage pattern. The study area lies under basin of this river. Overall the drainage pattern of the area is Dendritic.

### PLATE NO.5-DRAINAGE MAP OF VADODARA DISTRICT-



**6.00 CLIMATE & RAINFALL :-**

The study area experiences a hot to semi-arid climate. The summer season continues for about four months between March and June and the temperature rises as higher as 42<sup>0</sup> C in the month of May and during winter it falls up to 10<sup>o</sup> C .during December. Vadodara dist. as a whole sometimes faces acute shortage of water due to failure of monsoon creating drought like situation.

The area is highly favorable for setting of south western monsoon in the fourth week of June and ends in the month of mid-October. The over all annual rainfall of the area is 680 to 700 mm. During this period, all the streams & channels are flopped with water.

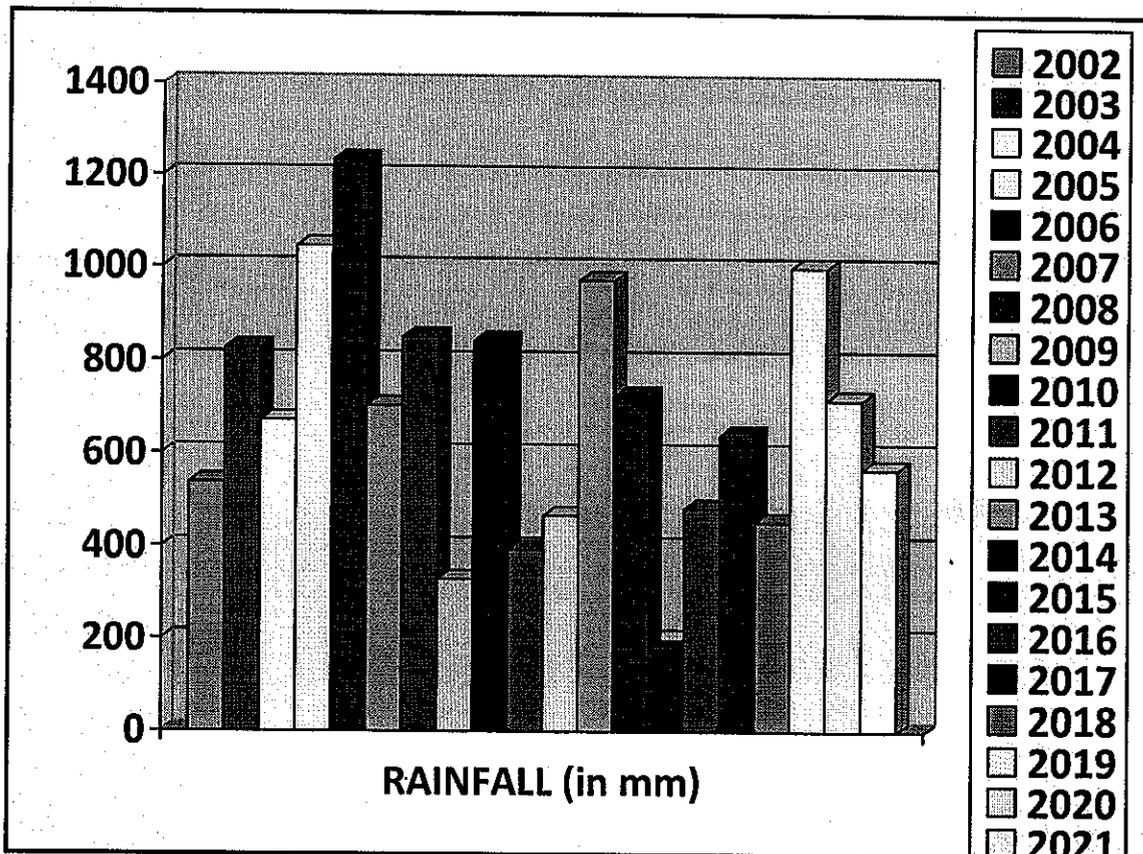
The short term average rainfall of the area is 681 mm IMD (2002-2021) with about only 45 complete rainy days. The annual rainfall of the study area is tabulated in the Table no 1.

**TABLE NO. 1 Annual Rainfall for last 20 years (2002 to 2021)**

Year wise Rainfall of Waghodiya Taluka (in mm)				
Year	Rainfall		Year	Rainfall
2002	537		2012	466
2003	827		2013	973
2004	671		2014	725
2005	1046		2015	178
2006	1233		2016	483
2007	703		2017	640
2008	851		2018	452
2009	329		2019	1000
2010	842		2020	715
2011	393		2021	565
<b>TOTAL AVERAGE RAI FALL--681</b>				

During last 20 years period (2002-2021) maximum rainfall recorded was **1233 mm** in the year 2006 & minimum was **178 mm** in the year 2015. The rainfall data also shows that during last 20 years 10 years received above normal annual rainfall and remaining period of the year receive sub normal. Rain fall plays an important role in the availability of ground water in this region and it is a major source for ground water recharge. (Refer to the Rainfall Histogram attached plate-4)

**PLATE-6-RAINFALL HISTROGRAM**



Source- Revenue Department Gujarat

Nature replenishes the ground water resources annually through rainfall; by way of infiltration though soil layers. Due to urbanization, the soil surface exposed to natural recharge gets reduced. Therefore, natural recharge is diminishing, resulting in drying of wells. Ground water source has the benefit of availability the

rains have become more irregular because of disturbance in natural cycle, and therefore do not reach when one wants them.

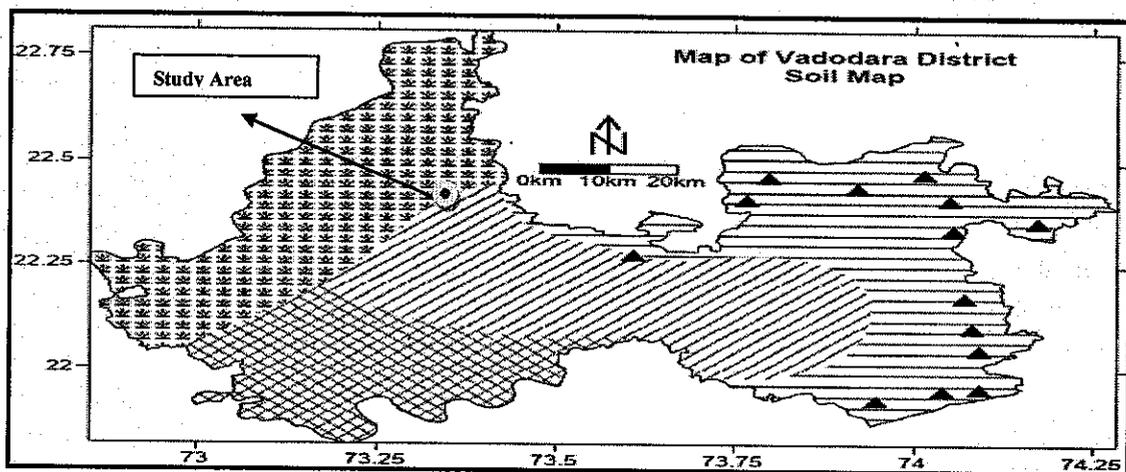
Also, the quantity of rainfall is erratic, reduced and uncertain. Hence, need for conservation has been felt much more than ever before. The rise of urban development, use of more water and more amenities is available for luxury.

It is therefore necessary to conserve and augment the renewable natural ground water resources as last chance for survival, realizing that natural resources are not unlimited if they are exploited beyond certain limit. If this phenomenon continues, it will invite the natural calamity. It is, therefore in the interest of mankind to restore the natural balance by some natural means aided with modern technology.

#### **7.00 SOIL CHARACTERISTICS:**

The soil type of the study area is of Vertisols. These are generally dark brown to very dark grayish brown colored Vertisols.

**PLATE NO.7-- SOIL MAP**



#### ***Legend***

	Aluvium Soil
	Deep Black Soil
	Medium Black Soil
	Shallow Black Soil
	Hilly Soil

Source- cgwb report

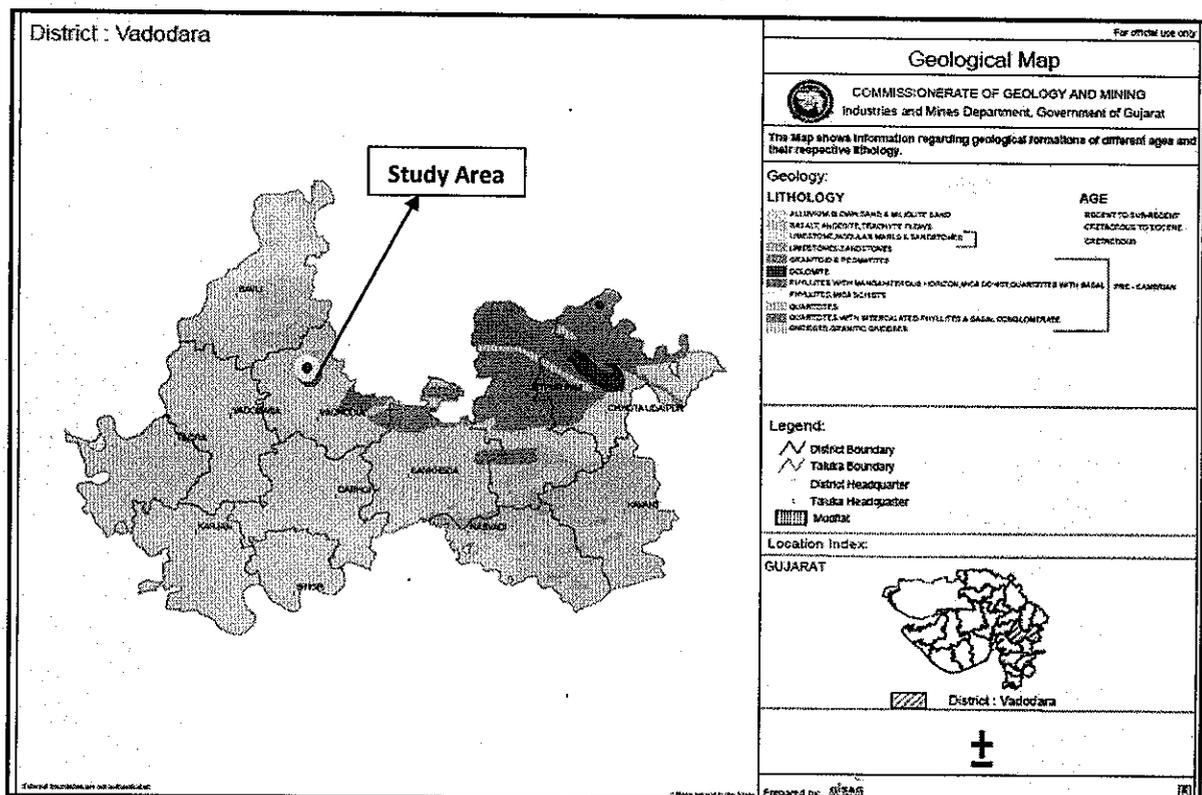
They are the products of weathering of underlying rocks, under tropical, semi-arid to humid climate with average annual precipitation of 1100 mm & mean temperature of 30° C. Structurally they are sub-angular & blocky.

Texturally they are Silty to clayey loam & are alkaline in reaction. Vertisols are locally known as 'Regur' or Black cotton soil. These soils are neutral to alkaline in reaction and are classified as Chromusterts and Usterts.

**8.00 GEOLOGY AND SUB SURFACE GEOLOGY:-**

Geologically area in and around the **Village –Kotambi** falls under recent alluvium resting on Igneous Rock formation. This formation mainly consisting of the rocks are Trap Basalt . The rocks are well exposed near nala cutting & open wells, it is found weathered & fissured and jointed one.

**PLATE NO.8—GEOLOGICAL MAP OF VADODARA DISTRICT**



Source- cgm, Govt. of Gujarat

The vertical cooling joints or the horizontal flow joints, near surface weathered zone, tectonically induced fracture zones and the vesicular zones are the ground water repositories.

The imposing hill of Pawagadh is about 25 km East of Study area. The hill is 05 km long and as many km wide and consist of several vertical scraps separated by extensive plateaus. It shows a terraced appearance on account of the differential weathering of the horizontally disposed constituent rocks.

The highest point of the hill is 857 m above MSL and overall height above the ground level is 730m. There are smaller hills emanating from the base rising above the ground level to heights of 50 m to the South and SW. Though aerielly this important Deccan Trap occurrence is located quite close to the basalts that occupy the up lands South of Halol. The Volcanic rocks here consist of a complex assemblage of diverse derivatives of magma.

**The Stratigraphical Succession:-**

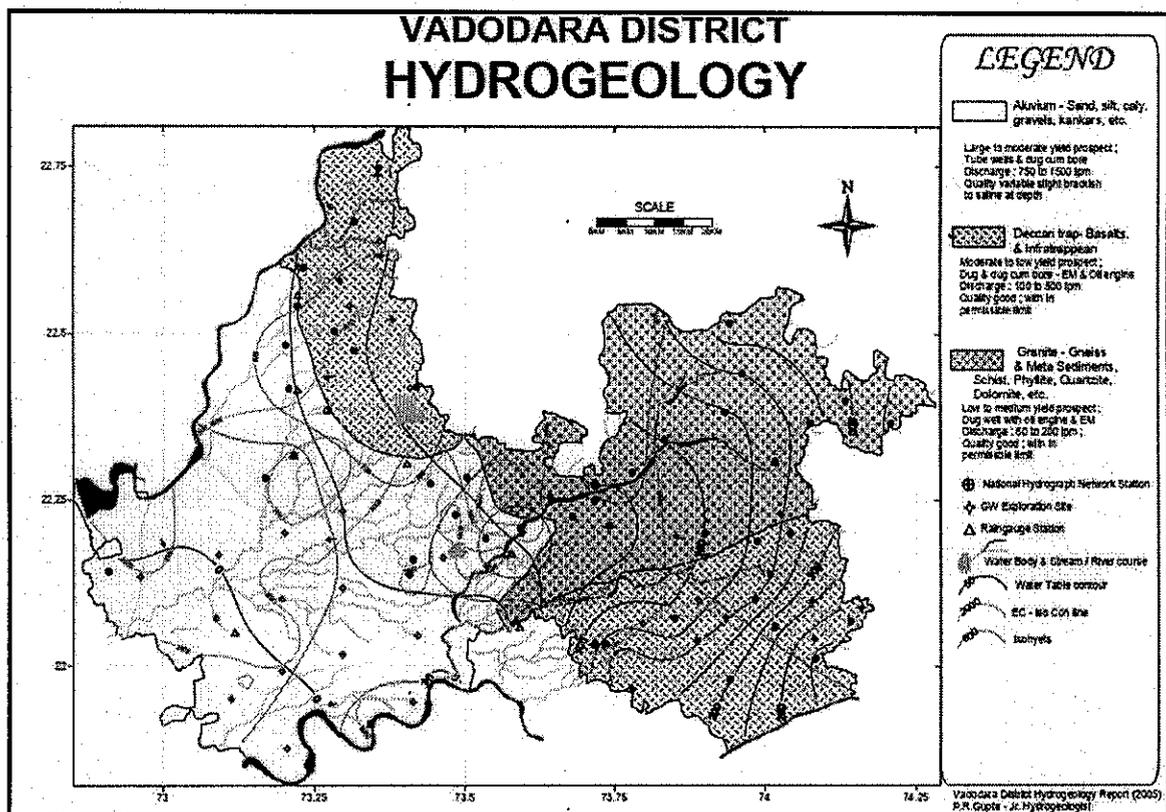
PERIOD	EPOCH	LITHOLOGY
Quaternary	Recent to Sub-recent	Top soil, Alluvium (alternate bands of clay, along with Silt
----- UNCONFORMITY -----		
Palaeocene	Lower Eocene to Upper Cretaceous	Deccan trap Basalt

**9.00 GEOHYDROLOGY:**

Ground water accumulates only in secondary porosity viz. zones weathering Joint planes, cracks & fissures. Water table in these rocky areas varies from 12 to 15 M below ground level & the aquifers are mostly unconfined. Ground water condition of the area is not found good but it is moderate to poor .In the investigated area the quality of Ground water is generally Potable.

During Geohydrological survey, Water samples are collected from existing ground water structures to know the ground water chemistry, which shows that the total dissolved solids (TDS) in the ground water ranges between 1600ppm to 2400ppm at different locations. Due to massive nature of the Trappean rocks, ground water condition of the area is found to be poor. This has resulted more & more withdrawal of ground water as compared to its recharge leading to less yield of ground water. The ground water around the study area is extracted for general use through bore wells of depth varying from 24.00 to 100.00 M by submersible pump sets of 01 HP to 3 HP lowered at 21.00 to 54.00 M .depth yielding up to 40 to 130 LPM Discharge, resulting in fall in static water level up to the depth of about 12.00 to 15.00 M during peak summer.

### PLATE -9-HYDRO GEOLOGICAL MAP



Source- cgwb report

As per the Ground Water Estimation Committee Report approved by Govt. of India in the year 2011, net available Recharge in Waghodiya taluka is **63.84 MCM/Yr** & gross ground water draft is more i.e **14.69 MCM/Yr** . Level of ground water development in Waghodiya taluka as a whole is **23.01 %** ground water development in the taluka as a whole falls in **Safe category** that needs to get the area recharged by fresh rain water precipitation . The quality of ground water in deeper aquifers can be improved by constructing & installing rain water harvesting bore well recharge systems in & around the study area at the locations whose feasibility can be checked by proper survey & investigation.

**GENERAL GEOHYDROLOGICAL CONDITION OF THE AREA**

- 1) S.W.L. / PWL Range in Mt. : 12.00 to 15.00 M/ 21 to 54 M
- 2) Thickness of over burden : 27.00 to 30.00 Mts
- 3) Name & Nature of formation : Recent Alluvium resting on  
Deccan Trap Basalt.
- 4) Depth of thickness of saline : Nil  
zone if available in area
- 5) Quality of water in the area : Potable

For proper management of land and water resources, ground water should be extracted within its safe limits. But in the absence of surface water bodies, huge bulk of ground water is extracted through pumping for domestic and for other purposes, due to which ground water levels have depleted severely, leaving chances of deteriorating ground water quality in & around the study area. Erratic rain fall pattern and occurrence of drought conditions, the area could never recover the deficit of water extracted from ground water resources, causing more depletion of ground water. Surrounding Ground water structures were inventoried to know the actual Geohydrological scenario of the study area.

**10.0 GEOHYDRO CHEMISTRY :**

The water samples of different existing hydrological structures in & around the study area were collected for their complete chemical analysis to understand the ground water chemistry of the study area. Interpretations reveal that in the both upper and deeper aquifers i.e Ground water yield obtained through the aquifers from 60 to 120 m depth bore well is found to be about 40 to 130 LPM with TDS total dissolved solids is 1600 to 2400 ppm and nitrate having 40 to 50 mg/l and hardness is 550 to 650 mg/l which can be improved by constructing **Rain Water harvesting structures** in the study area at the proper locations .

**TABLE NO.II –QUALITY OF WATER IN THE AREA**

a) T.D.S.	:	1600 to 2400 PPM
b) Chloride	:	580 to 605 mg /l.
c) Alkalinity	:	560 to 630 mg./l
d) Hardness	:	575 to 620 mg/l
e) Fluoride	:	1.00 to 1.20 PPM
f) Nitrate	:	40 to 45 mg/l
g) Ph value	:	7.8 to 8.00

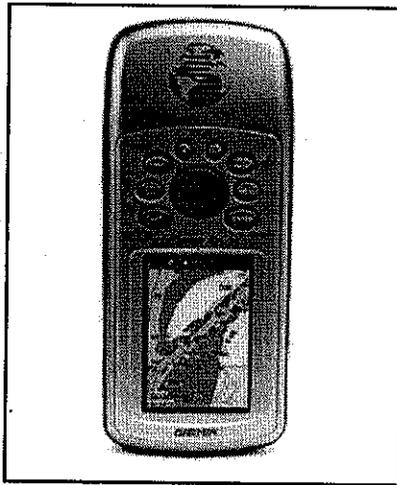
**11.0: METHODOLOGY**

In addition to the collection of information about sub surface Geology & its lateral extent, details of existing ground water structures in the study area along with the details about prevailing drainage system and topography of the proposed area were also collected.

**Global Positioning System (GPS):** Global Positioning System (GPS) is a satellite based navigational system. GPS calculates the position of a certain spot by registering pulses from satellites. GPS is used to assign Easting and Northing co-ordinates to a specified point, i.e., existing structures, wells and other important features.

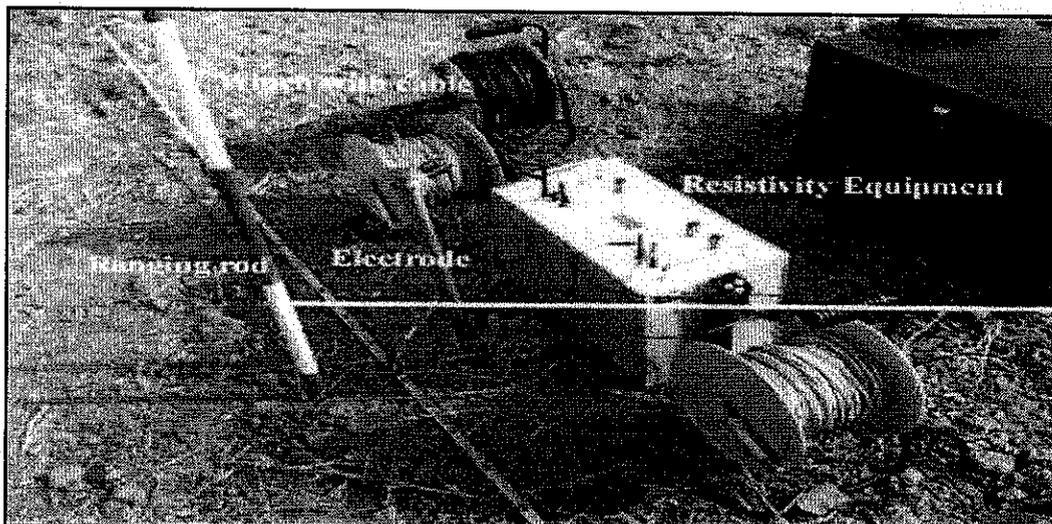
Equipment: *Silva Garmin make GPS*

**PLATE-10-GPS 76 CSX**



Initially Geohydrological study of the area was done by physical observation to identify few patches from the Geohydrological point of view, then the **Geo-electrical** survey with Resistivity meter on these locations using **Schlumberger configuration** to know all the information of deeper zones for detecting underlying formations.

**PLATE-11: SCHLUMBERGER CONFIGURATION SET-UP**



The results were interpreted through PC to conclude 08 locations for the proposed locations for new recharge tube well & Ground Water flow direction.

#### **12.0 GEOPHYSICAL INVESTIGATION:-**

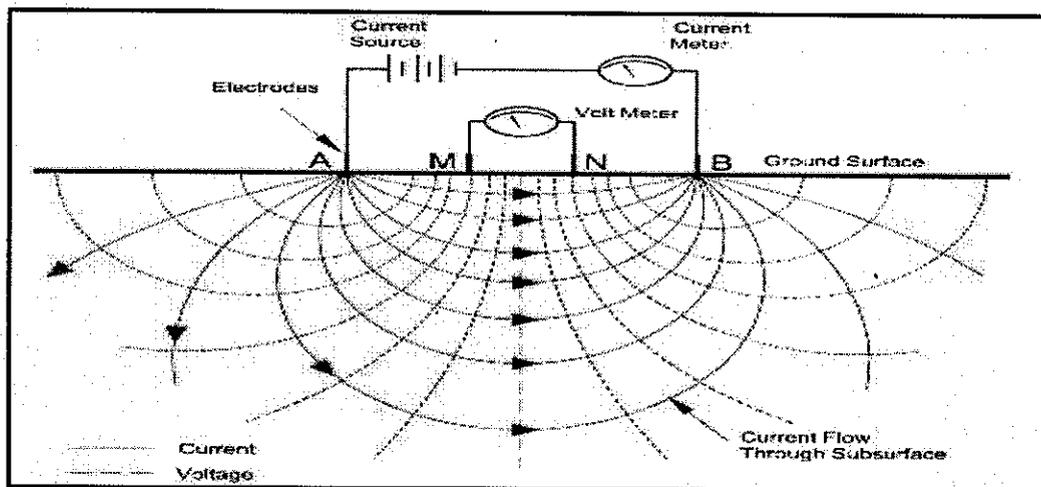
Geohydrological survey is supplemented by Geophysical Survey to ascertain the depth & thickness of aquifers/weathered or fractured zones at shallow to deep horizons so that suitable location and design for new tube well can be detected. For Geophysical survey, the Electrical Resistivity method is the best and most reliable for ground water prospecting. All geological formations possess a property called electrical resistivity, in which the current flows through them. Resistivity, thus is defined as the resistance offered by a unit cube of material to direct current flow through it in a direction perpendicular to two of its opposite faces. The numerical value of the resistivity is expressed in "Ohm.m". Thus the electrical resistivity is principally based on the study of resistance offered by the sub-surface formation to the flow of current. The study helps in evaluating the characteristics of the sub-surface layers in terms of electrical Resistivity.

#### **FIELD PROCEDURE:-**

Resistivity surveys are conducted using D. C. Resistivity meter, by transmitting current into the sub-surface by means of two metal stakes called *current electrodes* and potential response is observed by means of second pair of two copper electrodes, placed inline between them, called *potential electrodes*. The spacing between two current electrodes is increased progressively, which enables a deeper penetration of current & measurement of an increasing volume of the sub-surface. From the values of potential difference, current applied & electrode separation," **Apparent Resistivity**" is calculated. The aim of the investigation is to study the variation in resistivity of top soil up to deep aquifer.

**CONCEPT OF APPARENT RESISTIVITY:-**

The parameter observed during the field study is "Apparent Resistivity", which is nothing but the true resistivity of fictitious, homogenous and isometric layers in which for a particular electrode arrangement and current strength, the measured potential difference is equal to that for the given homogenous medium. Thus the apparent resistivity is dependent upon the geometrical factor which progressively changes and the apparent resistivity values at surface reflect the vertical distribution of resistivity values in geological sections. That is why the geo-electrical soundings are called as "Vertical Electrical Sounding (V.E.S.)"

**PLATE-12: ARRANGEMENT OF RESISTIVITY SURVEY****ARRANGEMENT OF ELECTRODES:-**

Arrangement of electrodes which is widely used as the symmetric ones, where the current electrodes are symmetrically placed with respect to potential electrodes and the center of the spread is the resistivity test point. In the present investigation, Schlumberger configuration was used.

**VERTICAL ELECTRICAL SOUNDINGS (V.E.S.):-**

The apparent resistivity measurements depend upon configuration of the current electrodes as well as the measuring electrodes. In order to study the variations in electrical resistivity values with reference to depth, particular set of readings are observed at a specified point of that configuration. In the Baroda Cricket Association Stadium Premises, total 08 V.E.S. point were conducted, covering the entire area.

**DATA COLLECTION:**

Apparent resistivity  $\rho_a$  has been calculated from the equation.

$$\rho_a = KV / I$$

Where, K	=	Geometric factor for the electrode spacing
V	=	Potential difference (mv)
I	=	Current applied (ma)
AM	=	AO - OM
AN	=	AO + ON

Apparent Resistivity values for each electrode separation were computed as a product of the geometric factor 'K' and the ratio of potential (V) to current (I). At the investigation point, in the chosen direction four electrodes are driven in to the earth along a straight line at Calculated Intervals. The depth of the electrode in the ground was of order of 10 to 15 cm. The Resistivity Meter was placed in the study area at approximately level base. The link between terminal P1 and C1 electrodes are connected to the instrument terminal.

These readings are taken and Resistivity is calculated of the VES Point 1 to 8 as plotted on the **Plate-**. Field curves for each sounding are obtained by plotting the apparent resistivity values on double logarithmic graph sheet 62.5 mm.

**INTERPRETATION OF RESISTIVITY DATA:**

Resistivity values and thickness of different layers are obtained by matching the field curves with theoretical master curves-two layer and three layer curves and auxiliary point chart by using partial curve matching technique. In the study area 08 VES points in Baroda Cricket Association Stadium Premises are conducted. The data of all the V.E.S points are transferred to PC for further processing, plotting & analyzing. Thus, the results are interpreted through the software programme IXID installed in PC for the final conclusion.

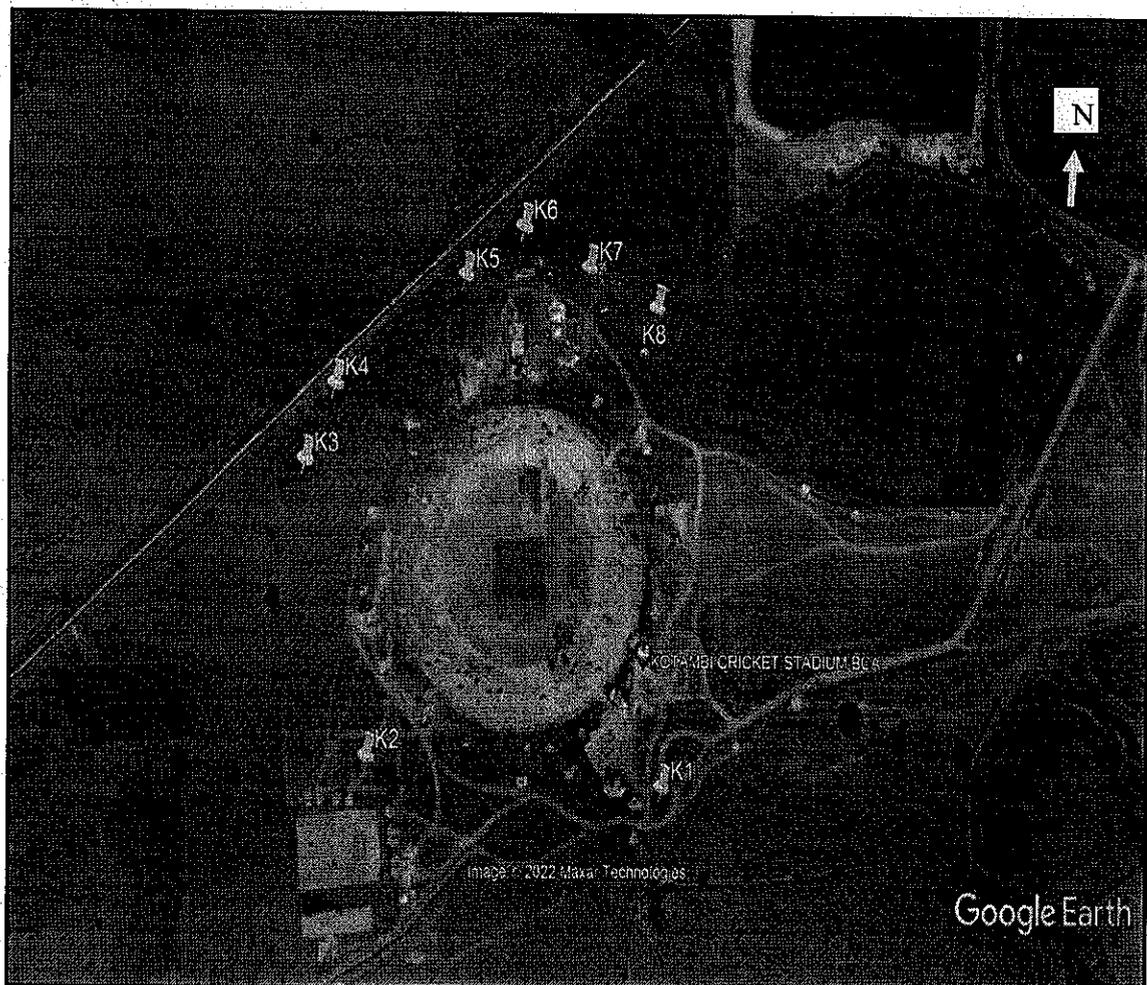
**PLATE NO.13-VES POINT ON GOOGLE IMAGE-**

TABLE-III: VES DATA SHEET RESULT-1 to 8

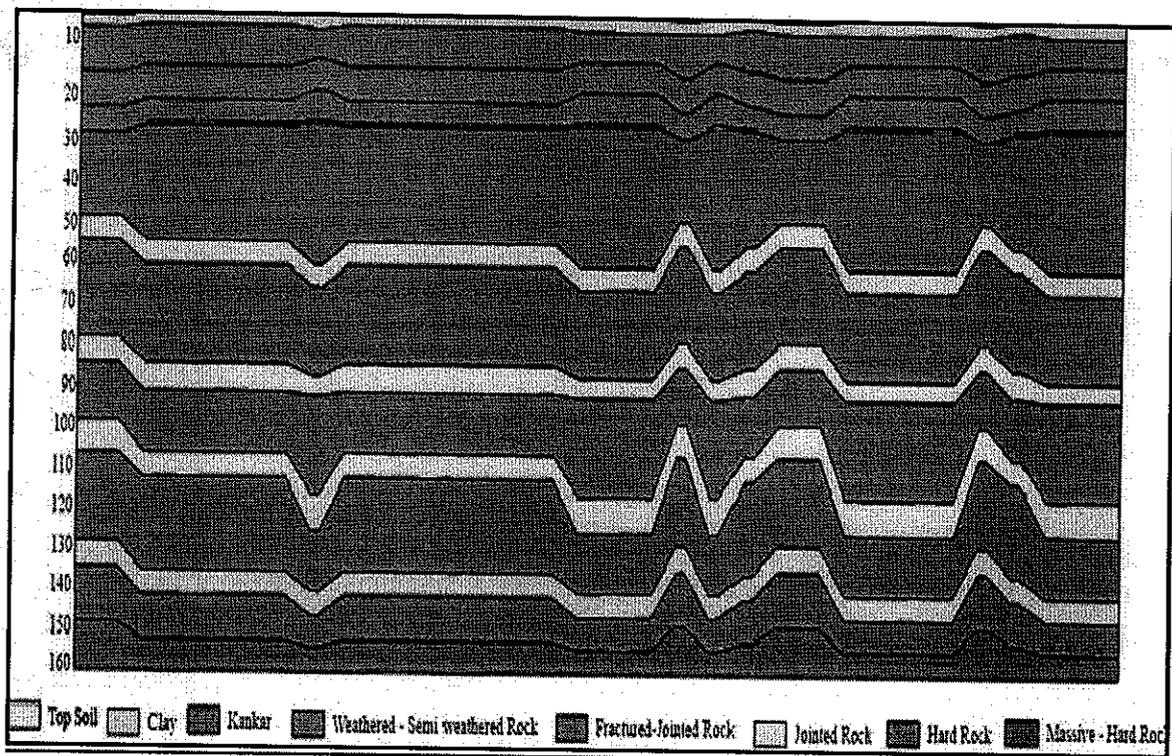
Location Baroda Cricket Association Stadium Kotambi	Po int	App.Resistivity of Layers					Coresponding Thickness of Layers				
		$\rho_1$	$\rho_2$	$\rho_3$	$\rho_4$	$\rho_5$	H1	H2	H3	H4	H5
In South-East Part 22° 23'51.1" N 73°17' 39.3" E	1	10.42	8.52	32.54	26.15	75	5.88	15.45	36.28	48	$\infty$
In South-West Part 22° 23'51.7" N 73°17' 32.5" E	2	10.29	8.75	36.65	24.43	82	6.14	16.61	37.74	46	$\infty$
In West Part Nr.Pond 22° 23'56.56" N 73°17' 31.19" E	3	15.54	45.12	29.94	78	116	4.98	20.45	34.71	49	$\infty$
In West Part near Pond 22° 23'57.78" N 73°17' 31.9" E	4	14.48	42.34	24.44	73	119	4.58	22.52	32.63	47	$\infty$
In North-West Part 22° 23'59.5" N 73°17' 34.9" E	5	18.34	36.63	23.45	79	106	5.33	23.61	35.25	43	$\infty$
In NorthPart 22° 24'0.28" N 73°17' 36.25" E	6	16.64	43.52	28.14	76	125	5.35	26.63	32.21	47	$\infty$
In NorthPart 22° 23'59.58" N 73°17' 37.76" E	7	18.43	39.94	26.15	74	131	5.21	21.44	32.85	48	$\infty$
In North-EastPart 22° 23'58.9" N 73°17' 39.3" E	8	17.45	44.15	32.63	82	135	5.51	23.78	36.67	46	$\infty$

Subsequently, on the basis of surrounding tube well detail & the above interpretation on the layers identified are geologically presented in the following sequence.

**TABLE-IV: VES DATA INTERPRETATION OF 1 TO 8**

FORMATION	CHARECTERISTICS	THICKNESS OF THE LAYERS IN MTS			Aquifer type
		VES Nos. 1,2	VES Nos. 3,4	VES Nos. 5,6,7,8	
Top Soil	Recent to sub recent	00.00 – 03.00	00.00 – 02.00	00.00 – 02.00	---
Clay	Clay mix Cal.Kanker	03.00 – 06.00	02.00 – 05.00	02.00 – 06.00	Un confined
Kanker	Angular to Sub angular Kanker	06.00–18.00	05.00–16.00	06.00–18.00	Un confined
Gravel	Gravel mix Sand	18.00–24.00	16.00–23.00	18.00–24.00	Confined
Basalt	Weathered	24.00 – 29.00	23.00–28.00	24.00–28.00	Un confined
Basalt	Semi Weathered	29.00 – 31.00	28.00 – 30.00	28.00–31.00	Un confined
Basalt	Fractured & Jointed	31.00 – 37.00	30.00 – 35.00	31.00 – 36.00	Confined
Basalt	Hard	37.00 – 48.00	35.00–45.00	36.00–47.00	Aquifuge
Basalt	Jointed	48.00 – 54.00	45.00–52.00	47.00–51.00	Confined
Basalt	Hard & Jointed	54.00–61.00	52.00–60.00	51.00 – 57.00	Semi Confined
Basalt	Hard	61.00 – 78.00	60.00 – 80.00	57.00 – 75.00	Aquifuge
Basalt	Hard & Poorly Jointed	78.00 – 84.00	80.00 – 87.00	75.00 – 82.00	Semi Confined
Basalt	Hard	84.00–98.00	87.00–106.00	82.00–116.00	Aquifuge
Basalt	Hard & Jointed	98.00 – 106.00			Semi Confined
Basalt	Hard & Poorly Jointed		106.00–112.00	116.00–125.00	Semi Confined
Basalt	Hard	106.00 – 128.00	112.00–135.00	125.00–140.00	Aquifuge
Basalt	Hard & Tightly Jointed	128.00–134.00	135.00–141.00	140.00–146.00	Semi Confined
Basalt	Hard	134.00 – 148.00	141.00–152.00	146.00–154.00	Aquifuge
Basalt	Hard & Massive	148.00 – 160.00	152.00–160.00	154.00–160.00	Aquifuge

**PLATE NO.14-LITHOLOGICAL CROSS SECTION OF VES 1 TO 8**



**13.0 CONCEPT OF RECHARGE:-**

Flow below the land surface takes place due to the process of infiltration. The soil will not get completely saturated with water unless water supply is maintained for prolonged periods. A large percentage of artificial recharge projects are designed to replenish ground water resources in depleted aquifers and to conserve water for future use. The volumetric quantity of recharge is related to the specific yield, replenishment coefficient, and transmissibility, geologic and hydraulic boundaries of the aquifer. Thus artificial recharge to ground water is a process by which the ground water reservoir is augmented at rate exceeding that under natural conditions of replenishment.

#### **14.0 NEED FOR ARTIFICIAL RECHARGE:-**

The industrialization not only helps to strengthen the economy of the province but also affects the ecological and environmental balance of the area. In this situation the activity of artificial recharge to ground water is an important measure which is substantially beneficial, as this will help in storing the surplus rainwater in the form of ground water and in turn, arrest the decline of ground water level and degradation of its quality.

Natural replenishment of ground water reservoir is a slow process and is often unable to keep pace with the excessive and continued exploitation of ground water resources in various parts of the country as well as in Gujarat State. This has resulted in fast declining ground water levels and depletion of ground water resources. Artificial recharge efforts are basically aimed at augmentation of the natural movement of surface water into ground water reservoir through suitable civil construction techniques. Such techniques interrelate and integrate the source water to ground water reservoir and are dependent on the hydro-geological situation of the area concerned.

Artificial recharge techniques aim at extending the recharge period in the post-monsoon season for about three or more months, resulting in enhanced sustainability of ground water sources during the lean season. The need and advantage of recharge is mentioned as under:

#### **Need**

- To overcome the inadequacy of waters to meet our demands.
- To arrest decline in ground water levels.
- To enhance availability of ground water at specific place and time and utilize rain water for sustainable development.

- To increase infiltration of rain water in the sub-soil; which has decreased drastically in urban areas due to paving of open area.
- To improve ground water quality by dilution.
- To increase agriculture production.
- To improve ecology of the area by increase in vegetation cover, etc.

### **Advantages**

- ✓ Cost of recharge to sub-surface reservoir is lower than surface reservoirs.
- ✓ The aquifer serves as distribution system also.
- ✓ No land is wasted for storage purpose and no population displacement is involved.
- ✓ Ground water is not directly exposed to evaporation and pollution.
- ✓ Storing water underground is environment friendly.
- ✓ It increases the productivity of aquifer and boosts rise in ground water levels
- ✓ It reduces flood hazards and soil erosion
- ✓ Mitigates the effects of drought.
- ✓ The injections of fresh filtered rain water will the water table & ultimately the quantity of ground water in study area. This will reduce power consumption for its withdrawal
- ✓ The fresh filtered rain water which will be diverted back to earth will be of around 100 to 200 ppm TDS only, improves the ground water quality of the given area.
- ✓ Rainwater which is pure with virtually no dissolved salts and minerals flushes salt build up from the soil and produces lush-green and healthy plants.

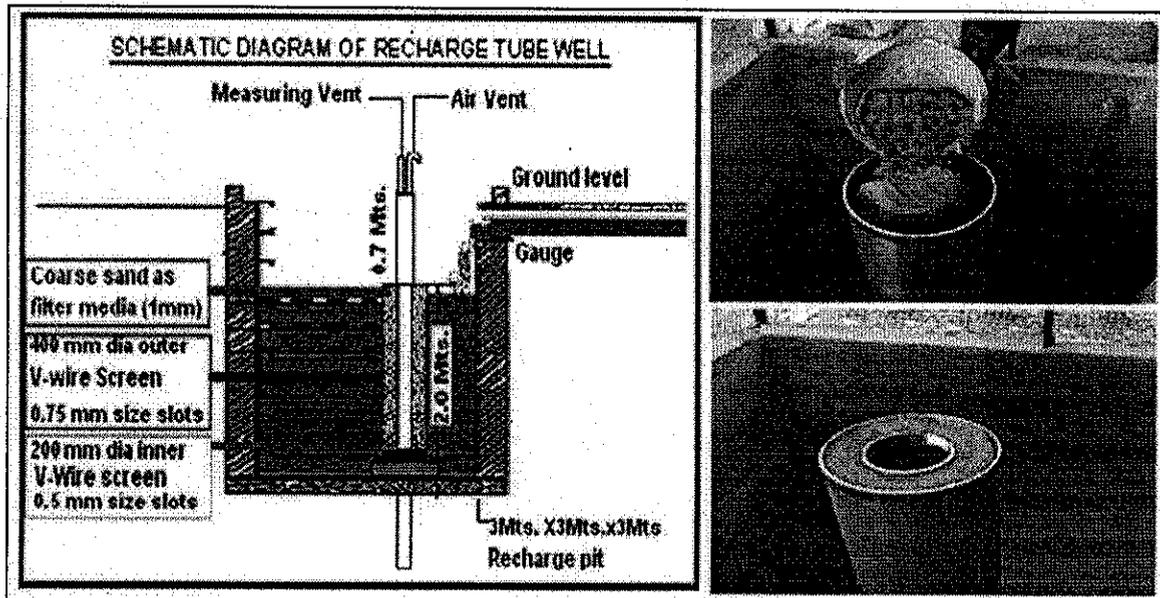
### 15.0 BORE WELL RECHARGE

It is fast method of recharge, excellent process for the replacement of the over exploited aquifers. This method is most suitable for the area where surface runoff cannot penetrate under ground due to low permeability of the aquifer.

The recharge bore can be constructed by drilling of a bore up to the required depth (**the site of the bore & its specifications are to be checked & confirmed by Resistivity Test method**) or by using any existing bore, which has been used as a production bore for a sufficient period of time. In this concept the filter media is a vertical sand bed between the two strainer pipes. Replacing the top casing pipe of the tube/bore well with a dual V-wire screen filled with coarse sand serves as the purpose.

The recharge structure is constructed by excavating a **3Mts X3Mts X 3Mts** pit around the casing pipe of the tube well. The runoff is diverted to this recharge pit. The pit, which is empty, also acts as a settling pit and water passes through the vertical sand filter.

#### DESIGN OF RECHARGE STRUCTURE:



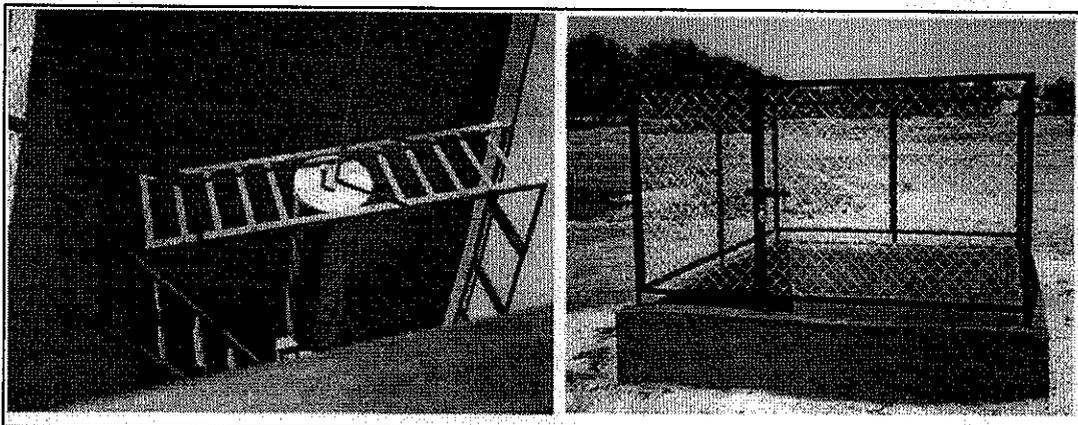
To store, sufficient rain water available for recharge can be collected by constructing a pond or a tank in the low lying area and recharge pit can be constructed in side the pond or tank. Design of ground water recharge structure is as above.

#### Procedure

1. 3Mtsx3Mtsx3Mts pit is excavated around the casing pipe of the tube well to accommodate runoff.
2. Top casing up to 2.7 Mts. below ground level is removed.
3. The removed top casing pipe of the tube well is replaced by a dual V-wire screen (0.5 mm screen on the inside 0.75 mm on the outer side).
4. The gap between two screens is filled with coarse sand as filter media.
5. The pit also acts as a settling pit and water passes through the vertical sand filter.
6. A lid with an air vent is placed at the top of the dual screen..

#### Precautions

- Recharge Structure is to be protected by wire fencing.
- Chemical or biological pollution should be avoided, as it may deteriorate the deeper aquifers.
- Proper provision for regular maintenance is required.
- Cleaning of the pit and dual screen shall be taken up before monsoon.



### **16.0 RAIN WATER HARVESTING**

Rainwater harvesting may be defined as a process of augmenting the natural infiltration of rainwater or surface run off into the ground by some artificial methods. The methods suggested are recharge through pits, trenches, bore wells, by directly diverting run off water into existing tube wells or conserving the rain water by artificial storing and using the same for human use.

The choice and effectiveness of any particular method is governed by local hydrological and soil conditions and ultimate use of water.

#### **Elements of typical water harvesting system**

Any rain water harvesting will have three elements:

- (i) Catchments area; (ii) Conduits (iii) Settlement Tank.

#### **Catchments area**

The catchments are the area or surface, which receives rainfall directly. It can be any surface such as paved area like a terrace of building or an unpaved area, like Lawn or open ground. Temporary structures like sloping sheds can also act as catchments. Run-off factor determines the quantity of water which will be available from the catchments. Run-off factors for wooded or grassy land is very less say 20% rest is absorbed by percolation, whereas run-off factor for paved or terraced area is 65 to 80% as most of the rainwater is available for recharge or storage except for water loss due to evaporation.

#### **Conduits:**

Conduits or the pipes carry rainwater from the catchments or roof tops to harvesting/storage system. The conduits may be of any materials like PVC, asbestos or galvanized .

### Sedimentation Tank

It is a filtration tank or a small pit of 3x3x3 Mt<sup>3</sup> size near the recharging well, connected with catchments or roof top through conduit. It is located on ground & filled with pebbles at bottom, gravels as a middle layer & then coarse sand at the top of the tank.

### 17.0 ROOF TOP RAIN WATER HARVESTING POTENTIAL:

Study area comprises **Baroda Cricket Association Stadium at Kotambi** & having low rise buildings which are to be constructed with proposed gardens & surrounded by paved roads & storm water drain. Looking to the geological formation, ground water condition, depth of aquifer, soil-texture, past rain fall data & physiography of the area, available surface run-off rainwater collection for recharge through proposed structures varies from 20% to 80% efficiency for different surfaces in the given area with av.681mm (as per GSDMA, Govt. of Gujarat) rainfall as most of the area of the company premises is well- paved. In the study area, where Roof top and Pavement / Road as well as for green belt, open area rain fall run off efficiency is considered as 80%, 65% & 20% respectively.

Looking to the above mentioned facts, **Authorities of Jagaji Construction Company Vadodara** has decided to augment available rain water runoff by installing suitable rainwater recharge structures in the Stadium premises for which technical study is allotted to " **Global Water Management Consultant, Vadodara** ".

Groundwater Recharge Through Surface Run-off Rainwater at BCA Stadium Kotambi							
Sr No	Details Land Area Break up	Area in mt <sup>2</sup>	Net area considered for recharge in mt <sup>2</sup>	% of land Use	Rainfall (in mm)	Possible Surface Run off Rain Water collection mt <sup>3</sup>	Run off Co-efficient in %
1	TOTAL AREA	200670	200670	100	681	68328	50
5	GROSS RUN-OFF					68328m <sup>3</sup> /year	
6	Recharge Rate of rainwater infiltration (m <sup>3</sup> /day)					45	

Considering Average Rainy Days per Year to be 45 complete days

Recharge Rate of rainwater infiltration (m<sup>3</sup>/Day) 58

Recharge Rate of rainwater infiltration (LPM) 40 & (LPS) 0.66

Recharge through one Recharge well 2610m<sup>3</sup>/year

**Consider for recharge is 68328 m<sup>3</sup>/year out of total run off- of Stadium premises Hence net number of Recharge Bore wells requires 26(68328/2610=26)**

**Probable Recharge possibility in the area**

Assessment of probable Recharge has been calculated on the parameters as above (the capacity of aquifers for recharge ) & that the structures are to be developed in **Baroda Cricket Association Stadium –Kotambi Storm water Drain.**

**TABLE-V-PROBABLE RECHARGE POSSIBILITY IN AREA**

Description	Assessment
The rate at which water can be recharged	0.66 Lits/sec =40 LPM=58m <sup>3</sup> /day
Effective rainy days	45 days
Storm water Available for Recharge for each recharge bore well	2610 m <sup>3</sup> /year per bore well

**18.0 LOCATIONS FOR PROPOSED RECHARGE STRUCTURES:-**

In first phase authorities has decided to construct eight Rain water harvesting structures in the low lying areas, with above mentioned filter pit design at the suitable locations as shown in Map at VES 1 to 8

**19.00 SPECIFICATIONS & CONDITIONS - FOR RECHARGE WELL:-**

1)A trial bore of **200 mm x 96 Mts depth** bgl by High Pressure DTH type of Rig at **VES -1 to 8**

Total Depth of Tube Well :- **As mentioned above**

Diameter of Bore hole :- **175mm**

Diameter of Casing Pipe :- **200mm**

Casing pipe depth :- **24 to 27 mts (up to hard rock)**

**20.0 RECOMMENDATIONS:**

- 1) At present Eight proposed Recharge wells of **200 mm dia with above mentioned depth bgl** and each should be drilled by **High Pressure D.T.H** type of rig at locations as shown above for rain water recharge.
- 2) Casing pipe of 200 mm dia with 06 mts stainer pipe should be lowered upto **24 to 27 mts.** or upto hard rock met as per recommendation of Geologist .
- 4) Completion of the drilling with each rod idle washing of the bore hole should be done to remove any filling in fracture.
- 5) Entire open area must be paved completely & cleaned periodically.
- 6) All the points are Geophysically surveyed in presence of concerned authorities.

**ACKNOWLEDGMENT:**

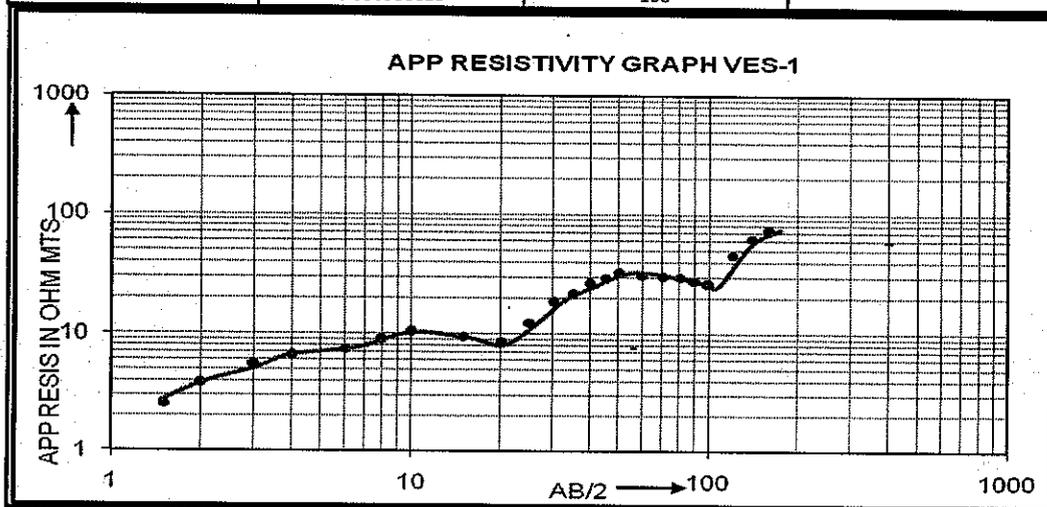
We are thankful to officers of **Jagaji Construction Company Vadodara** for his support while conducting Resistivity test and providing required data.



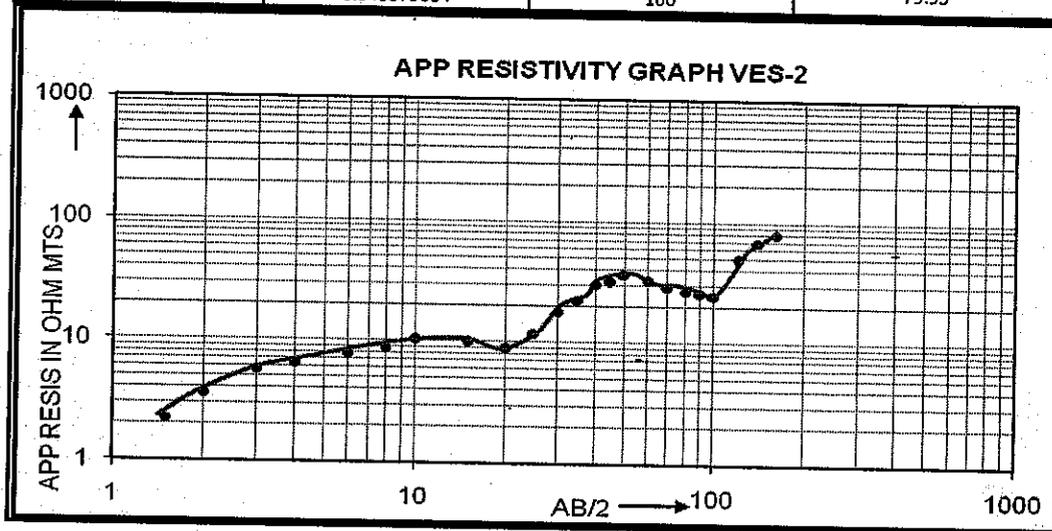
**GEOLOGIST  
FOR GLOBAL WATER MANAGEMENT CONSULTANT  
VADODARA**

**ANNEXURE-1 VES DATA SHEET (08 LOCATION SURVEY POINT)**

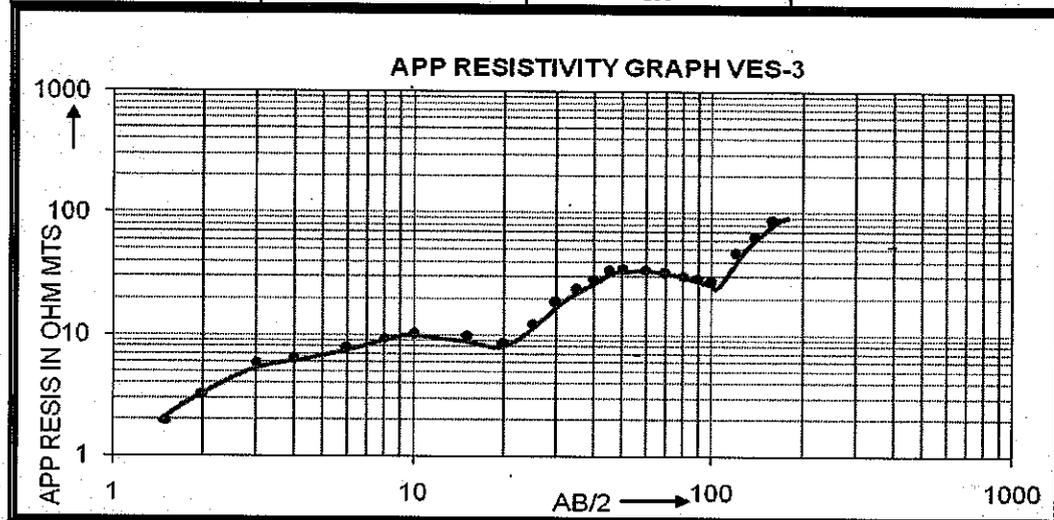
VERTICAL ELECTRICAL SOUNDING DATA SHEET			
SITE/COMPANY	Baroda Cricket Association Stadium		
VILLAGE	Kotambi	LOCATION-- In the premises	
TALUKA/DIST	Waghodiya /Vadodara	VES NO -1	DATE:- 12/04/2022
SPACING FACTOR	RESISTANCE	AB/2	APPERANT RESISTIVITY IN OHM MTS
6.28	0.40446	1.5	2.54
11.78	0.32343	2	3.81
27.49	0.19825	3	5.45
49.48	0.13359	4	6.61
23.86	0.27913	4	6.66
54.98	0.13605	6	7.48
98.96	0.09074	8	8.98
155.51	0.06694	10	10.41
75.4	0.13873	10	10.46
173.57	0.05548	15	9.63
311	0.02727	20	8.48
117.81	0.07240	20	8.53
188.5	0.06674	25	12.58
274.89	0.06745	30	18.54
376.9	0.05715	35	21.54
494.8	0.05382	40	26.63
628.3	0.04703	45	29.55
777.54	0.04140	50	32.19
376.99	0.08549	50	32.23
549.78	0.05659	60	31.11
753.54	0.04053	70	30.54
989.6	0.03024	80	29.93
1256.64	0.02207	90	27.74
1555.08	0.01681	100	26.14
754.27	0.034709056	100	26.18
1099.98	0.04137348	120	45.51
1508.54	0.041994246	140	63.35
1979.96	0.036930039	160	73.12



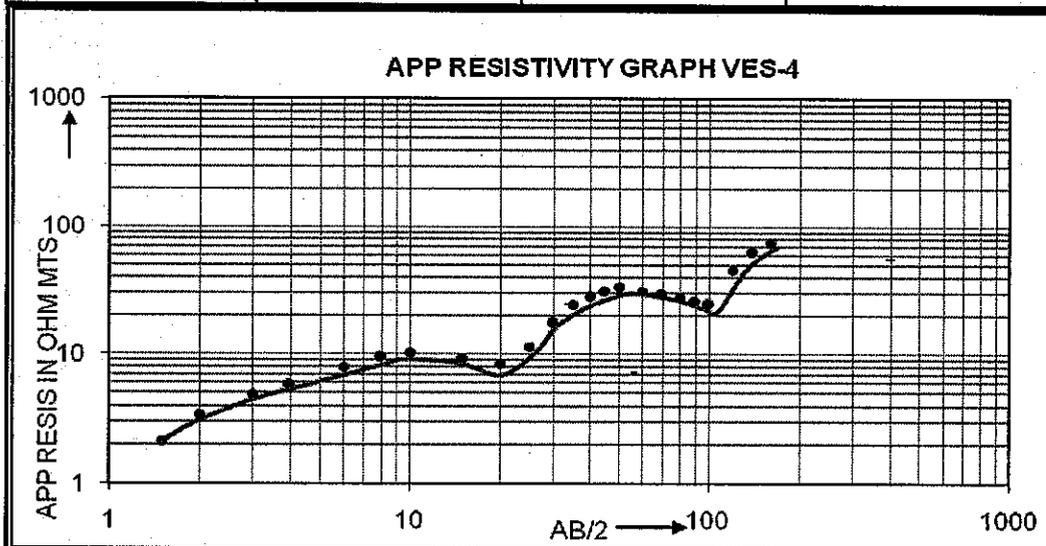
VERTICAL ELECTRICAL SOUNDING DATA SHEET			
SITE/COMPANY	Baroda Cricket Association Stadium		
VILLAGE	Kotambi	LOCATION-- In the premises	
TALUKA/DIST	Waghodiya/Vadodara	VES NO -2	DATE:- 12/04/2022
SPACING FACTOR	RESISTANCE	AB/2	APPERANT RESISTIVITY IN OHM MTS
6.28	0.35191	1.5	2.21
11.78	0.30051	2	3.54
27.49	0.20626	3	5.67
49.48	0.12813	4	6.34
23.86	0.26739	4	6.38
54.98	0.13805	6	7.59
98.96	0.08741	8	8.65
155.51	0.06598	10	10.26
75.4	0.13674	10	10.31
173.57	0.05675	15	9.85
311	0.02804	20	8.72
117.81	0.07436	20	8.76
188.5	0.06170	25	11.63
274.89	0.06494	30	17.85
376.9	0.05919	35	22.31
494.8	0.06049	40	29.93
628.3	0.05026	45	31.58
777.54	0.04705	50	36.58
376.99	0.09716	50	36.63
549.78	0.05862	60	32.23
753.54	0.03831	70	28.87
989.6	0.02696	80	26.68
1256.64	0.02014	90	25.31
1555.08	0.01571	100	24.43
754.27	0.032428706	100	24.46
1099.98	0.044528082	120	48.98
1508.54	0.04493086	140	67.78
1979.96	0.040379604	160	79.95



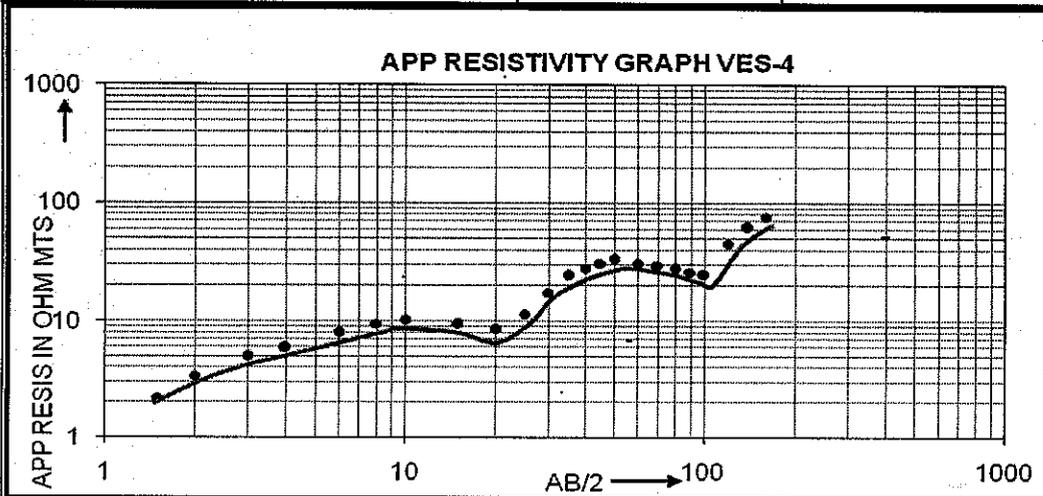
VERTICAL ELECTRICAL SOUNDING DATA SHEET			
SITE/COMPANY	Baroda Cricket Association Stadium		
VILLAGE	Kotambi	LOCATION:- In the premises	
TALUKA/DIST	Waghodiya/Vadodara	VES NO -3	DATE:- 12/04/2022
SPACING FACTOR	RESISTANCE	AB/2	APPERANT RESISTIVITY IN OHM MTS
6.28	0.31529	1.5	1.98
11.78	0.27844	2	3.28
27.49	0.21535	3	5.92
49.48	0.12914	4	6.39
23.86	0.26865	4	6.41
54.98	0.14351	6	7.89
98.96	0.09458	8	9.36
155.51	0.06482	10	10.08
75.4	0.13435	10	10.13
173.57	0.05554	15	9.64
311	0.02772	20	8.62
117.81	0.07359	20	8.67
188.5	0.06520	25	12.29
274.89	0.06785	30	18.65
376.9	0.06232	35	23.49
494.8	0.05829	40	28.84
628.3	0.05324	45	33.45
777.54	0.04564	50	35.49
376.99	0.09425	50	35.53
549.78	0.06283	60	34.54
753.54	0.04263	70	32.12
989.6	0.03076	80	30.44
1256.64	0.02323	90	29.19
1555.08	0.01746	100	27.15
754.27	0.036048099	100	27.19
1099.98	0.043364425	120	47.7
1508.54	0.043253742	140	65.25
1979.96	0.044334229	160	87.78



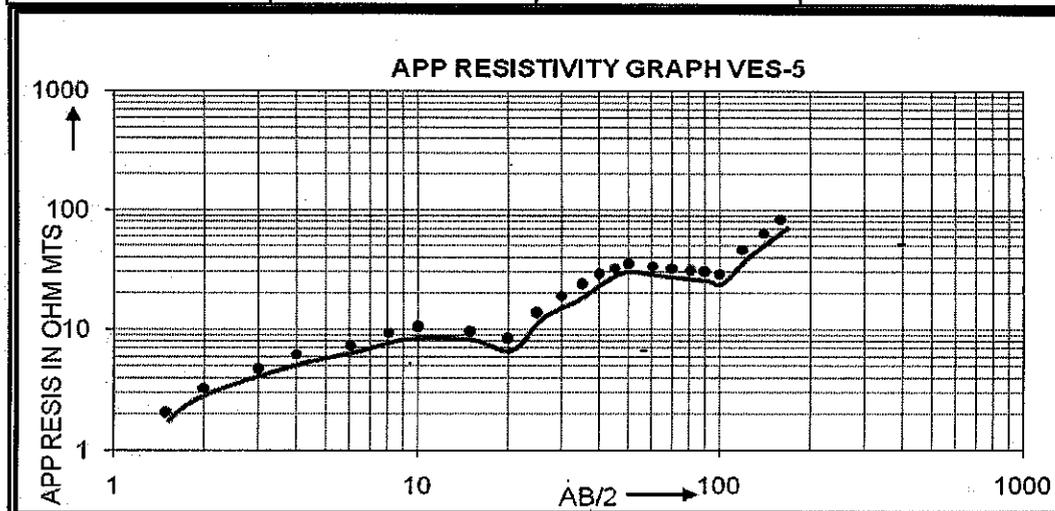
VERTICAL ELECTRICAL SOUNDING DATA SHEET			
SITE/COMPANY	Baroda Cricket Association Stadium		
VILLAGE	Kotambi	LOCATION-- In the premises	
TALUKA/DIST	Waghodiya/Vadodara	V E S NO -4	DATE:- 12/04/2022
SPACING FACTOR	RESISTANCE	AB/2	APPERANT RESISTIVITY IN OHM MTS
6.28	0.33917	1.5	2.13
11.78	0.28353	2	3.34
27.49	0.18043	3	4.96
49.48	0.11904	4	5.89
23.86	0.24853	4	5.93
54.98	0.14460	6	7.95
98.96	0.09570	8	9.47
155.51	0.06656	10	10.35
75.4	0.13780	10	10.39
173.57	0.05421	15	9.41
311	0.02707	20	8.42
117.81	0.07190	20	8.47
188.5	0.06106	25	11.51
274.89	0.06413	30	17.63
376.9	0.06482	35	24.43
494.8	0.05637	40	27.89
628.3	0.04955	45	31.13
777.54	0.04332	50	33.68
376.99	0.08945	50	33.72
549.78	0.05666	60	31.15
753.54	0.03972	70	29.93
989.6	0.02803	80	27.74
1256.64	0.02082	90	26.16
1555.08	0.01615	100	25.12
754.27	0.033356756	100	25.16
1099.98	0.041391662	120	45.53
1508.54	0.041265064	140	62.25
1979.96	0.03818764	160	75.61



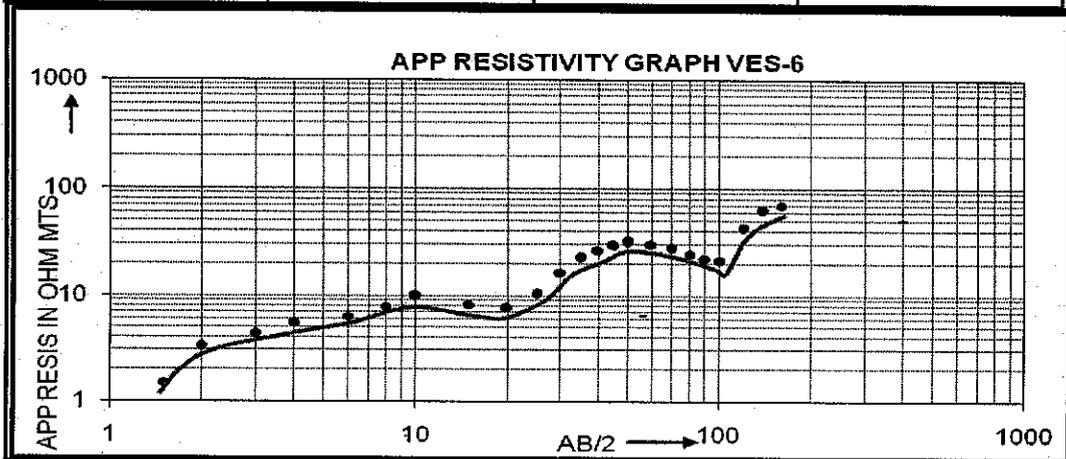
VERTICAL ELECTRICAL SOUNDING DATA SHEET			
SITE/COMPANY	Baroda Cricket Association Stadium		
VILLAGE	Kotambi	LOCATION-- In the premises	
TALUKA/DIST	Waghodiya/Vadodara	VES NO -5	DATE:- 12/04/2022
SPACING FACTOR	RESISTANCE	AB/2	APPERANT RESISTIVITY IN OHM MTS
6.28	0.32643	1.5	2.05
11.78	0.28183	2	3.32
27.49	0.17134	3	4.71
49.48	0.12591	4	6.23
23.86	0.26278	4	6.27
54.98	0.13550	6	7.45
98.96	0.09438	8	9.34
155.51	0.06739	10	10.48
75.4	0.13966	10	10.53
173.57	0.05468	15	9.49
311	0.02691	20	8.37
117.81	0.07139	20	8.41
188.5	0.07241	25	13.65
274.89	0.06894	30	18.95
376.9	0.06309	35	23.78
494.8	0.05831	40	28.85
628.3	0.05112	45	32.12
777.54	0.04467	50	34.73
376.99	0.09226	50	34.78
549.78	0.06113	60	33.61
753.54	0.04284	70	32.28
989.6	0.03088	80	30.56
1256.64	0.02383	90	29.94
1555.08	0.01856	100	28.87
754.27	0.03832845	100	28.91
1099.98	0.042373498	120	46.61
1508.54	0.042517931	140	64.14
1979.96	0.042642276	160	84.43



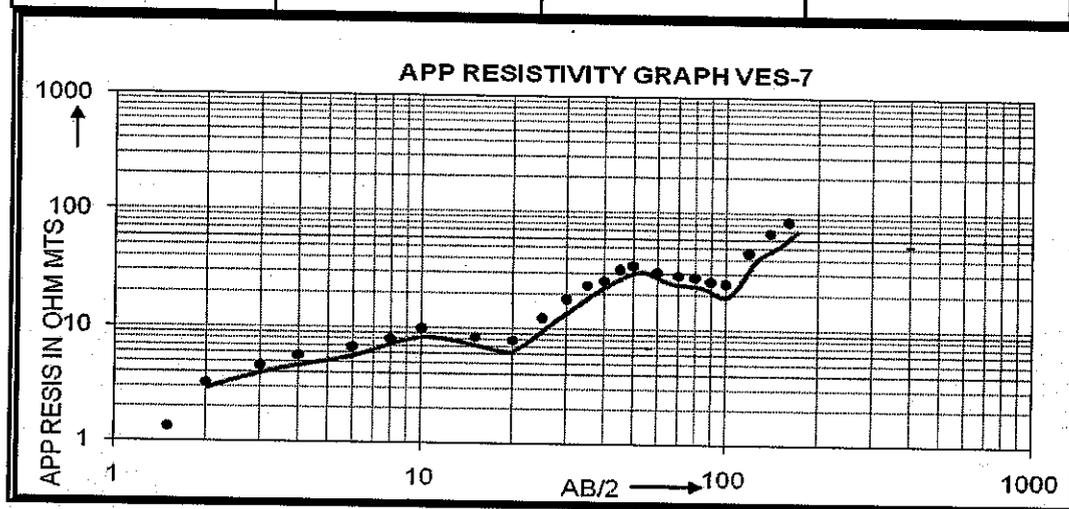
VERTICAL ELECTRICAL SOUNDING DATA SHEET			
SITE/COMPANY	Baroda Cricket Association Stadium		
VILLAGE	Kotambi	LOCATION-- In the premises	
TALUKA/DIST	Waghodiya/Vadodara	VES NO -5	DATE:- 12/04/2022
SPACING FACTOR	RESISTANCE	AB/2	APPARENT RESISTIVITY IN OHM MTS
6.28	0.32643	1.5	2.05
11.78	0.28183	2	3.32
27.49	0.17134	3	4.71
49.48	0.12591	4	6.23
23.86	0.26278	4	6.27
54.98	0.13550	6	7.45
98.96	0.09438	8	9.34
155.51	0.06739	10	10.48
75.4	0.13966	10	10.53
173.57	0.05468	15	9.49
311	0.02691	20	8.37
117.81	0.07139	20	8.41
188.5	0.07241	25	13.65
274.89	0.06894	30	18.95
376.9	0.06309	35	23.78
494.8	0.05831	40	28.85
628.3	0.05112	45	32.12
777.54	0.04467	50	34.73
376.99	0.09226	50	34.78
549.78	0.06113	60	33.61
753.54	0.04284	70	32.28
989.6	0.03088	80	30.56
1256.64	0.02383	90	29.94
1555.08	0.01856	100	28.87
754.27	0.03832845	100	28.91
1099.98	0.042373498	120	46.61
1508.54	0.042517931	140	64.14
1979.96	0.042642276	160	84.43



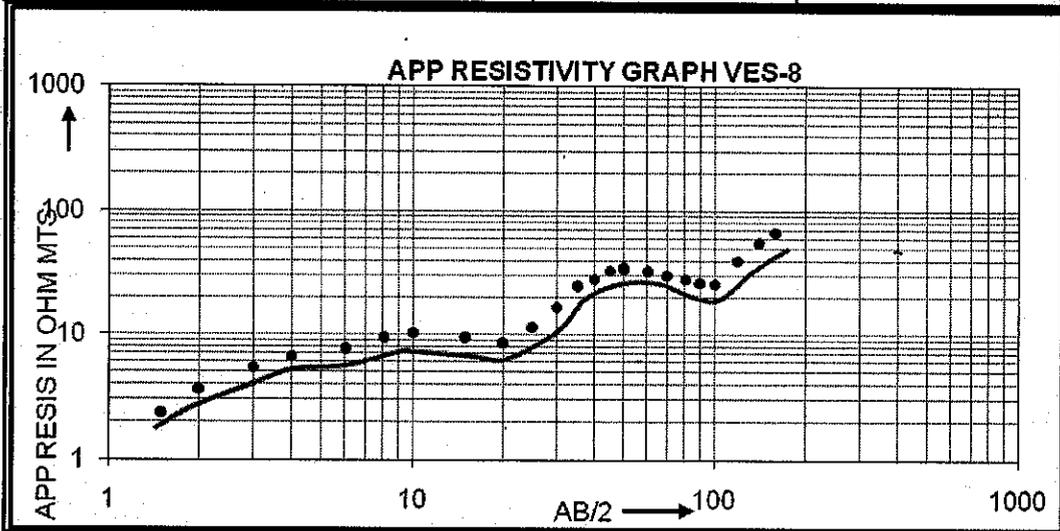
VERTICAL ELECTRICAL SOUNDING DATA SHEET			
SITE/COMPANY	Baroda Cricket Association Stadium		
VILLAGE	Kotambi	LOCATION-- In the premises	
TALUKA/DIST	Waghodiya/Vadodara	VES NO -6	DATE:- 12/04/2022
SPACING FACTOR	RESISTANCE	AB/2	APPERANT RESISTIVITY IN OHM MTS
6.28	0.23567	1.5	1.48
11.78	0.27589	2	3.25
27.49	0.15606	3	4.29
49.48	0.11075	4	5.48
23.86	0.23093	4	5.51
54.98	0.11568	6	6.36
98.96	0.07963	8	7.88
155.51	0.06347	10	9.87
75.4	0.13143	10	9.91
173.57	0.04753	15	8.25
311	0.02453	20	7.63
117.81	0.06519	20	7.68
188.5	0.05491	25	10.35
274.89	0.06057	30	16.65
376.9	0.06039	35	22.76
494.8	0.05384	40	26.64
628.3	0.04692	45	29.48
777.54	0.04131	50	32.12
376.99	0.08531	50	32.16
549.78	0.05540	60	30.46
753.54	0.03677	70	27.71
989.6	0.02470	80	24.44
1256.64	0.01792	90	22.52
1555.08	0.01378	100	21.43
754.27	0.028477866	100	21.48
1099.98	0.039664358	120	43.63
1508.54	0.041265064	140	62.25
1979.96	0.035308794	160	69.91

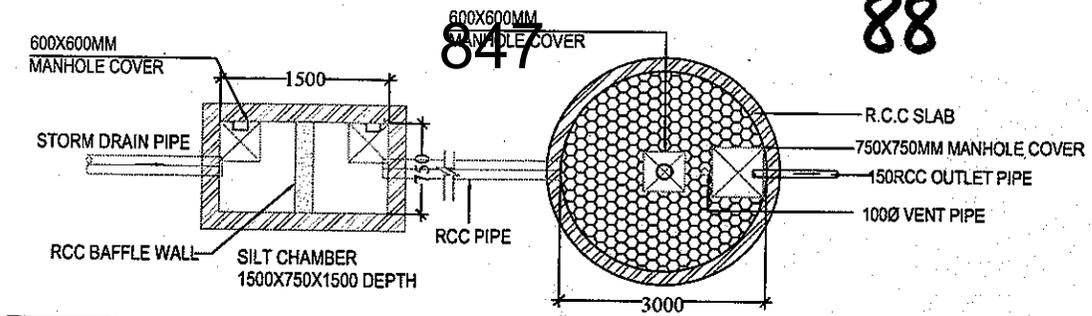


VERTICAL ELECTRICAL SOUNDING DATA SHEET			
SITE/COMPANY	Baroda Cricket Association Stadium		
VILLAGE	Kotambi	LOCATION-- In the premises	
TALUKA/DIST	Waghodiya/Vadodara	VES NO -7	DATE:- 12/04/2022
SPACING FACTOR	RESISTANCE	AB/2	APPERANT RESISTIVITY IN OHM MTS
6.28	0.21338	1.5	1.34
11.78	0.27844	2	3.28
27.49	0.16442	3	4.52
49.48	0.11378	4	5.63
23.86	0.23806	4	5.68
54.98	0.12023	6	6.61
98.96	0.08205	8	8.12
155.51	0.06225	10	9.68
75.4	0.12905	10	9.73
173.57	0.04868	15	8.45
311	0.02531	20	7.87
117.81	0.06723	20	7.92
188.5	0.06477	25	12.21
274.89	0.06504	30	17.88
376.9	0.06301	35	23.75
494.8	0.05156	40	25.51
628.3	0.05138	45	32.28
777.54	0.04535	50	35.26
376.99	0.09366	50	35.31
549.78	0.05659	60	31.11
753.54	0.03872	70	29.18
989.6	0.02803	80	27.74
1256.64	0.02032	90	25.53
1555.08	0.01570	100	24.41
754.27	0.032428706	100	24.46
1099.98	0.041100747	120	45.21
1508.54	0.044904345	140	67.74
1979.96	0.04184428	160	82.85



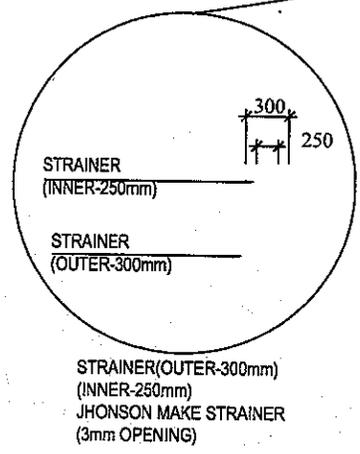
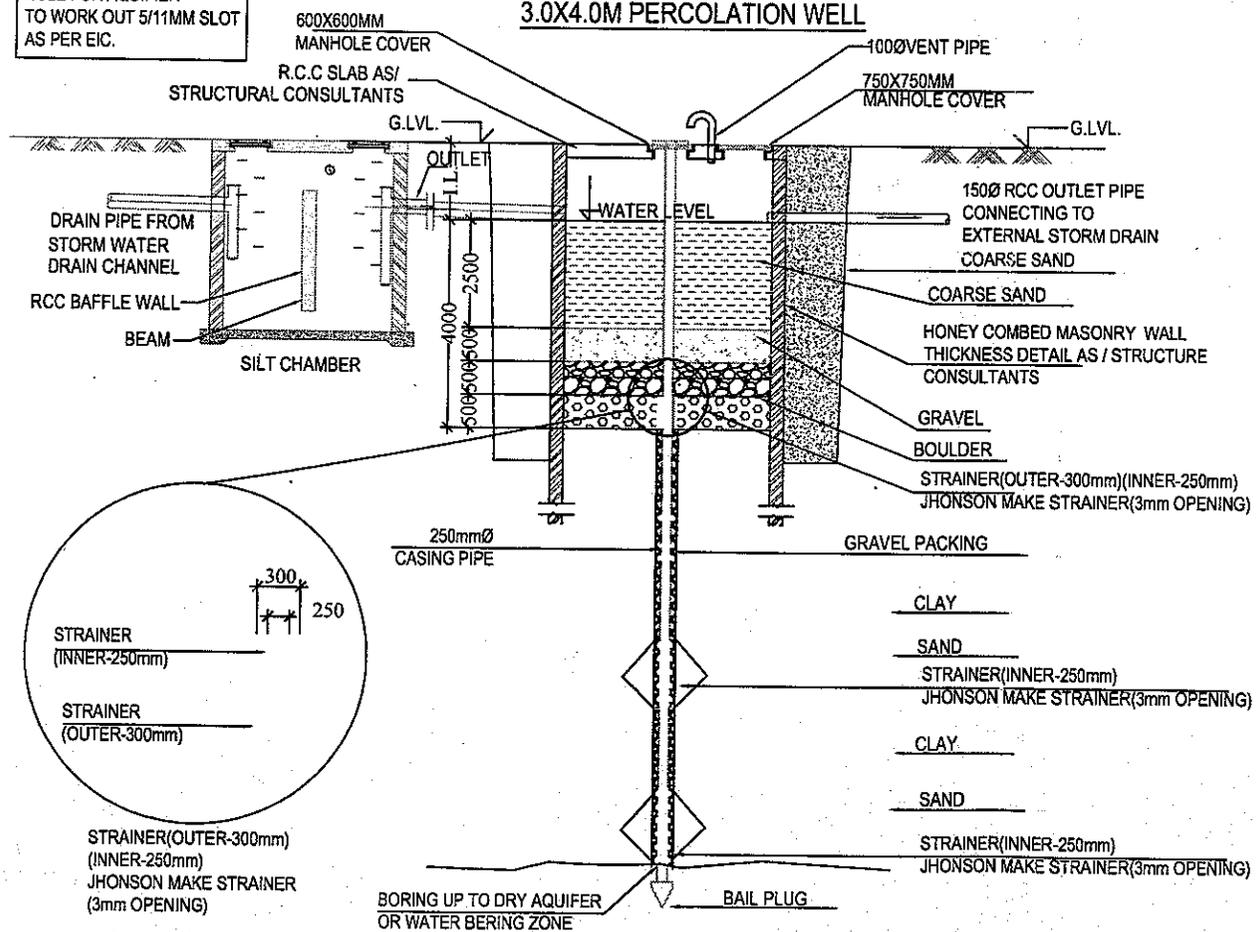
VERTICAL ELECTRICAL SOUNDING DATA SHEET			
SITE/COMPANY	Baroda Cricket Association Stadium		
VILLAGE	Kotambi	LOCATION-- In the premises	
TALUKA/DIST	Waghodiya/Vadodara	VES NO -8	DATE:- 12/04/2022
SPACING FACTOR	RESISTANCE	AB/2	APPERANT RESISTIVITY IN OHM MTS
6.28	0.37898	1.5	2.38
11.78	0.31154	2	3.67
27.49	0.19789	3	5.44
49.48	0.13399	4	6.63
23.86	0.27997	4	6.68
54.98	0.13787	6	7.58
98.96	0.09378	8	9.28
155.51	0.06630	10	10.31
75.4	0.13740	10	10.36
173.57	0.05352	15	9.29
311	0.02746	20	8.54
117.81	0.07283	20	8.58
188.5	0.06090	25	11.48
274.89	0.06050	30	16.63
376.9	0.06482	35	24.43
494.8	0.05695	40	28.18
628.3	0.05276	45	33.15
777.54	0.04396	50	34.18
376.99	0.09080	50	34.23
549.78	0.05846	60	32.14
753.54	0.03998	70	30.13
989.6	0.02868	80	28.38
1256.64	0.02106	90	26.46
1555.08	0.01651	100	25.68
754.27	0.034112453	100	25.73
1099.98	0.036346115	120	39.98
1508.54	0.036021584	140	54.34
1979.96	0.033929978	160	67.18





NOTE : PMC / CONTRACTOR  
NEED TO CHECK BORE  
HOLE FOR AQUIFER  
TO WORK OUT 5/11MM SLOT  
AS PER EIC.

**PLAN**  
**3.0X4.0M PERCOLATION WELL**

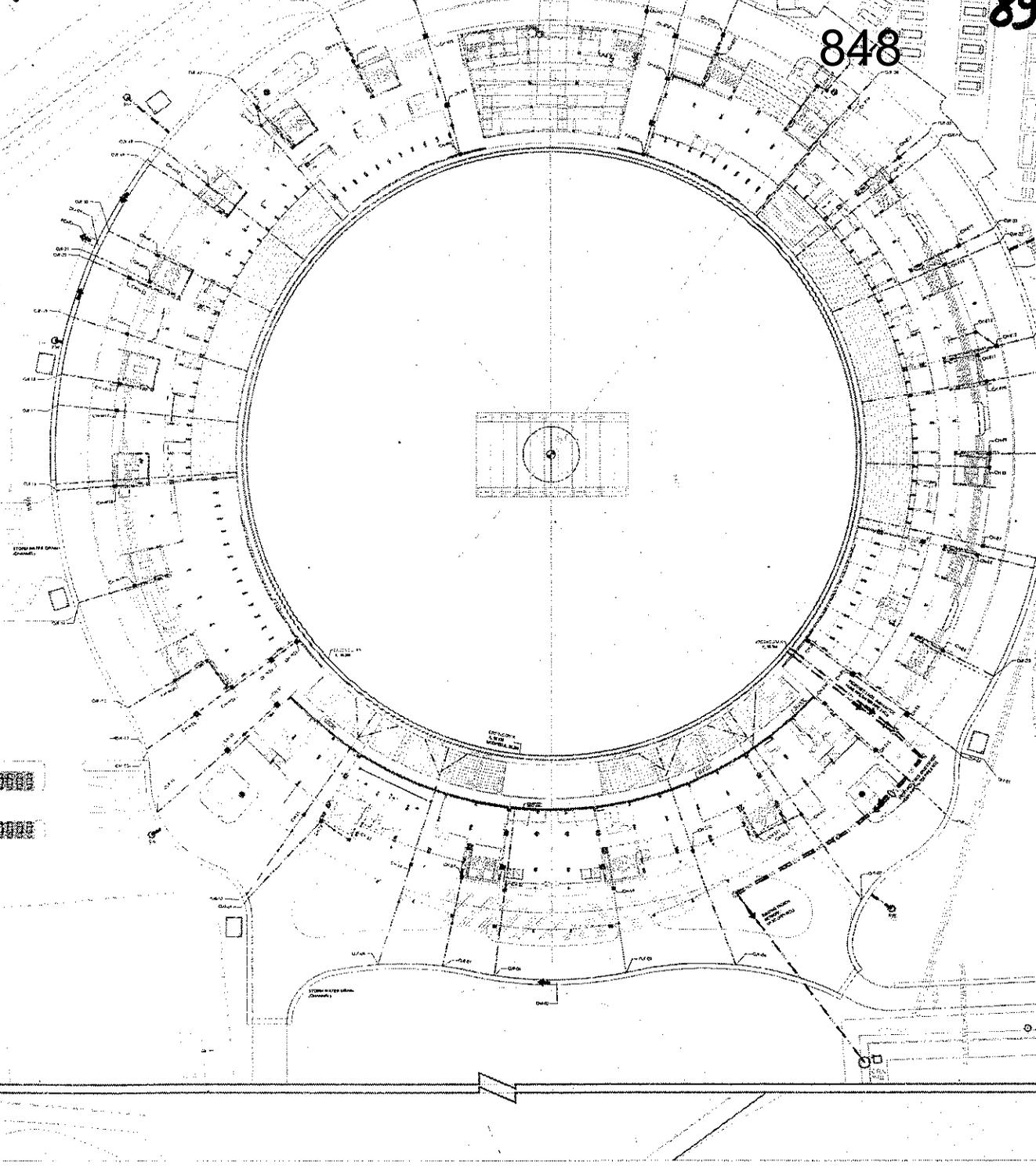


NOTE:  
\*\*REFER STRUCTURAL DRAWING FOR  
ALL STRUCTURAL DIMENSIONS AND DETAILS.

**TYPICAL DETAILS OF PERCOLATION WELL DETAIL**

848

89



NO	DATE	BY	CHKD	REVISION
01	08/17/2014			ISSUED FOR PERMIT
02	08/17/2014			ISSUED FOR PERMIT
03	08/17/2014			ISSUED FOR PERMIT
04	08/17/2014			ISSUED FOR PERMIT
05	08/17/2014			ISSUED FOR PERMIT
06	08/17/2014			ISSUED FOR PERMIT
07	08/17/2014			ISSUED FOR PERMIT
08	08/17/2014			ISSUED FOR PERMIT
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**PRINCIPAL ARCHITECT**  
**SD**  
 6A, 4th FLOOR, 80/23 STREET, KOTAMBI, G.P.C.S.3.D.2014  
 151 451 500-0247  
 11 7551 500-0247

**COLLABORATING ARCHITECT**  
**ZEDO**  
 GROUP OF ARCHITECT & ENGINEERS  
 151 451 500-0247  
 11 7551 500-0247

**PRODUCTION MANAGER**  
 Production Manager  
 Attyah M. D. D.

**ARCHITECT ASSISTANT**  
 Architect Assistant  
 Attyah M. D. D.

**STRUCTURAL CONSULTANT**  
**KUMAR PUSP**  
 151 451 500-0247  
 11 7551 500-0247

**GENERAL NOTES:**  
 1. ALL DIMENSIONS ARE IN METERS.  
 2. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.  
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**KEY PLAN:**

**PROJECT:**  
**BCA STADIUM**

**LOCATION:**  
**KOTAMBI**

**DRAWING TITLE:**  
**PLUMBING LAYOUT OVERALL  
 SITE STORM LAYOUT**

**STAGE:**  
**ISSUED FOR PERMIT**

**G.P.C.S.3.D.2014**

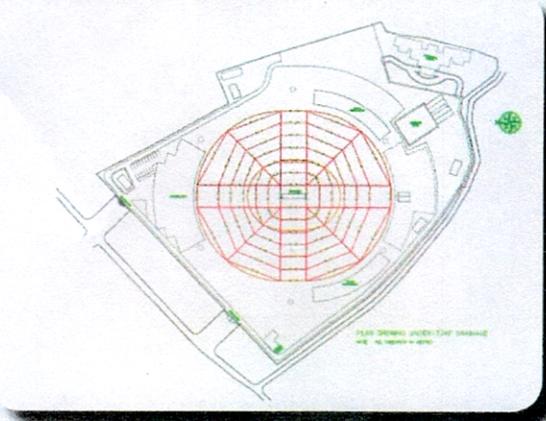
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**G.U.J.B.R.D.B.C.A**

**DRW CODE:**  
**PLU-002400**

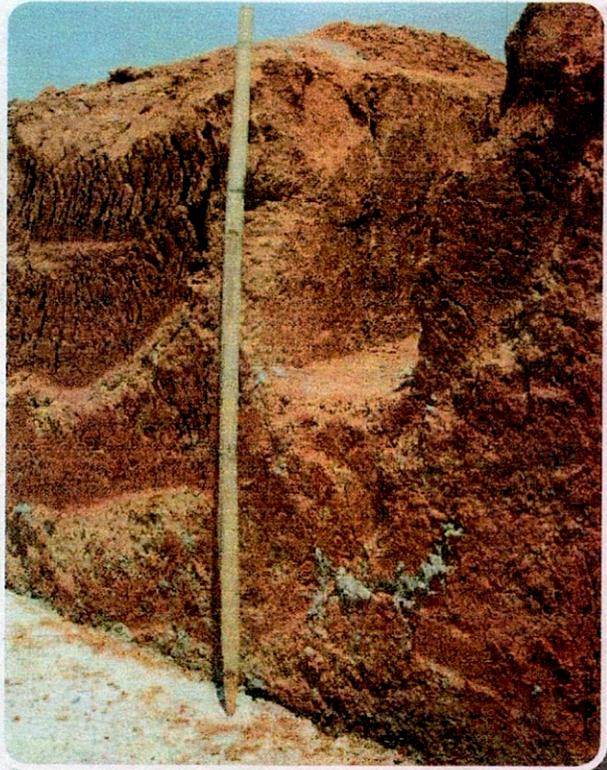
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**NAGALAND CRICKET STADIUM SOVIMA  
UNDER-TURF DRAIN - LENGTH -3151.00 METERS**

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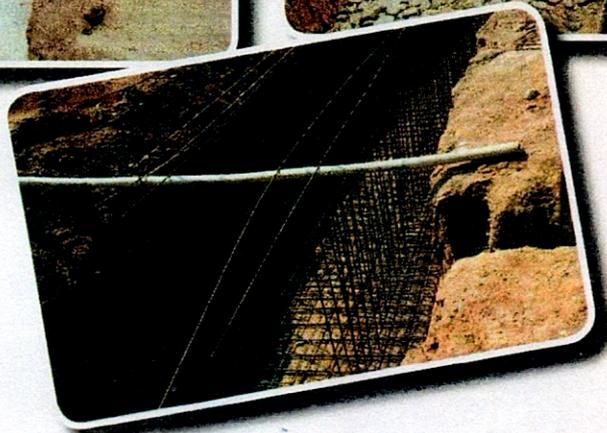
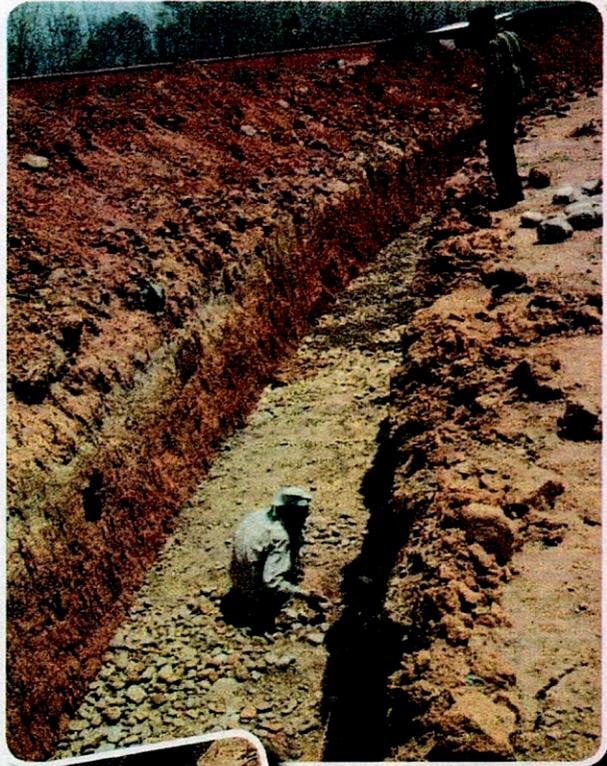
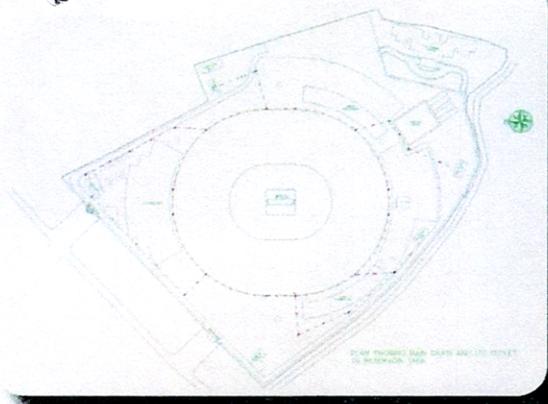


Images and master plan of the underground water drainage system below the playing surface of the cricket stadium.

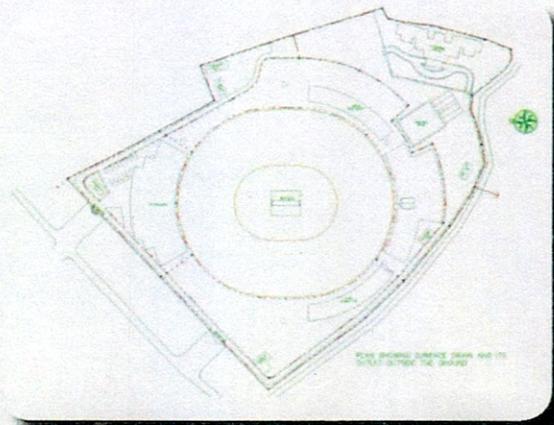


**MAIN DRAIN (UNDERGROUND)- LENGTH 480.00 METERS**

91



**SURFACE DRAIN – LENGTH 2275.00 METERS**





June 30, 2023

Government of India,  
Ministry of Jal Shakti,  
Central Ground Water Authority,  
18/11, Jamnagar House,  
Mansingh Road, New Delhi-110011.

**Kind Attn:** A.K Agrawal.

**Sub:** Compliance of Hon'ble NGT Order dated 15.04.2021 in Haider Ali vs. Union of India and Ors. (O.A.NO.94/2021) w.r.t construction/installation of appropriate mechanism for artificial recharge of ground water/rain water harvesting in stadiums, cricket grounds etc.-reg.

**Ref:** Letter dated May 02, 2023 having file number CGWA-21/31/2020-CGWA-233 ("Letter").

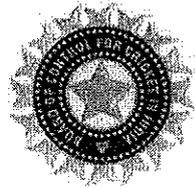
Dear Sir,

We refer to your captioned Letter.

At the outset, we reiterate that, BCCI is a society formed and registered under the Tamil Nadu Societies Registration Act, 1975 for the promotion and development of cricket in India. The BCCI has several state cricket associations as its members, who are separate and distinct entities. It is stated that BCCI does not own any stadium and the stadiums are generally owned or managed by the respective state cricket associations.

We state that BCCI has issued communication dated June 23, 2023 to all its state cricket associations forwarding all the guidelines forwarded by you *vide* your Letter. Further, BCCI has again requested all the state cricket associations to submit to the BCCI action taken.

1 | Page

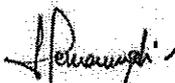


report for implementation of the appropriate mechanism for water preservation, in the stadiums managed/owned by state cricket associations, in compliance of the NGT order.

We also state that pursuant to the NGT orders, BCCI has been issuing communications to its state cricket associations from time to time regarding the compliance of the said orders and submission of action taken reports on the implementation of the mechanism of artificial recharge of ground water/rain-water harvesting in all stadiums owned or managed by the state associations. BCCI had *vide* its letters dated March 10, 2023 and March 30, 2023, already informed you the status of implementation of the 10 (Ten) state cricket associations. BCCI's letters dated March 10, 2023 and March 30, 2023 are enclosed (without annexures) herewith for your reference.

We request you to take the aforesaid on record. BCCI shall provide further information on the implementation of the relevant mechanism, upon receipt of the same, from its state cricket associations.

Yours Sincerely,

  
Hemang Amin

Chief Executive Officer (Interim), BCCI



March 10, 2023

Government of India,  
Ministry of Jal Shakti,  
Central Ground Water Authority,  
18/11, Jamnagar House,  
Mansingh Road, New Delhi-110011

**Kind Attn: TS Anitha Shyam**

**Sub:** Action taken report regarding Implementation of scheme of artificial recharge of ground water/rain water harvesting in all stadiums-reg

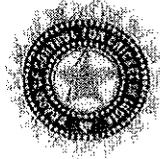
**Ref:**

1. Letter dated June 29, 2021 having file number CGWA-21/312020-CGWA-627
2. Letter dated February 06, 2023 having file number CGWA-21/312020-CGWA-94 (herein after referred to as "CGWA Letters")

Dear Sir/Ma'am,

We refer to the CGWA Letters regarding implementation of scheme of artificial recharge of ground water in cricket playgrounds and requesting Board of Control for Cricket in India ("BCCI") to furnish an action taken report regarding implementation of the mechanism for artificial recharge of ground water/ rain water harvesting in the cricket playgrounds.

We state that, BCCI is a society formed and registered under the Tamil Nadu Societies Registration Act, 1975 for the promotion and development of cricket in India. The BCCI has several State Cricket Associations as its members, who are separate and distinct entities. It is stated that BCCI does not own any stadium and the stadiums are generally owned by the respective State Cricket Associations.



On receipt of the CGWA Letters, BCCI issued communications to all its member state associations for submission of an action taken report on the implementation of the mechanism of artificial recharge of ground water/rain water harvesting in all stadiums owned or managed by the State Associations.

In view of the aforesaid, we submit the following information.

a) **Gujarat Cricket Association (GCA)**

GCA has rainwater harvesting system installed at their complex. GCA has both roof top and surface runoff harvesting, with a dedicated rainwater harvesting tank in place. Further, Narendra Modi Stadium is the first Green Stadium in the country. GCA have been awarded the Indian Green Building Council (IGBC) Gold Green Building rating. It boasts of 100% LED lights, 5 lakh litre rainwater harvesting, 50KW solar & 5000 sq mtrs of biodiversity plantation. **Attached herewith are the drawings of Rainwater Sump and Stormwater layout - outfall.**

b) **Kerala Cricket Association (KCA)**

KCA has engaged Centre for Water Resource Development and Management (CWRDM), Govt. of Kerala and they have submitted feasibility study / project report for grounds owned/managed by KCA namely (1) Mangalapuram Cricket Ground at Thiruvananthapuram District (2) Krishnagiri Cricket Ground at Wayanad District (3) Perinthalmanna Cricket Ground at Malappuram District (4) Thekkumbhagam Cricket Ground at Idukki District. KCA has completed construction of rain water harvesting tank at KCA's St.Xaviers Thumba Cricket Ground , Thiruvananthapuram of 1,00,000 litre capacity. With regards to the other grounds owned/managed by KCA , KCA is awaiting project report and feasibility study and necessary steps in this regard shall be taken on receipt of the relevant reports.

c) **Vidarbha Cricket Association (VCA)**



In VCA's 2 stadiums viz. Jamtha & Civil Lines stadium, VCA has installed adequate Rain Water Harvesting systems through 1) Roof Top Rain Water Harvesting, 2) Road / Paved area Rain Water Harvesting, 3) Green Belt area Rain Water Harvesting & 4) Open land area Rain Water Harvesting which result in total recharge potential of 12956 M<sup>3</sup>/annum for VCA Jamtha Stadium and 10735 M<sup>3</sup>/annum for VCA Civil Lines Stadium.

Further, VCA has the borewell recharge method which also augments the Rain Water Harvesting system at both their stadiums VCA has received from Central Ground Water Authority NOC No CGWA/NOC/INF/ORIG/2021/14015 & CGWA/NOC/INF/ORIG/2021/13898 for their Jamtha & Civil Lines stadium respectively after the satisfaction with the rain water harvesting system.

d) **Haryana Cricket Association (HCA)**

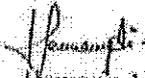
HCA owns the Chaudhary Bansi Lal Cricket Stadium at Lahli, Rohtak (Haryana) and the same was inaugurated in December 2006 and it has a rain - water harvesting system right from its inception i.e. from 2006.

e) **Assam Cricket Association (ACA)**

ACA is in the process of initiating steps for rain water harvesting.

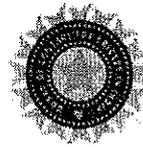
We request you to take the aforesaid on record, BCCI shall provide information regarding its other member cricket associations upon receipt of the same.

Yours Sincerely,

  
Hemang Amin



Chief Executive Officer (Interim), BCCI



March 30, 2023

Government of India,  
Ministry of Jal Shakti,  
Central Ground Water Authority,  
18/11, Jamnagar House,  
Mansingh Road, New Delhi-110011.  
Kind Attn: TS Anitha Shyam

**Sub:** Action taken report regarding Implementation of scheme of artificial recharge of ground water/rain water harvesting in all stadiums-reg.

**Ref:**

1. Letter dated June 29, 2021 having file number CGWA-21/312020-CGWA-627;
2. Letter dated February 06, 2023 having file number CGWA-21/312020-CGWA-94 (herein after referred to as "CGWA Letters");
3. BCCI's letter dated March 10, 2023.

Dear Sir/Ma'am,

We refer to the CGWA Letters, inter alia, requesting Board of Control for Cricket in India ("BCCI") to furnish an action taken report on implementation of the mechanism for artificial recharge of ground water/ rain water harvesting in the cricket playgrounds. Further, we refer to BCCI's response dated March 10, 2023 to the CGWA Letters wherein we provided the action taken report of certain members state association of the BCCI. Attached herewith is BCCI's letter dated March 10, 2023 as **Annexure "1"**.

In furtherance to our letter dated March 10, 2023, we submit the following information regarding certain other member state associations;



a) **Delhi & District Cricket Association (DDCA)**

DDCA has submitted a report regarding the implementation of the scheme of artificial recharge of ground water/rain water harvesting which is attached herewith as **Annexure "2"**.

**The Cricket Association of Bengal (CAB)**

CAB's explanation regarding implementation of the said scheme has been attached herewith as **Annexure "3"**.

b) **Baroda Cricket Association (BCA)**

BCA's explanation regarding implementation of the said scheme has been attached herewith as **Annexure "4"**.

c) **Nagaland Cricket Association (NCA)**

The Nagaland Cricket Association Stadium, Sovima, is equipped with an Under-Turf Drain System & Water Storage of 2 Lakh Litres capacity (4 Nos) where rainwater is harvested. Images and master plan of the underground water drainage system installed in the Stadium is attached herewith as **Annexure "5"**.

d) **Cricket Association of Pondicherry (CAP)**

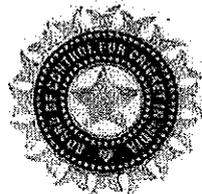
CAP has a system of implementation of ground and rain water harvesting in CAP campus in Pondicherry wherein there are 8 cricket grounds, nets spread across 45 acre estate. CAP spent a lot on STP lines to re-use treated waters too.

Yours Sincerely,



**Hemang Amin**

**Chief Executive Officer (Interim), BCCI**



June 30, 2023

To,  
**Member Secretary,**  
Central Ground Water Authority,  
Ministry of Jal Shakti, Government of India.  
18/11, Jamnagar House,  
Mansingh Road, New Delhi – 110 011.

**Subject: Request for corrections in the minutes of the meeting dated June 2, 2023.**

**Ref: Minutes of the Meeting dated June 2, 2023 (“Minutes”).**

Dear Sir,

This is with reference to the Minutes shared with BCCI *vide* email dated June 9, 2023, sent by the Groundwater Desk.

At the outset, the BCCI acknowledges its duty towards the environment and reaffirms its commitment towards preservation of groundwater. The BCCI believes in significance of sustainable development while working towards its primary objective of promotion and development of the game of cricket in India. The BCCI has and will continue to support the authorities and adhere, to the extent possible, in implementing the various guidelines issued by the relevant authorities. This is clearly evidenced from the various action taken reports sent to you as well as all the meetings attended by BCCI.

The BCCI attended the meeting held between various parties on June 2, 2023 and the Minutes were subsequently shared with us. However, upon our perusal of the Minutes, we have noticed the following inadvertent errors which we wanted to highlight:

**1. Designation of BCCI officials**

- (a) The designation of Mr. Gaurav Saxena in paragraph 12 as well as in the List of Attendees is noted as “Manager (Operations)”.
- (b) We submit that Mr. Gaurav Saxena is the General Manager (Operations). BCCI and is the head of department of Operations. The same was also informed to the Secretary in the meeting and is therefore required to be corrected in the Minutes. It is pertinent to note that Mr. Saxena has been associated with BCCI for over a decade and worked closely in achieving BCCI’s objectives. He occupies the highest designation in the department of Operations and reports to the CEO directly.



## 2. Presence of senior authority

- (a) In paragraph 12 of the Minutes, it is noted that:

*"the Secretary, DOWR, RD & GR expressed his displeasure over presence of only Manager (Legal), BCCI..."*

- (b) However, in the later part of the paragraph 12, it is noted that:

*"Shri Gaurav Saxena, Manager (Operations), BCCI assured to comply with directions."*

- (c) As already informed in point 1 above, Mr. Gaurav Saxena is a General Manager and a senior officer of BCCI. It is therefore respectfully submitted that it is incorrect to state that only Manager (Legal), BCCI were present in the meeting. We therefore submit that paragraph 12 is factually incorrect and contradictory.

- (d) Hence it is requested that paragraph 12 is amended to remove the inaccuracies.

## 3. MoHUA Guidelines

- (a) In paragraph 13(iii) of the Minutes, a reference has been made to the MoHUA guidelines. We request you to provide the guidelines as mentioned.

We would like to take this opportunity to highlight certain limitations over the proposed actions that the authorities wish to take as outlined in the Minutes.

As previously submitted, the BCCI neither owns nor maintains any stadiums in the country. All stadiums are either operated by the governments, corporations or state cricket associations. BCCI is a registered society that has state cricket associations as its members and these associations are completely distinct and separate entities from BCCI. Further, the BCCI is bound by the Rules and Regulations as approved by the Supreme Court of India and cannot overstep its authority in this regard. The intent of bringing the factual scenarios to your notice is not an attempt to evade our responsibilities but rather to highlight certain limitations on the workings and powers of BCCI.

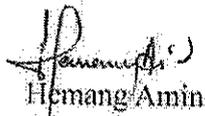
To further explain our position, we request that we be allowed to make a presentation in the next meeting of the CGWA.



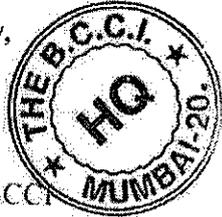
We reiterate our earnest commitment towards complying with the directions of the Hon'ble National Green Tribunal.

We assure you of our full cooperation in the matter and are hopeful that our requests and suggestions are taken positively.

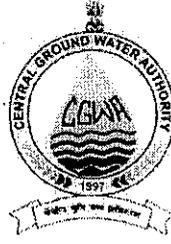
Yours Sincerely,

  
Hemang Amin

Interim CEO, BCCI



भारत सरकार  
जल शक्ति मंत्रालय  
जल संसाधन, नदी विकास और गंगा संरक्षण  
विभाग  
केंद्रीय भूजल प्राधिकरण  
18/11 जामनगर हाउस, मानसिंह रोड  
नई दिल्ली-110011  
ई-मेल: cgwa@nic.in



Government of India  
Ministry of Jal Shakti  
Department of Water Resources,  
RD & GR  
Central Ground Water Authority  
18/11, Jamnagar House, Mansingh  
Road  
New Delhi – 110011  
E-mail: cgwa@nic.in

**MOST URGENT**

File no: - CGWA-21/31/2020-CGWA- 588

01.11.  
Date – 31.10.2023

To

The CEO,  
Board of Control for Cricket in India,  
4th Floor, Cricket Centre Wankhede Stadium,  
D-Road, Churchgate, Mumbai – 400020  
Email – hemang.amin@bcci.tv

**Sub- Compliance of Hon'ble NGT Order dated 15.04.2021 in Haider Ali vs. Union of India and Ors. (O.A. NO. 94/2021) w.r.t. construction / installation of appropriate mechanism for artificial recharge of ground water / rain water harvesting in stadiums, cricket grounds etc. – reg.**

**Reference – Chairman, CGWA letter dated 02.08.2023 & 31.08.2023**

Sir,

This has reference to the above mentioned letters issued to the stadiums with copy endorsed to BCCI with request to ensure the compliance in pursuance to the directions of the Secretary, DoWR, RD & GR, Ministry of Jal Shakti during meeting held on 17.07.2023 in compliance of subject NGT matter.

Further, the Hon'ble NGT matter titled as Haider Ali vs. Union of India & Ors (M.A. No. 16/2023 to M.A. No. 18/2023 in O.A. No. 94/2021) was listed on 12.09.2021, wherein Hon'ble NGT has directed CGWA "to file further action taken report disclosing the action taken in pursuance to the show cause notice and also the action which is taken against the non-compliant defaulting stadiums. The action taken report will also include the action taken in respect of other directions contained in paragraph 5 of the order of the Tribunal dated 15.04.2021 passed in O.A. No. 94/2021 within eight weeks". Copy of the order is enclosed.

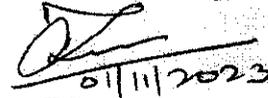
In view of the above, it is requested to issue suitable directives to non-compliant stadiums to submit compliance status latest by 07.11.2023 and also requested to submit status report on the other direction i.e. iii) laying down mandatory requirement of engagement of an environmental expert for every cricket stadium for ensuring compliance with the environmental norms, iv) using every sports event with the File No. CGWA-21/31/2020-CGWA programme of awareness for environment protection, using a part of

profit from commercial activities as a mandatory obligations contained in paragraph 5 of the Hon'ble NGT order dated 15.04.2021 passed in O.A. No. 94/2021.

Action early action is highly solicited.

Encl: As above.

Yours sincerely,



(T.B.N. Singh)

Member Secretary, CGWA

Copy to:

The Director (GW), DoWR, RD & GR, MoJS, Shram Shakti Bhawan, Rafi Marg, New Delhi-110001- for kind information.



(T.B.N. Singh)

Member Secretary, CGWA

भारत सरकार  
जल शक्ति मंत्रालय  
जल संसाधन, नदी विकास और गंगा संरक्षण  
विभाग  
केंद्रीय भूजल प्राधिकरण  
18/11 जामनगर हाउस, मानसिंह रोड  
नई दिल्ली-110011  
ई-मेल: cgwa@nic.in



Government of India  
Ministry of Jal Shakti  
Department of Water Resources,  
RD & GR  
Central Ground Water Authority  
18/11, Jamnagar House, Mansingh  
Road  
New Delhi – 110011  
E-mail: cgwa@nic.in

**MOST URGENT**

File no: - CGWA-21/31/2020-CGWA- 588

01.11.  
Date – 31.10.2023

To

The CEO,  
Board of Control for Cricket in India,  
4th Floor, Cricket Centre Wankhede Stadium,  
D-Road, Churchgate, Mumbai – 400020  
Email – hemang.amin@bcci.tv

**Sub- Compliance of Hon'ble NGT Order dated 15.04.2021 in Haider Ali vs. Union of India and Ors. (O.A. NO. 94/2021) w.r.t. construction / installation of appropriate mechanism for artificial recharge of ground water / rain water harvesting in stadiums, cricket grounds etc. – reg.**

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Action early action is highly solicited.

Encl: As above.

Yours sincerely,



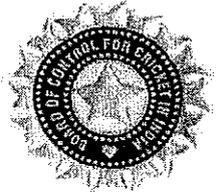
(T.B.N. Singh)  
Member Secretary, CGWA

Copy to:

The Director (GW), DoWR, RD & GR, MoJS, Shram Shakti Bhawan, Rafi Marg, New Delhi-110001- for kind information.



01/11/2023  
(T.B.N. Singh)  
Member Secretary, CGWA



November 23, 2023

Government of India,  
Ministry of Jal Shakti,  
Central Ground Water Authority,  
18/11, Jamnagar House,  
Mansingh Road, New Delhi-110011.

**Kind Attn:** T.B.N. Singh.

**Sub:** Compliance of Hon'ble NGT Order dated 15.04.2021 in Haider Ali vs. Union of India and Ors. (O.A.NO.94/2021) w.r.t construction/installation of appropriate mechanism for artificial recharge of ground water/rain water harvesting in stadiums, cricket grounds etc.-reg.

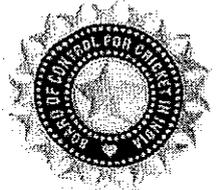
**Ref:** Letter dated November 01, 2023 having file number CGWA-21/31/2020-CGWA-588 ("Letter").

Dear Sir,

We refer to your captioned Letter.

At the outset, we reiterate that, BCCI is a society formed and registered under the Tamil Nadu Societies Registration Act, 1975 for the promotion and development of cricket in India. The BCCI has several state cricket associations as its members, who are separate and distinct entities. It is stated that BCCI does not own any stadium and the stadiums are generally owned or managed by the respective state cricket associations.

We state that BCCI has from time to time issued communications to all its state cricket associations informing all the directions/ guidelines issued by you and requesting them to

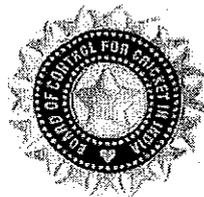


comply with the same. BCCI had vide a detailed email dated June 23, 2023 informed its state associations regarding various guidelines issued by Central Ground Water Authority. BCCI also informed the state associations that a meeting was held by the Secretary, Department of Ground Water, Ministry of Jal Shakti on June 02, 2023 with various parties including BCCI to monitor the progress of the said issue and that Secretary, Department of Ground Water, Ministry of Jal Shakti has circulated minutes of the said meeting. State Associations were informed regarding the below actions advised in the said minutes of meeting:

- a. BCCI to ensure that MoHUA and CGWA guidelines are being followed by the State Cricket Associations;
- b. Rain water storage arrangements must be made in stadiums and the use of ground water/fresh water must be avoided for playground/greenbelt maintenance. A plan may be developed for using sewage water, tapping nearby sewer line and using available techniques for treatment, reducing groundwater usage etc for stadiums.
- c. Qualified environmental expert may be engaged by State Cricket Associations on part-time basis/need basis for environmental assessment.
- d. Campaign about water conservation may be made during mega sports events.

We also enclosed the copy of the minutes with the email sent to state associations and requested them to share with BCCI action taken report for implementation of the mechanism, in their stadiums and plan of action for points specified aforesaid i.e. (a to d). We refer to the BCCI's letter dated June 30, 2023 issued to you wherein we have apprised you on the various communications issued by BCCI, in this regard. BCCI's letter dated June 30, 2023 (without annexure) is enclosed herewith for your reference.

BCCI again vide its email dated August 07, 2023 requested all its state cricket associations to provide information on the steps taken by them for implementation of mechanism for artificial recharge of ground water/rain water harvesting in the stadiums, to save ground



water. We also enclosed the minutes of the meeting dated July 17, 2023 conducted by the Ministry of Jal Shakti.

Further, BCCI vide its email dated September 21, 2023 to all its state associations again referred to all the emails sent to the state associations regarding the issue and then enclosed the letter dated August 31, 2023 issued by the Central Ground Water Authority requesting all the state associations to provide necessary status of compliance to the Central Ground Water Authority, Ministry of Jal Shakti.

We request you to take the aforesaid steps taken by the BCCI on record. We assure you that BCCI shall continue to cooperate with the Central Ground Water Authority to meet the objectives in compliance with the directions of the Hon'ble NGT.

BCCI shall provide further information on the implementation of the relevant mechanism, upon receipt of the same, from its state cricket associations.

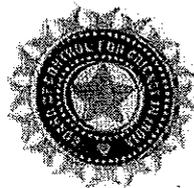
Yours Sincerely,

  
Hemang Amin



**Chief Executive Officer (Interim)**

**The Board of Control for Cricket in India.**



June 30, 2023

Government of India,  
Ministry of Jal Shakti,  
Central Ground Water Authority,  
18/11, Jamnagar House,  
Mansingh Road, New Delhi-110011.

**Kind Attn:** A.K Agrawal.

**Sub:** Compliance of Hon'ble NGT Order dated 15.04.2021 in Haider Ali vs. Union of India and Ors. (O.A.NO.94/2021) w.r.t construction/installation of appropriate mechanism for artificial recharge of ground water/rain water harvesting in stadiums, cricket grounds etc.-reg.

**Ref:** Letter dated May 02, 2023 having file number CGWA-21/31/2020-CGWA-233 ("Letter").

Dear Sir,

We refer to your captioned Letter.

At the outset, we reiterate that, BCCI is a society formed and registered under the Tamil Nadu Societies Registration Act, 1975 for the promotion and development of cricket in India. The BCCI has several state cricket associations as its members, who are separate and distinct entities. It is stated that BCCI does not own any stadium and the stadiums are generally owned or managed by the respective state cricket associations.

We state that BCCI has issued communication dated June 23, 2023 to all its state cricket associations forwarding all the guidelines forwarded by you *vide* your Letter. Further, BCCI has again requested all the state cricket associations to submit to the BCCI action taken

1 | Page

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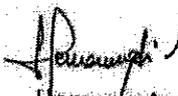


report for implementation of the appropriate mechanism for water preservation, in the stadiums managed/owned by state cricket associations, in compliance of the NGT order.

We also state that pursuant to the NGT orders, BCCI has been issuing communications to its state cricket associations from time to time regarding the compliance of the said orders and submission of action taken reports on the implementation of the mechanism of artificial recharge of ground water/rain-water harvesting in all stadiums owned or managed by the state associations. BCCI had *vide* its letters dated March 10, 2023 and March 30, 2023, already informed you the status of implementation of the 10 (Ten) state cricket associations. BCCI's letters dated March 10, 2023 and March 30, 2023 are enclosed (without annexures) herewith for your reference.

We request you to take the aforesaid on record. BCCI shall provide further information on the implementation of the relevant mechanism, upon receipt of the same, from its state cricket associations.

Yours Sincerely,

  
Hemang Amin

Chief Executive Officer (Interim), BCCI

Wednesday, April 10, 2024 at 17:50:01 India Standard Time

**Subject:** Status update in r/o Hon'ble NGT order in Haider Ali vs. Union of India and Ors. (EA No. 41/2023 MA No. 16/2023 in O.A. NO. 94/2021)  
**Date:** Tuesday, 20 February 2024 at 9:15:43 PM India Standard Time  
**From:** Hemang Amin  
**To:** cgwa@nic.in  
**CC:** MCGWA, RD, CGWA, VIKAS RANJAN, VINOD KUMAR, Secretary Office, legal team  
**Attachments:** BCCI Reply 23.11.2023.pdf

Dear Sir,

We refer to your trailing email.

At the outset, we reiterate that the BCCI is a society formed and registered under the Tamil Nadu Societies Registration Act, 1975 for the promotion and development of cricket in India. The BCCI has several state cricket associations as its members, who are separate and distinct entities. It is stated that the BCCI does not own any stadium and the stadiums are generally owned or managed by the respective state cricket associations.

Further, we reiterate that the BCCI has from time to time issued communications to all its state cricket associations informing all the directions/ guidelines issued in this regard and requesting them to comply with the same. We request you to refer to BCCI's letter dated November 23, 2023 wherein BCCI has apprised you regarding the steps taken by BCCI and all the communications issued by BCCI from time to time to all its state cricket associations. BCCI's letter dated November 23, 2023 (without annexures) is enclosed herewith for your reference.

We have once again sent an email on February 16, 2024 to all the state cricket associations informing them about the order dated December 07, 2023 passed by Hon'ble National Green Tribunal (NGT) and requesting them to immediately provide a reply to the Central Ground Water

Authority (CGWA) and Hon'ble NGT and also be in compliance with all the directions of the CGWA and Hon'ble NGT issued from time to time.

We request you to take the aforesaid steps taken by the BCCI on record. We assure you that BCCI shall continue to cooperate with the Central Ground Water Authority to meet the objectives in compliance with the directions of the Hon'ble NGT.

Yours Sincerely,

Hemang Amin

Chief Executive Officer (Interim)

The Board of Control for Cricket in India.

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**From:** Central Ground Water Authority <[cgwa@nic.in](mailto:cgwa@nic.in)>

**Date:** Tuesday, 30 January 2024 at 17:01

**To:** Hemang Amin <[hemang.amin@bccci.tv](mailto:hemang.amin@bccci.tv)>

**Cc:** MCGWA <[mcgwa-cgwb@gov.in](mailto:mcgwa-cgwb@gov.in)>, "RD, CGWA" <[rdcgwa-cgwb@nic.in](mailto:rdcgwa-cgwb@nic.in)>, VIKAS RANJAN <[vikasranjan-cgwb@gov.in](mailto:vikasranjan-cgwb@gov.in)>, VINOD KUMAR <[vk.dhaundiyal-cgwb@gov.in](mailto:vk.dhaundiyal-cgwb@gov.in)>

**Subject:** Status update in r/o Hon'ble NGT order in Haider Ali vs. Union of India and Ors. (EA No. 41/2023 MA No. 16/2023 in O.A. NO. 94/2021)

Sir

Please find attached Hon'ble Order dated 07.12.2023 in the matter. Vide this order, Hon'ble NGT has made 22 Cricket Associations/ Clubs respondents in the matter. Next date of hearing in the matter is scheduled on 21.02.2024.

It is requested to please provide steps initiated/ taken by BCCI in pursuance to Hon'ble NGT directions. It is further requested to please pursue with Cricket Associations for submission of replies to Hon'ble NGT and status update in this regard may be provided to this office.

Regards

Dr Vikas Ranjan

Scientist D

**O/o सदस्य सचिव Member Secretary,**

**केंद्रीय भूजल प्राधिकरण Central Ground Water Authority**

जल शक्ति मंत्रालय, भारत सरकार Ministry of Jal Shakti, Govt. of India

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली-110011

18/11, Jamnagar House, Mansingh Road, New Delhi-110011

Ph- (011) 23383824; Fax- (011) 23382051; e-mail: [cgwa@nic.in](mailto:cgwa@nic.in)



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jainendra kumar <jainendrakumar1987@gmail.com>

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**Reply on behalf of the BCCI Respondent No. 2 in EA No. 41 of 2023 Haider Ali Vs. Union of India & Ors.**

1 message

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**jainendra kumar** <jainendrakumar1987@gmail.com>

Mon, Apr 29, 2024 at 3:57 PM

To: sanobar ali Qureshi <sanobaraliqureshi@gmail.com>

Cc: bihu sharma <bihusharma@gmail.com>

Dear Sir,

Please find enclosed pdf Reply on behalf of the BCCI Respondent No. 2 in EA No. 41 of 2023 Haider Ali Vs. Union of India & Ors.

Regards

Jainendra Kumar  
Office of Mrs. Bihu Sharma  
D- 85 (Lower Ground Floor)  
Panchsheel Enclave  
New Delhi- 110017  
Ph: (011) 40509856

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 **Haider Ali Vs. U.O.I. Ors..pdf**  
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