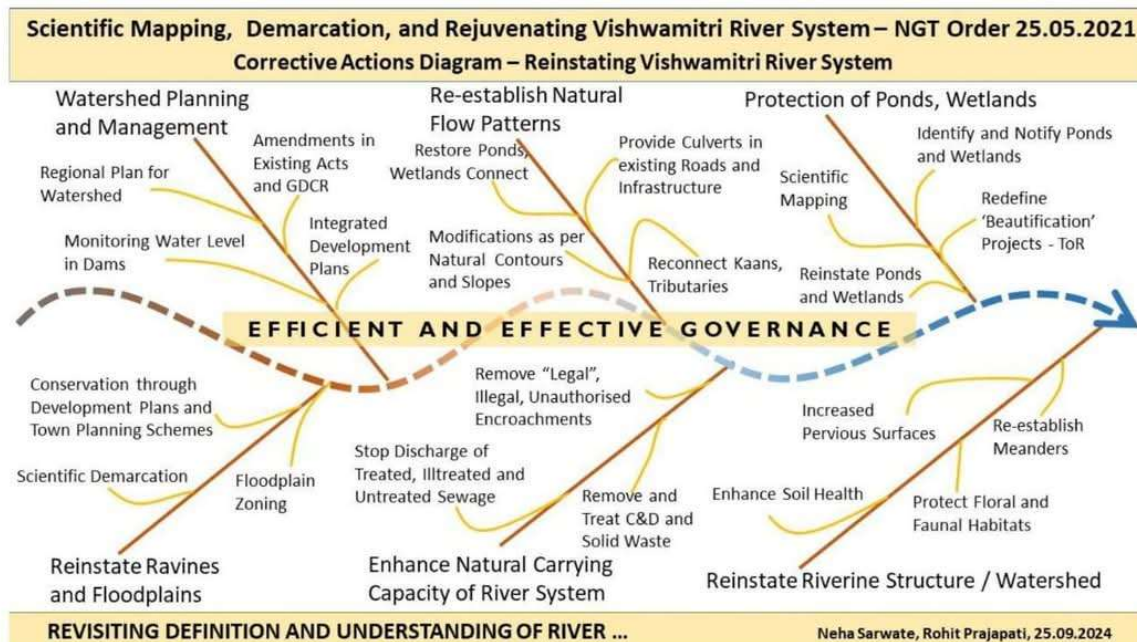
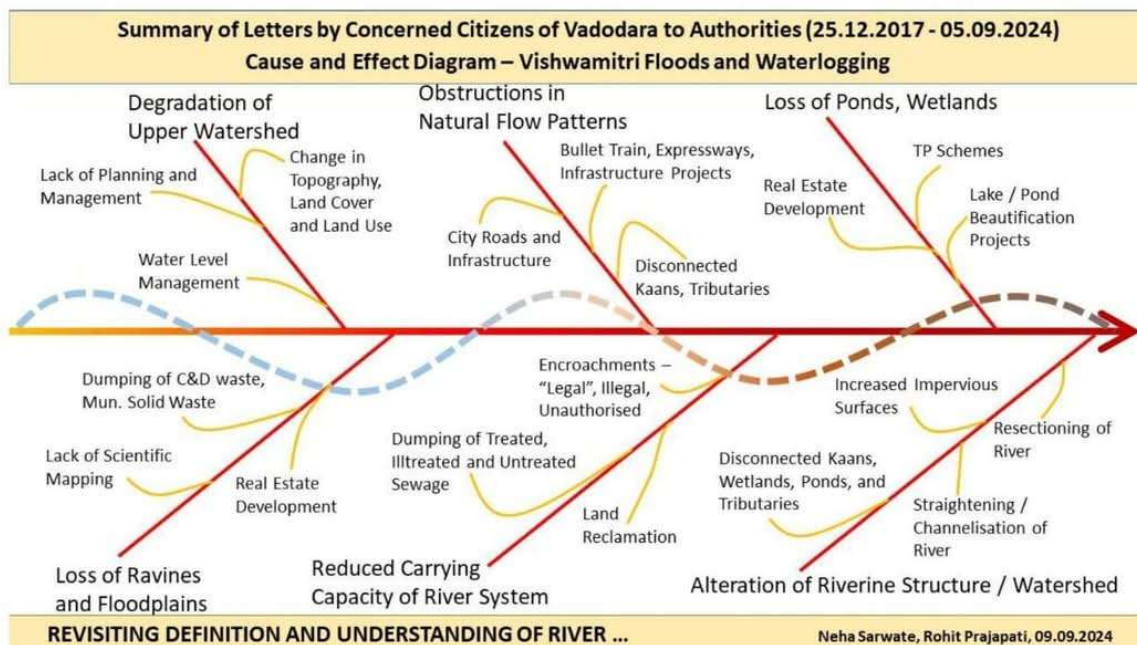


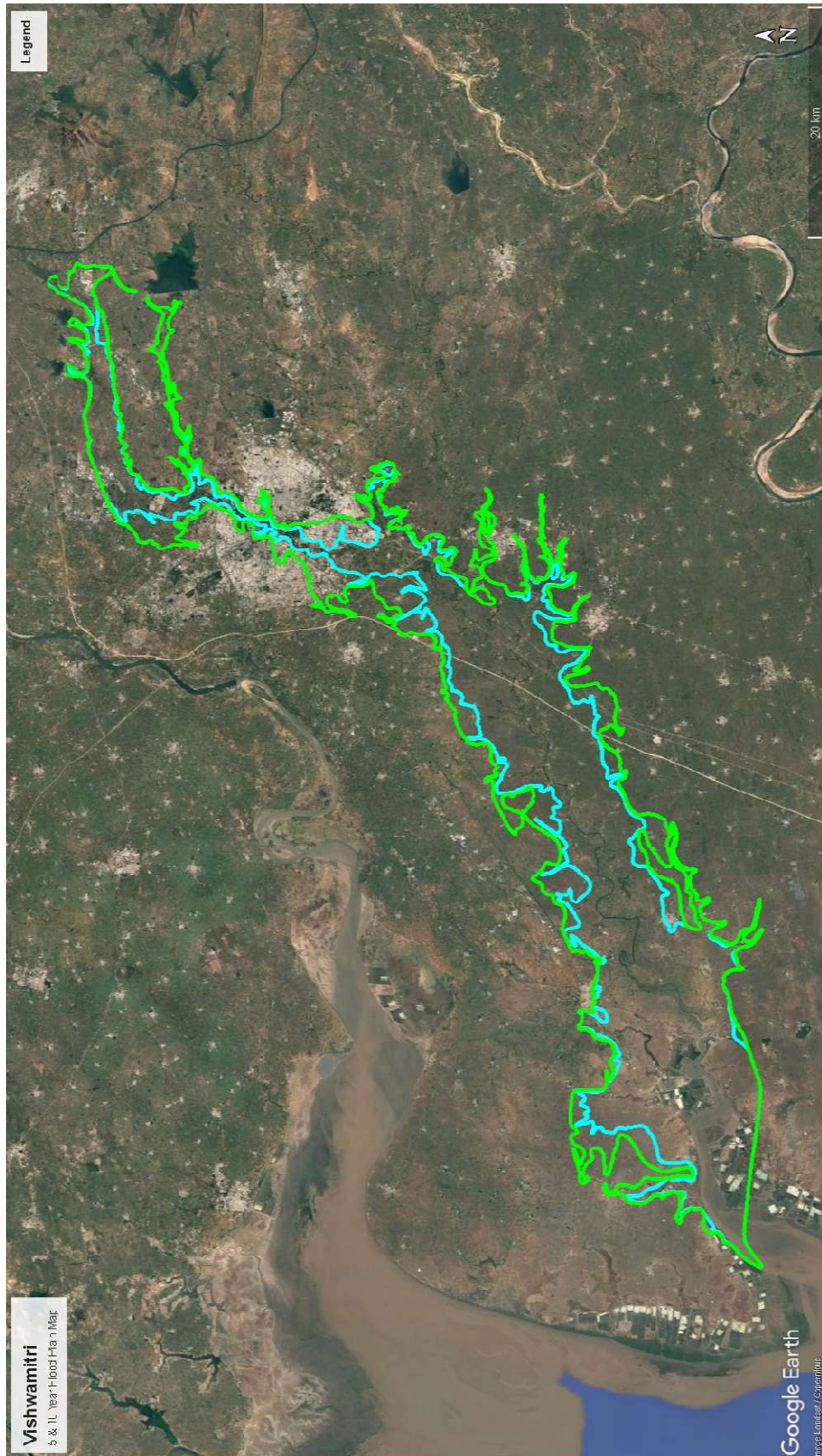
Fifth Report of the Vishwamitri Committee
(Constituted by the Hon'ble Gujarat State Human Rights Commission)

In the Matter of

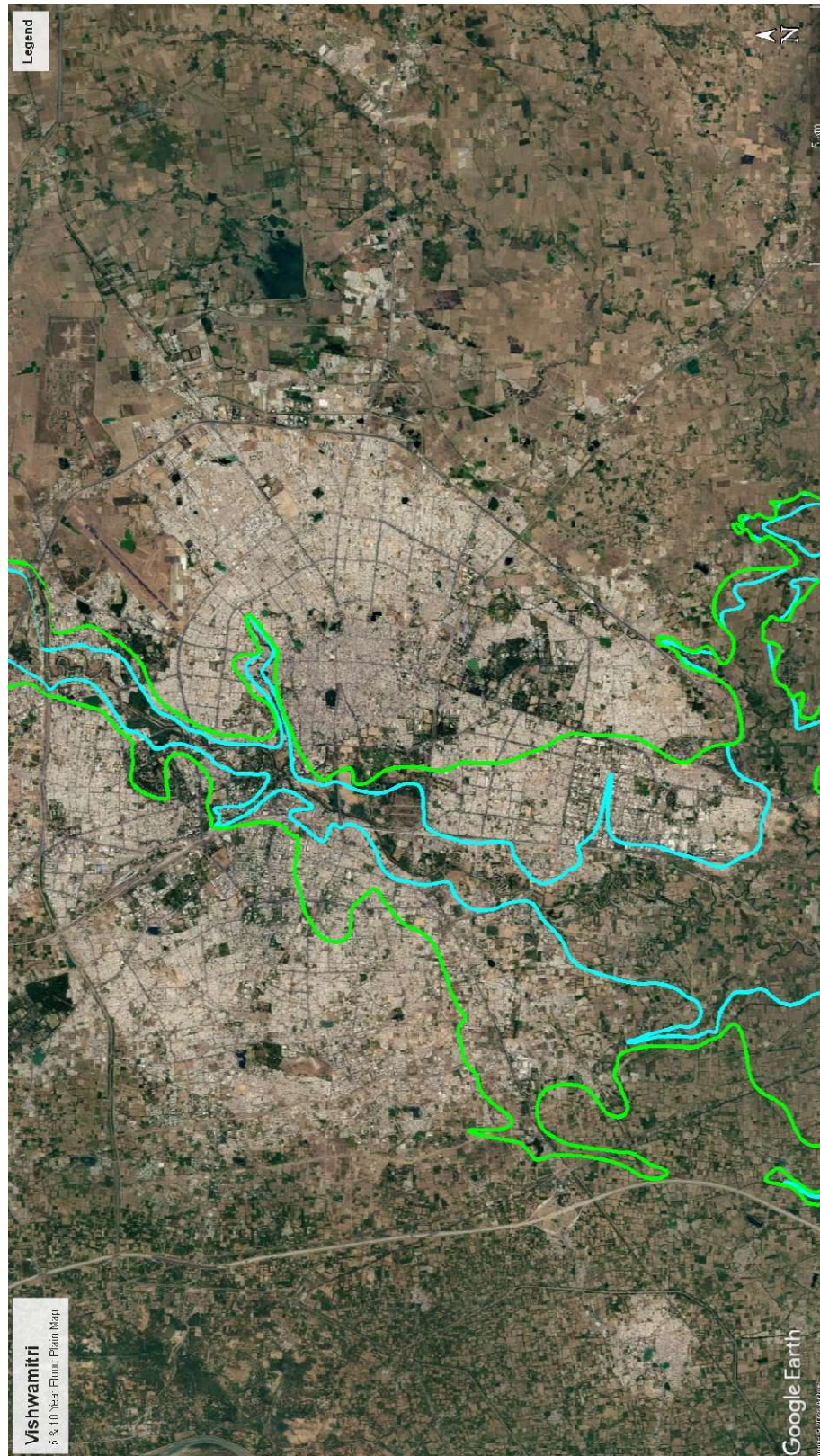
HRC/2024/PRESS/205/Vadodara City/legal-1

22.06.2026





Vishwamitri 5 & 10 Year Flood Plain Map



Vishwamitri – Vadodara 5 & 10 Year Flood Plain Map

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Report

After the Fourth Report dated 13.02.2026, this Committee continued the monitoring of the ongoing works by the VMC and Irrigation Department.

The table below shows the information requested and not received from concerned authorities.

Table 1: Information Requested and Not Received from Concerned Authorities

Sr. No.	Information Requested	Information Received
1.	Location and quantification of C&D waste dumping in the floodplain area, and action plan for removal.	Awaited
2.	Justification of retaining wall at Zoo premises	Awaited

The table below shows the information requested and received from concerned authorities.

Table 2: Information Requested and Received from Concerned Authorities

Sr. No.	Information Requested	Information Received
1.	Preparation of Action Plan and Assignment of Survey Work for Removal of C&D Waste from 13 Identified Locations	Preliminary and superficial
2.	Design Calculation for Gabion Wall (Harni)	
3.	Gabion Wall Design at Kutrim Talav (Akota Immersion pond)	
4.	Process Photos of gabion walls at Kutrim Talav and Chetak Bridge	

5.	Response letter regarding C&D waste dated 04.06.2026	
6.	Response letter regarding justification for gabion wall location dated 04.06.2026	

The table below logs the course of events which have been elaborated upon later as Annexure I.

Table 3: Site Visits and Meetings

Sr. No.	Date	Events	Particulars
1.	20.03.2026	Site Visit to Mangal Pandey Bridge	
2.	23.03.2026	Visit to STP's	
3.	25.03.2026	Meeting with MC and VMC Officials	
4.	28.03.2026	Gabion Wall Site Visit 1	
5.	09.04.2026	Meeting with VMC Officials for Gabion walls and SWM	
6.	17.04.2026	Gabion Wall Site Visit 2	
7.	04.05.2026	Meeting with MC and VMC Officials	
8.	21.05.2026	Meeting with Mr. Navalawala	

Observations and Recommendations

To create an Action Plan for the true rejuvenation of the Vishwamitri River, it is essential to follow a well-thought strategic, multi-stage process that is compliant with legal and environmental regulations and the Order dated 25.05.2021 of the National Green Tribunal, Principal Bench in Application O. A. No. 228/2020 (Earlier O. A. No. 49/2016 (WZ)) and Execution Application No. 45/2016 (WZ) (Rohit Prajapati & Anr V/s Secretary, MoEF & CC & Ors.),

Below is a proposed framework of content and processes that need to be included for the preparation of such a plan in a holistic manner. These are categorized into themes and sub-themes as discussed below:

1. Construction & Demolition (C&D) Waste Management

We have had multiple discussions with the SWM officials of VMC and their consultants, to address the legacy waste and ongoing dumping of C&D waste in the riverine areas of Vishwamitri River that has considerably reduced the storm water carrying of the river.

The task of identifying locations of debris dumping and legacy waste in the riverine areas, wetlands, and across the city has not been completed. An action plan to address the issues of C&D waste is still awaited since the last 9 months. It is pertinent to ascertain methodology towards the identification, documentation, and quantification of the debris. Allied permissions required for execution of the work from Forest Department, Irrigation Department, etc. need to be obtained. The Action Plan should address methods of execution and monitoring of the removal and processing works with respect to time, workforce, and machinery required. Status of the C&D waste processing plant of VMC should be accounted for.

Since the Vadodara Municipal Corporation and its SWM Department have failed to remove the long pending legacy waste and C&D waste, it is evident that the VMC is complacent about the removal of identified C&D waste and also to address the increasing dumping of waste across the city. Any sudden, heavy rain events in coming days may invite flood and water logging. The VMC and its top officials will be held accountable for losses due to possible water logging and flooding events.

Based on our past experiences to address this grave concern, we understand that the VMC is undergoing staff shortages and lack of a fully functional processing plant. In light of this situation, we strongly recommend that the VMC seek the services and support of large-scale construction industries to remove the debris and repurpose it in their projects, similar to the desilting process adopted by the VMC in 2025.

2. Municipal Solid Waste Management (SWM)

As per the Supreme Court Order dated 05.05.2026, a clear strategy needs to be established for the collection, segregation, treatment, processing, and recycling of municipal solid waste in addition to the waste removed from the riverine areas. Utmost precautions need to be taken that no additional waste is disposed in the riverine areas. Processing units at Atladara should be upgraded to manage the quantum of waste disposed every day. Collaborations need to be established between the VMC, academia, NGOs, recyclers, and industries towards the recycling of solid waste for usable products; CSR initiatives could be integrated in this effort.

The VMC should collaborate with residential societies, and community organisations to generate awareness and training for segregating at source and provide incentives for the same. Similarly, garbage collection vans should be retrofitted to collect the segregated waste at source and training programs should be conducted with the collecting staff regarding duly

putting the segregated waste in the appropriate bins. Composting of biodegradable waste should be encouraged and facilitated at building levels, both for residential and commercial properties. Separator bins should be installed at strategic locations at neighbourhood level for residents to deposit recyclable waste like glass, metal cans, wood, cardboard, batteries, etc. Biomedical and hazardous waste should be addressed separately from regular domestic and commercial waste.

3. Sewage Treatment

The committee observed absence of raw data /calculations to support the actual analysis done, chemical consumption etc. It was observed that the analysis data entered into the record book were having number of duplications and followed a typical repetitive trend. The laboratory used to examine inlet/outlet quality at the STPs are not adequately equipped to test the constituents of the sewage and operational parameters, while the staff at the laboratories are also not adequately trained and sensitized to perform the required tests and analyze the results. In-house operating and monitoring mechanism of the STPs and its laboratories are inadequate and inefficient.

A Striking error was observed in the protocol used to measure BOD in several STPs (Chhani 50 MLD, Chhani-21 MLD, Vemali- 13 MLD, Rajivnagar-78 MLD, Bhayli- 45 MLD, Sayaji Garden-16 MLD, Kapurai- 45-MLD, Kapurai-60MLF). As shown in the photographs below, the BOD bottles of 330 ml volume were deliberately filled up to 300 ml volume leaving a 30 mL air space in the bottle. As per the Standard Method, the BOD bottles must be filled up to the brink and then stoppered so that there are no air voids in the bottles. Any air space left in bottle (as per the protocol followed by STPs) will supply oxygen during the incubation process and the BOD results obtained by such method will always be significantly lower than the actual BOD values. The oxygen contained in ~30 mL air at 20 C will be about 7 mg. If the sample (treated or raw sewage) placed in the BOD bottle

is diluted 10 times, it will show negligible BOD even if the actual BOD is ~ 70 mg/L.

4. Encroachments

Encroachments in the riverine areas to be classified as below and separate strategies and processes need to be applied to address their sensitive nature.

- a. Temporary – consisting of informal settlements, short term and long-term C&D waste and MSW landfills.
- b. Permanent – occupation of riverine areas by legally approved buildings developments and Infrastructure projects like the piers and pipelines by larger infrastructure projects like highways, railways, electrical transmission stanchions, water and gas pipelines, etc.

The National Green Tribunal (NGT) has already directed the removal of unauthorized structures to help restore the river's ecosystem and prevent flooding and waterlogging. Depending on the nature of encroachment, the Concerned Authorities should organize a meeting with all the stakeholders to discuss the critical, crucial problem affecting considerable number of people due to flood and waterlogging, to resolve the issues in a systemic manner rather than adhoc actions, and even to comply with the Hon'ble NGT Order dated 25.05.2021.

Since the VMC has identified the properties that lie within the floodplain areas, there is a need to initiate a dialogue through focussed discussions on the vulnerability of the encroachments, impact on the river system and impacts on them too. The action plan for the removal of encroachments and the plan for river rejuvenation should be a simultaneous effort that is well integrated in the Development Plan revision process, Local Area Planning initiatives, and Town Planning Schemes as discussed below. A mutually agreed legal process should be initiated through public hearings

and stakeholder meetings to arrive at mutually agreed upon solutions. Formal legal notices to be served to the owners or occupants of all identified unauthorised structures. The notice must specify the legal basis for the removal as clearly mentioned in the NGT Order dated 25.05.2021.

The transition process should be transparent with the plan and its environmental benefits be made public to build citizen trust and support. This can help prevent conflicts and garner citizen participation in river rejuvenation.

Successful implementation requires careful planning and proactive measures to manage the social and economic consequences. A rehabilitation and resettlement plan (R&R) for slums and other informal settlements, should be developed as a R&R policy that provides alternative housing options, prioritizing recent redevelopment schemes that were built despite knowledge of flood risks. During the removal of structures, plan should be devised for safeguarding the wildlife, especially crocodiles and turtles, from the impacts of the machinery used. This would require coordination with the Department of Environment and Forest (DoEF), Wildlife Board, and wildlife experts.

5. Planning and Design

A watershed approach for Dhadhar Basin including the Vishwamitri watershed should be adopted and a regional plan for Vadodara eco-region should be devised to integrate the upstream and downstream inter-relationship. The Development Plan and subsequent Local Area Plans (LAP) and Town Planning Schemes (TPS) process for the VUDA limits other urban areas within the Dhadhar and Vishwamitri watersheds should follow the directives of this regional plan in a cohesive manner.

Since the cadastral maps are from the colonial times and the river has undergone many natural and forced changes, the first desirable step would be to reconfigure the base property map to acknowledge the renewed river

course and its associated components also need to be notified. Map all existing structures, both temporary and permanent, within the officially demarcated floodplain which is already done to comply with the Order dated 25.05.2021 of the Hon'ble NGT.

There should be an overlay zone provision for the floodplain areas in the reconfigured areas to align with the scientific delineation of the riverine areas. There is opportunity for nature based recreation and tourism within city limits that needs to be integrated in the zoning. Maintain and enhance natural, riparian zones: nature based solutions in planning. A sincere, participatory process (focus group discussions, workshops and charrettes) should be undertaken by a robust team comprising of local experts, academia, planners, landscape architects, urban designers, with property owners, businesses and residents to formulate a plan that is beneficial to all and the river system.

Land use planning and zoning of land parcels (private and public) in floodplain areas should include non-intrusive functions and activities complimenting natural uses with as little construction as possible. The Land Use table in the General Development Control Regulations should be revised to include activities like ecological parks, camping zones, recreational parks, educational facilities, urban farming, treatment of bio-degradable wastes (composting) at city scale, animal husbandry, agro-forestry, etc. Additionally, Transfer of Development Rights (TDR) and tax exemptions, incentives, should be exercised to economically compensate the owners.

6. Riverine Corridor

The Riverine ecosystem should be restored – reinstating meanders, reconnecting ponds, wetlands, and ravines. As and when the debris is removed and the river regains her territory, the riparian edges need to be restored in accordance with the erosional and depositional nature of meandering banks. They need to be stabilised, while restoring the natural

topography, using ecological engineering methods to ensure a robust riverine structure. This can be done through soil consolidation followed by coir and coco-log applications, plantation of native grasses; each technique should be scientifically designed with the help of indigenous experience to safeguard the hydrological processes of inundation and recession.

A plantation list should be established and institutionalised that consists of native and non-alien species that contribute towards the health of wildlife habitats and contribute to the needed ecosystem services.

The ravines should be designed as shock absorbers that detain water during and post monsoons to increase the storm water carrying capacity of the river, regulate the environmental flows and replenish groundwater tables. During the non-monsoon season, they can double up as recreational and educational spaces, and habitats for various species. They can be designated as constructed wetlands to include bioswales towards root-zone purification processes. The vegetation and natural stormwater ways help clean the river and increase groundwater recharge.

7. Groundwater Management

The urban areas in the Vadodara ecoregion and beyond heavily rely on groundwater (borewells), in addition to the water supplied by the VMC, for their domestic, commercial, and industrial purposes, leading to overextraction and salinity ingress.

Aquifer mapping is the need of the hour and the basis for decision making to guide urban expansion. Regular monitoring the aquifer levels and water quality should be communicated to the civic society to raise awareness about the conscious use of water to minimise wastage. No new bore wells should be permitted and the existing ones to be phased out in a systematic manner.

Ecological restoration of wetlands, ponds, ravines, kaans, and riparian corridors must be an integral component to any development projects that falls in the vicinity of these entities to enhance infiltration. Incentives can be offered to projects that cause minimum disturbance to the soil-water connect and adopt nature based solutions (NBS) and ecosystem based approaches (EBA). The water entities that have become derelict must be revived, low lying areas that naturally store water should be notified as wetlands or ponds. The ponds and wetlands that have been lost to development should be restored through similar processes as mentioned in above. All these strategies will enhance infiltration and hence replenish the aquifers. Precautions should be taken to prevent polluting waters from being infiltrated.

Detention and retention ponds in the upstream areas should be created through small scale, ecologically engineered check dams to reduce the intensity of flow due to sudden inundation from release of waters from upstream dams, or heavy rainfall spells causing flash floods. These will also help increase the rate of infiltration.

8. Biodiversity

To protect and conserve the rich biodiversity, a dedicated 5-year plan for safeguarding the flora and fauna in Vishwamitri riverine ecosystem should be devised. A robust team of botanists, zoologists, soil scientists, ecologists, from academia, NGOs and field experts should be constituted for the formulation and effective implementation of the plan. The plan should be time-bound, scientifically guided, and include measurable ecological performance indicators with annual review mechanisms. The key components of such a plan should include and not be limited to:

- a) Baseline ecological survey and GIS-based habitat mapping
- b) Identification of critical habitats and biodiversity hotspots
- c) Restoration of riparian buffers and wetlands

- d) Phased removal of encroachments affecting ecological flow
- e) Invasive species management strategy
- f) Native species reintroduction and habitat enhancement
- g) Water quality improvement measures
- h) Community participation and stakeholder engagement

Annual biodiversity assessment studies of urban and rural stretches of the river should be undertaken to document floral and faunal diversity, monitor population trends of species, identify threatened, endemic, and invasive species, assess habitat degradation and anthropogenic impacts, and creation of a publicly accessible biodiversity database. The study should be conducted in collaboration with recognized academic institutions, ecological experts, forest department officials, and biodiversity boards to ensure scientific rigor and transparency.

Periodic, seasonal weeding and plantation of native species should be mainstreamed as a regular activity of the Parks and Gardens Department within the VMC limits and Forest Department in the upstream and downstream areas. Such activities include periodic removal of invasive and non-native species, seasonal weeding aligned with ecological cycles, plantation of native riparian and wetland plant species, and monitoring of plantation survival rates efforts to improve the floral health. Plantation drives should prioritize indigenous species adapted to the local ecosystem to ensure long-term sustainability. Plantations of native species should be done along the banks of the newly created detention ponds at Dumad and also those resulting from the building of new check dams. Such plantation should also be carried out in the excavated areas of the existing reservoirs at Ajwa and Pratappura.

Scientific Annual Census of crocodiles and key species, including birds, should be undertaken to ensure health and mitigate conflicts. Recommended methods include direct sighting surveys using standardized protocols, drone-assisted mapping of habitats, use of camera traps in

strategic locations, GPS-based habitat documentation, seasonal monitoring of nesting and breeding sites, and data archiving for long-term population trend analysis. NGOs, and field experts, wildlife volunteers can be involved this effort. This will support evidence-based conservation planning, improve human-wildlife conflict mitigation strategies, and enhance ecosystem management.

9. Governance and Processes

A robust plan requires effective and efficient legal and administrative setup to manage such a crucial, sensitive and complex process. The Concerned Authorities should constitute a multi-departmental committee that would include officials from the Vadodara Municipal Corporation (VMC), Vadodara Urban Development Authority (VUDA), District Collectorate of Vadodara, Department of Environment and Forest (DOEF), Gujarat Pollution Control Board (GPCB), Vishwamitri Committee, and technical experts like hydro-geologists, ecologists, landscape architects, legal counsel, and urban planners, to oversee the proceedings and guide the decision making and implementation process.

The operation, maintenance, and monitoring of all the above works must be conducted with due diligence and integrity. Inspection and surveillance teams must be constituted and existing departments should be adequately staffed with competent and well qualified personnel. It has been observed that there are redundancies, overlaps, and gaps in the roles and responsibilities of certain departments. There is a need to revisit these, reconfigure the departments to streamline the planning, implementation, and monitoring of the rejuvenation plan of the Vishwamitri River. To operationalise the above, resources and funding needs to be secured. Finances for human resources (landscape architects, environmental planners, ecologists, etc) and equipment need to be mobilised.

Efforts and initiatives for the rejuvenation of the Vishwamitri River can be likened to that of a movement towards a larger vision of resiliency and self reliance. These are time intensive and take perseverance and commitment. This committee will submit subsequent reports with the deliberations on the sewage treatment plants, C&D waste action plan, and the progression of work.

This committee will submit subsequent reports with the progression of work.



Dr. Neha Sarwate,
Environmental and Urban Planner



Rohit Prajapati,
Environment Activist, Researcher,
and Writer



Dr. Ranjitsinh Devkar, PhD,
Zoologist



Dr. Jitendra Gavali, PhD,
Botanist



Mitesh Panchal,
Architect and Urban Planner

Annexure I: Visits, Meetings, and Discussions

20.03.2026: Site Visit to Mangal Pandey Bridge

Location: Mangal Pandey Bridge

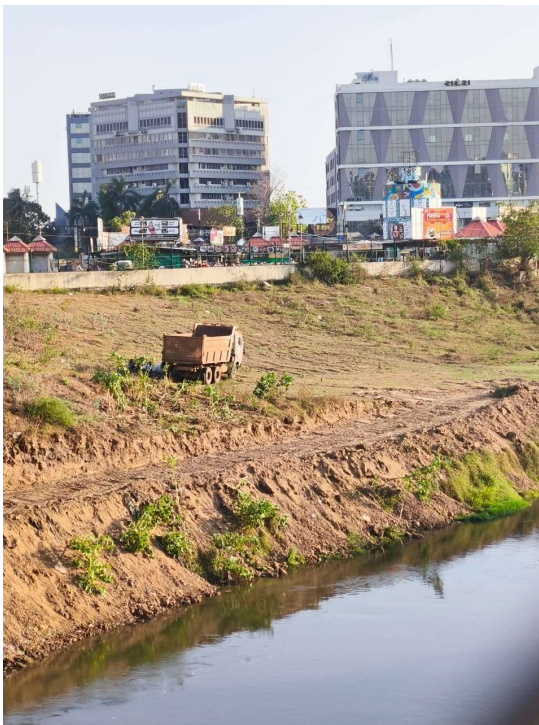
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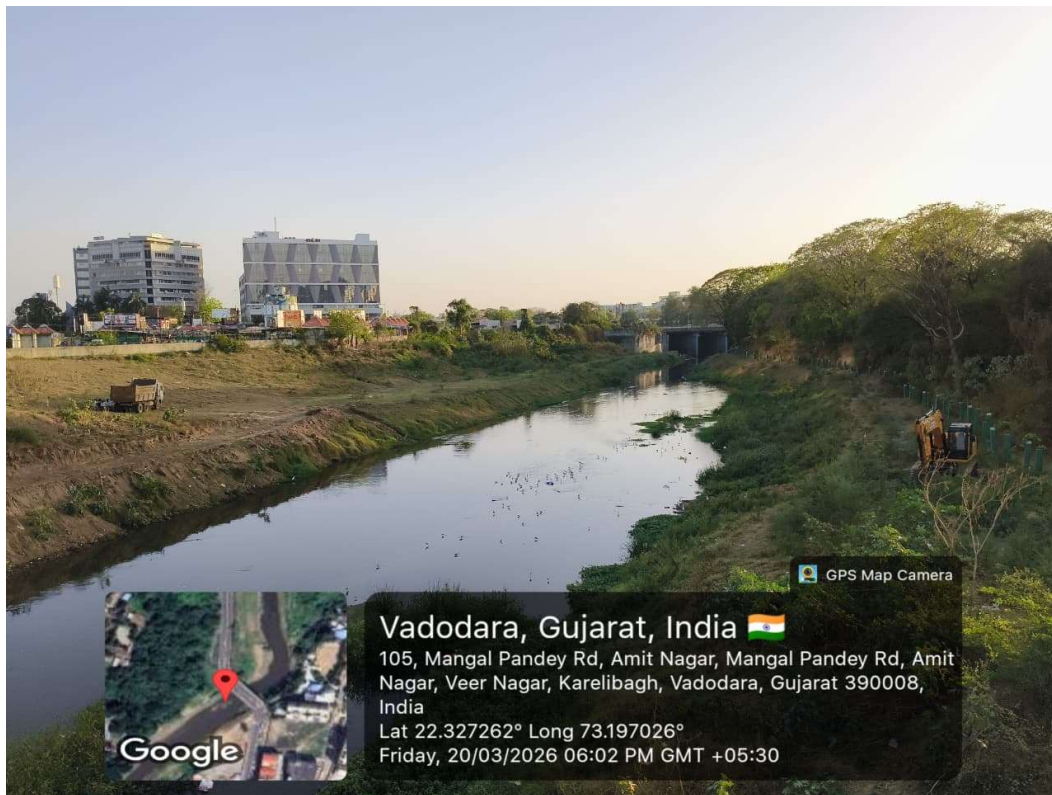
Attendee:

Ranjitsinh Devkar

Discussions:

There are a few concerns regarding the JCB entering the riverine areas in the night for purposes of constructing the gabion walls.





23.03.2026: Visit to Sewage Treatment Plants

Location: Kapurai, Bhayli, Sayaji Baug

Time: 8:30 AM

Attendee:

- ✓ Rohit Prajapati
- ✓ Jitendra Gavali
- ✓ Dr U. D. Patel

Discussions:

Report is attached as Annexure XII







25.03.2026: Meeting with MC and VMC Officials

Location: VMC Conference Room

Time: 3:30 PM

Attendee:

- ✓ Rohit Prajapati
- ✓ Neha Sarwate
- ✓ Jitendra Gavali
- ✓ Ranjitsinh Devkar
- ✓ Mitesh Panchal

Discussions:

1. Construction of gabions should be commenced only after removal of debris.
2. Removal of debris can be outsourced through CSR.
3. C&D waste including legacy waste, should be identified and quantified across the city.



28.03.2026: Gabion wall Site visit 1

Location: Chetak Bridge, Sama Bridge, Mangalpande Bridge, Bank location 1 near before Sama bridge, Bank location 2 near Bharvad Vas.

Time: 8:00 AM

Attendee:

- ✓ Ranjitsinh Devkar
- ✓ Jitendra Gavali
- ✓ Mitesh Panchal

Discussions:

There are a few concerns about the gabion wall locations due to the vicinity of crocodile dens that are presumably active due to the ongoing breeding season.

Important Observations:

1. The VMC engineers and contractors are unaware about den locations.
2. JCB activity at Mangal Pande bridge is very close to 2 dens but presently they are safe.
3. One den is presumably covered by the soil dug by JCB (as per NGO Ramesh) that needs validation.

Suggestions and urgent action:

1. Prepare a priority list as per the zones that need attention. Consider erosion and deposition banks details. Prepare a feasibility report.
2. Prepare drawings of the said work and discuss them before execution. Show approach road, dumping areas, crocodile den.
3. Locations apart from bridges need to be discussed.
4. Document and Report: Before, ongoing work and compilation work.
5. Onsite working methods/tools need to be planned. Prepare project management plan for each location for JCB approach road, excavated soil dumping, raw material dumping.
6. No work to be initiated without involving forest department and NGO.
7. NGO should be remunerated to be present throughout the gabion wall work.
8. Dens that are under high risk should be inspected by NGO and eggs or crocodile young (if any) should be rescued to safety.
9. Invasive species (gando baval and ice cream creeper) should be removed wherever the work is initiated.









09.04.2026: Meeting with VMC Officials for SWM & Gabion wall

Location: Khanderao Market

Time: 10:00 AM

Attendee:

- ✓ Neha Gabhawala
- ✓ Mitesh Panchal

Discussions:

1. Identification of C&D waste locations.
2. Quantification of C&D waste.
3. Design of gabions should be such that they do not enter into the riverine areas and the toe of the gabion wall should be beyond the banks.

17.04.2026: Site visit 2 for Gabion wall and Retaining Wall at Zoo

Location: Akota Bridge, Behind Zoo, Chetak Bridge

Time: 10:00 AM

Attendee:

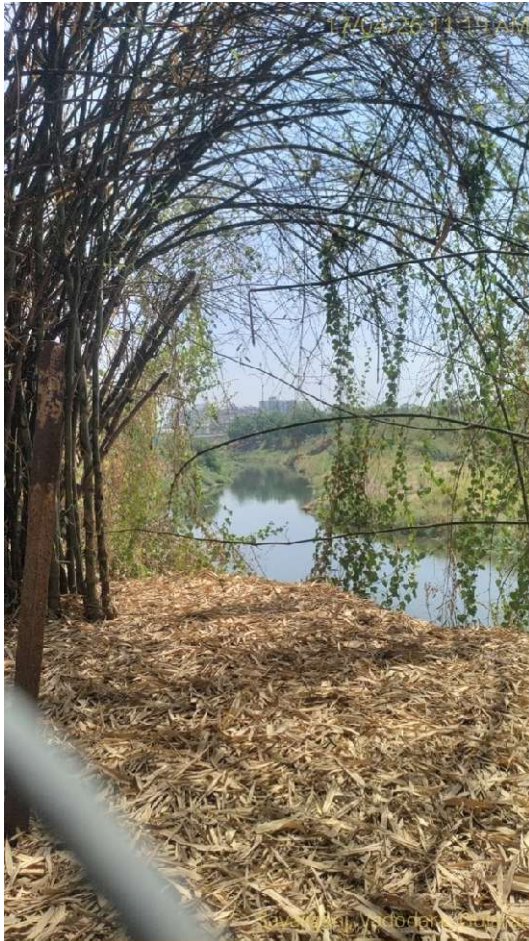
- ✓ Neha Gabhawala
- ✓ Jitendra Gavali
- ✓ Mitesh Panchal

Discussions:

1. Gabion walls should be only to protect the exposed piers of the bridges.
2. Unnecessary construction in downstream areas should be avoided.
3. The existing vegetation is contributing to bank stabilisation.
4. There is a need to maintain and open the natural waterways through the zoo, into the River.













05:05:2026: Site Visit to Zoo with Zoo Department Officials and their PMC

Location: Zoo

Time: 09:00 AM

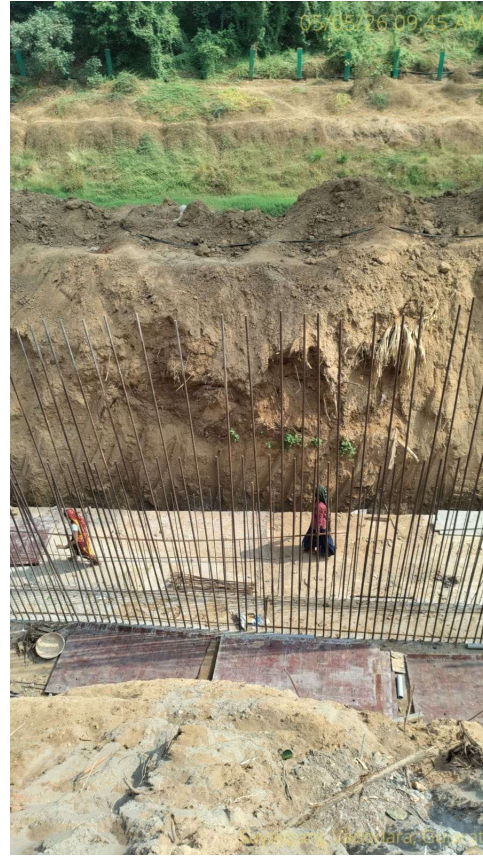
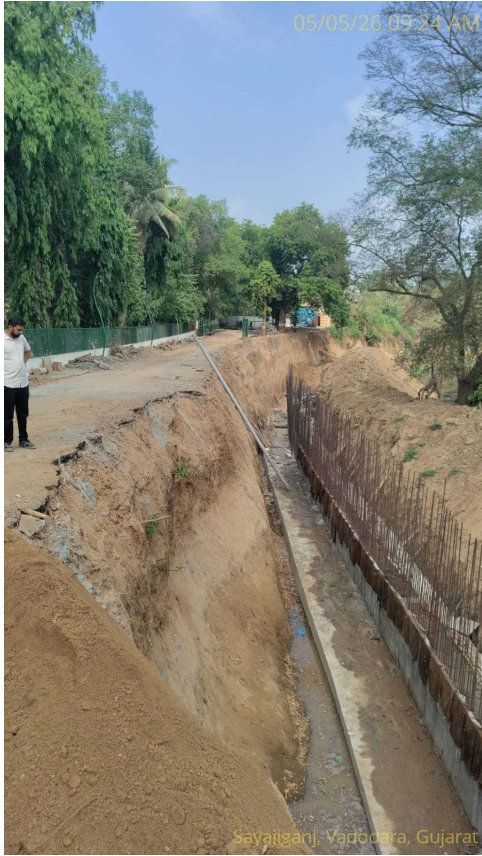
Attendee:

- ✓ Neha Gabhawala
- ✓ Mitesh Panchal

Discussions:

1. The retaining wall at the Zoo could have been avoided.
2. The Zoo authorities and their PMC are to submit their report to justify retaining wall and negating alternative approaches.
3. There should be discussions before taking decisions to construct anything in the river.





Annexure II: MOM with Mr. Navlavala

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તા. ૦૨/૦૪/૨૦૨૬

28 Feb. 2026

Minutes of Meeting (MoM)

તારીખ:-૨૭/૦૨/૨૦૨૬ ના રોજ ૧૨ કલાકે GERI office ખાતે વિશ્વામિત્રી નદી પૂર નિવારણ તથા નિયંત્રણ સમિતિનાં અધ્યક્ષ માન. બી. એન. નવલાવાલા સાહેબશ્રી તેમજ માન. મ્યુનિસિપલ કમિશનર સાહેબશ્રીનાં અધ્યક્ષ સ્થાને મીટીંગ યોજવામાં આવેલ જેમાં વડોદરા મહાનગરપાલિકા તેમજ સિંચાઈ વિભાગ દ્વારા પૂર્ણ કરવામાં આવેલ કામગીરી તેમજ પ્રગતિ હેઠળની કામગીરીઓ તફપરાંત નવીન સૂચિત તેમજ વિવિધ આયોજનો માટે વિચાર-વિમર્શ કરવામાં આવેલ. જેમાં ગુજરાત રાજ્ય માનવ અધિકાર આયોગના હુકમ પ્રેસ અંક ૨૦૫/૧૪ તા:-૦૧/૦૪/૨૦૨૫ થી નીમેલ સમિતીના પર્યાવરણવિદો, સભ્યશ્રીઓ તથા વડોદરા મહાનગરપાલિકા તથા સિંચાઈ વિભાગ ના અધિકારીશ્રીઓ, સલાહકારશ્રી મે. SECON ના પ્રતિનિધિઓ હાજર રહેલ.

1. માન. શ્રી બી. એન. નવલાવાલા, અધ્યક્ષ, વિશ્વામિત્રી સમિતિ
2. માન. શ્રી અરૂણ મહેશ બાબુ, મ્યુનિસિપલ કમિશનર શ્રી, VMC
3. માન. શ્રી ગંગા સિંઘ, ડેપુટી મ્યુનિસિપલ કમિશનર શ્રી, VMC
4. શ્રી ડી. બી. સિંઘ, અધિક્ષક ઇજનેરશ્રી, વડોદરા સિંચાઈ વર્તુળ, વડોદરા
5. શ્રી આર. બી. ચૌહાણ, કાર્યપાલક ઇજનેર શ્રી, વડોદરા સિંચાઈ વિભાગ
6. શ્રી લક્ષ્મીકાંત નેદરિયા ના.કા.ઈ.શ્રી, ડ્રેનેજ તથા વરસાદી ગટર પ્રોજેક્ટ, VMC
7. શ્રી અમરીશ પટેલ, ના.કા.ઈ શ્રી, ફ્યુચરસ્ટિક પ્લાનિંગ સેલ, VMC
8. શ્રી આર. જે. શાહ, નિ. EE, SSNNL, રિસોર્સ પર્સન
9. શ્રી એમ. જી. પટેલ, નિ. DEE, SSNNL, રિસોર્સ પર્સન
10. શ્રી રોહિત પ્રજાપતિ, પર્યાવરણવિદ
11. શ્રી નેહાબેન સરવટે, Environmentalist & Urban planner, MSU
12. ડૉ. જીતેન્દ્ર ગવલી, Botanist
13. શ્રી મિતેશ પંચાલ, Architect & Urban Planner
14. ડૉ. રણજીત સિંઘ દેવકર, Zoologist, MSU
15. શ્રી કૃષ્ણકાંત ચૌહાણ, Environmentalist
16. ડૉ. આર. કે. સિંઘ, SECON





- 4) ચોમાસા બાદ નદીમાં Environmental ફ્લો સુનિશ્ચિત કરવા માટે વિશ્વામિત્રીના અપસ્ટ્રીમ ભાગમાં ડિટેન્શન પોન્ડ્સ પણ બનાવવામાં આવે.
- 5) વડોદરા મહાનગરપાલિકા દ્વારા રાજીવનગર STP ખાતે કાર્યરત ૬૦ MLD ક્ષમતાના ટ્રીટમેન્ટ પ્લાન્ટમાંથી IOCL નો TWW supply ૨૦ MLD થી વધારીને ૪૦ MLD કરવામાં આવેલ છે, જેનાથી કાંસમાં તેમજ નદીમાં વહી જતું સેકન્ડરી ટ્રીટ્ડ વોટર ને ઔદ્યોગિક વપરાશ માટે મોકલાવી આપી ફેશ પાણીના જથ્થામાં બચત કરવામાં આવેલ છે, તેમજ તેના થકી મહાનગરપાલિકાને રેવન્યુ જનરેશનમાં પણ વધારો થયેલ છે, RIL દ્વારા પણ તેઓના એકમ ખાતે Tertiary Treatment Plant ની કામગીરી હાથ ધરવામાં આવેલ છે, ત્યારબાદ તેઓ દ્વારા પણ ૨૦ MLD TWW નો ઉપયોગ કરવામાં આવશે. તદુપરાંત છાણી STP ખાતે ૪૨ MLD ક્ષમતા ધરાવતા Tertiary Treatment Plant (with UF & RO system) ની કામગીરી પણ શરૂ કરવામાં આવેલ છે તથા છાણી TTP થી GSFC, GACL તથા GIPCL ને supply કરવા અર્થે કુલ ૧૪.૫ કિ.મી લંબાઈમાં પાઇપલાઇન નાંખવાની કામગીરી પ્રગતિ હેઠળ છે, આમ STP ખાતે Tertiary Treatment Plant તથા પાઇપલાઇન નાંખવાની કામગીરી ડિસેમ્બર ૨૦૨૬ સુધીમાં પૂર્ણ કરવાનું આયોજન કરવામાં આવ્યું છે. વધુમાં નંદેસરી ઔદ્યોગિક એકમો ખાતે તેઓની ડિમાન્ડ મુજબ હાલમાં under construction શેરખી ૧૦૦ MLD ક્ષમતાના STP ખાતે થી ૨૫ MLD ખાતે Tertiary Treated Water supply કરવા અંગે નો DPR તૈયાર કરવામાં આવેલ છે. જેની ટેન્ડર લગત કાર્યવાહી ટૂંક સમયમાં કરવામાં આવશે.
- 6) વડોદરા મહાનગરપાલિકા દ્વારા મહાનગરપાલિકા હસ્તકના સયાજીગાર્ડન સહિત તમામ ગાર્ડન તેમજ અર્બન ફ્રેસ્ટ માં Treated Waste Water નો ઉપયોગ શરૂ કરવામાં આવેલ છે, તેમજ એવન્યુ પ્લાન્ટેશનમાં (રોડ સાઇડ/ડીવાઈડર) પણ STP ના Secondary Treated Wastewater નો ઉપયોગ શરૂ કરવામાં આવેલ છે, જેનાથી સદર ઉપયોગ માટે વપરાતા ફેશ પાણીના જથ્થા અંદાજે ૮-૧૦ MLD જેટલી બચત થશે, જેનો ઉપયોગ શહેરીજનોને વોટર સપ્લાય માટે કરવામાં આવશે, જેથી પાણી વિતરણને લગત સમસ્યામાં પણ નિવારણ થઈ શકે, વધુમાં મહાનગરપાલિકા સંચાલિત સુએઝ જેટિંગ મશીન તેમજ સુપર સકર મશીન જેવા સુએઝ ક્લિનિંગ મશીનરીમાં પણ તેમજ Road/Divider/footpath Cleaning વગેરે કામગીરીઓ માટે



પણ ફેશ પાણીનો વપરાશ ન કરી STP માં થી સેકન્ડરી ટ્રીટમેન્ટ વેસ્ટ વોટરનો ઉપયોગ શરૂ કરવામાં આવેલ છે.

- 7) માનવ અધિકાર આયોગ સમિતિ દ્વારા નદીના કાંઠે તેમજ કોતરોમાં જમા થયેલ C & D વેસ્ટ બાબતે કરેલ રજૂઆત તેમજ તેઓના રિપોર્ટ સંદર્ભે મહાનગરપાલિકા દ્વારા વિશ્વામિત્રી નદી Resectioning તથા Desilting કામગીરી દરમિયાન ૨૨૦૦૦ M.T જેટલો C & D વેસ્ટ lift કરીને અટલાદરા સ્થિત ટ્રીટમેન્ટ ડ્રેસિલિટી ખાતે ડિસ્પોઝ કરવામાં આવેલ છે, અને વિશ્વામિત્રી નદી પ્રણાલીમાં કોતરો, flood plains, તળાવોમાં C&D કચરો સહિત તમામ અતિક્રમણોનું જથ્થાત્મક માપન કરવા રજૂઆત કરી તેમજ તે તમામ C & D વેસ્ટ કલેક્શન તથા યોગ્ય ડિસ્પોઝલની કામગીરી સોલિડ વેસ્ટ મેનેજમેન્ટ વિભાગ દ્વારા સત્વરે પૂર્ણ કરવામાં આવે.
- 8) સલાહકાર શ્રી SECON દ્વારા વિશ્વામિત્રી નદી પૂર નિયંત્રણ તથા નિવારણ સમિતિ દ્વારા સૂચિત ટુંકા ગાળાની વડોદરા મહાનગરપાલિકા અને સિંચાઈ વિભાગ દ્વારા પૂર્ણ કરવામાં આવેલ Resectioning તથા Desilting બાદ ૨૦૨૪ ના આવેલ flood flow તેમજ કામગીરી કર્યા બાદના સેક્શન ના આધારે HEC RAS simulation model નું live demonstration કરવામાં આવેલ જેમાં સમાન પ્રકારના ફ્લડ ઇવેન્ટમાં નદીની સપાટી માં ૧.૩૩ મીટર નો ઘટાડો નોંધાયેલ છે, અને નદીની વહન ક્ષમતા ૭૫૦ cumec થી વધીને ૧૧૫૦ cumec કરવામાં આવેલ છે.
- 9) વડોદરા મહાનગરપાલિકા તથા સિંચાઈ વિભાગના સંયુક્ત કામગીરી બાદ નદીની વહન ક્ષમતા ૧૧૫૦ cumec કરવામાં આવેલ છે, પરંતુ ૨૦૨૪ માં આવેલ ૧૫૦૦ cumec ફ્લડ ના નિયંત્રણ માટે નવીન આયોજન હાથ ધરવા અત્યંત જરૂરી છે, જેથી સલાહકાર શ્રી SECON દ્વારા વિશ્વામિત્રી નદી પૂર નિયંત્રણ તથા નિવારણ સમિતિ દ્વારા સૂચિત લાંબા ગાળાની કામગીરીઓ પૈકી આજવા થી જામ્બુવા ડાયવર્ઝન તથા વિશ્વામિત્રી નદી થી મીની નદી ડાયવર્ઝનના feasibility બાબતે presentation રજૂ કરવામાં આવેલ, જેમાં પર્યાવરણવિદ દ્વારા પણ પુરતો સહયોગ આપવા સંમતિ દર્શાવેલ છે, અને સદર બાબતે Detailed Study and Design શરૂ કરવા બાબતે સૂચના આપવામાં આવેલ છે.
- 10) માનવ અધિકાર આયોગ સમિતિના સભ્યો દ્વારા પાવાગઢ, પાવાગઢ થી વિશ્વામિત્રી નદી સુધી, આજવા કેમથી જામ્બુવા નદી સુધીનું ડાયવર્ઝન તથા મીની નદી



પણ ફેશ પાણીનો વપરાશ ન કરી STP માં થી સેકન્ડરી ટ્રીટમેન્ટ વેસ્ટ વોટરનો ઉપયોગ શરૂ કરવામાં આવેલ છે.

- 7) માનવ અધિકાર આયોગ સમિતિ દ્વારા નદીના કાંઠે તેમજ કોતરોમાં જમા થયેલ C & D વેસ્ટ બાબતે કરેલ રજૂઆત તેમજ તેઓના રિપોર્ટ સંદર્ભે મહાનગરપાલિકા દ્વારા વિશ્વામિત્રી નદી Resectioning તથા Desilting કામગીરી દરમિયાન ૨૨૦૦૦ M.T જેટલો C & D વેસ્ટ lift કરીને અટલાદરા સ્થિત ટ્રીટમેન્ટ ડ્રેસિલિટી ખાતે ડિસ્પોઝ કરવામાં આવેલ છે, અને વિશ્વામિત્રી નદી પ્રણાલીમાં કોતરો, flood plains, તળાવોમાં C&D કચરો સહિત તમામ અતિક્રમણોનું જથ્થાત્મક માપન કરવા રજૂઆત કરી તેમજ તે તમામ C & D વેસ્ટ કલેક્શન તથા યોગ્ય ડિસ્પોઝલની કામગીરી સોલિડ વેસ્ટ મેનેજમેન્ટ વિભાગ દ્વારા સત્વરે પૂર્ણ કરવામાં આવે.
- 8) સલાહકાર શ્રી SECON દ્વારા વિશ્વામિત્રી નદી પૂર નિયંત્રણ તથા નિવારણ સમિતિ દ્વારા સૂચિત ટુંકા ગાળાની વડોદરા મહાનગરપાલિકા અને સિંચાઈ વિભાગ દ્વારા પૂર્ણ કરવામાં આવેલ Resectioning તથા Desilting બાદ ૨૦૨૪ ના આવેલ flood flow તેમજ કામગીરી કર્યા બાદના સેક્શન ના આધારે HEC RAS simulation model નું live demonstration કરવામાં આવેલ જેમાં સમાન પ્રકારના ફ્લડ ઇવેન્ટમાં નદીની સપાટી માં ૧.૩૩ મીટર નો ઘટાડો નોંધાયેલ છે, અને નદીની વહન ક્ષમતા ૭૫૦ cumec થી વધીને ૧૧૫૦ cumec કરવામાં આવેલ છે.
- 9) વડોદરા મહાનગરપાલિકા તથા સિંચાઈ વિભાગના સંયુક્ત કામગીરી બાદ નદીની વહન ક્ષમતા ૧૧૫૦ cumec કરવામાં આવેલ છે, પરંતુ ૨૦૨૪ માં આવેલ ૧૫૦૦ cumec ફ્લડ ના નિયંત્રણ માટે નવીન આયોજન હાથ ધરવા અત્યંત જરૂરી છે, જેથી સલાહકાર શ્રી SECON દ્વારા વિશ્વામિત્રી નદી પૂર નિયંત્રણ તથા નિવારણ સમિતિ દ્વારા સૂચિત લાંબા ગાળાની કામગીરીઓ પૈકી આજવા થી જામ્બુવા ડાયવર્ઝન તથા વિશ્વામિત્રી નદી થી મીની નદી ડાયવર્ઝનના feasibility બાબતે presentation રજૂ કરવામાં આવેલ, જેમાં પર્યાવરણવિદ દ્વારા પણ પુરતો સહયોગ આપવા સંમતિ દર્શાવેલ છે, અને સદર બાબતે Detailed Study and Design શરૂ કરવા બાબતે સૂચના આપવામાં આવેલ છે.
- 10) માનવ અધિકાર આયોગ સમિતિના સભ્યો દ્વારા પાવાગઢ, પાવાગઢ થી વિશ્વામિત્રી નદી સુધી, આજવા કેમથી જામ્બુવા નદી સુધીનું ડાયવર્ઝન તથા મીની નદી



ડાયવર્ઝનનો ફ્રોન સર્વે અને તે ડાયવર્ઝન માટે simulation નું મોડેલ પણ રન કરવા અર્થે જણાવેલ છે.

- 11) વડોદરા શહેરમાંથી પસાર થતી ૨૪.૭ કિ.મી. લંબાઈમાં નદીને ઇકોલોજીકલ બેલેન્સ સાથે નદીના કાંઠા પર crocodile viewing park, recreational parks, gardens, pedestrian track, cycling track વગેરે માટેનું આયોજન પણ CEPT /MSU/NAVRACHNA યુનિવર્સિટી તેમજ વિવિધ એક્સપર્ટ્સ તથા માનવ અધિકાર આયોગ સમિતિના સભ્યશ્રીઓ સાથે સંકલનમાં રહીને કરવામાં આવશે, જેમાં નદીના meanders, oxbow lakes તથા વેટલેન્ડ ને સંરક્ષિત રાખીને sustainable development કરવામાં આવશે.
- 12) વિશ્વામિત્રી નદી flood plains વિસ્તારમાં બાંધકામ માટે પ્રતિબંધિત કરવામાં આવે અને ઉક્ત વિસ્તારોનાં માલિકોને હાઇ સ્પીડ કોરિડોરમાં વિકાસ અધિકારો (TDR) ટ્રાન્સફર કરવા અંગે જરૂરી વિચારણા કરવામાં આવી, જેથી વિશ્વામિત્રી નદી flood plains વિસ્તારમાં નવીન કોઇ રહેણાંક વિસ્તાર ડેવલપ ન થાય તેમજ તે વિસ્તારોની જગ્યાનો ઉપયોગ નદીનાં રીવાઇવલ માટે કરવામાં આવે, વિકાસ અને સંરક્ષણની વિવિધ વ્યૂહરચનાઓને એકીકૃત કરવા માટે વડોદરા શહેર માટે યોગ્ય યોજના ઘડવામાં આવશે.
- 13) વિશ્વામિત્રી નદી તેમજ અન્ય વોટર બોડી માં યોગ્ય cleaning થાય તેમજ તેનું યોગ્ય મોનીટરીંગ થાય તે માટે પણ કાર્યવાહી હાથ ધરેલ છે, જેમાં વડોદરા શહેરની અંદાજે ૫૦૦ થી વધુ સ્કૂલ સાથે સંકલન કરીને સફાઈ અભિયાન હાથ ધરવામાં આવશે, અને જાહેર જનતાને જાગૃત કરવામાં આવશે.
- 14) વડોદરા મહાનગરપાલિકા દ્વારા સ્ટ્રીટ વેન્ડીંગ તથા ટ્રાફિક પોલિસી અમલમાં મૂકવામાં આવી છે, અને અન્ય વિવિધ ક્ષેત્રોમાં એક્સપર્ટ સાથે મળીને નવીન પોલિસીઓ બનાવવામાં આવી રહેલ છે, જેનો તબક્કાવાર અને integrated અભિગમ સાથે અમલીકરણ પણ કરવામાં આવશે.
- 15) અધ્યક્ષ શ્રી, વિશ્વામિત્રી સમિતિ દ્વારા CRRRI, Road Research Institute, Delhi ખાતે થી રોડ મેનેજમેન્ટ તથા ટ્રાફિક મેનેજમેન્ટ બાબતે સલાહ તથા guidance લેવા અર્થે સૂચના આપેલ છે, તેમજ construction & demolition waste ના નિયત થયેલ ધારાધોરણ મુજબ યોગ્ય કલેક્શન, ડિસ્પોઝલ માટે તેમજ તેને લગત અન્ય તમામ



કામગીરીઓનો સમાવેશ થાય તે મુજબ સમય મર્યાદા સાથેની ઓફિસ પ્લાન પણ બનાવવો.

- 16) માનવ અધિકાર આયોગ સમિતિના સભ્યો દ્વારા paper ball નામની સંસ્થા દ્વારા Solid Waste Segregation અને Decentralised processing બાબતે guidance લેવા અર્થે પણ જણાવેલ છે, જેની સાથે સંકલન કરીને વડોદરા મહાનગરપાલિકા દ્વારા Solid Waste Management વધુ સુદૃઢ બનાવવામાં આવશે.
- 17) માનવ અધિકાર આયોગ સમિતિના સભ્યો દ્વારા વૈવિધ્યસભર કર્મચારીઓની સંખ્યામાં વધારો અને વિવિધ વિભાગના કેપેસિટી બિલ્ડીંગ થાય તે માટે પણ સીઝ આયોજન હાથ ધરવા અર્થે જણાવેલ છે.
- 18) સિંચાઈ વિભાગ દ્વારા નવીન આજવા બેરેજની કામગીરી હાલ પ્રગતિમાં હોવાનું જણાવેલ છે જે ચોમાસા પહેલાં સેફ સ્ટેજ પર લાવવાનું તેમજ લાંબા ગાળાની કામગીરી અંતર્ગત વિશ્વામિત્રી બેસીનમાં ૧૯ નવા ચેકડેમો બનાવવાની કામગીરી ચોમાસા પહેલાં પૂર્ણ કરવાનું આયોજન છે.

મ્યુનિસિપલ કમિશનર
વડોદરા મહાનગરપાલિકા

નકલ સવિનય રવાના :-

1. માન. શ્રી બી. એન. નવલાવાલા, અધ્યક્ષ, વિશ્વામિત્રી સમિતિ તરફ જણા સારું
2. માન. શ્રી ગંગા સિંઘ, ડેપ્યુટી મ્યુનિસિપલ કમિશનર શ્રી, VMC તરફ જણા સારું
3. શ્રી ડી. બી. સિંઘ, અધિક્ષક ઇન્જનેરશ્રી, VIC
4. શ્રી આર. બી. ચૌહાણ, કાર્યપાલક ઇન્જનેર શ્રી, વડોદરા સિંચાઈ વિભાગ
5. શ્રી લક્ષ્મીકાંત નેદરિયા નાયબ કાર્યપાલક ઇન્જનેર શ્રી, ડ્રેનેજ તથા વરસાદી ગટર પ્રોજેક્ટ, VMC
6. શ્રી અમરીશ પટેલ, ના.કા.ઈ શ્રી, ફ્યુચરસ્ટિક પ્લાનિંગ સેલ, VMC
7. શ્રી આર. જી. શાહ, નિ. EE, SSNNL, રિસોર્સ પર્સન
8. શ્રી એમ. જી. પટેલ, નિ. DEE, SSNNL, રિસોર્સ પર્સન
9. શ્રી રોહિત પ્રજાપતિ, પર્યાવરણવિદ
10. શ્રી નેહાબેન સરવટે, Environmentalist & Urban planner, MSU
11. ડૉ. જીતેન્દ્ર ગવલી, Botanist



-
12. श्री मितेश पंथाल, Architect & Urban Planner
 13. डॉ. राजकुमार सिंह देवकर, Zoologist, MSU
 14. श्री कृष्णकांत चौहान, Environmentalist
 15. डॉ. आर. डे. सिंह, SECON



Annexure II: GSHRC Order

ગુજરાત રાજ્ય માનવ અધિકાર આયોગ

કર્મચોગી ભવન, બ્લોક નંબર-૧, પાંચમો માળ, સેક્ટર-૧૦ એ, ગાંધીનગર-૩૮૨ ૦૧૦.

ફોન/ફેક્સ નં. (૦૭૯) ૨૩૨ ૫૭૫૯૬, વેબ સાઇટ: www.gshrc.gujarat.gov.in, Email: ds-hurc@gujarat.gov.in

(માનવ અધિકાર સંરક્ષણ અધિનિયમ, ૧૯૮૩ની કલમ-૧૩(૪)થી રાજ્ય આયોગને 'દીવાની ન્યાયાલય' ગણવામાં આવેલ છે અને કલમ-૧૩(૫)થી આયોગ સમક્ષની દરેક કાર્યવાહીને 'ન્યાયિક કાર્યવાહી' ગણવામાં આવેલ છે.)

જવાબી પત્રમાં અત્રેના કેસ નંબર કેસ નં. એચઆરસી/૨૦૨૪/પ્રેસ/૨૦૫/વ.શહેર/લી-૧

અને તારીખ બિનચૂક દર્શાવવા. તા. / / ૨૦૨ - 8 APR 2026

By : WHATSAPP/E-MAIL/Speed Post

પ્રતિ,

(૧) અગ્ર સચિવશ્રી,
વન અને પર્યાવરણ વિભાગ, બ્લોક નં.૧૪/૮, સરદાર ભવન, સચિવાલય, ગાંધીનગર.

(૨) સચિવશ્રી,
નર્મદા અને જળ સંપત્તિ, પાણી પુરવઠા અને કલ્પસર વિભાગ, નવા સચિવાલય, ગાંધીનગર.
EMAIL:- secwr@gujarat.gov.in

(૩) જિલ્લા મેજિસ્ટ્રેટશ્રી,
વડોદરા જિલ્લો, વડોદરા.

(૪) મ્યુનિસિપલ કમિશનરશ્રી,
વડોદરા મ્યુનિસિપલ કોર્પોરેશન, ખંડેરાવ માર્કેટ બિલ્ડીંગ, રાજમહેલ રોડ, વડોદરા-૩૬૦૦૦૧.

(૫) સભ્ય સચિવશ્રી,
ગુજરાત પ્રદુષણ નિયંત્રણ બોર્ડ, પર્યાવરણ ભવન, સેક્ટર-૧૦/એ, ગાંધીનગર.
EMAIL:- ms-gpcb@gujarat.gov.in

(૬) સભ્ય સચિવશ્રી,
સ્ટેટ એન્વાયરમેન્ટ ઇમ્પ્રુવમેન્ટ એસેસમેન્ટ ઓથોરીટી,
ગુજરાત પ્રદુષણ નિયંત્રણ બોર્ડ, પર્યાવરણ ભવન, સેક્ટર-૧૦/એ, ગાંધીનગર.
EMAIL:- msseiaagj2024@gmail.com

(૭) ચેરમેનશ્રી,
વડોદરા અર્બન ડેવલપમેન્ટ ઓથોરીટી (વુડા ભવન),
એલ & ટી સર્કલ, વી.આઇ.પી.રોડ, કરેલીબાગ, વડોદરા-૩૬૦૦૧૮

(૮) શ્રી નેહા સારવતે, એક્સ્પેર્ટ કમીટી મેમ્બર,
EMAIL:- neha.saarwate.urp.ies.edu

(૯) શ્રી રોહિત પ્રજપતિ,
૩૭, પત્રકાર કોલોની, તાંદરજા રોડ, વડોદરા-૩૬૦૦૨૦
EMAIL:- rohit.prajapati@gmail.com

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વિષય:- તા.૩૦/૦૮/૨૦૨૪ ના ધ ઇન્ડિયન એક્સપ્રેસ દૈનિક વર્તમાનપત્રમાં પ્રસિધ્ધ થયેલ સમાચાર "Name change, DPR & 14 Year later, Vishwamitri revamp still on paper" અંગે અહેવાલ પાઠવવા બાબત.

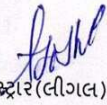
સંદર્ભ:- આ પ્રકરણમાં નામ,ગુજરાત રાજ્ય માનવ અધિકાર આયોગે કરેલ હુકમ બાબત.

ઉપરોક્ત વિષય અન્વયે રાજ્ય માનવ અધિકાર આયોગે તા.૨૫/૦૩/૨૦૨૬ના રોજ એન.એસ/૩૫ થી એન.એસ/૩૬ સુધી કરેલ આખરી હુકમની પ્રમાણિત ઝેરોક્ષ નકલ આ સાથે સામેલ રાખી આપને મોકલી આપીએ છીએ. જે ઝેરોક્ષ નકલ ગુજરાત રાજ્ય માનવ અધિકાર આયોગના સેક્શન અધિકારીશ્રી દ્વારા પ્રમાણિત કરવામાં આવેલ છે. સદર પ્રકરણમાં આખરી હુકમ થતા તેમાં આયોગની કાર્યવાહી પૂર્ણ થયેલ છે.



૧/ બિડાણ:- હુકમની પ્રમાણિત ઝેરોક્ષ નકલ.

હુકમથી



રજીસ્ટ્રાર(લીગલ),

ગુજરાત રાજ્ય માનવ અધિકાર આયોગ,

ગાંધીનગર.

બાન્ય ટેલિફોન નં: ૦૭૯-૨૩૨-૫૭૬૨૭

ગુજરાત રાજ્ય માનવ અધિકાર આયોગ

" કર્મયોગી ભવન "

બ્લોક નં. ૧, ચોથો અને પાંચમો માળ,
સેક્ટર-૧૦-એ, ગાંધીનગર-૩૮૨૦૧૦

વડોદરા શહેર પ્રેસ/૨૦૫/૨૪

પાના નં. ૩૫/નો.વિ

તા. ૨૫/૦૩/૨૦૨૬

આયોગનો હુકમ

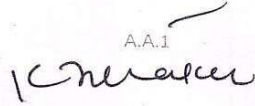
આ કામે તા. ૨૫/૦૩/૨૦૨૬ના રોજ ૧૩-૦૦ કલાકે હાજર રહેવા કરેલ સુચના અન્વયે શ્રી પલકકુમાર મહેતા, આસિસ્ટન્ટ એન્વાયરમેન્ટલ એન્જનીયરશ્રી તથા લાલજી એમ. આહિર, આસિસ્ટન્ટ એન્વાયરમેન્ટલ એન્જનીયરશ્રીનાઓ આયોગ સમક્ષ રૂબરૂ ઉપસ્થિત રહેલ છે, જ્યારે શ્રી રોહિત પ્રજાપતિ, એક્ષપર્ટશ્રી, શ્રી નેહા સરવતે, એક્ષપર્ટશ્રી, એકઝીક્યુટીવ એન્જનીયરશ્રી, VMC આયોગ સમક્ષ વિડિયો કોન્ફરન્સ (વી.સી.) મારફતે આયોગ સમક્ષ ઉપસ્થિત રહેલ છે. તેમજ એકઝીક્યુટીવ એન્જનીયરશ્રી, બાણગંગા, ઈરીગેશન ડિપાર્ટમેન્ટના અધિકારીશ્રીઓ તેમજ ફિલ્ડમાં હોવા છતાં મ્યુનિશિપલ કમિશનરશ્રી, VMC પણ આયોગ સમક્ષ VC મારફતે જોડાયેલ તેઓને ટેલીફોનિકલી સદર હુકમની જાણ કરવામાં આવેલ છે.

આ કામે વિશ્વામૈત્રી નદી અન્વયે પાંચમો રીપોર્ટ રજૂ કરવા માટેનો અધિકારીશ્રીઓએ ટાઇમ માંગેલો છે. આ કામે કમિશને જ્યારે આ બાબતમાં સુઓમોટો લીધો ત્યારે પ્રાથમિક તપાસ કરેલી અને હવે

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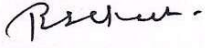

Section Officer
GSHRC, Gandhinagar

A.A.1

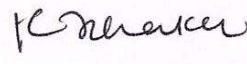


તેમને સંતોષ છે કે, આજે માનનીય કમિશનરશ્રી VMC અને કમિટીનાં સભ્યો યોગ્ય રીતે કાર્ય કરે છે અને તેથી હાલના તબક્કે જે રીપોર્ટ છે તે સબબ કમિટી આગળ કાર્ય કરશે. હાલના તબક્કે હાલની અરજીમાં તપાસ, ઇન્વેસ્ટીગેશન અને ભલામણ થઈ ગયેલ હોય કલમ ૧૭ પ્રમાણે હાલના તબક્કે પ્રકરણ અત્રેથી ફેસલ કરવાનું યોગ્ય માનીએ છીએ. આ કામે વન પર્યાવરણ વિભાગ તરફથી સચિવશ્રી વતી પલક મહેતા અને એન્વાયરમેન્ટલ એસેસમેન્ટ ઓથોરિટી વતી લાલજી આહીર એ જે રીપોર્ટ રજૂ કર્યા છે, તે જોતાં અધિકારીશ્રીઓ આગળ પણ કામગીરી કરશે, તેવી ભલામણ સાથે પ્રકરણ અરજી ફેસલ કરવામાં આવે છે.

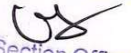
સદર હુકમની જાણ તમામ સંબંધિતશ્રીનાઓને કરવા સૂચિત કરવામાં આવે છે.


(બી.એસ.ઉપાધ્યાય)

સદસ્ય
ગુ.રા. માનવ અધિકાર આયોગ,
ગાંધીનગર


(ડૉ. કે.જે.ઠાકર)

અધ્યક્ષ
ગુ.રા. માનવ અધિકાર આયોગ,
ગાંધીનગર

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Section Officer
GSHRC, Gandhinagar

A.A.2

Annexure II: Gabion Wall Letter from Futuristic Planning Cell, VMC



કાર્યપાલક ઇજનેર,
ફ્યુચરીસ્ટીક પ્લાનીંગ સેલ,
વડોદરા મહાનગરપાલિકા
ખંડેરાવ માર્કેટ બિલ્ડિંગ, વડોદરા - ૩૯૦ ૦૦૧

ઑફિસ: ૨૪૩૩૧૧૬, ૨૪૩૩૧૧૮
ફેક્સ: ૦૨૬૫-૨૪૩૩૦૬૦

પ્રતિ,
સભ્યશ્રી,
GSHRC વિશ્વામિત્રી કમિટી,
વડોદરા.

તા. ૧૦/૦૪/૨૦૨૬

ફ્યુચરીસ્ટીક પ્લાનીંગ સેલ
નાવક નંબર...10/25-27
તારીખ...10/04/2026

વિષય: વિશ્વામિત્રી નદીમાં બ્રિજ તથા erosion bank પ્રોટેક્શન માટે ગેબિયન વોલની કામગીરી બાબતે ટેકનિકલ તથા પર્યાવરણ સંદર્ભે માર્ગદર્શન આપવા બાબત.

ઉપરોક્ત વિષય સંદર્ભે રજૂઆત છે કે વડોદરા મહાનગર પાલિકા દ્વારા ચોમાસાની ઋતુમાં શહેરમાં આવતાં પૂર નિયંત્રણ અર્થે વર્ષ ૨૦૨૫ દરમિયાન વિશ્વામિત્રી નદીમાં રીસેક્શનિંગ તથા ડી-સીલિંગની કામગીરી સફળતાપૂર્વક પૂર્ણ કરવામાં આવેલ છે. સદર કામગીરી બાદ વર્ષ ૨૦૨૫ ના ચોમાસામાં નદીમાં સંપૂર્ણ ક્ષમતાથી પાણી વહન થતા નદીના કિનારાઓ (erosion bank) પર ધોવાણ થતું હોવું ધ્યાને આવેલ છે.

આ સંદર્ભે, વિશ્વામિત્રી નદીમાં પૂર નિવારણ અને નિયંત્રણ માટે સરકારશ્રી દ્વારા રચાયેલ શ્રી નવલાવાલા કમિટી દ્વારા નદીમાં આવેલ તમામ બ્રિજ તેમજ erosion bank ના સંરક્ષણ માટે ગેબિયન વોલ બનાવવાની ભલામણ કરવામાં આવેલ છે. વધુમાં તા. ૨૭/૦૨/૨૦૨૬ ના રોજ શ્રી નવલાવાલા સાહેબની અધ્યક્ષતામાં યોજાયેલી બેઠકમાં માનનીય મ્યુનિસિપલ કમિશનરશ્રી તથા આપશ્રીઓની ઉપસ્થિતિમાં તાત્કાલિક ધોરણે ગેબિયન વોલની કામગીરી હાથ ધરવા સૂચના આપવામાં આવેલ છે.

ઉપરોક્ત મુજબ વડોદરા મહાનગર પાલિકા દ્વારા ગેબિયન વોલની કામગીરી માટે ટેન્ડર પ્રક્રિયા પૂર્ણ કરી ઇજારદારને વર્ક ઓર્ડર આપવામાં આવેલ છે. તા. ૨૮/૦૩/૨૦૨૬ ના રોજ અત્રેની ટીમ તથા આપશ્રીની ટીમ દ્વારા વિવિધ સ્થળોએ સંયુક્ત સ્થળ મુલાકાત કરવામાં આવેલ હતી, જેમાં સ્ટ્રક્ચર ડિઝાઇન, કામગીરીની લંબાઈ અને ઊંચાઈ અંગે વિગતવાર ચર્ચા કરવામાં આવી હતી. તે અનુસંધાને બ્રિજ પ્રોટેક્શન માટે ગેબિયન વોલના ચોક્કસ લેઆઉટ પ્લાન તથા સેક્શન મુજબ કામગીરી કરવા સંમતિ આપવામાં આવી હતી અને તે મુજબ ચેતક બ્રિજ ખાતે કામગીરી શરૂ કરવામાં આવેલ છે.

વધુમાં, વિવિધ સ્થળો પૈકી સુરભી પાર્ક નજીકના સ્થળ માટે આપની ટીમ દ્વારા સંપૂર્ણ વિગતો સાથે આર્કિટેક્ચરલ ડ્રોઇંગ તૈયાર કરી આપવા સૂચન કરવામાં આવેલ હતું. તે અનુસંધાને અત્રેથી તા. ૦૮/૦૪/૨૦૨૬ ના રોજ આપને સોફ્ટ કોપી દ્વારા જરૂરી ડ્રોઇંગ મોકલવામાં આવેલ છે. જે સંદર્ભે તા. ૦૯/૦૪/૨૦૨૬ નાં રોજ આપની કમિટી સાથે થયેલ રૂબરૂ ચર્ચા મુજબ વિવિધ મુદ્દાઓ અંગે સ્પષ્ટતા આવશ્યક હોવાનું જણાય છે તથા પ્રસ્તુત ડિઝાઇન મુજબ કામગીરી કરવા બાબતે અસમંજસતા ઉભી થયેલ છે. સદર બાબતે આપશ્રીએ આગામી શુક્રવારે સ્થળ મુલાકાત કરી અંતિમ નિર્ણય લેવા સૂચન કરેલ છે.

ઉપરોક્ત તમામ વિગતો ધ્યાને લેતાં અત્રેથી વિનંતિ છે કે, વિશ્વામિત્રી નદીમાં બ્રિજ તેમજ erosion bank ના સંરક્ષણ માટે ગેબિયન વોલની કામગીરી અતિ આવશ્યક હોય, આપના તરફથી સદર કામગીરી સંદર્ભે જરૂરી પર્યાવરણ સંબંધિત મુદ્દાઓ અંગે લેખિત માં અત્રેની કચેરીએ જાણ કરવા વિનંતિ છે.

આવનાર ચોમાસાની સીઝન પહેલાં અમુક સ્થળોએ નદીનું ધોવાણ અટકાવવા તેમજ નજીકના રોડ-રસ્તા, જાન-માલને જાનહાની ન થાય તેમજ જાહેર જનતાની સુખાકારી તેમજ રક્ષણ માટે સદર કામગીરી અતિ મહત્વની તેમજ ઝડપી હાથ ધરવાની છે તથા જાહેર જનતા તરફથી, વિવિધ વિભાગો તરફથી તેમજ સ્થાનિક સભાસદશ્રી કક્ષાએથી પણ સદર કામગીરી કરવા વારંવાર રજૂઆત આવી રહેલ હોય સદર બાબતે યોગ્ય તેમજ કામગીરીમાં પુરતો સહયોગ આપવા પણ વિનંતિ છે. જેથી કામગીરી વિલંબ વિના સ્થળ પર શરૂ કરી શકાય.

 10/04/2026
કાર્યપાલક હજનેર
ફ્યુચરીસ્ટિક પ્લાનિંગ સેલ
વડોદરા મહાનગરપાલિકા

સવિનય નકલ રવાના પ્રતિ:--

- ૧) માન. મ્યુનિસિપલ કમિશનર સાહેબશ્રી, તરફ જાણ સારું.
- ૨) MOD શ્રી, ફ્યુચરીસ્ટિક પ્લાનિંગ સેલ તરફ જાણ સારું.
- ૩) કા.ઈ શ્રી, વિશ્વામિત્રી પ્રોજેક્ટ તરફ જરૂરી સંકલન કરવા સારું.

Annexure III: SWM

For Correspondence: Rohit Prajapati

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Email: Dr Neha Sarwate, Environmental and Urban Planner,
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Dr Jitendra Gavali, PhD, Botanist, jggavali@gmail.com (9725891033)

Mitesh Panchal, Architect and Urban Planner,
architectmitesh@gmail.com, (9825025248)

Tuesday, 14th April 2026

**HRC/2024/PRESS/205/Vadodara City/legal-1, Order dated
25.03.2026**

To,

The Municipal Commissioner
Vadodara Municipal Corporation
Vadodara.

Concerned Officer
Solid Waste Management Department
Vadodara Municipal Corporation
Vadodara.

Subject: Removal and treatment of both, legacy waste and ongoing dumping
of C&D waste in the floodplains of Vishwamitri River to prevent
severe consequences of floods and water logging in 2026.

Reference: GSHRC Order dated 25.03.2026 Vadodara City/Press/205/24

Sir:

We have had multiple discussions with the SWM officials of VMC and their
consultants, to address the legacy waste and ongoing dumping of C&D waste

in the riverine areas of Vishwamitri River that has considerably reduced the storm water carrying of the river.

Based on our past experiences to address this grave concern, we understand that the VMC is undergoing staff shortages and lack of a fully functional processing plant. In light of this situation, we strongly recommend that the VMC seek the services and support of large scale construction industries to remove the debris and repurpose it in their projects, similar to the desilting process adopted by the VMC in 2025.

This Committee is willing to and committed to assist in this strategy to dialogue with potential industries to address the concern of C&D waste. We urge the VMC to undertake this initiative at the earliest in lieu of the upcoming monsoons and unpredictable rain events. The VMC will be held accountable for losses due to possible water logging and flooding events.

Yours Sincerely,

Dr. Neha Sarwate, Environmental and Urban Planner

Rohit Prajapati, Environment Activist, Researcher, and Writer

Dr. Ranjitsinh Devkar, PhD, Zoologist

Dr. Jitendra Gavali, PhD, Botanist

Mitesh Panchal, Architect and Urban Planner

CC:

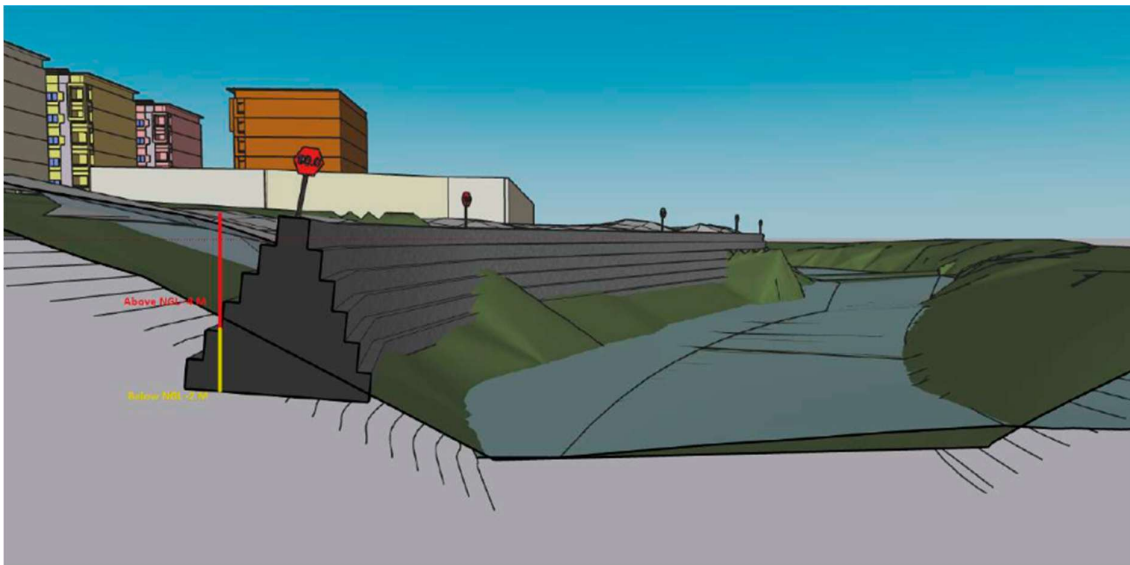
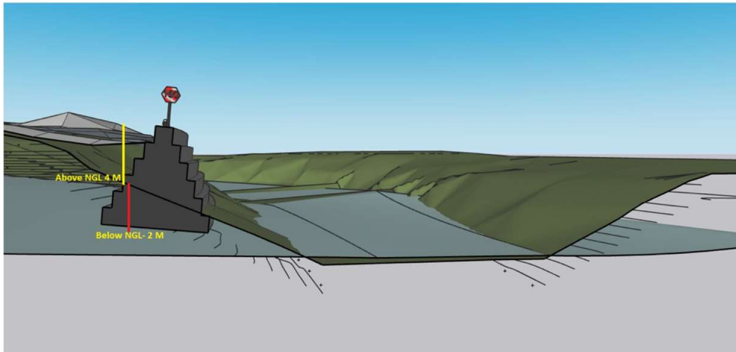
Mr. B. N. Navalawala

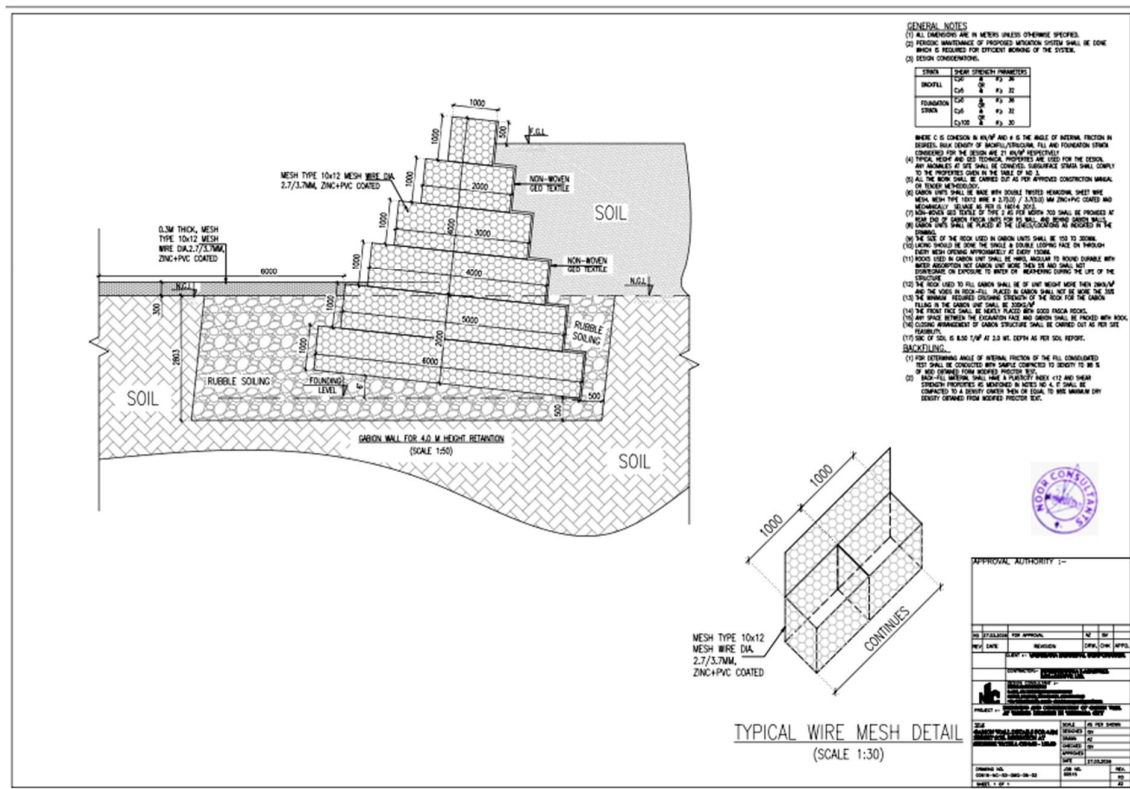
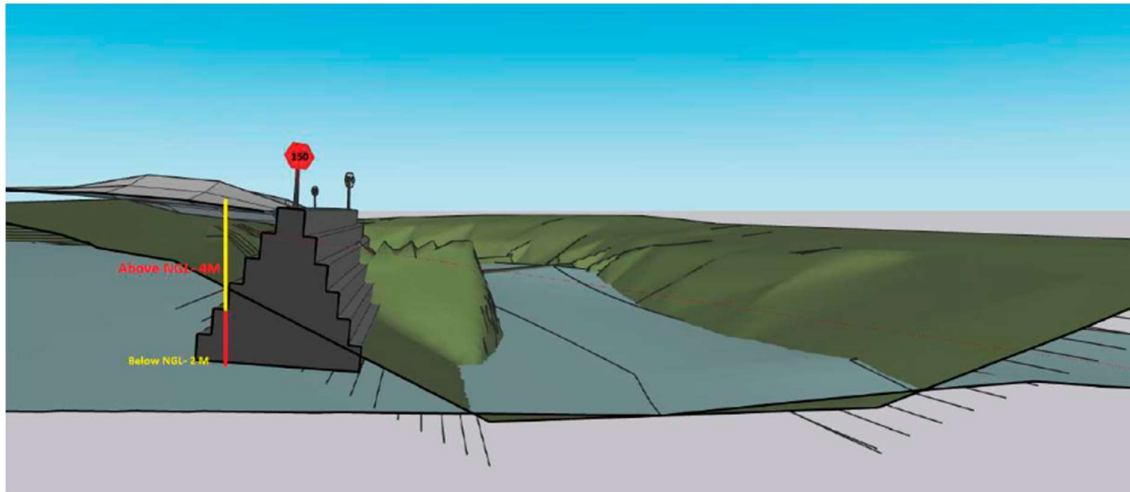
The Member Secretary, Gujarat Pollution Control Board, Gandhinagar

The Regional Officer, Gujarat Pollution Control Board, Gandhinagar

Annexure IV: Gabion Wall Approach

Information about gabion wall at allied location 1 from VMC: Date: 09/04/2026





As per discussions during the meeting with VMC officials on 09.04.2026,

the following observations need to be addressed:

- Bank stabilisation should explore alternative approaches, other than gabion; the latter should be the last option. The other approaches like coir application for gentle slopes, a combination of coir and coco-logs, and geo cells for steep slopes, open gabions for cliff like situations, have been presented in this document.
- બેંક સ્ટેબિલાઇઝેશન માટે ગેબિયન સિવાયના વૈકલ્પિક અભિગમોની શોધ કરવી જોઈએ; બાદમાં છેલ્લો વિકલ્પ હોવો જોઈએ. હળવા ઢોળાવ માટે કાયરનો ઉપયોગ, કાયર અને નારિયેળના લોગનું મિશ્રણ, અને ઢાળવાળા ઢોળાવ માટે જીઓ સેલ, ખડક જેવી પરિસ્થિતિઓ માટે ખુલ્લા ગેબિયન જેવા અન્ય અભિગમો આ દસ્તાવેજમાં રજૂ કરવામાં આવ્યા છે.
- Any gabion wall construction should be open gabion caged in wire mesh.
- કોઈપણ ગેબિયન દિવાલનું બાંધકામ ખુલ્લું ગેબિયન વાયર મેશમાં બંધાયેલું હોવું જોઈએ
- The gabion wall should not, under any circumstance, be constructed in the riparian areas and adjacent to wildlife habitats or affect them during construction activities. They should be constructed beyond the banks.
- ગેબિયન દિવાલ, કોઈપણ સંજોગોમાં, નદી કિનારાના વિસ્તારોમાં અને વન્યજીવોના રહેઠાણોની બાજુમાં બાંધવી જોઈએ નહીં અથવા બાંધકામ પ્રવૃત્તિઓ દરમિયાન તેમને અસર કરવી જોઈએ નહીં. તે કાંઠાની બહાર બાંધવી જોઈએ.
- The Vishwamitri Committee members have offered to accompany the VMC team at all identified locations to discuss the extent of intervention required.
- વિશ્વામિત્રી સમિતિના સભ્યોએ જરૂરી હસ્તક્ષેપની હદની ચર્ચા કરવા માટે ઓળખાયેલા તમામ સ્થળોએ VMC ટીમ સાથે જવાની ઓફર કરી છે.

Approach 1: Coir Work for banks stabilisation



Approach 2: Coir Work with Coco logs @ erosion banks



Approach 3: Geocells @ Moderate Risk Zones

honeycomb-like, foldable structures made of HDPE or other polymers, used to confine soil, gravel, or sand to improve structural stability, load-bearing capacity, and erosion control



Approach 4: Stone Pitching @ High Risk Zones



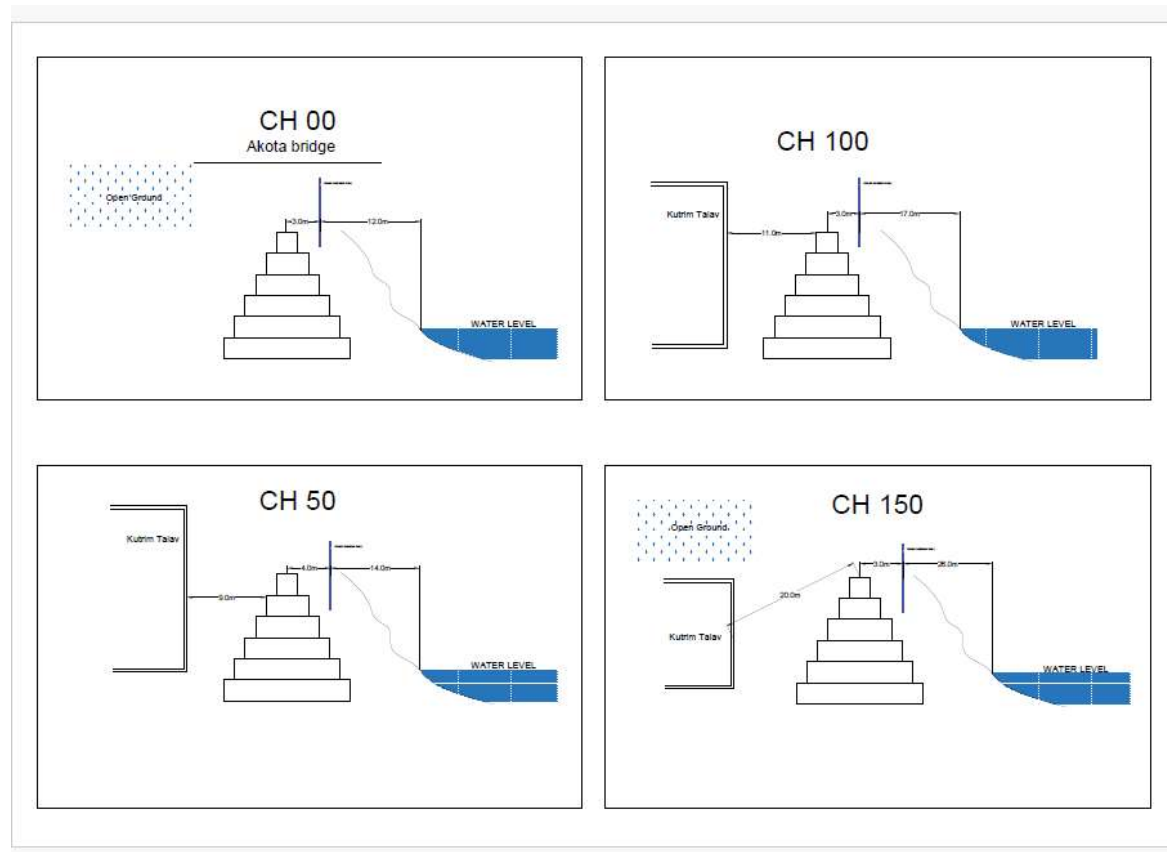
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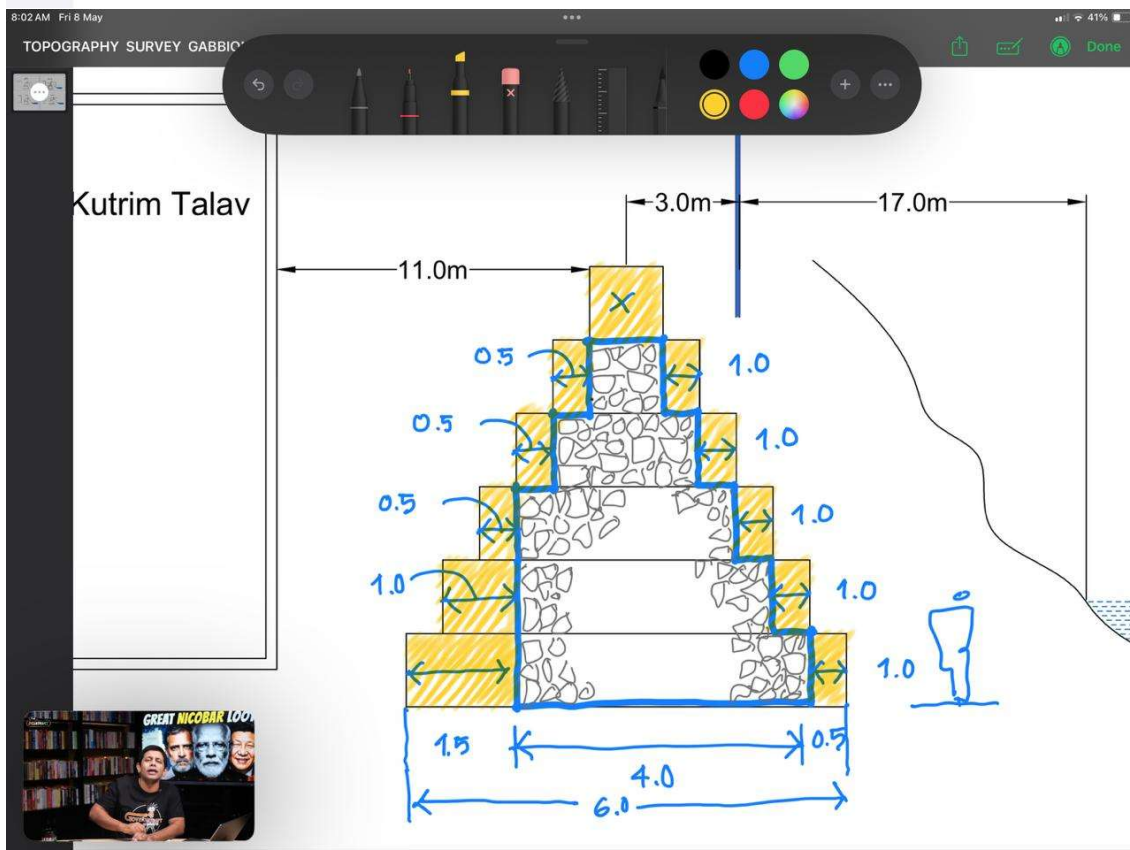
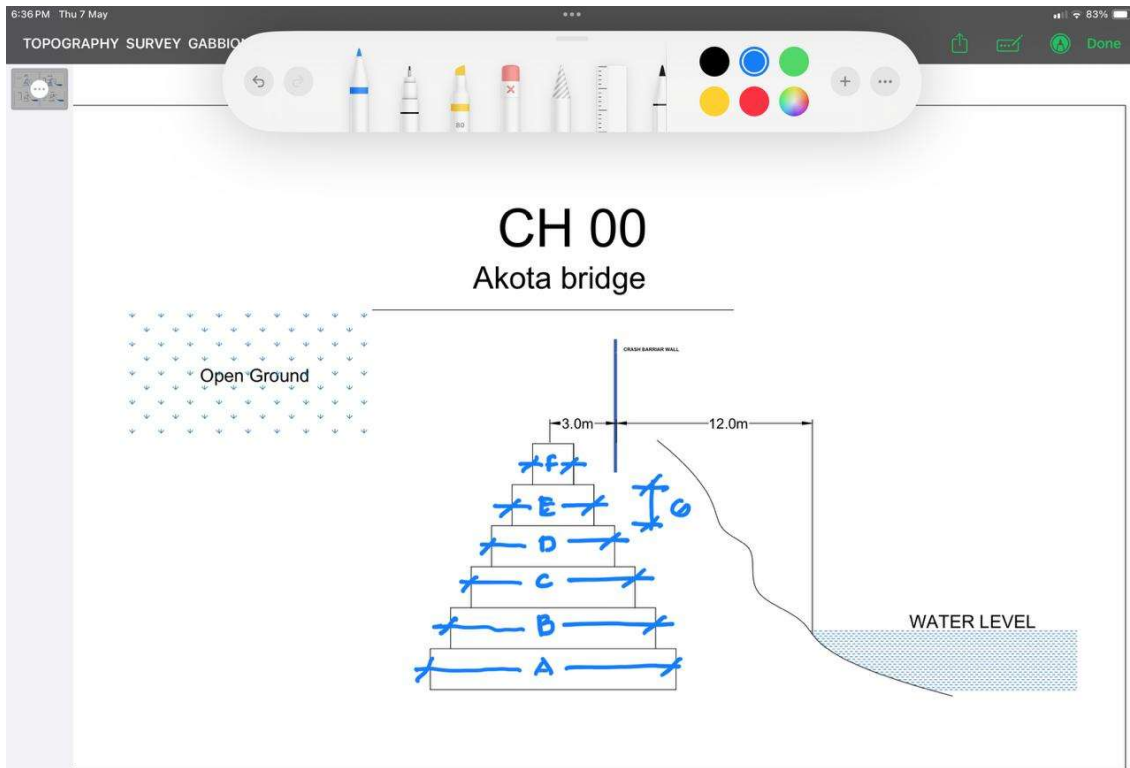
Approach 5: Gabion wall @ Very High Risk Zones

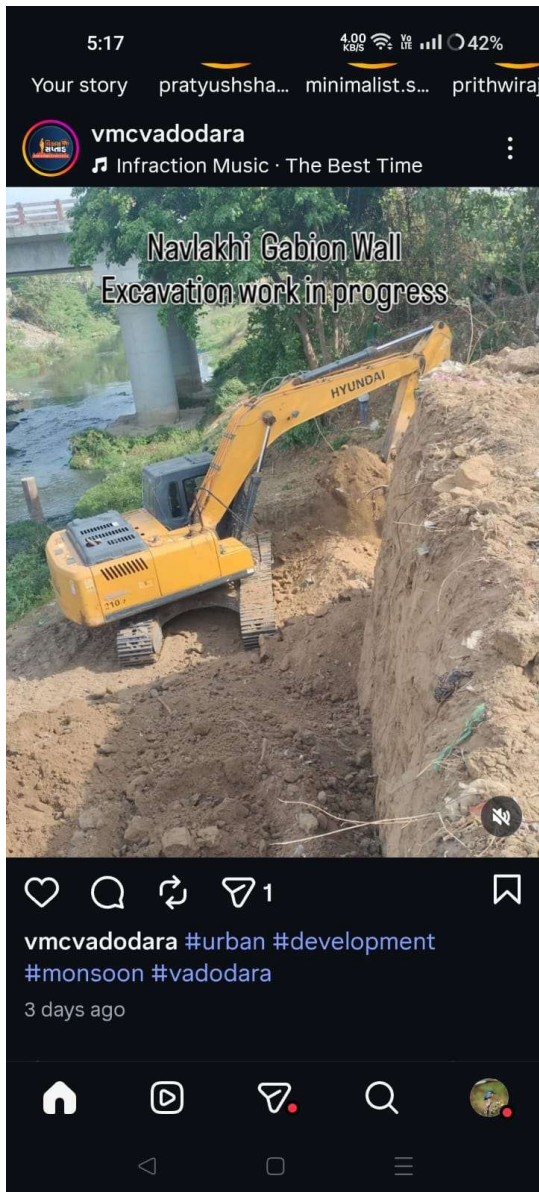


Annexure V: Discussions for Gabion Wall at Kutrim Talav

Information about gabion wall at Kutrim Pond from VMC: Date: 07.05.2026







Annexure VI: Letter to VMC for Gabion Wall Design and Construction

For Correspondence: Rohit Prajapati

37, Patrakar Colony, Tandalja Road, Vadodara – 390 020

Email: Dr Neha Sarwate, Environmental and Urban Planner,
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Dr Jitendra Gavali, PhD, Botanist, jggavali@gmail.com (9725891033)

Mitesh Panchal, Architect and Urban Planner,
architectmitesh@gmail.com, (9825025248)

Friday, 8th May 2026

**HRC/2024/PRESS/205/Vadodara City/legal-1, Order dated
25.03.2026**

To,

The Municipal Commissioner
Vadodara Municipal Corporation
Vadodara.

Concerned Officer
Futuristic Planning Cell
Vadodara Municipal Corporation
Vadodara.

Concerned Officer
Zoo Department
Vadodara Municipal Corporation
Vadodara.

Concerned Officer
Parks and Garden Department
Vadodara Municipal Corporation
Vadodara.

Subject: Construction of Gabion and Retaining walls in the Vishwamitri River.

Reference:

- a. GSHRC Order dated 25.03.2026 Vadodara City/Press/205/24
- b. Vishwamitri Committee Reports 1, 1A, 2, 3, and 4
- c. Field visits from 28.03.2026, 17.04.2026, and 05.05.2026

Sir:

The need for gabion walls to protect the exposed piers of bridges has been discussed several times in the past meetings. The Vishwamitri Committee has, on several occasions, conducted field visits with the concerned officials to the locations where gabions have been proposed by the Futuristic Planning Cell of the VMC. The committee has visited few locations identified by the VMC for the gabion wall, with the officials of the VMC. There is an agreement to work in good faith towards the rejuvenation initiatives, where the design of the proposed gabion walls will be reviewed by this committee and improvisations will be discussed so as to minimize the impact on the river.

To this effect, the following are the observations and recommendations of the Committee:

Observations

1. It was informed that the piers of Chetak bridge needed to be protected from erosion after the desilting efforts of 2025. It is surprising to note that a bridge that is less than 10 years old, requires to be protected. The gabion wall proposed at this location is in the river area. This will further create bottlenecks in the future.
2. The design of the gabion at the immersion pond in Akota was shared after work has commenced on site. This too, after the committee

members noticed it on social media and asked for the design. The drawings shared are ambiguous and unclear.

3. The construction of the retaining wall behind the Sayaji Baug in the zoo area, was not communicated to the Committee in advance; an amicable solution could have been arrived at through dialogues and explorations. However, documentation of 'need for retaining wall' has been requested and is awaited from the Zoo Department, and their PMC consultant.
4. It is a general observation that in all the project proposals and initiatives, the river stands to be compromised.

Recommendations

1. No gabion walls or retaining wall should be constructed in the riverine areas other than for protecting the bridge piers.
2. An audit should be conducted to assess the quality and durability of new bridges that need additional protection from erosion.
3. Future bridges in the riverine areas should be designed and constructed such that the piers, columns and structural members are situated well beyond the banks of the river and not in the riverbed or in the riparian areas.
4. The river and the ecological services she provides to the human species should be the focus of all decision making. For example, the gabion wall adjacent to the immersion pond in Akota should be to prevent erosion of the bank. For that purpose, the manmade immersion pond should be altered or retracted so as to not build the gabion in the riverine areas (scientific, not property boundaries).

5. The ToR and SoR for any bank stabilization works, irrespective of the ownership, should include ecological engineering and bio-engineering approaches.
6. In case of conflicts, prompt dialogues should be initiated to amicably resolve issues. Effective communication with the committee is sincerely solicited.

We have the opportunity to correct the many mistakes of the past. This Committee is willing to and committed to assist in safeguarding the interests of the citizens of Vadodara and beyond.

Yours Sincerely,

Dr. Neha Sarwate, Environmental and Urban Planner

Rohit Prajapati, Environment Activist, Researcher, and Writer

Dr. Ranjitsinh Devkar, PhD, Zoologist

Dr. Jitendra Gavali, PhD, Botanist

Mitesh Panchal, Architect and Urban Planner

Krishnakant Chauhan, Environment Activist

CC:

Mr. B. N. Navalawala

The Member Secretary, Gujarat Pollution Control Board, Gandhinagar

The Regional Officer, Gujarat Pollution Control Board, Gandhinagar

Annexure VII: Photographs of Work Progress at Kutrim Talav and Chetak Bridge

Information about gabion wall at Kutrim Pond and Chetak Bridge as received from VMC:
Date: 15.05.2026





Annexure VIII: Letter to VMC for C&D Waste

For Correspondence: Rohit Prajapati

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Dr Ranjitsinh Devkar, PhD, Zoologist,
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Dr Jitendra Gavali, PhD, Botanist,
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Mitesh Panchal, Architect and Urban Planner,
architectmitesh@gmail.com, (9825025248)

Thursday, 28th May 2026

**HRC/2024/PRESS/205/Vadodara City/legal-1, Order dated
25.03.2026**

To,

1. The Municipal Commissioner
Vadodara Municipal Corporation
Vadodara.
2. Concerned Officer
Solid Waste Management Department
Vadodara Municipal Corporation
Vadodara.

Subject: Removal and treatment of both, legacy waste and ongoing dumping of C&D waste in the floodplains of Vishwamitri River to prevent severe consequences of floods and water logging in 2026.

Reference:

1. GSHRC Order dated 25.03.2026 Vadodara City/Press/205/24
2. Letter by the Vishwamitri Committee dated 14.04.2026

Sir:

We as a committee have repeatedly requested in past meetings to immediately start the process of removal of C&D waste. We have had multiple discussions with the SWM officials of VMC and their consultants, to address the legacy waste and ongoing dumping of C&D waste in the riverine areas of Vishwamitri River that has considerably reduced the storm water carrying capacity of the river.

The task of identifying locations of debris dumping and legacy waste has not been completed. An action plan to address the issues of C&D waste is still awaited since the last 8 months. Since the Vadodara Municipal Corporation and its SWM Department have failed to remove the long pending legacy waste and C&D waste, it is evident that the VMC is complacent about the removal of identified C&D waste and also to address the increasing dumping of waste across the city.

Any sudden, heavy rain events in coming days may invite flood and water logging. The VMC and its top officials will be held accountable for losses due to possible water logging and flooding events.

Yours Sincerely,

Dr. Neha Sarwate, Environmental and Urban Planner

Rohit Prajapati, Environment Activist, Researcher, and Writer

Dr. Ranjitsinh Devkar, PhD, Zoologist

Dr. Jitendra Gavali, PhD, Botanist

Mitesh Panchal, Architect and Urban Planner

Krishnakant Chauhan, Environment Activist

CC:

1. Mr. B. N. Navalawala
2. The Member Secretary, Gujarat Pollution Control Board, Gandhinagar
3. The Regional Officer, Gujarat Pollution Control Board, Gandhinagar

Annexure IX: Letter to VMC for Gabion Walls and Retaining Walls

For Correspondence: Rohit Prajapati

37, Patrakar Colony, Tandalja Road, Vadodara – 390 020

Email: Dr Neha Sarwate, Environmental and Urban Planner,
neha.gabhawala@gmail.com (9724315828)

Rohit Prajapati, Environment Activist, Researcher, and Writer,
rohit.prajapati@gmail.com (9408986452)

Dr Ranjitsinh Devkar, PhD, Zoologist,
ranjitsinhdevkar@gmail.com (9825935445)

Dr Jitendra Gavali, PhD, Botanist, jggavali@gmail.com (9725891033)

Mitesh Panchal, Architect and Urban Planner,
architectmitesh@gmail.com, (9825025248)

Friday, 29th May 2026

**HRC/2024/PRESS/205/Vadodara City/legal-1, Order dated
25.03.2026**

To,

- a. The Municipal Commissioner
Vadodara Municipal Corporation
Vadodara.
- b. Concerned Officer
Futuristic Planning Cell
Vadodara Municipal Corporation
Vadodara.
- c. Concerned Officer
Zoo Department
Vadodara Municipal Corporation
Vadodara.
- d. Concerned Officer
Parks and Garden Department
Vadodara Municipal Corporation
Vadodara.

Subject: Construction of Gabion and Retaining walls in the Vishwamitri River.

Reference:

- a) GSHRC Order dated 25.03.2026 Vadodara City/Press/205/24
- b) Vishwamitri Committee Reports 1, 1A, 2, 3, and 4
- c) Field visits from 28.03.2026, 17.04.2026, 05.05.2026, 20.05.2026, and 26.05.2026
- d) Vishwamitri Committee letter dated 08.05.2026

Sir:

This is to follow-up on our letter dated 08.05.2026. We would like to reiterate that the construction of gabion and retaining walls has adversely impacted the habitat of crocodiles directly and indirectly. We would also like to highlight the death of yet another crocodile earlier this month. It is important to understand the intricate relationship between construction activities in the riverine areas, specifically in the vicinity of the dens and high crocodile density, and their mortality rates.

Also, the documentation of 'need for retaining wall' is still awaited from the Zoo Department, and their PMC consultant. The non-responsiveness of the respected departments is appalling and indicates an apathy towards the river and the collective rejuvenation efforts.

We have repeatedly expressed our support to help towards correcting the many mistakes of the past, and strongly urge that the recommendations of the letter dated 08.05.2026 be implemented in letter and spirit.

Yours Sincerely,

Dr. Neha Sarwate, Environmental and Urban Planner

Rohit Prajapati, Environment Activist, Researcher, and Writer

Dr. Ranjitsinh Devkar, PhD, Zoologist

Dr. Jitendra Gavali, PhD, Botanist

Mitesh Panchal, Architect and Urban Planner

Krishnakant Chauhan, Environment Activist

CC:

1. Mr. B. N. Navalawala
2. The Member Secretary, Gujarat Pollution Control Board, Gandhinagar
3. The Regional Officer, Gujarat Pollution Control Board, Gandhinagar

Annexure X: Response Letter from VMC for Gabion Walls and Retaining Walls



વડોદરા મહાનગર પાલિકા

ક્યુયરીસ્ટીક પ્લાનીંગસેલ.

ખંડેરાવ માર્કેટ બિલ્ડીંગ,

રાજમહેલ રોડ,

વડોદરા-૩૯૦ ૦૦૧.

પ્રતિ.

મેમ્બરશ્રી.

વિશ્વામિત્રી કમીટી.

વડોદરા.

કે.પ્રો.ન.નં. 649/1
04/06/26

વિષય: વિશ્વામિત્રી નદીમાં ગેબિયન વોલની કામગીરી અંગે આપના પત્ર બાબત.

સંદર્ભ: આપનો તા. ૨૯.૦૫.૨૦૨૬ નો પત્ર.

ઉપરોક્ત વિષય અને સંદર્ભ અન્વયે જણાવવાનું કે, વર્ષ-૨૦૨૪ દરમિયાન વડોદરા શહેરમાં સર્જાયેલ અતિભારે વરસાદ અને પૂરની પરિસ્થિતિના અનુસંધાને સરકારશ્રી દ્વારા નિયુક્ત શ્રી નવલાવાલા કમિટી દ્વારા પૂર નિવારણ તથા વિશ્વામિત્રી નદીની વહન ક્ષમતા વધારવા માટે વિગતવાર અભ્યાસ કરવામાં આવેલ હતો. કમિટી દ્વારા રજૂ કરવામાં આવેલ ભલામણોના આધારે વડોદરા મહાનગર પાલિકા દ્વારા વર્ષ-૨૦૨૫ દરમિયાન વિશ્વામિત્રી નદીમાં રી-સેક્શનિંગ તથા ડી-સિલ્ટિંગની કામગીરી સફળતાપૂર્વક પૂર્ણ કરવામાં આવેલ છે.

ઉક્ત કામગીરીના પરિણામે નદીમાં પાણીના પ્રવાહ અને વહન ક્ષમતામાં વધારો થયેલ છે. આવી પરિસ્થિતિમાં જાહેર જનતાની સુરક્ષા, નદીકાંઠાના વિસ્તારોનું સંરક્ષણ તથા વિવિધ પુલોના એબટમેન્ટ અને ધોવાણગ્રસ્ત સ્થળોની સ્થિરતા જાળવવા માટે ગેબિયન વોલ દ્વારા જરૂરી પ્રોટેક્શન કામગીરી હાથ ધરવામાં આવી રહી છે. આ કામગીરી શ્રીનવલાવાલા કમિટીની ભલામણો તેમજ ટેકનિકલ જરૂરિયાતોને ધ્યાનમાં રાખીને કરવામાં આવી રહી છે.

આપના પત્રમાં ઉલ્લેખિત પર્યાવરણીય મુદ્દાઓ અંગે જણાવવાનું કે, વડોદરા મહાનગર પાલિકા દ્વારા નદીમાં વસવાટ કરતા મગરો, કાચબાઓ તેમજ અન્ય જળચર પ્રાણીઓના સંરક્ષણને સર્વોચ્ચ પ્રાથમિકતા આપવામાં આવી રહી છે. કામગીરી દરમિયાન કોઈપણ જળચર પ્રાણીને નુકસાન ન થાય તે માટે વન વિભાગ, ઝૂ વિભાગ તથા સંબંધિત સ્વૈચ્છિક સંસ્થાઓ (NGOs) સાથે સતત સંકલન કરવામાં આવી રહ્યું છે.

ગેબિયન વોલની કામગીરી હાથ ધરતા પૂર્વે સંબંધિત સ્થળોએ હયાત મગરોની ડેન (Crocodile Dens) ની ઓળખ અને માર્કિંગ કરવામાં આવે છે તથા તેમની કુદરતી વસવાટ વ્યવસ્થાને ઓછામાં ઓછી અસર થાય તે રીતે કામગીરીનું આયોજન કરવામાં આવે છે. હાલમાં કામાટીબાગ પ્લેનેટોરિયમ પાછળના વિસ્તારમાં મગરોની સંખ્યા વધુ હોવાનું ધ્યાને આવતા વન વિભાગના અધિકારીશ્રી દ્વારા તા. ૦૧/૦૬/૨૦૨૬ ના રોજ સ્થળ મુલાકાત લઈ જરૂરી સર્વે હાથ ધરવામાં આવેલ છે. વન વિભાગ દ્વારા સૂચવવામાં આવેલી લંબાઈમાં જ કામગીરી હાથ ધરવામાં આવશે તથા બાકીના વિસ્તારમાં હાલ પૂરતી કામગીરી સ્થગિત રાખવામાં આવેલ છે.

આથી સ્પષ્ટ થાય છે કે ગેબિયન વોલની કામગીરી સંબંધિત તમામ પર્યાવરણીય મુદ્દાઓ અને જળચર પ્રાણીઓની સલામતીને ધ્યાનમાં રાખીને તથા સંબંધિત નિષ્ણાત વિભાગોના માર્ગદર્શન હેઠળ કરવામાં આવી રહી છે. આ બાબત અંગે અગાઉ પણ વિવિધ બેઠક દરમિયાન આપને વિગતવાર માહિતી આપવામાં આવેલ છે.

આપના પત્રમાં તાજેતરમાં થયેલા મગરના મૃત્યુ અંગે ઉલ્લેખ કરવામાં આવેલ છે. આ સંદર્ભે જણાવવાનું કે, જે સ્થળે મગરના મૃત્યુની ઘટના નોંધાયેલ હોવાનું જણાવવામાં આવે છે તે સ્થળે આજદિન સુધી ગેબિયન વોલની કોઈ કામગીરી હાથ ધરવામાં આવેલ નથી. તેથી ઉપલબ્ધ તથ્યોના આધારે મગરના મૃત્યુ અને ગેબિયન વોલની કામગીરી વચ્ચે કોઈ સીધો સંબંધ હોવાનું પ્રસ્થાપિત થતું નથી.

વડોદરા મહાનગર પાલિકા દ્વારા તમામ કામગીરી પર્યાવરણીય ધોરણો, તકનીકી માર્ગદર્શિકા તથા સંબંધિત વિભાગોની સલાહ અને સૂચનાઓને અનુસરીને કરવામાં આવી રહી છે. ભવિષ્યમાં પણ નદીના પર્યાવરણ, જૈવ વૈવિધ્ય અને જળચર પ્રાણીઓના સંરક્ષણ સાથે પૂર નિયંત્રણ અને જાહેર સલામતીના હેતુઓ વચ્ચે સંતુલન જાળવાઈ રહે તે માટે જરૂરી તમામ પગલાં લેવામાં આવશે.

ઉપરોક્ત વિગત જાણમાં લેવા વિનંતી છે.



કચ્છ પાલિકા ઇજનેર

વિશ્વામિત્રી પ્રોજેક્ટ

વડોદરા મહાનગર પાલિકા

નકલ રવાના જાણ સારૂ...

- ૧) માન. મ્યુનિસિપલ કમીશ્નર સાહેબશ્રી
- ૨) એડી. સીટી. એન્જીનીયરશ્રી (વિશ્વામિત્રી પ્રોજેક્ટ)

Annexure XI: Response Letter from VMC for C&D Waste



વડોદરા મહાનગર પાલિકા

ક્યુચરીસ્ટીક પ્લાનીંગસેલ.

જંડેરાવ માર્કેટ બિલ્ડીંગ,

રાજમહેલ રોડ,

વડોદરા-૩૯૦ ૦૦૧.

પ્રતિ,

મેમ્બરશ્રી,

વિશ્વામિત્રી કમીટી,

વડોદરા.

ફ. પ્રો. નં. 650/1
તા. 04/06/26

વિષય: વિશ્વામિત્રી નદીના રિવરાઇન વિસ્તારમાં C&D કચરા અને લેગસી વેસ્ટના નિકાલ તેમજ પૂર નિવારણ અંગે કરેલ રજૂઆત બાબત.
સંદર્ભ: આપનો તા. ૨૮.૦૫.૨૦૨૬ નો પત્ર.

ઉપરોક્ત વિષય પરત્વે આપના પત્રમાં વિશ્વામિત્રી નદીના રિવરાઇન વિસ્તારમાં વર્ષોથી જમા થયેલા લેગસી વેસ્ટ તથા C&D (Construction & Demolition) કચરાના કારણે નદીની પાણી વહન ક્ષમતા ઘટી ગઈ હોવાનું તેમજ તેના કારણે ભવિષ્યમાં પૂર અને જળભરાવની પરિસ્થિતિ સર્જાય તો તેની જવાબદારી વડોદરા મહાનગર પાલિકા તથા તેના ઉચ્ચ અધિકારીઓની રહેશે તેવો ઉલ્લેખ કરવામાં આવેલ છે.

આ સંદર્ભે જણાવવાનું કે, વિશ્વામિત્રી નદીના રિવરાઇન વિસ્તારમાં વર્ષોથી વિવિધ સ્થળોએ C&D કચરાનું ગેરકાયદેસર ડમ્પિંગ થયેલ હતું, જે બાબતને વડોદરા મહાનગર પાલિકા દ્વારા ગંભીરતાથી ધ્યાનમાં લઈ તેના નિવારણ માટે સતત કામગીરી હાથ ધરવામાં આવી રહી છે.

વર્ષ-૨૦૨૪માં વડોદરા શહેરમાં આવેલા પૂર બાદ રાજ્ય સરકારશ્રી દ્વારા રચાયેલ શ્રી નવલાવાલા કમિટીના અહેવાલ તથા ભલામણોને ધ્યાને લઈ વડોદરા મહાનગર પાલિકા દ્વારા વર્ષ-૨૦૨૫ દરમિયાન વિશ્વામિત્રી નદીમાં રીસેક્શનીંગ અને ડી-સિલ્ટીંગની કામગીરી હાથ ધરવામાં આવેલ છે. આ કામગીરી દરમિયાન અંદાજે 22,000 MT જેટલા C&D કચરાનો નિકાલ કરવામાં આવેલ છે. ઉપરાંત નદીની પાણી વહન ક્ષમતા અંદાજે 750 ક્યુસેકથી વધારી 1150 ક્યુસેક કરવામાં આવેલ છે. આ કામગીરી પૂર નિવારણની દિશામાં મહત્વપૂર્ણ સાબિત થયેલ છે. વડોદરા મહાનગર પાલિકા દ્વારા વિશ્વામિત્રી નદીના સુધારણા તથા શહેરમાં પૂર નિવારણ માટે વિવિધ કામગીરીઓ સતત કરવામાં આવી રહી છે અને આ દિશામાં જરૂરી આયોજન સાથે આગળની કામગીરી પણ હાથ ધરવામાં આવી રહી છે.

આપના પત્રમાં દર્શાવ્યા મુજબ બાકી રહેલા C&D કચરાના નિકાલ બાબતે જણાવવાનું કે, સદર કચરાના સ્થળોની ઓળખ તેમજ તેના જથ્થાનું મૂલ્યાંકન કરવામાં આવેલ છે. સદર કચરાના નિકાલ માટે જરૂરી આયોજન કરવામાં આવેલ છે તથા તે અંગેની કાર્યવાહી પણ ચાલુ છે, જો કે, કચરાનો જથ્થો ખૂબ મોટા પ્રમાણમાં હોવાથી તેનો સંપૂર્ણ નિકાલ તાત્કાલિક ધોરણે શક્ય નથી. આ

કામગીરી ઝડપથી પૂર્ણ થાય તે માટે વિવિધ એજન્સીઓ મારફતે કામગીરી કરાવવાની તેમજ CSR ફંડ હેઠળ પણ કામગીરી હાથ ધરવાની કાર્યવાહી પ્રગતિ હેઠળ છે.

આથી, વડોદરા મહાનગર પાલિકા દ્વારા (C&I) કચરાના નિકાલ તેમજ પૂર નિવારણ માટે જરૂરી કામગીરી કરવામાં આવી રહી નથી અથવા આ બાબતે કોઈ ઉદાસીનતા દાખવવામાં આવી રહી છે તેવું માનવું યોગ્ય નથી. છેલ્લા બે વર્ષ દરમિયાન વિશ્વામિત્રી નદીના સુધારણા અને પૂર નિવારણ માટે વડોદરા મહાનગર પાલિકા દ્વારા વિવિધ મહત્વપૂર્ણ કામગીરીઓ કરવામાં આવેલ છે તથા ભવિષ્યમાં પણ આ દિશામાં જરૂરી કામગીરી સતત ચાલુ રાખવામાં આવશે, જે ધ્યાને લેશે.



કાર્યપાલક ઇજનેર

વિશ્વામિત્રી પ્રોજેક્ટ

વડોદરા મહાનગર પાલિકા

નકલ રવાના જાણ સારું...

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Annexure XII: Report of STP Visits

**FIELD VISIT REPORT OF JOINT COMMITTEE
WITH REFERENCE TO
GHRC CASE - HRC/2024/PRESS/205/VADODARA CITY/LEGAL-1**



A joint inspection of various sewage treatment plants (STPs) of VMC is carried out along with VMC officials, Vishwamitri Committee members and experts (from The M.S. University of Baroda) with reference to GHRC case - HRC/2024/PRESS/205/Vadodara City/legal-1 on date 28.11.2025, 05.12.2025, 07.03.2026 and 23.03.2026 as shown in the following table.

Sr. No.	Name of STP	Visit Date
1.	Vadodara Municipal Corporation (43 MLD Atladara Old STP)	28.11.2025
2.	Vadodara Municipal Corporation (43 MLD Atladara New STP)	28.11.2025
3.	Vadodara Municipal Corporation (84 MLD Atladara New STP)	28.11.2025
4.	Vadodara Municipal Corporation (66 MLD Gajarawadi STP)	05.12.2025
5.	Vadodara Municipal Corporation (100 MLD Tarsali New STP)	05.12.2025
6.	Vadodara Municipal Corporation (50 MLD Chhani New STP)	07.03.2026
7.	Vadodara Municipal Corporation (21 MLD Chhani Old STP)	07.03.2026
8.	Vadodara Municipal Corporation (13 MLD Vemali STP)	07.03.2026
9.	Vadodara Municipal Corporation (78 MLD Rajivanagar STP)	07.03.2026
10.	Vadodara Municipal Corporation (45 MLD Bhayli STP)	23.03.2026
11.	Vadodara Municipal Corporation (16 MLD Sayaji Garden STP)	23.03.2026
12.	Vadodara Municipal Corporation (43 MLD Kapurai Old STP)	23.03.2026
13.	Vadodara Municipal Corporation (60 MLD Kapurai New STP)	23.03.2026

1. Vadodara Municipal Corporation (43 MLD Atladara Old STP)

Treatment technology used

The STP is based on anaerobic-aerobic sequential biological treatment. The raw sewage is passed through screens followed by grit chamber for the removal of floating objects and grits respectively. The effluent from the grit chamber is divided into small flows through a series of division boxes to feed the up flow anaerobic sludge blanket reactor (UASB). The wastewater passes up through a bed of anaerobic sludge in UASB reactor. The effluent of UASB is conveyed to pre aeration tank followed by aeration tank. The mixed liquor flowing out from aeration tank is taken to secondary clarifier for separation of biomass. Supernatant from secondary clarifier is discharged into River Vishwamitri.

The Details of treatment units are as under:

Sr. No.	Units	Nos.	Size
1	Coarse Screen Channel	2	4.5 m x 1.5 m x 1.2 m LD
2	Inlet Chamber	1	4.5 m x 3.4 m x 4.0 m LD
3	Screen Chamber	2	4.5 m x 1.75 m x 1.5 m LD
4	Grit Chamber	2	7.4 m x 7.4 m x 1.0 m LD
5	Division Box- 1	1	3.35 m x 6.35 m x 1.0 m LD
6	Division Box- 2	1	2.95 m x 2.95 m x 1.0 m LD
7	Distribution Box	12	2.8 m x 3.1 m x 0.7 m LD
8	UASB Reactors	6	24 m x 20 m x 5.1 m LD
9	Pre Aeration Tank	1	12.5 m DIA x 2.5 m LD
10	Aeration Tank	2	52.0 m x 26 m x 4.0 m LD
11	Secondary Settling Tank	2	42.8 m dia & 3.0 m depth
12	Sludge Recirculation Sump	1	16.6 m dia x 2.5m LD
13	Sludge Drying Bed	5	23 m x 30m
14	Filtrate Sump	1	3.6 m x 2.5 m x 1.5 m LD
15	Gas Holder	1	10 m dia x 6 m ht

Operational status & issues

Both screen chambers are not in working condition. The scraper mechanism in grit chambers need to be overhauled. Most of the division boxes to divide the flow for UASB are out of order leading to severely uneven distribution of flow. Even distribution of flow is imperative for efficient treatment of wastewater in UASB. Most of the division boxes on UASB were found overflowing to effluent launders thereby bypassing the treatment in UASB. It was reported that there is negligible biogas generation from UASB. Gas collection system was observed defunct. One of the four aerators in aeration tank was defunct. Color of mixed liquor in aeration tank was dark black, indicating lack of dissolved oxygen (DO). Any aerobic biological treatment requires DO as terminal electron acceptor without which the efficiency of the treatment will be heavily compromised. The treated sewage is discharged to river Vishwamitri through a Parshall flume. It was observed that the Parshall Flume was covered with foam which can interfere with the flow measurement. It needs to be cleaned frequently. Sludge drying bed was found filled with water and vegetation which clearly indicates there is no sludge generation. In a biological wastewater treatment system, the organic matter consumed by bacteria leads to growth of biomass which needs to be disposed

frequently to maintain the required concentration of biomass in the treatment systems. In other words, lack of generation and disposal of excess biomass in any biological treatment system indicates that the sewage passes through the treatment system without adequate treatment. The STP receives average flow of about 10 MLD against the install capacity of 43 MLD.



Both screen chamber is not in working condition



Division boxes on UASB were found overflowing



Aeration tank with defunct aerator



Black colored mixed liquor in aeration tank.



Parshall Flume covered with foam.



Sludge drying bed with vegetation.

Analysis Report:- Date: 28.11.2025

Sampling point	Inlet to STP	Aeration tank	Outlet to STP	CCA norms
Parameters				
Temp	31	31	30	--
pH	6.84	7.24	7.54	6.5-9.5
SS	176	128	46	< 20 mg/lit
Total coliform	--	--	430	--
Fecal coliform	--	--	110	Desirable <100 MPN/100 ml; Permissible <230 MPN/100 ml
COD	155	123	71	< 50 mg/lit
BOD	43	42	13	<10 mg/L
Total Phosphorus	3.54	3.75	2.93	<1 mg/L
Total Nitrogen	4.8	4.6	2.2	<10 mg/L

Analysis report shown above shows that SS, Total coliforms, Fecal coliform, COD, BOD and Total phosphate are exceeding the prescribe norms.

2. **Vadodara Municipal Corporation (43 MLD Atladara New STP)**

Treatment technology used

The STP is based on anaerobic-aerobic sequential biological treatment. The raw sewage is passed through screens followed by grit chamber for the removal of floating objects and grits respectively. The effluent from the grit chamber is divided into small flows through a series of division boxes to feed the up flow anaerobic sludge blanket reactor (UASB). The wastewater passes up through a bed of anaerobic sludge in UASB reactor. The effluent of UASB is conveyed to pre aeration tank followed by aeration tank. The mixed liquor flowing out from aeration tank is taken to secondary clarifier for separation of biomass. Supernatant from secondary clarifier is discharge into River Vishwamitri.

The Details of treatment units are as under:

Sr. No.	Units	Nos.	Size
1	Coarse Screen Channel	2	4.5m x 1.5m x 1.2m LD
2	Inlet Chamber	1	4.5m x 3.4m x 4.0m LD
3	Screen Chamber	2	4.5m x 1.75m x 1.5m LD
4	Grit Chamber	2	7.4m x 7.4m x 1.0m LD
5	Division Box- 1	1	3.35m x 6.35m x 1.0m LD
6	Division Box- 2	1	2.95m x 2.95m x 1.0m LD
7	Distribution Box	12	2.8/m x 3.1m x 0.7m LD
8	UASB Reactors	6	24m x 20m x 5.1m LD
9	Pre Aeration Tank	1	12.5m DIA x 2.5m LD
10	Aeration Tank	2	52.0m x 26 m x 4.0m LD
11	Secondary Settling Tank	2	42.8m dia & 3.0m depth
12	Sludge Recirculation Sump	1	16.6m dia x 2.5m LD
13	Sludge Drying Bed	5	23m x 30m
14	Filtrate Sump	1	3.6m x 2.5m x 1.5m LD
15	Gas Holder	1	10m dia x 6m ht

Operational status & issues

Both screen chambers are not in working condition. The scraper mechanism in grit chambers was not functional. Most of the division boxes to divide the flow for UASB are out of order leading to severely uneven distribution of flow. Even distribution of flow is imperative for efficient treatment of wastewater in UASB. Most of the division boxes on UASB were found overflowing to effluent launders thereby bypassing the treatment in UASB. It was reported that there is negligible biogas generation from UASB. Gas collection system was observed defunct. One of the four aerators in aeration tank was defunct. Color of mixed liquor in aeration tank was dark black indication lack of dissolved oxygen (DO). Any aerobic biological treatment requires DO as terminal electron acceptor without which the efficiency of the treatment will be heavily compromised. The treated sewage is discharged to river Vishwamitri through a Parshall flume. It was observed that the Parshall Flume is covered with foam which can interfere with the flow measurement. It needs to be cleaned frequently. Sludge drying bed was found filled with water and vegetation which clearly indicates there is no sludge generation indicating that the raw sewage passes through STP without adequate treatment. The STP receives average flow of about 25 MLD against the install capacity of 43 MLD.

The committee was informed that there is a common energy meter for the old and new STP at Atladra (total capacity 43+43 =86 MLD). The total electricity consumption for both STP ranges between 300 to 390 KWH as per record furnished by the STP operator. Each 43 MLD STP has 4 aerators (each of 50 HP) provided in aeration tank. Thus, the total number of aerators in two STPs is 8. If these aerators are run continuously throughout the day they would consume 7000 KWH of electricity. Even if these plants run at 1/4th hydraulic load, it would consume at least 1700 KWH. The actual electricity consumption is much smaller than expected consumption indicating that sewage simply passes through the treatment system without adequate treatment.



Parshall Flume covered with foam.



Aeration tank with defunct aerator.

It can be noted from above pictures that the average inlet COD In New 43 MLD STP is @ 300-360 mg/l while the same in the old 43 MLD STP is @ 200-250 mg/l in spite of both the plants receiving sewage from the same sump. The analysis record provided by old 43 MLD STP shows that on several days BOD concentration is greater than COD which is impossible for wastewater such as sewage. Reporting higher values of BOD than the corresponding COD values shows complete lack of understanding of wastewater analysis methods by entire personnel responsible for operation of these STPs.

3. Vadodara Municipal Corporation (84 MLD Atladara New STP)

Treatment technology used

STP is based on SBR (Sequencing Batch Reactor) treatment technology. The raw sewage is passed through screens followed by grit chamber for the removal of floating objects and grits respectively. The effluent from the grit chamber is then sent to division box to divide the flow to be fed to SBR units. The SBR compartments are equipped with diffused aeration system for aerobic biological treatment. Sludge sump is provided for collection of excess sludge from SBR basin. SBR basin is provided with system to return the activated sludge back in selector compartment and the surplus activated sludge is sent to dewatering units. The decanted flow from SBR is further sent to fiber disc filter followed by chlorine contact tank. Parshall flume is provided at outlet (for flow measurement) from where treated STP water is discharged into River Vishwamitri. OCEMS provided at final outlet of STP is found in operation.

The Details of treatment units are as under:

SR. NO.	UNITS	NOS.	SIZE
1	Inlet Chamber	01	7.4 m X 2.7 m X 3.0 m LD
2	Fine Bar Screen	03	23 m W X 10 M LD X 6.0 m LG
3	Grit Chamber	02	10.0 m X 10.0 m X 1.00 m SWD
4	Division Box	01	9.7 m X 5.0 m X 3.0 m SWD
5	SBR Basin- 1/2/3/4/5/6	06	38.0 m X 40.0 m X 6.0 m SWD
6	Fiber Disc Filter	01	13.5 m X 9.4 m
7	CCT	02	27.00 m X 10.00 m X 3.50 m LD
8	Chlorine Cum Tonner Room	01	20.20 m X 6.07 m
9	Parshall Flume	01	2.25 m W X 0.9 m LD X 18.0 m L
10	Sludge Sump Centrifuge Feed Pump House	01	14.0 m X 7.0 m X 3.0 m LD
		01	14.0 m X 6.0 m
11	Filtrate Sump	01	6.0 M DIA X 2.0 m LD
12	D.G. Otta Set	01	8.0 m X 4.0 m

Operational status & issues

Provided screens and grit chamber are found in operation. STP has provided 6 nos. of SBR basins out of which two were in aeration mode, two in settling mode, and remaining two in decantation mode. Unit has provided 9 nos. of blowers of capacity 200 HP each out of which 3 are found in operation during inspection and others are observed as standby. Provided disc filter is found in operation. Chlorination

section was not in operation during inspection. The STP receives average flow of about 65 MLD and average daily electric consumption is @ 5000 kWh as per records furnished.



Operational units of STP.



Growth of algae in chlorination tank



Treated sewage filtration unit in operation.

Analysis Report: Date: 28.11.2025

Sampling point	Inlet to STP	Outlet to STP	CCA norms
Parameters			
Temp	31	30	--
pH	7.40	7.51	6.5-9.5
SS	136	10	< 20 mg/lit
Total coliform	--	70	--
Fecal coliform	--	24	Desirable <100 MPN/100 ml; Permissible <230 MPN/100 ml
COD	180	19	< 50 mg/lit
BOD	46	4	<10 mg/L
Total Phosphorus	3.09	3.84	<1 mg/L
Total Nitrogen	2.4	1.8	<10 mg/L

All the parameter are meeting with the prescribed norms except Total phosphate

Laboratory Facility

The committee visited laboratory of the STP to see its functional status. The committee observed absence of raw data /calculations to support the actual analysis done, chemical consumption etc. It was observed that the analysis data entered in the record book were having number of duplications and followed a typical repetitive trend as shown in photograph attached below. The staff at the laboratories is not adequately trained and sensitized to perform the required tests and analyze the results. In-house operating and monitoring mechanism of the STP and its laboratory needs improvement.

Raw sewage water										Treated sewage water									
Date	Flow	pH	TSS	BOD	COD	TN	TP	Fe		Date	Flow	pH	TSS	BOD	COD	TN	TP	Fe	
	m ³ /s		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			m ³ /s			mg/L	mg/L	mg/L	mg/L	mg/L	
09/11/15	64.21	9.45	150	122	200	9.4	0.4	2.1		09/11/15	61.97	8.52	0.4	0.4	16	3.10	0.6	1.15	0.2
10/11/15	51.02	2.44	110	125	210	9.9	0.9			10/11/15	55.89	9.55	0.3	0.4	20	3.20	0.7		
11/11/15	58.91	7.45	90	127	220	10.2	0.9			11/11/15	56.39	9.59	0.2	0.3	22	3.50	0.7		
12/11/15	69.93	3.43	100	124	230	10.3	0.5			12/11/15	50.51	9.55	0.2	0.3	24	3.80	0.7		
13/11/15	60.89	1.44	90	125	210	10.5	0.4			13/11/15	58.45	9.54	0.3	0.4	25	4.20	0.5		
14/11/15	56.28	3.44	90	127	200	10.9	0.9			14/11/15	59.00	9.54	0.2	0.5	26	4.40	0.4		
15/11/15	63.92	3.45	70	130	190	9.9	0.5			15/11/15	66.10	9.58	0.2	0.5	26	3.70	0.4		0.4
16/11/15	62.46	7.46	90	126	190	9.5	0.9			16/11/15	65.36	9.55	0.3	0.3	25	3.80	0.5		
17/11/15	67.10	3.44	100	124	200	9.4	0.9			17/11/15	68.59	9.53	0.3	0.2	28	4.70	0.6		
18/11/15	79.15	3.44	100	129	220	9.9	0.2			18/11/15	63.42	9.57	0.2	0.3	30	4.40	0.7		
19/11/15	64.76	3.49	90	120	200	10.2	0.5			19/11/15	69.03	9.59	0.2	0.3	26	4.50	0.8		
20/11/15	64.50	7.43	70	124	190	10.4	0.8			20/11/15	67.79	9.56	0.2	0.4	22	4.20	0.5		
21/11/15	60.80	7.44	90	125	190	9.6	0.4	2.1		21/11/15	69.59	9.55	0.3	0.4	20	3.70	0.4		1.15
22/11/15	56.14	7.46	100	128	200	9.9	0.2			22/11/15	58.67	9.57	0.2	0.5	16	3.90	0.6		
23/11/15	61.23	7.45	110	130	190	9.5	0.6			23/11/15	50.44	9.58	0.2	0.3	19	3.70	0.5		
24/11/15	50.43	7.47	90	126	210	9.9	0.9			24/11/15	49.40	9.55	0.3	0.4	20	3.50	0.7		0.5
25/11/15	58.88	7.49	100	125	200	9.3	0.9			25/11/15	58.00	9.53	0.3	0.3	22	4.20	0.8		
26/11/15	51.00	7.49	110	127	230	9.4	0.9			26/11/15	61.13	9.56	0.2	0.4	24	4.50	0.7		
27/11/15	50.55	7.45	130	129	250	10.3	0.2			27/11/15	61.09	9.54	0.4	0.4	25	4.50	0.6		
28/11/15	50.02	7.42	120	124	210	10.4	0.5			28/11/15	59.59	9.55	0.3	0.3	24	4.20	0.5		
29/11/15	69.68	9.43	110	122	220	10.5	0.3			29/11/15	61.90	9.52	0.2	0.3	22	4.20	0.4		0.4
30/11/15	51.25	7.44	120	125	220	9.4	0.2			30/11/15	51.23	9.53	0.2	0.2	20	3.90	0.7		
01/12/15	55.92	3.42	120	127	190	9.5	0.9			01/12/15	54.73	9.54	0.3	0.4	24	3.70	0.6		
02/12/15	55.06	3.39	90	120	190	9.2	0.5			02/12/15	66.60	9.56	0.2	0.4	22	3.50	0.5		
03/12/15	49.09	3.40	100			9.1	0.4	3.4		03/12/15	67.35	9.55	0.2		20	3.60	0.4		
04/12/15	50.25	7.38	90		220	9.9	0.7			04/12/15	59.28	9.52	0.3		24	3.90	0.6		
05/12/15	63.07	7.35	70		150	9.5	0.9			05/12/15	58.90	9.54	0.2		16	3.70	0.7		0.2
06/12/15																			
07/12/15																			
08/12/15																			
09/12/15																			

4. Vadodara Municipal Corporation (66 MLD Gajrawadi STP)

Treatment technology used

The STP is based on aerobic biological treatment (Activated sludge process) technology. The raw sewage is passed through screens followed by grit chamber for the removal of floating objects and grits respectively. The effluent from the grit chamber is then sent to primary clarifier followed by aeration tank (Two Compartment with total 16 nos. of aerator). The treated sewage from secondary clarifier is then discharged to river Jambuva through natural kans.

The Details of treatment units are as under:

Sr. No.	Name of the Unit	Nos.	Size of the chamber	Liquid Depth (m)
1	Inlet Chamber	01	4.00 X 4.30	4.30
2	Receiving Sump	01	4.00 X 4.80	4.30
3	Screen Chamber	02	2.00 X 5.19 LONG	1.30
4	Grit Chamber	02	10.25 X 10.25	1.00
5	Parshall Flume Chamber	01	5.90 X 1.90	0.83
6	Primary Clarifier Inlet Chamber	01	1840	880
7	Primary Clarifier	01	50.00 DIA.	3.50
8	Distribution Box (Inlet Of Aeration Tank)	01	3.40 X 5.40	2.60
9	Aeration Tank	02	36.40 X 72.80	3.92
10	Distribution Box (Outlet Of Aeration Tank)	01	5.00 X 2.00	4.93
11	Secondary Clarifier	02	42.00 DIA.	3.00
12	Primary Sludge Sump	01	4.00 X 7.00	3.00
13	Recycle Sludge Sump	01	17.00 X 17.00	3.25
14	Sludge Thickner	01	27.00	3.00
15	Sludge Thickner Sump	01	4.00 X 4.00	2.00
16	Anaerobic Digester	02	31.10 DIA.	9.15
17	Sludge Drying Bed	11	20.25 X 30.0	-----

Operational status & issues

Provided screens are completely corroded and non-functional. The scrapper mechanism of primary clarifier is not working since long. Improper functioning of primary clarifier can increase organic load on aeration tank. Color of mixed liquor in aeration tank was blackish, indicating lack of dissolved oxygen (DO). Any aerobic biological treatment requires DO as terminal electron acceptor without which the efficiency of the treatment will be heavily compromised. Anaerobic Digesters are provided for digestion of primary and secondary sludge; however, they are not in operation since long. One secondary clarifier is observed out of operation during inspection. Sludge drying bed was full of vegetation showing that there is no generation of primary or secondary sludge from STP. Also, another compartment of sludge drying bed was found filled with sludge which was reportedly brought from other STP. There is no flow measuring device in operation. STP reportedly receives average flow of about 70 MLD against the install capacity of 66 MLD. Due to excess hydraulic load, wastewater and foam was jetting out of the discharge line.

The total electricity consumption by the STP is about 500 KWH as per record furnished by the STP operator. STP has 16 nos. of aerators (each of 50 HP) provided in aeration tank. If these aerators are run continuously throughout the day they would consume 14000 KWH of electricity. The actual electricity consumption is much smaller than expected consumption indicating that sewage simply passes through the treatment system without adequate treatment.



Completely corroded and non-functional screen chambers.



Primary clarifier mechanism out of order since 2017.



Black colored mixed liquor in aeration tank.



Secondary clarifier with broken baffle



Empty sludge drying bed with vegetation.



Excessive flow at discharge point jetting out from final discharge line

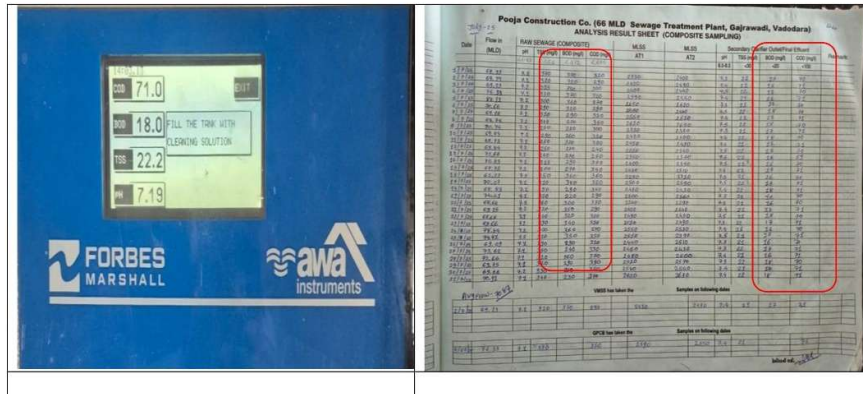
Laboratory Facility and OCEMS

The committee visited laboratory of 66 MLD Gajrawadi STP to see its functional status. The committee observed absence of raw data /calculations to support the actual analysis done, chemical consumption etc. It was observed that the analysis data entered in the record book were having number of duplications and followed a typical repetitive trend. The laboratory used to examine inlet/outlet quality at the STPs are not adequately equipped to test the constituents of the sewage and operational parameters, while the staff at the laboratories are also not adequately trained and sensitized to perform the required tests and analyze the results. In-house operating and monitoring mechanism of the STPs and its laboratories are inadequate and inefficient.

The following photographs show that OCEMS provided at final outlet of STP was not in operational conditions. However, the OCEMS showed values of COD, BOD, TSS and pH of 71 mg/L, 18 mg/L, 22.2 mg/L, and 7.19, respectively, which is misleading as there were no inlet and outlet pipes of treated effluent connected to OCEMS unit. When discussed with the laboratory staff, it was found that the lab staff were instructed to report values in close agreement with the above-mentioned fictitious values shown by OCEMS. The photograph showing the same is attached below. In the attached photographs it can be observed that the several BOD values of raw sewage are greater than corresponding COD values which is not possible practically, indicating the lack of technical competency of laboratory staff and absence of application of mind in recordkeeping.



Defunct OCEMS showing misleading results of COD, TSS, BOD, and pH



Analysis Report Date: 05.12.2025

Sampling point	Inlet to STP	Aeration tank	Outlet to STP	CCA norms
Parameters				
Temp	29	29	29	--
pH	6.56	6.85	7.04	6.5-9.5
SS	140	146	26	< 20 mg/lit
Total coliform	--	--	110	--
Fecal coliform	--	--	31	Desirable <100 MPN/100 ml; Permissible <230 MPN/100 ml
COD	253	192	76	< 50 mg/lit
BOD	34	49	13	<10 mg/L
Total Phosphorus	2.47	2.99	2.82	<1 mg/L
Total Nitrogen	9.6	9.2	8.4	<10 mg/L

Analysis report shown above shows that SS, COD, BOD and Total phosphate are exceeding the prescribe norms.

5. Vadodara Municipal Corporation (100 MLD Tarsali New STP)

Treatment technology used

The STP is based on SBR (Sequencing Batch Reactor) treatment technology. The raw sewage is passed through screens followed by grit chamber for the removal of floating objects and grits respectively. The effluent from the grit chamber is then sent to division box to be fed to SBR basins. The SBR basins are equipped with diffused aeration system for aerobic biological treatment. Sludge sump is provided for collection of excess sludge from SBR basin. SBR basin is provided with system to return the activated sludge back in selector compartment and the surplus activated sludge is sent to dewatering units. The decanted flow from SBR is further sent to fiber disc filter followed by chlorine contact tank. Parshall flume is provided at outlet (for flow measurement) from where treated STP water is discharged into River Jambuva.

The Details of treatment units are as under:

SR. NO.	NAME OF UNITS	NOS	SIZE
1	Inlet chamber	01	7400 X 3850 X 2500 MM LD
2	Screen Channel	03	2000 W X 1050 MM LD X 7000 MM LG
3	Grit Chamber	02	10400 X 10400 X 1000 MM LD
4	Grit by pass channel	01	5000 WX 10400 LG X 1000 MM LD
5	Splitter Box	01	8950X 5300 X 3000 MM LD
6	Sequencing Batch Reactor	06	59000 X 30700 X 6000 MM LD
7	Disc Filter Area	01	14200 X 9600 MM
8	Chlorine Contact Tank	02	26700 X 16000 X 2500 MM LD
8A	Chlorination Room	01	19900 X 6400 MM
8B	Chlorine Inlet Chamber	01	3200 X 2000 X 2500 MM LD
8C	Scrubber System Area	01	6500 X 5500
9	Parshall Flume	01	2300 W X 19500 LG X 1000 MM LD
10	Filtrate Sump	01	3500 X 2000 X 3500 MM LD
12	Centrifuge Feed Sump	01	11000 X 9500 X 3500 MM LD
13	Centrifuge Feed Pump House	01	9500 X 6000 MM
14	Blower Shed	01	5000 X 5000 MM
15	Dewatering Centrifuge Building	01	18000 X 8000 MM
16	Poly- Dosing Tank	02	3000 X 3000 X 2300 MM LD
20	D.G. set	01	10000 X 10000 MM
21A	FeCL3 Dosing tank	02	1600 X 1600 MM X 1650 MM LD
23	Treated water sump	01	2000 X 4000 X 1250 MM LD

Operational status & issues

Provided screens and grit chamber are found in operation. STP has provided 6 nos. of SBR basins out of which two were in aeration mode, two in settling mode, and remaining two in decantation mode. Unit has provided 9 nos. of blowers of capacity 200 HP each out of which 3 are found in operation during inspection and others are observed as standby. Provided disc filter is found in operation. Chlorination section is found in operation. Treated wastewater from Makarpura GIDC and Baroda Dairy unit is also received in inlet of this STP along with domestic wastewater. Analysis of various heavy metals is also carried out in this STP due to several electroplating units in GIDC Makarpura. OCEMS provided at final outlet of STP is found in operation. The STP receives average flow of about 50 MLD and average daily electric consumption is @ 9000 kWh as per records furnished.



Operational STP units

Laboratory Facility

The committee visited laboratory of STP to see its functional status. The committee observed that the raw data /calculations were used to derive the final values of parameters. The laboratory used to examine inlet/outlet quality at the STP and was adequately equipped to test the constituents of the sewage and operational parameters. However, the in-house operating and monitoring mechanism of STP need improvement.

Analysis Report: Date: 05.12.2025

Sampling point	Inlet to STP	Outlet to STP	CCA norms
Parameters			
Temp	29	29	--
pH	6.98	7.31	6.5-9.5
SS	184	6	< 20 mg/lit
Total coliform	--	140	--
Fecal coliform	--	47	Desirable <100 MPN/100 ml; Permissible <230 MPN/100 ml
COD	342	21	< 50 mg/lit
BOD	106	3	<10 mg/L
Total Phosphorus	1.77	1.38	<1 mg/L
Total Nitrogen	10.4	6.4	<10 mg/L

All parameters were within the prescribe norms except total phosphate.

6. Vadodara Municipal Corporation (50 MLD Chhani New STP)

Treatment technology used

The STP is based on SBR (Sequencing Batch Reactor) treatment technology. The raw sewage is passed through screens followed by grit chamber for the removal of floating objects and grits respectively. The effluent from the grit chamber is then sent to division box to be fed to SBR units equipped with diffused aeration system. Sludge sump is provided for collection of excess sludge from SBR basin. SBR basin is provided with system to return the activated sludge back in reaction basin and surplus activated sludge is sent to dewatering units. The decanted flow from SBR is further sent to chlorine contact tank without prior filtration. Parshall flume is provided at outlet (for flow measurement) from where treated sewage is discharged into River Vishwamitri.

The Details of treatment units are as under:

Sr. No.	Units	Nos.	Size
1	Stilling Chamber	01	4.00 m X 3.30 m X 3.0 m LD
2	Fine Bar Screen (Mech)	02	1.20 m w X 1.00 m LD X 7.0 m LG
3	Fine Bar Screen (Manual)	01	1.20 m w X 1.00 m LD X 7.0 m LG
4	Grit Chamber	02	7.80 m X 7.80 m X 1.00 m SWD
5	Division Box	01	6.40 m X 5.0 m X 3.50 m SWD
6	SBR Basin- 1/2/3/4	04	38.50 m X 38.50 m X 5.40 m SWD
7	Chlorine Tank (2 Compart)	01	17.00 m X 18.00 m X 3.50 m LD
8	Chlorine Cum Tonner Room	01	17.00 m X 5.00 m
9	Sludge Sump	01	10.00 m X 5.60 m X 3.00 m SWD
10	Sludge Pump House	01	10.00 m X 5.00 m
11	Filtrate Sump	01	3.0 M DIA X 1.50 m LD
12	Parshall Flume (Outlet)	01	1.70 m W X 1.0 m LD X 11.0 m L
13	SBR Air Blower Room	01	15.00 m X 7.50 m
14	Centrifuge Building	01	15.00 m X 6.00 m
15	D.G. Otta Set	01	8.50 m X 3.50 m

Operational status & issues

Provided screens and grit chamber are found in operation. During inspection, one of the grit chambers was found under maintenance. Flow distribution in operational grit chamber is not uniform. The STP has 4 nos. of SBR basins out of which 2 were in aeration mode, 1 in settling mode and 1 in decantation mode. There are total 5 nos. of blowers of capacity 200 HP each out of which 2 are found in operation during inspection and others are standby. Chlorination was not operational during inspection. During inspection, OCEMS is not found in operation. It was also observed that there was no incoming and outgoing lines of treated sewage connected to OCEMS. Thus, OCEMS was showing the same data consistently without any change.

The STP receives average flow of about 38-39 MLD against 50 MLD capacity. The total electricity consumption for STP ranges about 1200 KWh as per record furnished by the STP operator. There are total 5 nos. of blowers of capacity 200 HP each. If out of four SBR units, 2 are in fill-aerate mode at any time,

then 2 blowers of 200 HP each should be in operation throughout the day. Continuous operation of 2 blowers of 200 HP each will consume at least 7000 KWh units per day which is substantially more than the actual consumption of 1200 kWh.



STP units along with SBRs are observed in operation



Defunct OCEMS

Defunct OCEMS showing fictitious results

Laboratory Facility

The committee visited laboratory of the STP to see its functional status. The committee observed absence of raw data /calculations to support the actual analysis done, chemical consumption etc. It was observed that the analysis data entered into the record book were having number of duplications and followed a typical repetitive trend. The photographs attached below show the analysis records for the months of Dec-2025 & Jan-2026. It can be seen from the photographs that all the parameters are consistently identical, which is practically not possible. The laboratory used to examine inlet/outlet quality at the STP is not adequately equipped to test the constituents of the sewage and operational parameters, while the staff at the laboratories are also not adequately trained and sensitized to perform the required tests and

analyze the results. In-house operating and monitoring mechanisms of the STP Plants and its laboratory needs substantial improvement.

Raw Sewage analysis data

Treated Sewage analysis data

Analysis Report: Date: 07.03.2026

Sampling point	Inlet to STP	Outlet to STP	CCA norms
Parameters			
Temp	32	31	--
pH	7.12	7.17	6.5-9.5
SS	138	06	< 20 mg/lit
Total coliform	--	430	--
Fecal coliform	--	350	Desirable <100 MPN/100 ml; Permissible <230 MPN/100 ml
COD	224	57	< 50 mg/lit
BOD	63	4	<10 mg/L
Total Phosphorus	4.38	3.82	<1 mg/L
Total Nitrogen	8.2	6.4	<10 mg/L

Analysis report shown above shows that Fecal coliform, COD and Total phosphate are exceeding the prescribe norms.

7. Vadodara Municipal Corporation (21 MLD Chhani Old STP)

Treatment technology used

The STP is based on activated sludge process treatment technology. The raw sewage is passed through screens followed by grit chamber for the removal of floating objects and grits, respectively. The effluent from the grit chamber is then sent directly to aeration tank without primary clarification. The aeration tank has two compartments with total 8 nos. of aerators (30 HP each). The mixed liquor from aeration tank is sent to secondary clarifier. The treated sewage from secondary clarifier is further sent for tertiary treatment to flash mixer-flocculator-tube settler-chlorination system and then discharged to River Vishwamitri through natural kans.

The Details of treatment units are as under:

Sr. No.	Name of the Unit	Nos	Size of the chamber
1	Main Pumping Station	01	10.5 dia m X 2.5 m
1A	Inlet Chamber For MPS	01	3.5 X 3.5 X 8.0
1B	Screen Channel For MPS	02	3.0 m X 1.60 m
2	Inlet Chamber	01	2.30 X 3.30
3	Screen Channel (Mechanical)	02	6.0 X 1.0
4	Grit Detritor	02	6.0 X 6.0
4A	Parshall Flume	01	6.0 X 1.0
4B	Splitter Box	01	2.23 X 2.50
5	Aeration Tank	02	37.00 X 38.50
6	Secondary Clarifier	02	30.00 DIA.
7	Flash Mixer	01	2.50 X 2.50
8	Flocculator	02	6.50 X 6.50
9	Inclined Tube Type Clarifier	02	10.50 X 10.50
10A	Thicken Sludge Sump And Ump House	01	4.0 DIA.
10B	Belt Press Filter House	01	12.00 X 8.50
11	Sludge Recirculation Sump & Pump House	01	5.65 X 5.65
12	Chlorine Contact Tank	01	5.65 X 5.65
13	Sludge Drying Bed	02	11.0 X 10.0
14	Transformer Yard & Ele. Room	02	20.0 X 12.50

Operational status & issues

The STP receives average flow of about 26-27 MLD against the install capacity of 21 MLD. Two screens were found in operation and out of two grit chambers one is found in operation. Out of total 8 aerators in aeration tank 5 nos. are working at the time of visit, rest defunct. Mixed liquor in aeration tank was dark black showing lack of dissolved oxygen. It was gathered that excess biomass from activated sludge process was not removed since last one month. Regular discharge of excess biomass is essential to maintain treatment efficiency of biological treatment. One secondary clarifier was observed to be defunct during inspection. Tertiary treatment comprising of flash mixer-flocculator-tube settler was not in operation. Belt filter press for dewatering of bio mass was not in operation for long. Chlorination system

was not functional and chlorine tonner lying at the site was empty. The chlorination system is installed in open without any safety measures.



One of the grit chambers not in operation



Black colored Aeration tank



Tertiary treatment out of order



Sludge dewatering system not in operation



Chlorination system without any safety measures



Defunct OCMS



During inspection, OCEMS is not found in operation. It was also observed that there were no incoming and outgoing lines of treated sewage connected to OCEMS. Thus, OCEMS was showing the same data consistently without any change.

The total electricity consumption for STP ranges from about 700-800 KWH as per record furnished by the STP operator. STP has 08 nos. of aerators (each of 30 HP) provided in aeration tank. If these aerators are run continuously throughout the day they would consume at least 4000 KWH of electricity. The actual electricity consumption is much smaller than expected consumption, indicating inadequate operation of the STP.

Laboratory Facility of STP

The committee visited laboratory of the STP to see its functional status. The committee observed absence of raw data /calculations to support the actual analysis done, chemical consumption etc. It was observed that the analysis data entered into the record book were having number of duplications and followed a typical repetitive trend. The photographs attached below show the analysis records for the months of Jan-2026- Feb-2026. It can be seen from the photographs that all the parameters are consistently identical, which is practically not possible. The laboratory used to examine inlet/outlet quality at the STP is not adequately equipped to test the constituents of the sewage and operational parameters, while the staff at the laboratories are also not adequately trained and sensitized to perform the required tests and analyze the results. In-house operating and monitoring mechanism of the STP and its laboratory needs substantial improvement.

As mentioned above, OCEMS was not functional, however it showed values of COD, BOD, TSS and pH of 69.3 mg/L, 16 mg/L, 20.6 mg/L, and 7.29, respectively, which is misleading as there were no inlet and outlet pipes of treated effluent going in and coming out from OCEMS. When discussed with the laboratory staff, it was found that the lab staff were instructed to report values in close agreement with the above-mentioned fictitious values shown by OCEMS. The photographs of analysis records for the months of Jan-2026- Feb-2026 show that the values of COD, BOD, TSS and pH in treated sewage match with the values shown on defunct OCEMS which is an eye wash.

Pejja Construction Co. (21 MLD STP Chhatra), Vadodra, Analysis Result Sheet (Composite Sampling)										
Sl. No.	Parameter	Unit	Value	Sl. No.	Parameter	Unit	Value	Sl. No.	Parameter	
1	Temp	°C	32	11	SS	mg/lit	108	21	COD	mg/lit
2	pH		7.16	12	Fecal coliform	MPN/100 ml	920	22	BOD	mg/lit
3	SS	mg/lit	108	13	Total coliform	MPN/100 ml	1600	23	Total Phosphorus	mg/lit
4	Total coliform	MPN/100 ml	1600	14	Total Nitrogen	mg/lit	6.8	24		
5	Fecal coliform	MPN/100 ml	920	15				25		
6	COD	mg/lit	223	16				26		
7	BOD	mg/lit	65	17				27		
8	Total Phosphorus	mg/lit	3.52	18				28		
9	Total Nitrogen	mg/lit	6.8	19				29		
10				20				30		
Lab analysis for Jan- 2026										

Pejja Construction Co. (21 MLD STP Chhatra), Vadodra, Analysis Result Sheet (Composite Sampling)										
Sl. No.	Parameter	Unit	Value	Sl. No.	Parameter	Unit	Value	Sl. No.	Parameter	
1	Temp	°C	32	11	SS	mg/lit	108	21	COD	mg/lit
2	pH		7.16	12	Fecal coliform	MPN/100 ml	920	22	BOD	mg/lit
3	SS	mg/lit	108	13	Total coliform	MPN/100 ml	1600	23	Total Phosphorus	mg/lit
4	Total coliform	MPN/100 ml	1600	14	Total Nitrogen	mg/lit	6.8	24		
5	Fecal coliform	MPN/100 ml	920	15				25		
6	COD	mg/lit	223	16				26		
7	BOD	mg/lit	65	17				27		
8	Total Phosphorus	mg/lit	3.52	18				28		
9	Total Nitrogen	mg/lit	6.8	19				29		
10				20				30		
Lab analysis for Feb- 2026										

Analysis Report: Date: 07.03.2026

Sampling point	Inlet to STP	Outlet to STP	CCA norms
Parameters			
Temp	32	31	--
pH	7.16	7.31	6.5-9.5
SS	108	34	< 20 mg/lit
Total coliform	--	1600	--
Fecal coliform	--	920	Desirable <100 MPN/100 ml; Permissible <230 MPN/100 ml
COD	223	104	< 50 mg/lit
BOD	65	21	<10 mg/L
Total Phosphorus	3.52	4.68	<1 mg/L
Total Nitrogen	6.8	6.4	<10 mg/L

Analysis report shown above shows that SS, Fecal coliform, COD, BOD and Total phosphate are exceeding the prescribe norms.

8. Vadodara Municipal Corporation (13 MLD Vemali STP)**Treatment technology used**

The STP is based on SBR (Sequencing Batch Reactor) treatment technology. The raw sewage is passed through screens followed by grit chamber for the removal of floating objects and grits respectively. The effluent from the grit chamber is then sent to division box to be fed to SBR units equipped with diffused aeration system for aerobic biological treatment. Sludge sump is provided for collection of excess sludge from SBR basin. SBR basin is provided with system to return the activated sludge back in reaction basin and surplus activated sludge is sent to centrifuge. The decanted flow from SBR is further sent to chlorine contact tank. Parshall flume is provided at outlet (for flow measurement) from where treated STP water is discharged in to River Vishwamitri. OCEMS provided at final outlet of STP is found in operation.

The Details of treatment units are as under:

Sr. No.	Units	Nos.	Size
1	Inlet Chamber	01	3.1 M X 2.0 M X 2.5 M SWD
2	Fine Screen -Mech	01	0.9 M X 0.8 M LD X 5.0 M LG
3	Fine Screen- Manual	03	0.9 M X 0.8 M LD X 5.0 M LG
4	Grit Chamber	01	5.6 M X 5.6 M X 1.00 M SWD
5	SBR Basin	02	45.0 M Dia X 5.4 M SWD
6	Distribution Chamber at CCT	01	3.0 M X 1.50 M X 3.0 M LD
7	CCT	01	12.5 M X 15.00 M X 3.00 M LD
8	Chlorine Cum Tonner Room	01	12.5 M X 5.0 M
9	Parshall Flume	01	1.5 M W X 0.9 M LD X 10.5 M LG
10	Sludge Sump	01	5.0 M X 4.0 M X 2.6 M SWD
11	Sludge Pump & Blower Hose	01	5.0 M X 4.5 M
12	Filtrate Sump	01	3.0 M DIA X 1.5 M SWD
13	D.G. Otta Set	01	8.0 M X 5.0 M

Operational status & issues

Provided screens and grit chamber are found in operation. STP has 2 nos. of SBR basins out of which one was in aeration mode and the remaining in settling mode. Chlorination section is found in operation during inspection. Centrifuge was in operation during inspection. The STP receives average flow of about 4-5 MLD and average daily electric consumption is @ 700 kWh as per records furnished.



STP units along with SBRs are observed in operation



Laboratory Facility of STPs

The committee visited laboratory of STP to see its functional status. The committee observed absence of raw data /calculations to support the actual analysis done, chemical consumption etc. It was observed that the analysis data entered into the record book were having number of duplications and followed a typical repetitive trend. The photographs attached below show the analysis records for the months of Jan-2026 & Feb-2026. It can be seen from the photographs that all the parameters are consistently identical, which is practically not possible. The laboratory used to examine inlet/outlet quality at the STP are not adequately equipped to test the constituents of the sewage and operational parameters, while the staff at the laboratories are also not adequately trained and sensitized to perform the required tests and analyze the results.

Raw Sewage lab analysis data for Jan-2026 & Feb-2026

Treated Sewage lab analysis data for Jan-2026 & Feb-2026

Analysis Report Date: 07.03.2026

Sampling point	Inlet to STP	Outlet to STP	CCA norms
Parameters			
Temp	31	32	--
pH	7.39	7.46	6.5-9.5
SS	74	06	< 20 mg/lit
Total coliform	--	350	--
Fecal coliform	--	280	Desirable <100 MPN/100 ml; Permissible <230 MPN/100 ml
COD	192	21	< 50 mg/lit
BOD	54	02	<10 mg/L
Total Phosphorus	3.31	3.18	<1 mg/L
Total Nitrogen	6.8	6.4	<10 mg/L

Analysis report shown above shows that Fecal coliform and Total phosphate are exceeding the prescribe norms.

9. Vadodara Municipal Corporation (78 MLD Rajivnagar STP)

Treatment technology used

The STP is based on SBR (Sequencing Batch Reactor) treatment technology. The raw sewage is passed through screens followed by grit chamber for the removal of floating objects and grits respectively. The effluent from the grit chamber is then sent to division box to be fed for SBR units equipped with diffused aeration system for aerobic biological treatment. Sludge sump is provided for collection of excess sludge from SBR basin. SBR basin is provided with system to return the activated sludge back in reaction basin and surplus activated sludge is sent to dewatering units. The decanted flow from SBR is sent to fiber disc filter followed by UV radiation chamber. Parshall flume is provided at outlet (for flow measurement) from where treated sewage is used for gardening/plantation through tanker, remaining is sent to nearby tertiary treatment plant of IOCL. Excess treated sewage if any, is discharged into Kans (River Vishwamitri).

The Details of treatment units are as under:

Sr. No.	Units	Nos.	Size
1	Inlet Chamber	01	7.5 m X 2.8 m X 3.3 m LD
2	Coarse Screen Channel	02	1.3 m W X 1.2 M LD X 6.0 m LG
3	Mechanical Screen	01	1.3 m W X 1.2 M LD X 6.0 m LG
4	Intake Sump	01	1.88 m DIA X 2.6.0m SWD
5	Inlet Chamber	01	4.75 m X 3.5 m X 3.5 m LD
6	Fine Screen- Mechanical	02	1.45 m W X 1.0 M LD X 7.5 m L
7	Fine Screen- Manual	01	1.45 m W X 1.0 M LD X 7.5 m L
8	Grit Chamber	02	9.2 m X 9.2m X 1.0 m LD
9	Division Box	01	8 m X 5m X 3.5 m LD
10	SBR Basin- 1/2/3/4	04	46.2 m X 46.2m X 6 m LD
11	Fiber Disc Filter	02	2.45 m X 8.1m X 2.55 m LD
12	UV Channel	02	12.5 m X 1.83m
13	Sump	01	12.5 m X 7.5 m X 3.0 m LD
14	Parshall Flume	01	2.25 m X 17.9m X 0.8 m LD
15	Hypochlorite Dosing System	01	5 m X 3.5 m
16	Poly Electrolyte Dosing Tanks	02	2.4 m X 2.4m X 2.0 m LD
17	SBR Blower Room	01	17.0 m X 7.0 m
18	BFP Feed Pump House	01	6.0 m X 7.5m
19	D.G. Otta Set	01	5.0 m X 7.0 m

Operational status & issues

Provided screens and grit chamber are found in operation. Unit has provided 4 nos. of SBR basins out of which two were in fill-aeration mode, one was in settling mode and one was under maintenance. No Outflow was observed at the time of visit. At the time of visit, the fiber disc filter was not in operation. OCEMS provided at final outlet of STP was not in operation. As informed by the plant in charge, OCEMS is under control of IOCL recycle plant facility.

STP has 5 nos. of blowers of capacity 200 HP each out of which 2 were in operation during inspection and others are observed as standby. The STP receives average flow of about 56 MLD against 78 MLD capacity and average daily electric consumption is 18000-19000 kWh as per records furnished.



Screens



SBR under maintainance



SBR in aeration mode



SBR under settling mode

Laboratory Facility of STPs

The committee visited laboratory of the STP to see its functional status. The committee observed that the raw data /calculations were used to derive the final values of parameters. The laboratory used to examine inlet/outlet quality at the STP and was adequately equipped to test the constituents of the sewage and operational parameters. However, the in-house operating and monitoring mechanism of the STP and laboratory has a huge scope of improvement.

Analysis Report: Date: 07.03.2026

Sampling point	Inlet to STP	Outlet to STP	CCA norms
Parameters			
Temp	32	31	--
pH	7.31	7.23	6.5-9.5
SS	102	16	< 20 mg/lit
Total coliform	--	430	--
Fecal coliform	--	280	Desirable <100 MPN/100 ml; Permissible <230 MPN/100 ml
COD	202	48	< 50 mg/lit
BOD	72	05	<10 mg/L

Total Phosphorus	2.81	2.83	<1 mg/L
Total Nitrogen	6.2	5.8	<10 mg/L

Analysis report shown above shows that Fecal coliform and Total phosphate are exceeding the prescribed norms.

10. Vadodara Municipal Corporation (45MLD Bhayli STP)

Treatment technology used

The STP is based on SBR (Sequencing Batch Reactor) treatment technology. The raw sewage is passed through screens followed by grit chamber for the removal of floating objects and grits, respectively. The effluent from the grit chamber is then sent to division box to be fed for SBR units equipped with diffused aeration system for aerobic biological treatment. Sludge sump is provided for collection of excess sludge from SBR basin. SBR basin is provided with system to return the activated sludge back in reaction basin and surplus activated sludge is sent to dewatering units. The decanted flow from SBR is further sent to fiber disc filter followed by chlorine contact tank. Parshall flume is provided at outlet (for flow measurement) from where treated sewage is used for gardening/plantation through tanker, remaining is sent to nearby tertiary treatment plant of M/s. Best Value Chem which is utilizing as treated water.

The Details of treatment units are as under:

Sr. No.	Units	Nos.	Size
1.	Receiving Chamber	01	20.45 CU.MT
2.	Coarse Screen Channel (Manual Box + Mechanical)	02	1.30 m X 1.80m LD (BOX) 1.30 X 1.40m LDX 8.00 M L
3.	Main Pumping Station	01	15.0 m DIA X 2.0 m LD
4.	Odor Control System	01	2.0 m X 2.0 m
5.	Inlet Chamber	01	4.0 m X 3.0 m X 3.0 m LD
6.	Fine Screen- Mechanical	02	1.20 m W X 1.0 M LD X 7.0 m LG
7.	Fine Screen- Manual	01	1.45 m W X 1.0 M LD X 7.5 m LG
8.	Grit Removal Tank	02	7.40 m X 7.40 m X 1.0 m SWD
9.	Distribution Chamber	01	6.40 m X 5.0 m X 3.50 m SWD
10.	SBR Basin- 1/2/3/4	04	31.80 m X 42.70 m X 5.40 m SWD
11.	Fiber Disc Filter	01	16.20 m X 11.0 m
12.	CCT Inlet Chamber	01	5.0 m X 1.50 m X 2.10 m SWD
13.	Chlorination Tank (Two Compartment)	01	17.50 m X 16.0 m X 3.50 m SWD
14.	Chlorine Tonner Room	01	47.50 m X 5.0 m
15.	Parshall Flume	01	1.70 m W X 0.20 m LD X 11.0 m L
16.	Sludge Sump & Pump House	01	10.0 m X 6.0 m X 3.0 m SWD
17.	Centrifuge Building	01	15.0 m X 6.0 m
18.	Laboratory	01	20.0 m X 8.0 m
19.	SBR Blower Room	01	22.50 m X 8.0 m
20.	DG Set Area	01	8.50 m X 3.0 m

Operational status & issues

Provided screens and grit chamber are found in operation. STP has provided 4 nos. of SBR basins out of which two are in aeration mode and two are in settling mode. STP has provided 5nos. of blowers of capacity 200 HP each out of which 2 are found in operation during inspection and others are observed as standby. Provided disc filter is found in operation. Chlorination section is not found in operation during inspection. During inspection observed that sludge was drained on open land indicates that provided centrifuge not operated regularly. During inspection, OCEMS was not functional. It was also observed that there were no incoming and outgoing lines of treated sewage connected to OCEMS. Thus, OCEMS was showing the same data consistently without any change.

The STP receives average flow of about 41-42 MLD and average daily electric consumption is @ 1468 kWh as per records furnished.

STP units along with SBRs are observed in operation



SBR in aeration mode



SBR in settling mode



Centrifuge seems not operated regularly and sludge drained on open land





Parshall flume at outlet

OCEMS

Laboratory Facility

The committee visited laboratory of STP to see its functional status. The committee observed absence of raw data /calculations to support the actual analysis done, chemical consumption etc. It was observed that the analysis data entered into the record book were having number of duplications and followed a typical repetitive trend. The photographs attached below show the analysis records for the months of Jan-2026 & Feb-2026. It can be seen from the photographs that all the parameters are consistently identical, which is practically not possible. The laboratory used to examine inlet/outlet quality at the STP is not adequately equipped to test the constituents of the sewage and operational parameters, while the staff at the laboratories were also not adequately trained and sensitized to perform the required tests and analyze the results.

As mentioned above, OCEMS was not functional, however it showed values of COD, BOD, TSS and pH of 47 mg/L, 5.2 mg/L, 2.57 mg/L, and 7.40, respectively, which is misleading as there was no inflow to and outflow of treated effluent from the OCEMS system. When discussed with the laboratory staff, it was found that the lab staff were instructed to report values in close agreement with the above-mentioned fictitious values shown by OCEMS. The photographs of analysis records for the months of Jan-2026- Feb-2026 show that the values of COD, BOD, TSS and pH in treated sewage match with the values shown on defunct OCEMS which is an eye wash.

Sewage lab analysis data for Jan-2026Sewage lab analysis data for Feb-2026

Analysis Report: Date: 23.03.2026

Sampling point	Inlet to STP	Outlet to STP	CCA norms
Parameters			
Temp	31	31	--
pH	7.03	7.23	6.5-9.5
SS	46	06	< 20 mg/lit
Total coliform	--	540	--
Fecal coliform	--	120	Desirable <100 MPN/100 ml; Permissible <230 MPN/100 ml
COD	151	12	< 50 mg/lit
BOD	44	02	<10 mg/L
Total Phosphorus	1.98	2.65	<1 mg/L
Total Nitrogen	4.8	6.8	<10 mg/L

Analysis report shown above shows that Total phosphate is exceeding the prescribe norms.

11. Vadodara Municipal Corporation (16 MLD Sayaji Garden STP)

Treatment technology used

The STP is based on Moving Bed Bioreactor (MBBR) technology. The raw sewage is passed through screens followed by grit chamber for the removal of floating objects and grits, respectively. The effluent from the grit chamber is then sent to equalization tank and the MBBR tank followed by anoxic process. The effluent from anoxic process flows to aeration tank followed by secondary clarifier. The treated sewage from clarifier flows to chlorination tank. The chlorinated effluent is then utilized for gardening in Sayaji garden, and sent to other VMC areas through for planation, and the remaining effluent, if any, is discharged to River Vishwamitri through natural kans.

The Details of treatment units are as under:

Sr. No.	Unit	Nos.	Size
1	Inlet Chamber	01	3.40m x 1.35m x 4.65m
2	Screen Chamber	03	0.80 m wide x 6.00 m long
3	Detritus tank (Grit Chamber)	02	5.00m x 5.00m x 1.00m SWD
4	Splitter Box	01	1.80m x 1.80m x 2.00m SWD
5	Aeration Tank (Converted to Equalization Tank + MBBR)	02	40.50m x 20.25m x 3.50m SWD
6	PVA Gel Tank	02	9.60m x 20.25m x 3.50m SWD
7	Anoxic Tank	02	7.20m x 20.25m x 3.50m SWD
8	Activated Sludge Tank	02	8.80m x 20.25m x 3.20m SWD
9	Secondary Clarifier	02	29.00m dia x 3.00m SWD
10	Pump Shed	01	3.50m x 10.25m
11	Treated Sewage Sump (Converted to Sludge Sump)	01	4.35m x 6.85m x 3.00m SWD + 0.30m FB
12	Office Control Room	01	4.00m x 4.00m
13	Belt Filter Press House	01	10.00m x 7.25m x 4.50m high
14	Chlorine Dosing Ground Floor	02	4.35m x 3.00m

15	Parshall Fume	01	10m x 1.5m x 600mm
16	SCADA Room (F.F)	01	4.77m x 6.00m
17	Air Blower Room (F.F)	01	9.00m x 6.00m
18	Filtrate Sump	01	3.0m dia x 1.50m LD

Operational status & issues

Screens are found in operation and out of two grit chambers one was under maintenance. Very less MLSS could be observed in Aeration tank and the distribution of diffused air was uneven probably due to dislodging of some or few diffuser tubes. PVA gel media in MBBR were hardly visible. There was thick white foaming in aeration/MBBR tank, indicating lack of adequate MLSS/bacteria. One secondary clarifier was not operational during inspection. Sludge drying bed was found filled with liquid. OCEMS provided at final outlet of STP was not in operational condition.

STP receives average flow of about 13 MLD against the install capacity of 16 MLD. The total electricity consumption for STP ranges about 1000 KWH as per record furnished by the STP operator.



One of the grit chambers is defunct



White foam in MBBR tank and lack of PVA gel media



Secondary Clarifier



White foam in aeration tank indicating inadequate MLSS in aeration tank

Laboratory Facility

The committee visited laboratory of the STP to see their functional status. The committee observed absence of raw data /calculations to support the actual analysis done, chemical consumption etc. It was observed that the analysis data entered in the record book were having number of duplications and followed a typical repetitive trend. The photographs attached below show the analysis records for the months of Jan-2026 & Feb-2026. It can be seen from the photographs that all the parameters are consistently identical, which is practically not possible. The laboratory used to examine inlet/outlet quality at the STP are not adequately equipped to test the constituents of the sewage and operational parameters, while the staff at the laboratories are also not adequately trained and sensitized to perform the required tests and analyze the results.

VADODARA MUNICIPAL CORPORATION 16 MID SAYAH GARDEN SEWAGE TREATMENT PLANT - VADODARA (1ST JANUARY to 31ST JANUARY 2026) RAJKAMAL BUILDERS INFRASTRUCTURE PVT.LTD.																									
RAW SEWAGE WATER										TREATED SEWAGE AFTER SECONDARY TREATMENT										ST (INLET)					
DATE	INLET FLOW (ML/D)	PH (6.5 TO 7.5)	TSS (0.05 Mg/L)	BOD (20 Mg/L)	COD (0.04 Mg/L)	TSS (0.05 Mg/L)	TP (0.1 Mg/L)	Final pH (6.5 TO 7.5)	Final TSS (0.05 Mg/L)	PH	TSS	BOD	COD	TSS	AMT-01	AMT-02	AMT-03	AMT-04	PH (6.5 TO 7.5)	EXTR-01	BOD (0.05)	COD (0.04)	TSS (0.05)	TP (0.1)	Final pH (6.5 TO 7.5)
01-01-2026	12.8	7.4	340	146	300	15.32	1.2	7.3	15	11	80	8.96	50	50	1000	1100	7.8	4	4	30	3.92	1.1			
02-01-2026	9.9	7.1	360	166	340	15.03	1.3	7.3	10	20	80	10.08	50	60	950	1400	8.3	2	3	40	2.8	0.9			
03-01-2026	12	7.5	380	126	260	17.92	1.2	7.4	10	13	70	11.2	55	50	8300	8000	7.9	6	4	50	6.72	1.1			
04-01-2026	9.6	7.1	200	130	250	16.04	1.3	7.3	15	15	80	10.08	50	60	1150	1300	8.1	3	5	30	5.6	1.2			
05-01-2026	10.1	7.3	120	186	270	15.68	1.2	7.4	20	16	80	8.96	50	50	1100	1000	7.8	6	5	50	5.04	1.1			
06-01-2026	13.7	7.5	160	123	240	14	1.1	>SP7	7.3	20	14	70	7.84	50	70	1000	1500	8.2	2	3	20	3.96	0.9	<SP2	
07-01-2026	12.2	7.1	200	140	280	18.48	1.3	7.5	10	12	80	8.32	55	50	1250	1100	7.8	4	5	30	2.24	1.2			
08-01-2026	12.3	7.3	160	150	250	16.8	1.2	7.6	15	22	80	8.4	50	50	1000	1000	8.1	2	3	20	2.8	0.6			
09-01-2026	12.3	7.5	260	153	300	21.32	1.3	7.4	20	15	60	8.96	70	80	2040	2200	8.5	3	4	40	4.48	1.2			
10-01-2026	12.3	7.3	220	126	260	22.4	1.2	7.8	10	21	70	10.8	70	60	1600	1100	8.2	3	2	20	2.36	0.8			
11-01-2026	12	7	200	143	280	19.04	1.3	7.4	15	16	80	12.32	65	50	1400	1100	7.6	5	5	30	5.04	1.2			
12-01-2026	12.2	7.2	380	113	250	21.84	1.1	>SP7	7.6	10	11	60	6.16	60	50	1350	2200	7.9	2	3	20	3.92	0.9	<SP2	
13-01-2026	12.2	7.3	240	116	230	26.72	1.2	7.8	10	13	90	11.76	70	50	1550	1000	8.4	4	4	40	5.6	1.1			
14-01-2026	10.8	7.3	200	146	250	24.64	1.2	7.6	15	17	80	8.96	70	60	1500	1400	8.1	2	3	30	6.16	1.2			
15-01-2026	10.3	7.5	240	150	330	21.52	1.3	7.3	10	16	60	8.4	80	50	1050	1950	7.9	3	4	40	4.48	1.2			
16-01-2026	14.5	7.2	200	146	310	19.6	1.3	7.6	10	16	80	11.2	60	85	1400	1900	7.8	4	5	50	7.28	1.2			
17-01-2026	14.1	7.2	240	123	280	13.36	1.1	7.4	15	15	70	8.96	80	90	1600	1950	8.1	2	3	20	5.6	0.7			
18-01-2026	12.3	7.5	180	143	300	15.12	1.2	7.4	15	15	70	8.96	80	90	1600	1950	8.1	3	3	20	5.6	0.7			
19-01-2026	10.2	7.2	160	130	290	12.88	1.2	7.8	15	18	80	9.52	90	100	1900	2050	8.3	3	4	30	6.16	1.1			
20-01-2026	13.3	7.3	120	126	240	11.2	1.1	>SP7	7.4	10	12	70	7.28	65	90	1700	1850	8.1	2	2	20	3.96	0.8	<SP2	
21-01-2026	13.4	7.4	280	133	260	14	1.2	7.8	15	15	80	10.08	110	85	2000	1700	8.1	5	4	50	7.84	1.1			
22-01-2026	13.3	7.5	200	143	290	16.8	1.2	7.4	15	11	70	9.52	80	75	1700	1650	7.8	4	3	40	5.04	1.1			
23-01-2026	10.62	7.2	160	120	250	11.9	1.2	7.4	15	13	60	6.58	75	50	1600	1100	8	3	4	20	2.24	0.7			
24-01-2026	13.6	7.1	180	150	280	13.4	1.3	7.3	15	19	80	10.08	70	60	1500	1350	7.6	4	5	40	6.16	1.2			
25-01-2026	11.6	7.2	220	146	310	21.28	1.3	7.3	10	11	70	8.96	55	50	1200	1000	7.9	5	3	40	6.16	1.2			
26-01-2026	12.2	7.4	360	130	310	20.6	1.4	7.6	10	17	80	9.52	50	50	1000	1050	8.2	2	2	20	2.24	1.1			
27-01-2026	9.8	7.4	200	130	310	20.6	1.4	7.6	10	11	60	7.28	70	60	1500	1300	8.2	2	2	20	3.92	1.2			
28-01-2026	14	7	140	140	240	13.44	1.2	7.4	10	11	60	6.58	75	50	1400	1100	8.2	2	2	20	3.92	1.2			
29-01-2026	11.7	7.4	120	136	230	11.2	1.1	7.3	15	21	80	11.16	75	50	1400	1100	8.2	2	2	20	3.92	1.2			
30-01-2026	13.85	7.5	160	143	250	18.48	1.1	>SP7	7.3	10	18	70	9.52	55	50	1150	1000	8.4	2	3	20	3.36	0.6	<SP2	
31-01-2026	13.86	7.2	180	150	280	17.36	1.2	7.6	10	13	80	7.84	80	50	1200	1050	7.8	5	4	40	6.16	1.1			
AVERAGE	12.2	7.3	177	137	273	17	1.2	>SP7	7.5	13	15	9	66	64	1408	1371	8.0	3	4	33	5	1.0	<SP2		
MAX.	14.5	7.5	260	166	340	24.64	1.4	>SP7	7.8	20	22	90	12.32	110	100	2040	2200	8.5	6	5	50	7.84	1.2	<SP2	
MIN	9.6	7	120	113	230	11.2	1.1	>SP7	7.3	10	11	60	6.38	50	50	950	1000	7.6	2	2	20	2.24	0.5	<SP2	

Sewage lab analysis data for Jan-2026

Sewage lab analysis data for Jan-2026

VADODARA MUNICIPAL CORPORATION 16 MIDL SAYAJI GARDEN SEWAGE TREATMENT PLANT - VADODARA (1st FEBRUARY to 28th FEBRUARY 2026) BAKAMAL BUILDERS INFRASTRUCTURE PVT.LTD.																								
RAW SEWAGE WATER										TREATED SEWAGE, AFTER SECONDARY TREATMENT										SLUDGE				
DATE	INLET FLOW (MLD)	PH (6.5 TO 7.5)	SS (MG/L)	BOD (MG/L)	COD (MG/L)	TKN (MG/L)	TP (MG/L)	TP (MG/ML)	TP (MG/ML)	TH	SS	BOD	COD	TKN	TP	TP	TP	TP	TP	SS (MG/L)	SS (MG/L)	SS (MG/L)	SS (MG/L)	SS (MG/L)
01-02-2026	13.4	7.1	220	140	260	18.48	1.3			7.3	15	15	50	10.08	100	80	1800	1600	7.8	4	5	30	4.48	1.2
02-02-2026	12.31	7.3	180	110	210	13.44	1.2	>10P7		7.5	10	11	80	7.28	90	70	1850	1400	7.9	3	4	25	3.92	1.1
03-02-2026	12.4	7	160	110	220	16.8	1.2			7.8	10	13	70	8.96	100	95	2000	1750	8.1	4	5	40	6.1	9
04-02-2026	12.2	7.2	220	155	330	22.9	1.3			7.5	10	15	50	8.4	80	70	1800	1600	8	3	3	50	5.6	1.2
05-02-2026	12.7	7.3	140	120	210	19.6	1.2			7.7	15	17	50	6.16	60	65	1300	1200	8.4	2	2	30	3.3	0.8
06-02-2026	13.5	7.2	180	120	250	18.04	1.1			7.4	10	12	60	10.08	50	50	1250	1200	7.8	3	4	40	6.16	0.9
07-02-2026	12.4	7.4	180	120	280	20.16	1.1			7.3	10	18	70	7.84	40	50	1300	1350	8.1	2	3	10	5.84	0.7
08-02-2026	12.29	7.5	220	160	340	21.28	1.3			7.6	15	16	50	8.4	80	70	1800	1600	8	4	4	50	3.92	1.2
09-02-2026	12.67	7.6	200	135	250	19.6	1.2	>10P7		7.4	10	12	70	6.72	65	50	1400	1200	8.2	2	3	25	2.8	1.1
10-02-2026	13.3	7.3	180	120	260	19.04	1.2			7.6	15	15	80	6.52	100	75	2000	1800	7.9	4	3	40	4.48	1.1
11-02-2026	12.5	7.2	160	133	270	17.92	1.3			7.4	15	10	70	11.2	80	70	1800	1700	8.1	2	3	25	7.84	1.2
12-02-2026	12.6	7	220	123	310	19.04	1.3			7.3	10	18	80	12.32	95	60	2000	1900	7.6	5	4	50	6.72	1.2
13-02-2026	13.6	7.2	200	156	330	18.48	1.2			7.3	15	22	90	10.08	80	70	1900	1700	7.8	4	5	30	3.96	1.1
14-02-2026	13.4	7.3	180	126	240	14	1.1			7.8	10	12	70	7.84	65	55	1400	1250	8.3	2	3	20	3.96	0.8
15-02-2026	12.2	7.1	140	116	230	20.72	1.2			7	15	11	80	11.76	50	50	1200	1350	7.8	4	5	40	5.6	1.1
16-02-2026	11.8	7.3	180	116	250	15.68	1.1	>10P7		7.8	10	12	80	11.2	40	50	1300	1150	8.1	2	3	15	4.48	0.8
17-02-2026	13	7.1	160	140	270	16.24	1.2			7.6	10	15	90	6.16	60	50	1250	1100	8.3	4	5	40	5.04	1.1
18-02-2026	12.8	7.3	220	153	320	17.36	1.3			7.2	10	18	80	7.84	50	65	1000	1350	7.9	4	5	50	6.16	1.2
19-02-2026	12.8	7.2	200	140	280	22.96	1.2			7.5	10	12	70	9.52	50	60	1100	1300	7.8	6	4	40	7.84	1.1
20-02-2026	12.9	7.3	140	120	290	15.12	1.2			7.6	15	16	80	6.16	65	70	1400	1550	8	3	2	20	3.92	0.8
21-02-2026	12.6	7.4	180	140	280	15.68	1.2			7.8	10	19	70	10.08	60	50	1350	1100	8.4	2	3	30	6.72	1.1
22-02-2026	12.7	7	100	105	210	12.88	1.3			7.5	10	13	90	7.28	95	50	1300	1150	7.7	4	5	40	2.24	1.2
23-02-2026	12.6	7.1	140	133	270	19.04	1.2	>10P7		7.3	10	15	60	11.2	50	50	1100	1000	8.2	2	3	40	3.36	1.1
24-02-2026	13.1	7.4	120	86	205	11.76	1.1			7.2	15	14	70	8.4	60	50	1350	1150	7.8	3	4	20	5.6	0.9
25-02-2026	13.1	7.4	160	120	250	14.56	1.2			7.3	10	12	90	9.52	55	50	1100	1000	7.6	4	3	30	6.72	1.1
26-02-2026	12.4	7.2	180	126	270	15.68	1.2			7.6	10	16	70	11.2	70	50	1350	1100	8.2	2	3	30	6.16	1.1
27-02-2026	12.7	7.1	240	153	330	20.72	1.3			7.4	20	18	90	8.4	65	50	1300	900	7.8	5	5	50	5.8	1.2
28-02-2026	7.3	220	136	180	19.6	1.2				7.7	10	20	80	6.72	50	50	1000	1100	8.1	4	5	40	4.48	1.2
AVERAGE	12.7	7.2	177	131	268	18	1.2	>10P7		7.5	12	15	79	9	68	60	1454	1311	8.0	3	4	35	5	1.3
MAX.	13.6	7.6	240	163	340	22.96	1.3	>10P7		7.8	20	22	90	12.32	100	95	2000	1800	8.4	6	5	50	8.96	9
MIN	11.8	7	100	86	200	11.76	1.1	>10P7		7	10	10	60	6.16	50	50	1000	900	7.6	2	2	20	2.24	0.7

Sewage lab analysis data for Feb-2026

Analysis Report Date: 23.03.2026

Sampling point	Inlet to STP	Outlet to STP	CCA norms
Parameters			
Temp	31	32	--
pH	7.40	7.48	6.5-9.5
SS	118	16	< 20 mg/lit
Total coliform	--	920	--
Fecal coliform	--	150	Desirable <100 MPN/100 ml; Permissible <230 MPN/100 ml
COD	219	37	< 50 mg/lit
BOD	38	07	<10 mg/L
Total Phosphorus	1.68	2.31	<1 mg/L
Total Nitrogen	4.2	7.2	<10 mg/L

Analysis report shown above shows that Total phosphorus is exceeding the prescribe norms.

12. Vadodara Municipal Corporation (43 MLD Kapurai Old STP)**Treatment technology used**

The STP is based on anaerobic-aerobic sequential biological treatment. The raw sewage is passed through screens followed by grit chamber for the removal of floating objects and grits respectively. The effluent from the grit chamber is divided into small flows through a series of division boxes to feed the up flow anaerobic sludge blanket reactor (UASB). The wastewater passes up through a bed of anaerobic sludge in UASB reactor. The effluent of UASB is conveyed to pre aeration tank followed by aeration tank. The mix liquor flowing out from aeration tank is taken to secondary clarifier for separation of biomass. Supernatant from secondary clarifier is discharged into River Jambuva through Ruparel kaans.

The Details of treatment units are as under:

Sr. No.	Units	Nos.	Size
1	Inlet Chamber	1	4.4 m x 3.4m x 4.0m LD
2A	Fine Bar Screen	1	1.6 m W x 1.4 m LD x 8.0 m LG
2B	Manual Screen	1	1.4 m W x 1.2 m LD x 3.0 m LG
3	Grit Chamber	2	7.4m x 7.4m x 1.0m LD
4A	Division Box- 1	4	*****
4B	Division Box- 2	12	*****
4C	Distribution Box	6	2.8/m x 3.1m x 0.7m LD
7	UASB Reactors	1	24m x 22m x 4.8 m LD
8	Pre Aeration Tank	2	24.50 m x 12.25mx 3.0 m LD
9	Aeration Tank	1	45.3 m x 22.65m x 3.50 m LD
10	Secondary Settling Tank	1	42.75 m dia& 3.0m depth
11	Sludge Thickener	1	7.50 m dia& 3.0m depth
12	Sludge Drying Bed	1	30 m x 16.70 m
13	Filtrate Sump	1	4.0 m x 3.0 m x 1.5m LD
14	Gas Holder	1	9.0 m dia x 5.0 m ht

Operational status & issues

One of the screen chambers is not in working condition. The scraper mechanisms in grit chambers are defunct. Most of the division boxes to divide the flow for UASB are out of order leading to severely uneven distribution of flow. However, the performance of distribution boxes of this STP is better than those in Atladra STPs. Even distribution of flow is imperative for efficient treatment of wastewater in UASB. Most of the division boxes on UASB were found overflowing thereby bypassing the treatment in UASB. It was reported that there is negligible biogas generation from UASB. Gas collection system was observed defunct. Three out of four aerators in aeration tank were under maintenance. Color of mixed liquor in aeration tank was dark black, indicating lack of dissolved oxygen (DO). Sludge drying bed was found with negligible amount of old sludge which clearly indicates there is not enough sludge generation and that the raw sewage passes through STP without adequate treatment.

The STP receives average flow of about 43 MLD and average daily electric consumption is @ 1350 kWh as per records furnished. STP has 4 aerators (each of 50 HP) provided in aeration tank. If these aerators are run continuously throughout the day they would consume about 3000 kWh of electricity. The actual electricity consumption is much smaller than expected consumption.



One of the screen chambers without rotating screen



Division boxes on UASB



Grit chambers with defunct scraper mechanisms



two out of four aerators in aeration tank was defunct



Aeration compartment without aerator



Sludge drying bed with negligible amount of sludge



OCEMS showing fictitious values



Defunct OCEMS without any inflow and outflow

Laboratory Facility

The committee visited laboratory of the STP to see its functional status. The committee observed absence of raw data /calculations to support the actual analysis done, chemical consumption etc. It was observed that the analysis data entered into the record book were having number of duplications and followed a typical repetitive trend. The photographs attached below show the analysis records for the months of Jan-2026 & Feb-2026. The laboratory used to examine inlet/outlet quality at the STP are not adequately equipped to test the constituents of the sewage and operational parameters, while the staff at the laboratories is also not adequately trained and sensitized to perform the required tests and analyze the results.

OCEMS was not functional, however it showed values of COD, BOD, TSS and pH of 31.5 mg/L, 6.58 mg/L, 7.53 mg/L, and 6.67, respectively, which is misleading as there was no inflow to and outflow of treated effluent from the OCEMS system.

From : 01-01-26 To 31-01-26																
RAJKAMAL BUILDERS INFRASTRUCTURE PVT. LTD																
43 MLD SEWAGE TREATMENT PLANT AT KAPURAI																
Date of Sampling	Flow (MLD)	Raw Sewage (Composite)				pH	U.A.S.B. Outlet				Final Treated Sewage				MLSS	
		pH	TSS (mg/l)	BOD (mg/l)	COD (mg/l)		pH	TSS (mg/l)	BOD (mg/l)	COD (mg/l)	pH	TSS (mg/l)	BOD (mg/l)	COD (mg/l)	AT - 1	AT - 2
01-01-2026	42.58	6.48	340	128	148	6.54	140	36	148	7.21	20	17	68	1000	3400	
02-01-2026	42.69	6.54	320	126	128	6.77	160	30	172	7.15	23	15	72	1040	3160	
03-01-2026	42.56	6.68	326	126	123	6.65	167	134	31	187	7.21	24	23	64	1210	1905
04-01-2026	42.9	6.66	336	125	164	6.73	118	28	148	7.22	26	16	66	1350	3420	
05-01-2026	42.64	6.72	420	120	357	6.88	180	27	167	7.13	20	14	71	1080	3480	
06-01-2026	42.68	6.54	360	120	323	6.79	140	34	171	7.18	24	18	57	1120	3200	
07-01-2026	42.64	6.35	348	123	376	6.7	152	30	182	7.28	22	16	67	1120	3440	
08-01-2026	42.6	6.6	240	125	232	6.85	120	29	93	7.16	16	17	59	2840	2920	
09-01-2026	42.67	6.52	380	126	341	6.74	185	31	142	7.23	24	15	65	3240	3120	
10-01-2026	42.87	6.52	320	128	342	6.78	140	36	140	7.2	25	23	66	3150	3420	
11-01-2026	42.52	6.44	336	124	364	6.62	138	30	144	7.14	23	18	55	3080	3210	
12-01-2026	42.66	6.74	360	120	323	6.9	140	32	171	7.23	20	15	58	3120	3210	
13-01-2026	42.46	6.35	344	126	354	6.72	128	30	135	7.16	22	17	62	3419	3236	
14-01-2026	42.7	6.62	382	124	384	6.69	148	32	187	7.28	25	23	70	3042	3215	
15-01-2026	42.65	6.55	340	123	371	6.75	142	31	156	7.12	23	19	69	3328	3172	
16-01-2026	42.56	6.48	360	125	386	6.68	140	31	174	7.21	21	15	78	3240	3400	
17-01-2026	42.59	6.38	420	116	365	6.54	180	26	149	7.16	25	13	87	3350	3130	
18-01-2026	42.71	6.68	336	123	358	6.78	138	30	168	7.22	23	15	68	3425	3420	
19-01-2026	42.7	6.55	360	126	376	6.68	145	34	182	7.14	26	18	70	3250	3315	
20-01-2026	42.63	6.48	280	120	227	6.62	120	27	94	7.25	18	14	39	2840	2920	
21-01-2026	42.51	6.73	300	123	374	6.9	148	31	188	7.18	24	15	76	3000	3120	
22-01-2026	42.78	6.6	340	125	311	6.85	140	30	165	7.21	22	18	57	3240	3400	
23-01-2026	42.63	6.43	240	128	228	6.56	120	36	95	7.15	20	23	40	2940	2960	
24-01-2026	42.7	6.72	420	123	358	6.88	180	30	168	7.13	22	16	71	3090	3485	
25-01-2026	42.68	6.52	320	125	376	6.74	142	32	182	7.23	23	18	67	3320	3440	
26-01-2026	42.83	6.48	425	124	392	6.55	183	36	191	7.19	25	17	68	3000	3130	
27-01-2026	42.73	6.66	320	126	342	6.78	142	30	154	7.2	20	15	72	3240	3350	
28-01-2026	42.59	6.52	340	125	362	6.69	148	30	158	7.23	22	18	72	3240	3125	
29-01-2026	42.53	6.66	320	124	242	6.82	160	31	140	7.2	23	15	75	3080	3210	
30-01-2026	42.69	6.54	320	123	328	6.77	160	30	172	7.15	23	17	72	3040	3160	
31-01-2026	42.72	6.6	340	126	311	6.85	140	30	165	7.21	22	18	57	3240	3400	
Average	42.66	6.56	341.73	124.29	318.97	6.73	146.81	31.00	157.48	7.19	21.45	15.82	69.36	3203.29	3248.29	
Max	42.90	6.88	420.00	136.00	420.00	6.95	189.00	36.00	191.00	7.28	26.00	23.00	94.00	3480.00	3520.00	
Min	42.46	6.35	240.00	116.00	227.00	6.54	120.00	26.00	91.00	7.12	16.00	13.00	39.00	2840.00	2920.00	

Sewage analysis for Jan-2026

From : 01-02-26 To 28-02-26

RAJKAMAL BUILDERS INFRASTRUCTURE PVT. LTD.
43 MLD SEWAGE TREATMENT PLANT AT KAPURAI

Date of Sampling	Flow (MLD)	Raw Sewage (Composite)				pH	U.A.S.B. Outlet				Final Treated Sewage				MLSS	
		pH	TSS (mg/l)	BOD (mg/l)	COD (mg/l)		TSS (mg/l)	BOD (mg/l)	COD (mg/l)	pH	TSS (mg/l)	BOD (mg/l)	COD (mg/l)	AT - 1	AT - 2	
		6.5 - 7.8	+436				6.5 - 7.8	+30								
01-02-2026	42.51	6.43	349	123	420	6.59	158	30	178	7.21	24	14	72	1240	3180	
02-02-2026	42.8	6.72	420	124	358	6.88	180	32	168	7.15	23	15	68	1310	3225	
03-02-2026	42.49	6.54	336	130	311	6.85	120	31	165	7.14	22	17	57	1240	2960	
04-02-2026	42.69	6.85	349	122	372	6.78	148	28	156	7.18	23	13	60	1200	2920	
05-02-2026	42.71	6.52	340	124	356	6.88	140	32	154	7.14	19	20	72	1280	3174	
06-02-2026	42.49	6.69	344	136	354	6.76	148	33	165	7.21	23	23	70	1480	3435	
07-02-2026	42.59	6.42	320	128	342	6.79	138	32	148	7.16	18	18	66	3080	3215	
08-02-2026	42.74	6.69	360	122	386	6.86	149	28	179	7.25	22	13	78	3120	3220	
09-02-2026	42.56	6.56	420	120	376	6.76	184	27	180	7.19	20	14	88	3240	3520	
10-02-2026	42.55	6.48	320	124	378	6.69	172	32	180	7.23	23	16	69	3325	3240	
11-02-2026	42.51	6.74	280	126	276	6.9	140	34	108	7.28	18	14	60	3040	3000	
12-02-2026	42.75	6.43	240	130	228	6.56	120	36	95	7.15	20	15	40	2960	3080	
13-02-2026	42.68	6.62	380	124	384	6.69	148	32	188	7.28	25	17	70	3042	3200	
14-02-2026	42.64	6.55	320	123	364	6.82	172	30	188	8.15	16	13	68	1120	3480	
15-02-2026	42.67	6.73	350	124	370	6.95	148	31	194	8.1	23	16	63	1365	3290	
16-02-2026	42.57	6.72	420	122	358	6.88	180	30	168	7.15	22	18	57	3310	3225	
17-02-2026	42.58	6.48	320	130	364	6.72	160	34	141	7.35	19	17	70	3320	3520	
18-02-2026	42.57	6.7	325	120	380	6.82	182	27	196	7.14	22	14	69	3115	3234	
19-02-2026	42.7	6.88	360	124	372	6.93	160	30	176	7.38	20	13	94	3240	3120	
20-02-2026	42.51	6.47	360	123	323	6.77	160	31	141	7.2	24	19	66	3080	3400	
21-02-2026	42.55	6.56	300	122	374	6.85	148	29	188	7.45	18	14	76	3000	3120	
22-02-2026	42.7	6.55	325	125	382	6.78	189	30	196	7.25	18	18	70	3325	3170	
23-02-2026	42.59	6.38	420	128	365	6.54	180	32	150	7.16	25	16	87	3350	3230	
24-02-2026	42.71	6.44	340	126	364	6.68	170	34	188	7.32	21	14	69	3040	3520	
25-02-2026	42.61	6.66	320	125	328	6.78	144	30	172	7.2	20	17	72	3350	3234	
26-02-2026	42.68	6.48	336	130	307	6.63	148	31	148	7.22	22	13	57	3280	3520	
27-02-2026	42.73	6.72	300	123	374	6.84	152	30	188	7.15	24	15	79	3000	3120	
28-02-2026	42.62	6.43	360	126	386	6.58	140	34	174	7.22	21	17	78	3240	3400	
Average	42.63	6.59	343.04	125.14	355.43	6.77	156.36	31.07	166.86	7.29	21.25	15.82	69.36	3203.29	3248.29	
Max	42.80	6.88	420.00	136.00	420.00	6.95	189.00	36.00	196.00	8.15	25.00	23.00	94.00	3480.00	3520.00	
Min	42.49	6.38	240.00	120.00	228.00	6.54	120.00	27.00	95.00	7.14	16.00	13.00	40.00	2960.00	2920.00	

Sewage analysis for Feb-2026

Analysis Report:- Date: 23.03.2026

Sampling point	Inlet to STP	Outlet to STP	CCA norms
Parameters			
Temp	31	32	--
pH	7.47	7.59	6.5-9.5
SS	44	28	< 20 mg/lit
Total coliform	--	920	--
Fecal coliform	--	280	Desirable <100 MPN/100 ml; Permissible <230 MPN/100 ml
COD	120	93	< 50 mg/lit
BOD	33	19	<10 mg/L
Total Phosphorus	2.81	3.52	<1 mg/L
Total Nitrogen	8.4	9.60	<10 mg/L

Analysis report shown above shows that SS, Total coliform, Fecal Coliform, COD, BOD and Total phosphate are exceeding the prescribe norms.

13. Vadodara Municipal Corporation (60 MLD Kapurai New STP)**Treatment technology used**

The STP is based on SBR (Sequencing Batch Reactor) treatment technology. The raw sewage is passed through screens followed by grit chamber for the removal of floating objects and grits respectively. The effluent from the grit chamber is then sent to division box to be fed to SBR units equipped with diffused aeration system for aerobic biological treatment. Sludge sump is provided for collection of excess sludge from SBR basin. SBR basin is provided with system to return the activated sludge back in selector compartment and surplus activated sludge is sent to centrifuge. The decanted flow from SBR is further sent to chlorine contact tank. Parshall flume is provided at outlet (for flow measurement) from where treated sewage is discharged into river Jambuva through Ruparel Kans.

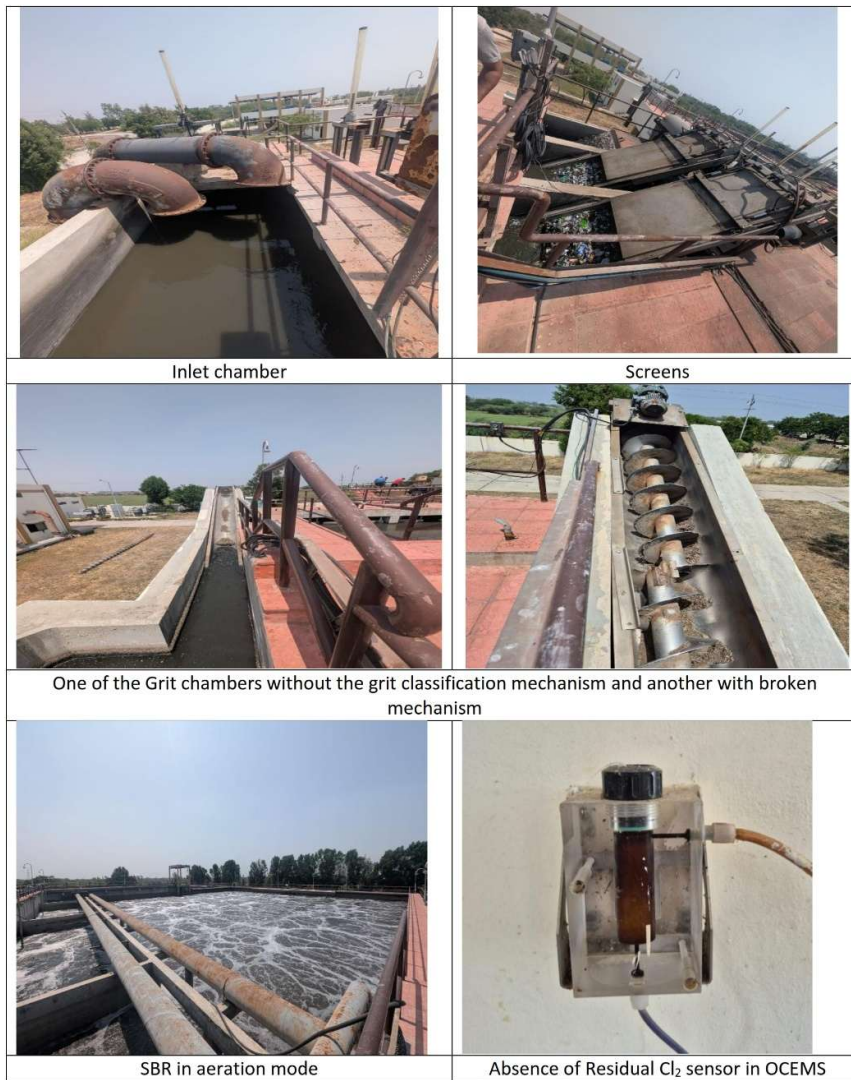
The Details of treatment units are as under:

Sr. No.	Units	Nos.	Size
1	Inlet Chamber	01	4.4 m X 3.6 m X 3.0 m LD
2	Fine Screen- Mechanical	02	1.30 m W X 1.0 M LD X 6.0 m L
3	Fine Screen- Manual	01	1.40 m W X 1.0 M LD X 6.0 m L
4	Grit Chamber	02	12.0 m X 12.0 m X 1.0 m LD
5	Division Box	01	8.0 m X 6.0 m X 3.50 m LD
6	SBR Basin- 1/2/3/4	04	40.0 m X 44.50 m X 5.40 m LD
7	Chlorination Tank (2 Compartment)	02	20.0 m X 18.0 m X 3.50 m LD
8	Chlorination Cum Chlorine Tonner Room	01	15.30 m X 5.0 m
9	Sludge Sump	01	8.0 m X 8.0 m X 3.0 m SWD
10	Sludge Pump House	01	6.0 m X 6.0 m
11	SBR Blower Room	01	18.0 m X 7.0 m
12	Centrifuge Building	01	12.50 m X 6.0 m
13	Parshall Flume (Outlet)	01	1.9 m W X 0.9 m LD X 16.0 m L
14	11 KV HT Room	01	5.5 m X 5.0 m
15	Disc Filter (For Future)	01	16.0 m X 15.0 m

Operational status & issues

Provided screens and grit chamber are found in operation. At the time of visit, one of the grit chambers did not have a grit classifier mechanism, and another one had a broken classifier. STP has provided 4 nos. of SBR basins out of which 1 were in aeration mode and 2 were in settling mode. STP has provided 5nos. of blowers of capacity 200 HP each out of which 2 were found in operation during inspection and others are observed as standby. Chlorination section is found in operation during inspection. Centrifuge was in operation during inspection. OCEMS provided at final outlet of STP measures only residual chlorine concentration, and it was defunct. There was no sensor/probe in OCEMS to measure residual chlorine.

The STP receives average flow of about 59 MLD and average daily electric consumption is @ 1300 kWh as per records furnished.



Laboratory Facility of STP

The committee visited laboratory of STP to see its functional status. The committee observed absence of raw data /calculations to support the actual analysis done, chemical consumption etc. It was observed that the analysis data entered into the record book were having number of duplications and followed a typical repetitive trend. The photographs attached below show the analysis records for the months of Jan-2026 & Feb-2026. It can be seen from the photographs that all the parameters are consistently identical, which is practically not possible. The laboratory used to examine inlet/outlet quality at the STP are not adequately equipped to test the constituents of the sewage and operational parameters, while the staff at the laboratories are also not adequately trained and sensitized to perform the required tests and analyze the results

VADODARA MUNICIPAL CORPORATION																		RAKAMAL BUILDERS INFRASTRUCTURE PVT. LTD.																																																																																																																																																																																																																																																																																																																																																																																																																																													
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DATE	INLET FLOW (MLD)	PH	TSS (mg/L)	BOD (218) (mg/L)	COD (424) (mg/L)	TKN (mg/L)	TP (mg/L)	Fe/CaCl ₂ (mg/L)	OUTLET FLOW (MLD)	PH	TSS (mg/L)	BOD (218) (mg/L)	COD (424) (mg/L)	TKN (mg/L)	TP (mg/L)	Fe/CaCl ₂ Form (mg/L)	SS (V/L)										MLSS (mg/L)										MLVSS (mg/L)																																																																																																																																																																																																																																																																																																																																																																																																																										
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01-01-2026	25.94	8.02	242	138	248	13.02	0.01	107	10.57	7.8	4	5	48	3.81	1.01	107	0.1	142	144	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194	196	198	200	202	204	206	208	210	212	214	216	218	220	222	224	226	228	230	232	234	236	238	240	242	244	246	248	250	252	254	256	258	260	262	264	266	268	270	272	274	276	278	280	282	284	286	288	290	292	294	296	298	300	302	304	306	308	310	312	314	316	318	320	322	324	326	328	330	332	334	336	338	340	342	344	346	348	350	352	354	356	358	360	362	364	366	368	370	372	374	376	378	380	382	384	386	388	390	392	394	396	398	400	402	404	406	408	410	412	414	416	418	420	422	424	426	428	430	432	434	436	438	440	442	444	446	448	450	452	454	456	458	460	462	464	466	468	470	472	474	476	478	480	482	484	486	488	490	492	494	496	498	500	502	504	506	508	510	512	514	516	518	520	522	524	526	528	530	532	534	536	538	540	542	544	546	548	550	552	554	556	558	560	562	564	566	568	570	572	574	576	578	580	582	584	586	588	590	592	594	596	598	600	602	604	606	608	610	612	614	616	618	620	622	624	626	628	630	632	634	636	638	640	642	644	646	648	650	652	654	656	658	660	662	664	666	668	670	672	674	676	678	680	682	684	686	688	690	692	694	696	698	700	702	704	706	708	710	712	714	716	718	720	722	724	726	728	730	732	734	736	738	740	742	744	746	748	750	752	754	756	758	760	762	764	766	768	770	772	774	776	778	780	782	784	786	788	790	792	794	796	798	800	802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832	834	836	838	840	842	844	846	848	850	852	854	856	858	860	862	864	866	868	870	872	874	876	878	880	882	884	886	888	890	892	894	896	898	900	902	904	906	908	910	912	914	916	918	920	922	924	926	928	930	932	934	936	938	940	942	944	946	948	950	952	954	956	958	960	962	964	966	968	970	972	974	976	978	980	982	984	986	988	990	992	994	996	998	1000
01-02-2026	42.68	6.78	254	128	246	13.02	0.01	107	40.89	7.78	5	4	44	3.82	1.02	0.2	148	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144	140	136	142	138	144																	

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DATE	TREATED SEWAGE AFTER TERTIARY TREATMENT (FINAL OUTLET)										S.S.(M)					MLSS (Mg/L)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
	INLET FLOW (MLD)	PH	T.S.S (200) (Mg/L)	B.O.D (24 HRS) (Mg/L)	C.O.D (24 HRS) (Mg/L)	T.P (OS) (Mg/L)	TP (OS) (Mg/L)	Fecal Coliform (MPN/100 ML)	OUTLET FLOW (MLD)	PH	T.S.S (200) (Mg/L)	B.O.D (10 HRS) (Mg/L)	C.O.D (10 HRS) (Mg/L)	T.N (OS) (Mg/L)	TP (OS) (Mg/L)	Fecal Coliform (MPN/100 ML)	S.S.R. - 01	S.S.R. - 02	S.S.R. - 03	S.S.R. - 04	S.S.R. - 05	S.S.R. - 06	S.S.R. - 07	S.S.R. - 08	S.S.R. - 09	S.S.R. - 10																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
01-02-2024	57.53	6.54	296	124	284	3.02	3.01	197	56	7.08	5	4	48	2.01	1.01	10P2	0.1	148	146	144	148	1680	1690	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695	1695

Lab Analysis Feb-2026

Analysis Report Date: 23.03.2026

Sampling point	Inlet to STP	Outlet to STP	CCA norms
Parameters			
Temp	31	31	--
pH	7.48	7.53	6.5-9.5
SS	94	10	< 20 mg/lit
Total coliform	--	430	--
Fecal coliform	--	120	Desirable <100 MPN/100 ml; Permissible <230 MPN/100 ml
COD	237	15	< 50 mg/lit
BOD	85	02	<10 mg/L
Total Phosphorus	3.82	2.37	<1 mg/L
Total Nitrogen	7.2	5.8	<10 mg/L

Analysis report shown above shows that Total phosphate is exceeding the prescribed norms.

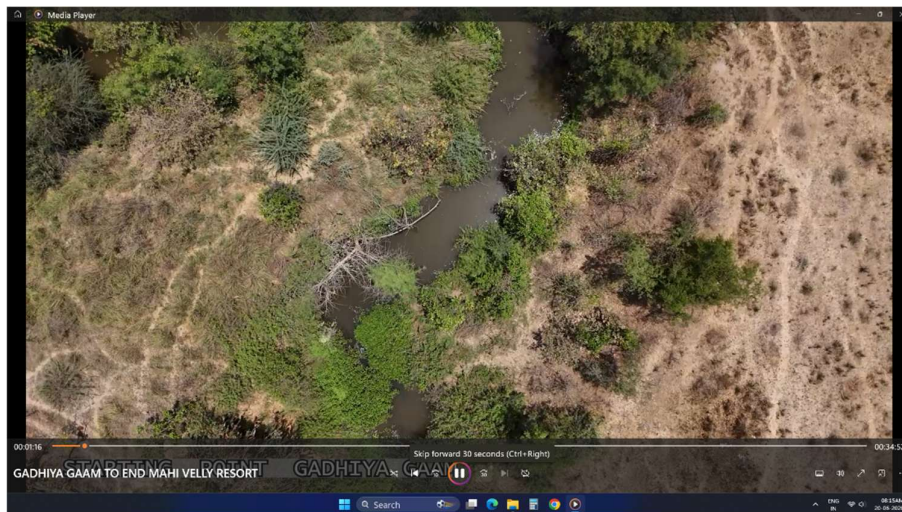
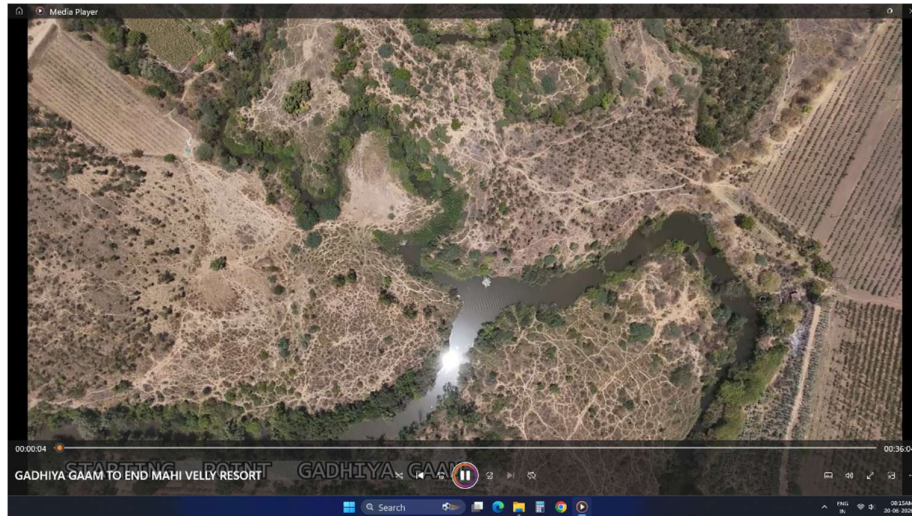
General observations:

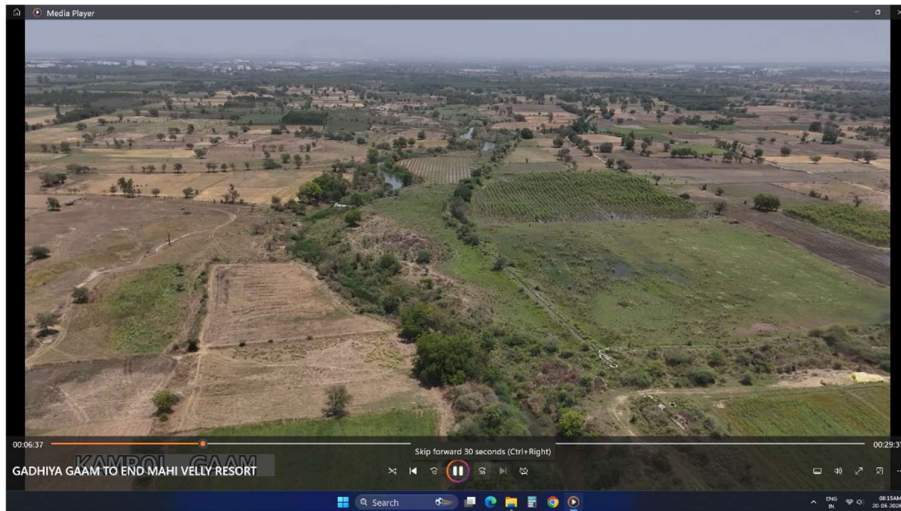
A Striking error was observed in the protocol used to measure BOD in several STPs (Chhani 50 MLD, Chhani-21 MLD, Vemali- 13 MLD, Rajivnagar-78 MLD, Bhayli- 45 MLD, Sayaji Garden-16 MLD, Kapurai- 45-MLD, Kapurai-60MLF). As shown in the photographs below, the BOD bottles of 330 ml volume were deliberately filled up to 300 ml volume leaving a 30 mL air space in the bottle. As per the Standard Method, the BOD bottles must be filled up to the brink and then stoppered so that there are no air voids in the bottles. Any air space left in bottle (as per the protocol followed by STPs) will supply oxygen during the incubation process and the BOD results obtained by such method will always be significantly lower than the actual BOD values. The oxygen contained in ~30 mL air at 20 C will be about 7 mg. If the sample (treated or raw sewage) placed in the BOD bottle is diluted 10 times, it will show negligible BOD even if the actual BOD is ~ 70 mg/L.

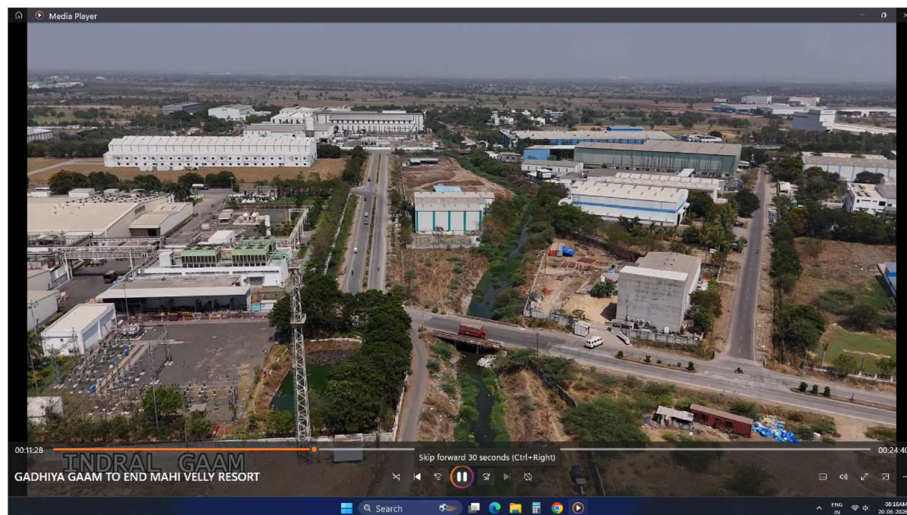
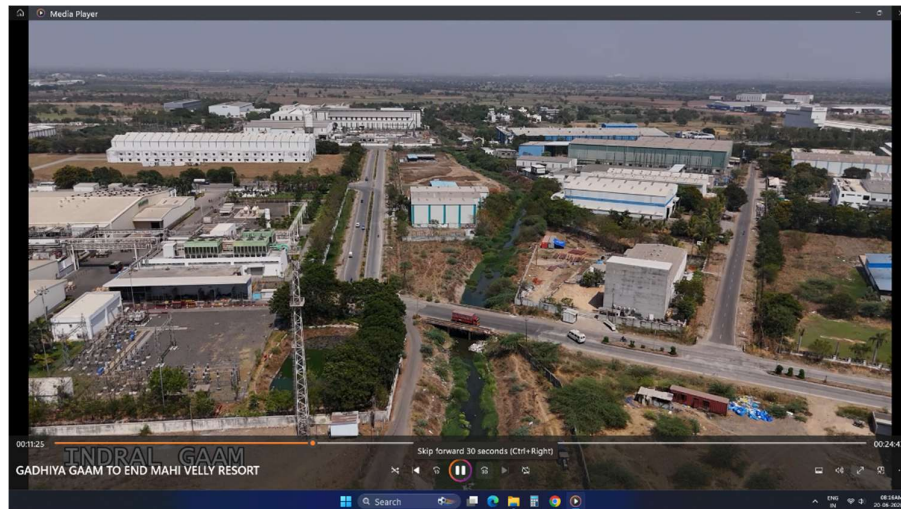
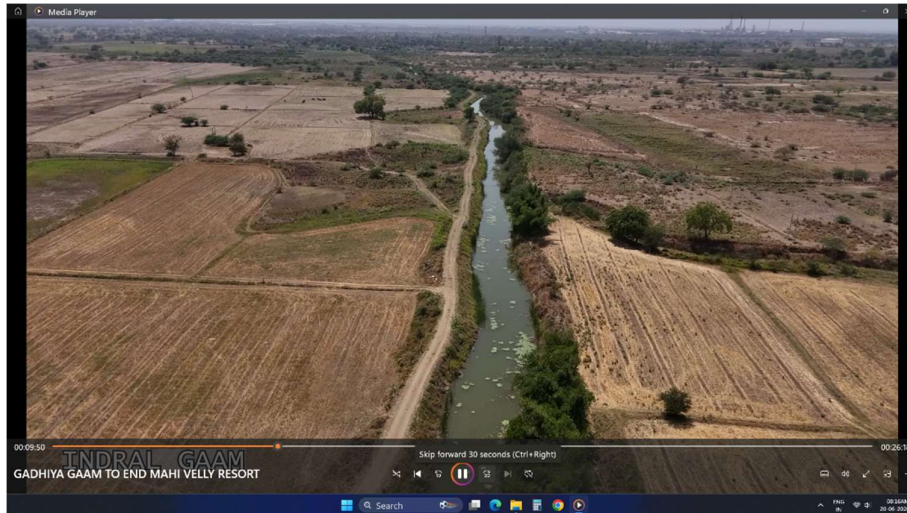


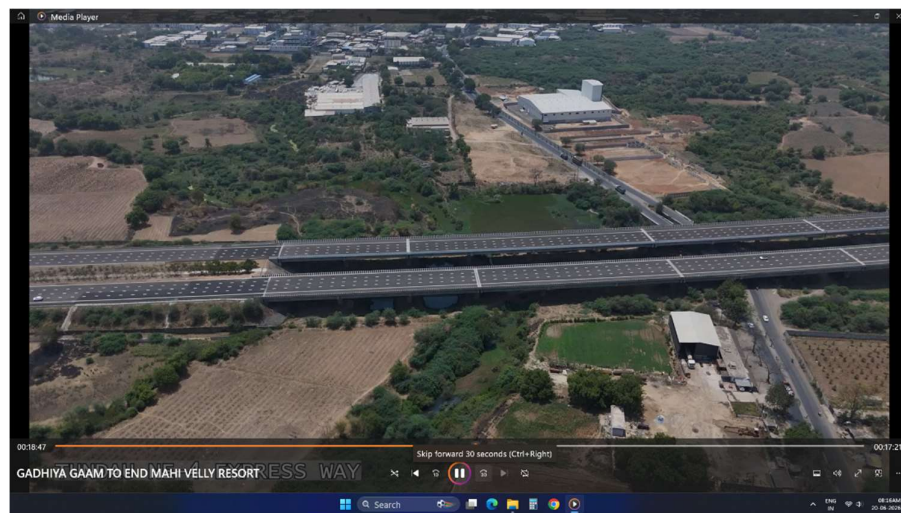
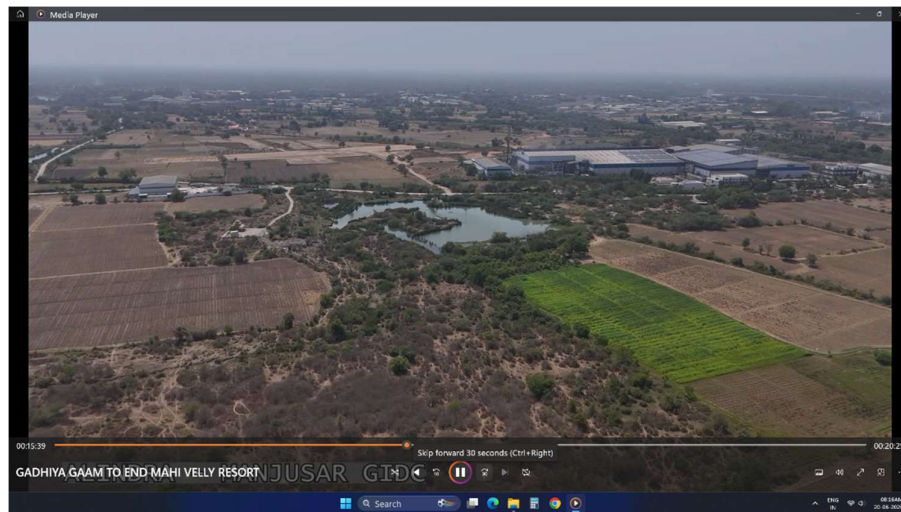
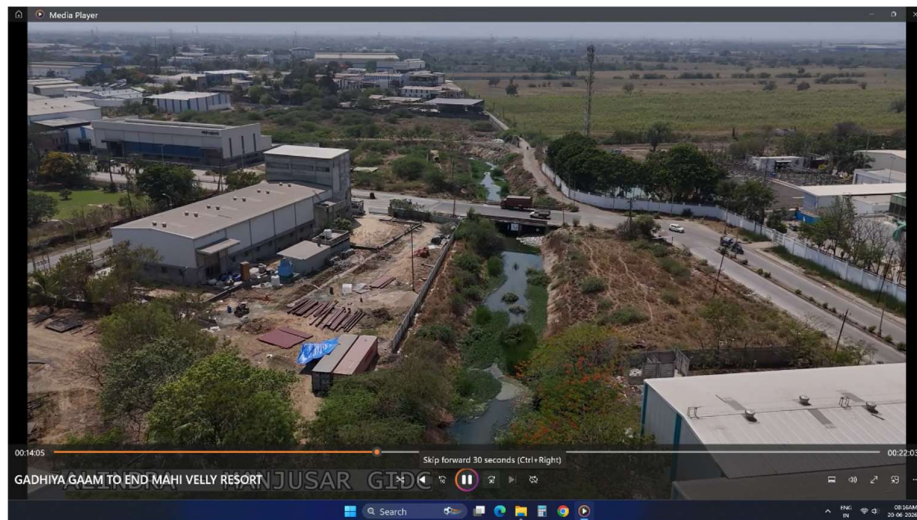
BOD bottles partially filled with sample

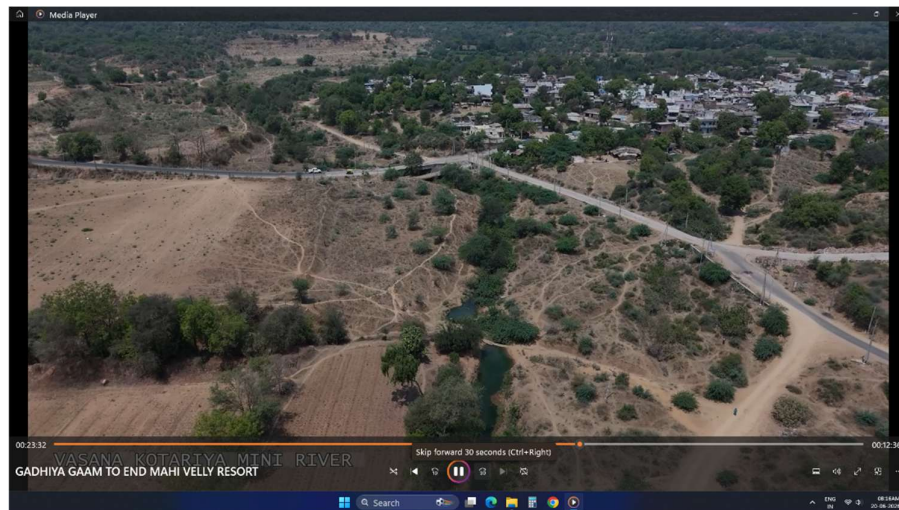
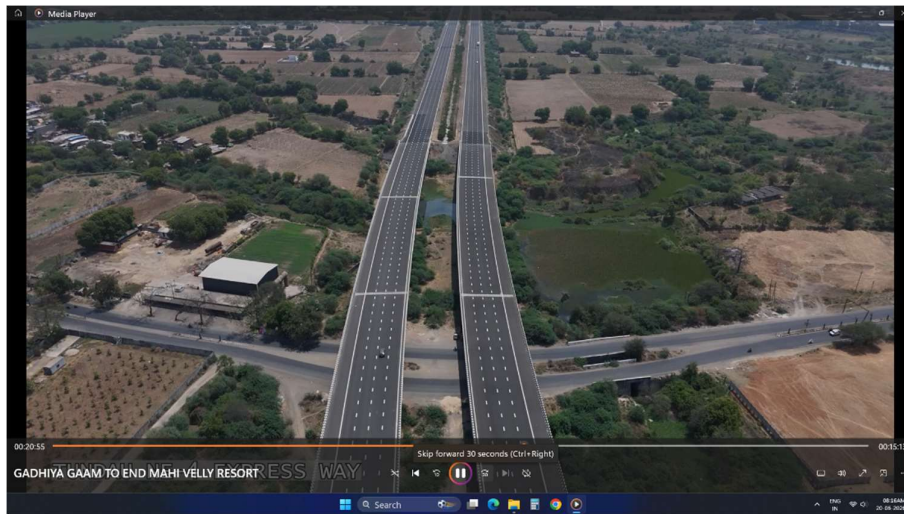
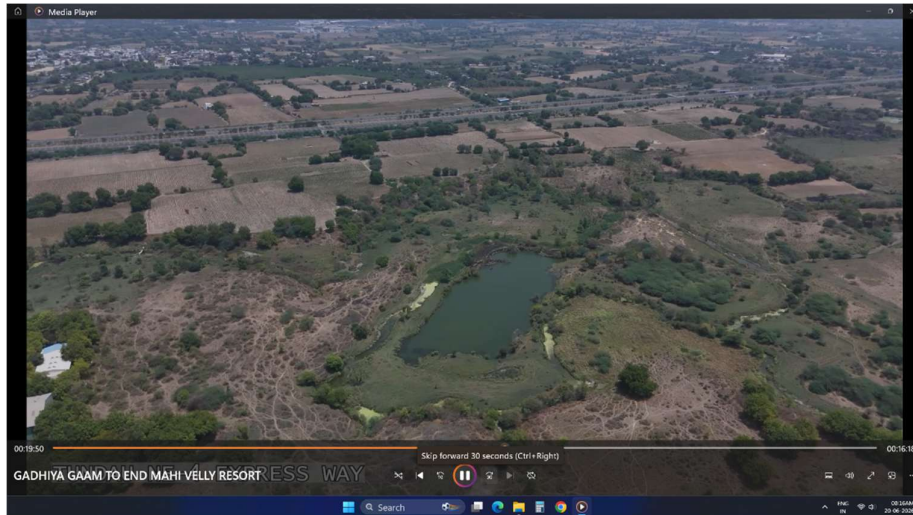
Annexure XIII: Drone Survey Ghadiya Gaam to Mini River end

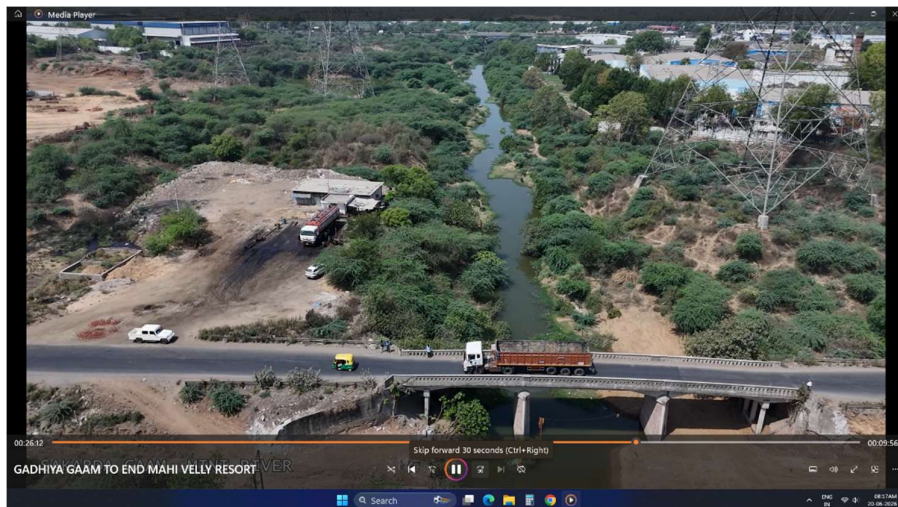
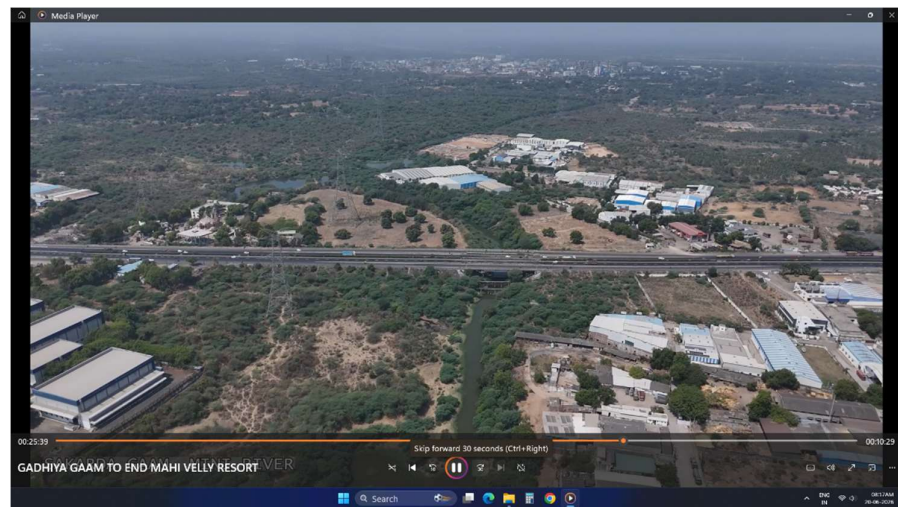
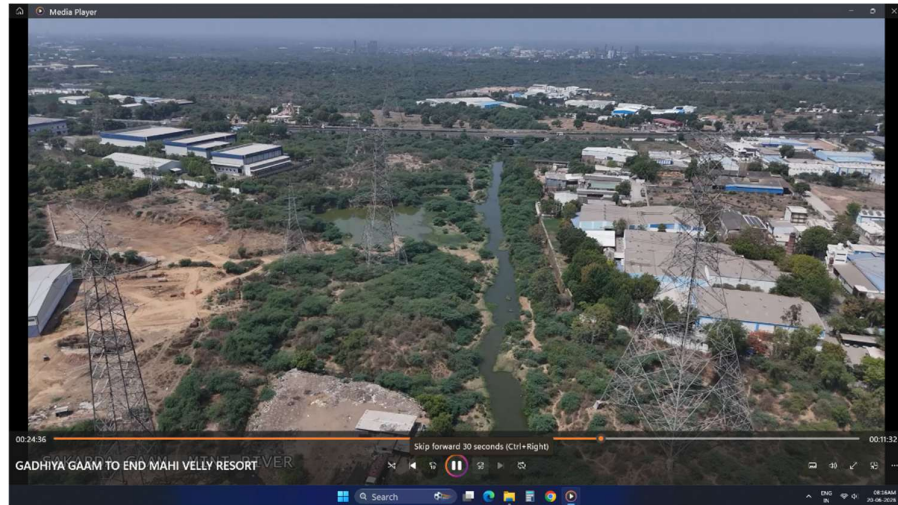


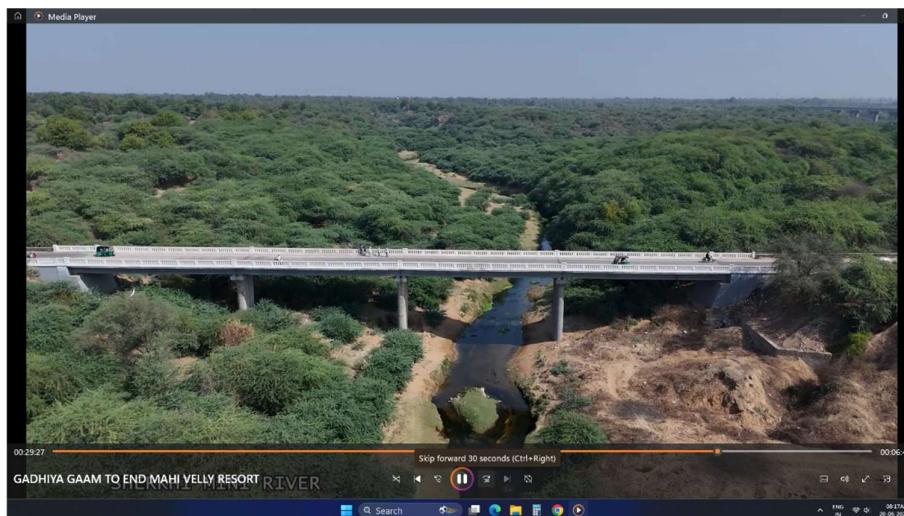
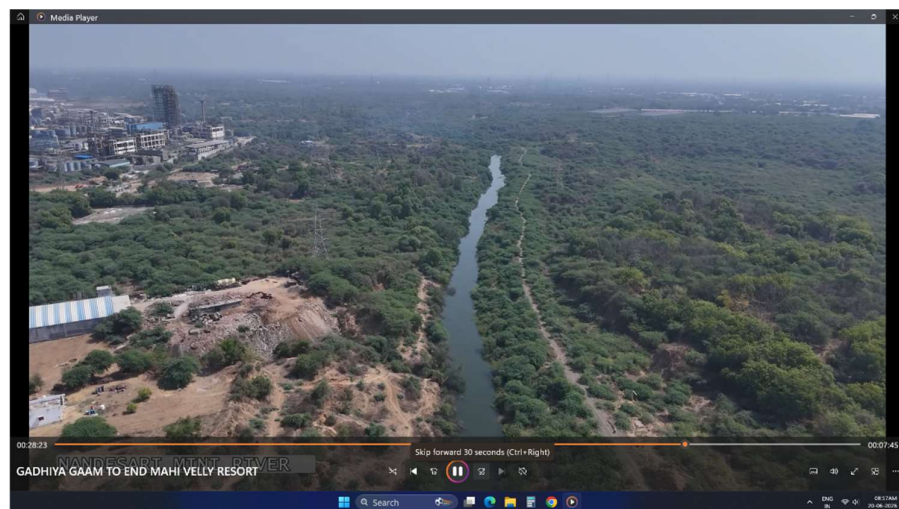
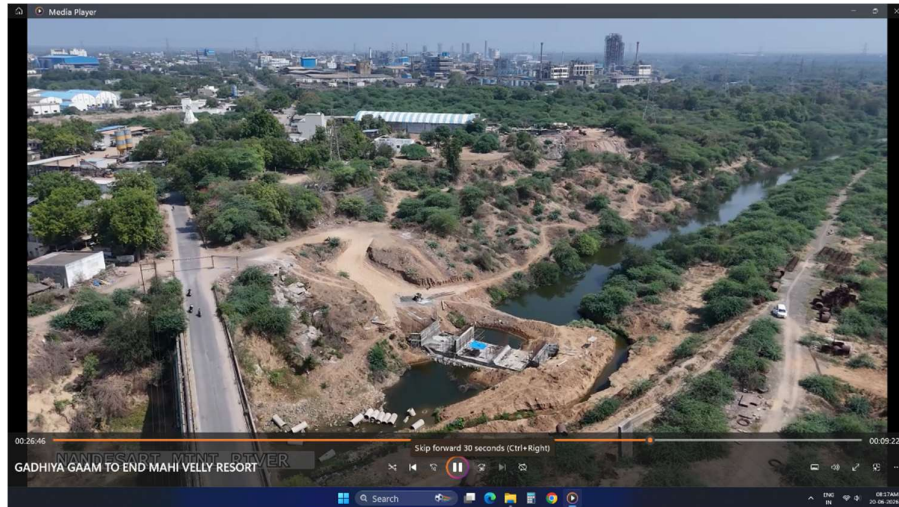


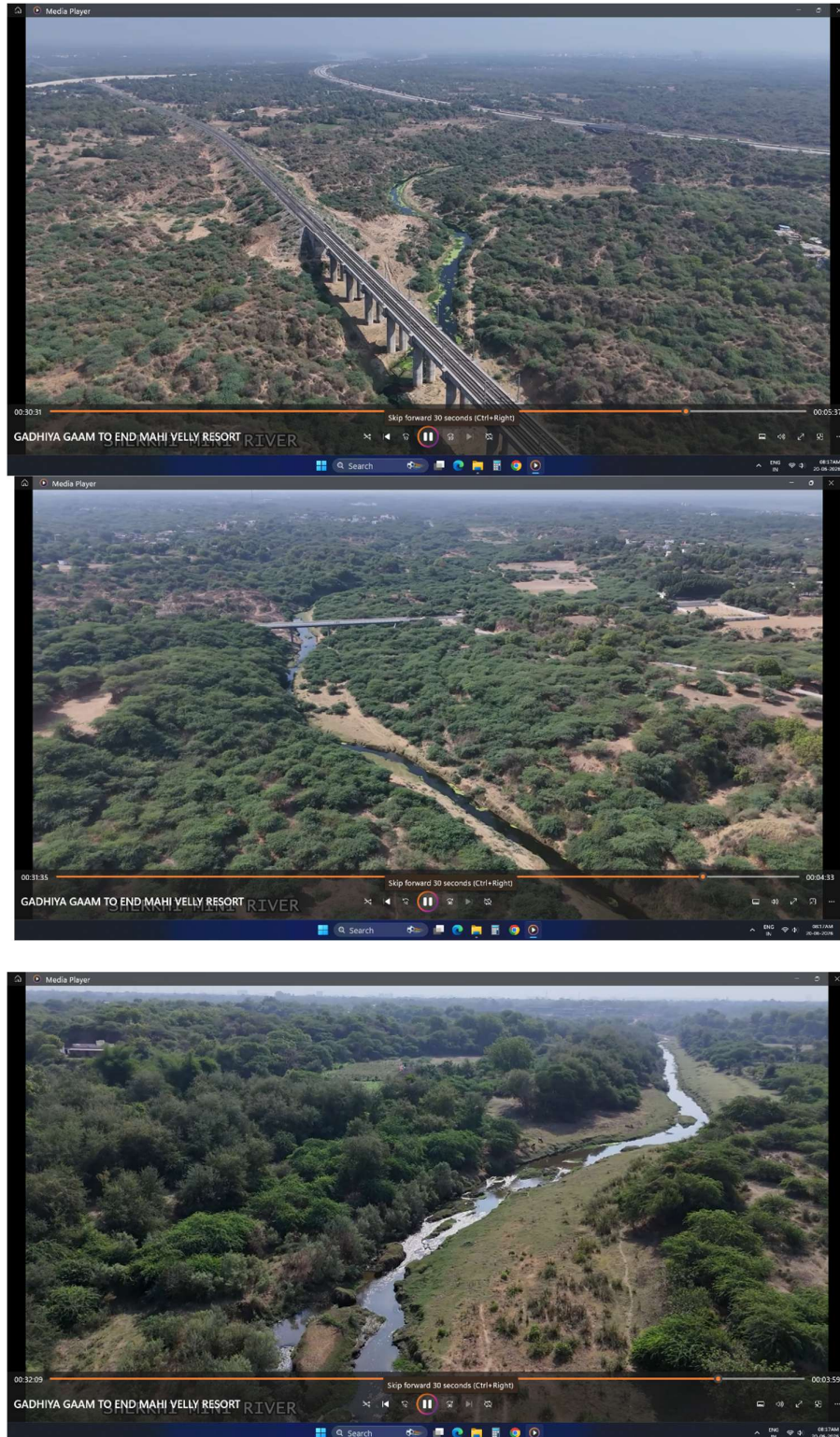


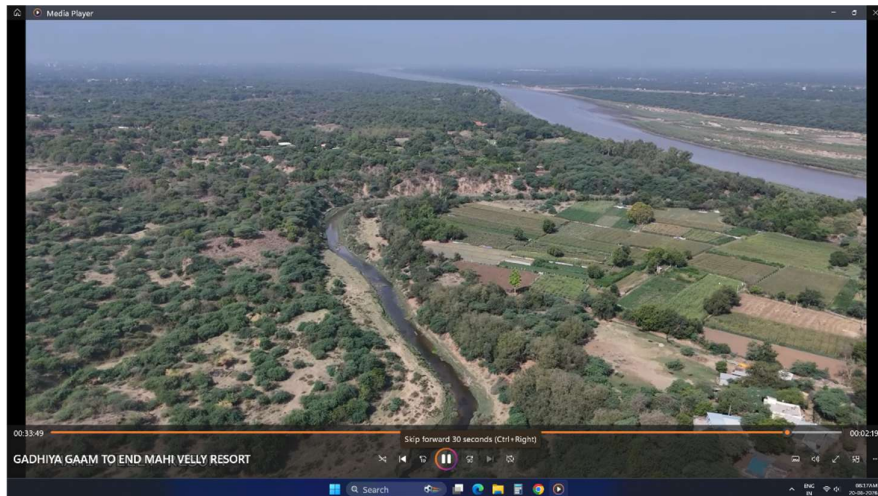
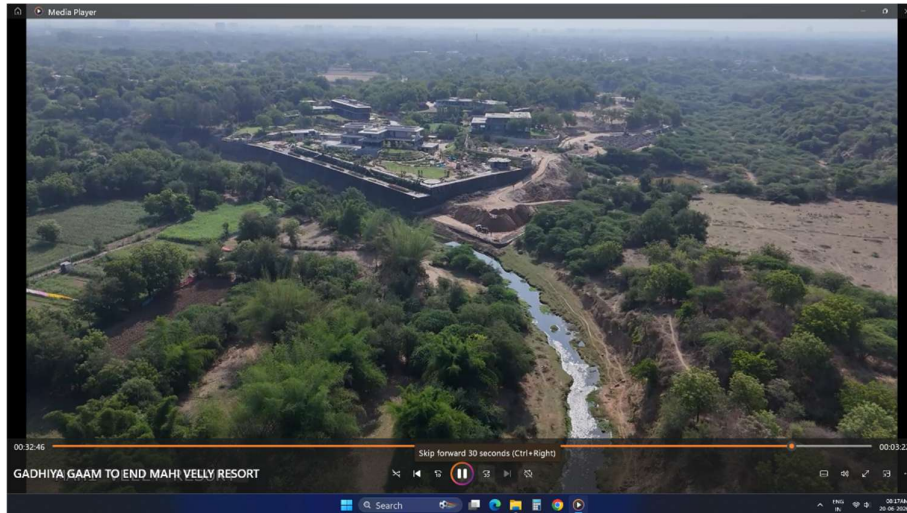


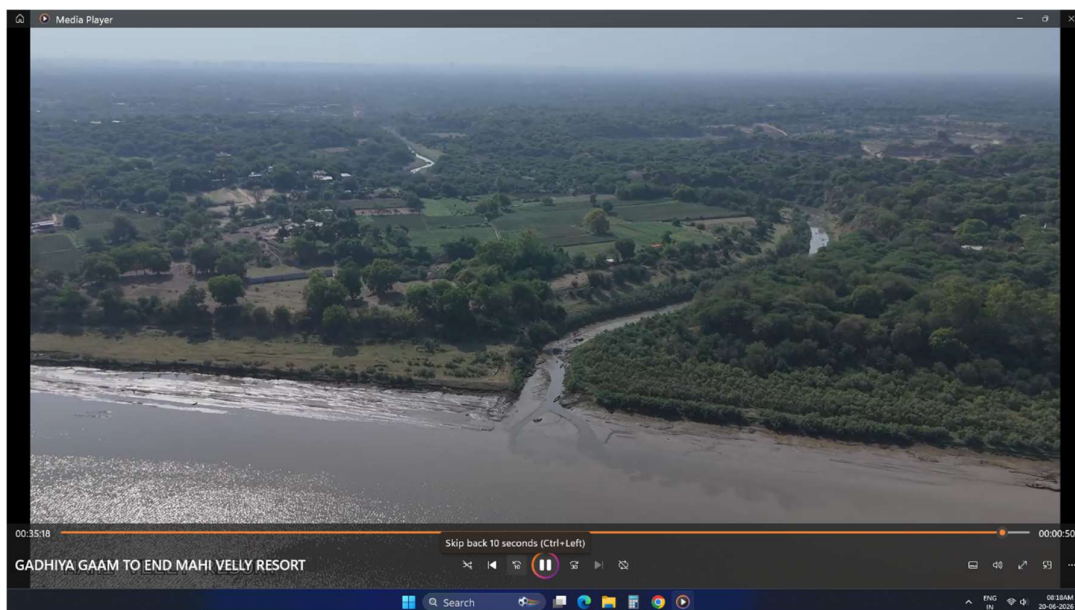
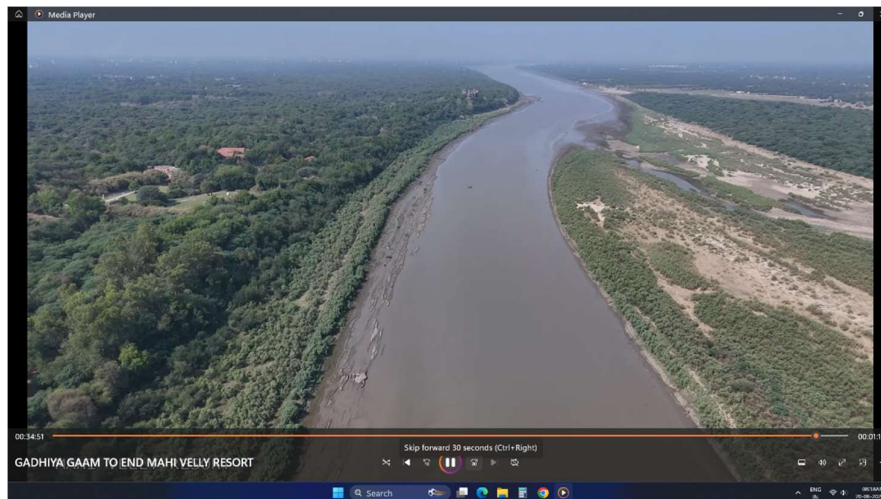












Annexure XIV: Coordination between VMC SWM & Paper Ball Educational Innovation

1. Initial meeting with Hardik Gamdha, Env Engineer at Tambekar Wada on Saturday, 7-Mar-2026 at 10:30 am. Discussed about the waste segregation projects and shared ideas about other projects that are integrated with it and where we can support, like the RRR center and the decentralized composting
2. Visited the RRR Center at Bhayli on Monday, 9-Mar-26, at 11:00 am to see the space and operations. Hardik Gamdha accompanied during the visit
3. Visited the Tarsali Composting site on Saturday, 14-Mar-26 at 11:00 am to see operations being carried out. Hardik Gamdha accompanied during the visit.
4. Met Swapnil Shukla, Lead Solid Waste Management, on Wednesday, 1-April at 1:00 PM at VGL Office to discuss our understanding of what can be done and the starting points. He asked to share a written proposal.
5. Submitted a draft proposal by email on Saturday, 4-April-26
6. Followed-up and met Swapnil Shukla again on Wednesday, 22-April-26 at 10:25 am at VGL Office to take the proposal forward and hear VMC's thoughts regarding the same. Asked to submit a detailed Scope of Work.
7. Detailed Scope of Work submitted via email on Monday, 27-April-26 late evening.

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