

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH AT PUNE
ORIGINAL APPLICATION NO. 79 OF 2024**

IN THE MATTER OF:

SARANG YADWADKAR & ANR.

...APPLICANTS

Versus

PUNE MUNICIPAL CORPORATION & ORS.

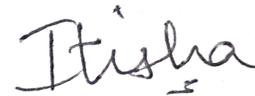
...RESPONDENTS

INDEX

S. No.	Particulars	Page No.
1.	ADDITIONAL AFFIDAVIT ON BEHALF OF APPLICANT	143-148
2.	ANNEXURE A-1 Information provided by Water Resources Department regarding flow of water at Khadakwasla dam on 25.07.2024	149-150
3.	ANNEXURE A-2 Copy of newspaper articles showcasing the flood incidents in Pune on 25.07.2024	151-153
4.	ANNEXURE A-3 Copy of River Centric Urban Planning Guidelines issued by Ministry of Housing and Urban Affairs, Government of India	154-157
5.	ANNEXURE A-4 Copy of Google Earth images showing reduction in width of River Mula-Mutha	158
6.	ANNEXURE A-5 Copy of Google Earth images showing reduction in water flow at Naik Island	159
	Proof of Service	160

THROUGH


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PLACE:- PUNE/DELHI

DATED:- 17.08.2024

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
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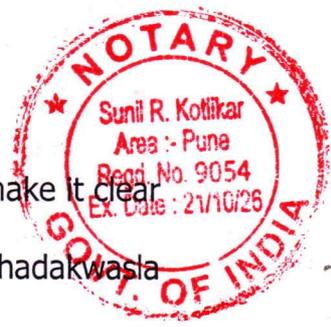
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...RESPONDENTS

ADDITIONAL AFFIDAVIT ON BEHALF OF APPLICANT

1. That the present Application has been filed before the Hon'ble National Green Tribunal under Section 14, 15 and 20 of the National Green Tribunal Act, 2010 highlighting a substantial question relating to the environment concerning construction work being undertaken in three stretches (out of total 11 stretches) of Mula- Mutha Riverfront Development Project in Pune, Maharashtra which would defeat the purpose of the studies directed to be done by the State Environmental Impact Assessment Authority (SEIAA) in its meeting dated 07.11.2023.
2. That this Affidavit is being filed by the Applicant to highlight the recent flood situation in Pune that has arisen due to reduction in flood carrying capacity of the rivers. It is the submission of the Applicant that flooding in certain areas of Pune took place due to reduction in flood carrying capacity of Mutha River, the primary river flowing through the city of Pune. Khadakwasla dam is constructed on the upstream of Mutha River and discharge of water from this dam flooded



the areas located downstream. However, the following paras will make it clear that the flooding took place not due to discharge of water from Khadakwasla dam but due to reduction in the capacity of rivers to carry water.

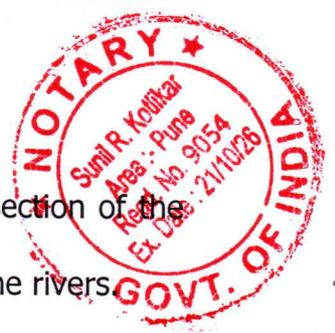
3. That on 25.07.2024, the Executive Engineer, Khadakwasla Irrigation Department informed that 35,000 cusecs of water have been released from the Khadakwasla dam. It is submitted that the total discharge capacity of Khadakwasla dam is 1,00,000 cusecs and the quantity of water released on 25.07.2024 was mere 35% of the total capacity. In ordinary circumstances with adequate flood carrying capacity of the rivers, discharge of 35,000 cusecs of water would not have caused flooding along the river banks.

Information provided by Water Resources Department regarding flow from Khadakwasla dam is annexed herewith as ANNEXURE A-1.

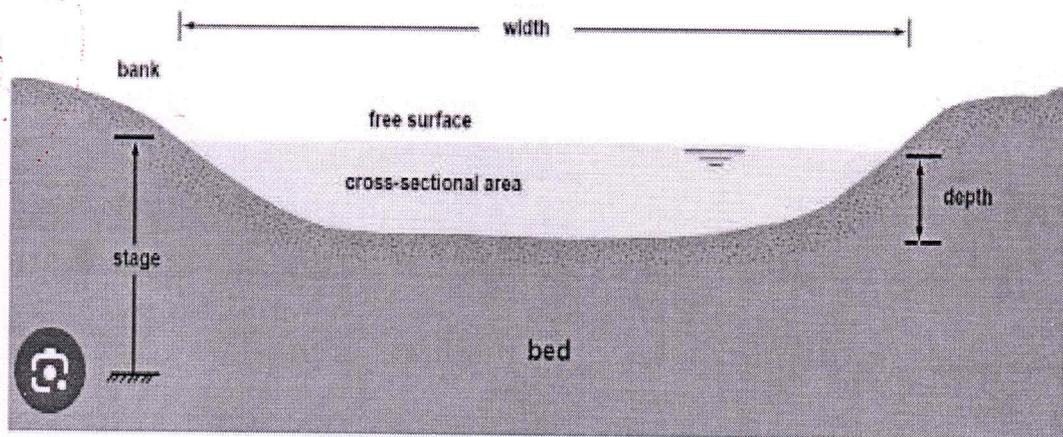
4. That there have been 5 instances in the last 20 years when 35,000 cusecs of water were released from the Khadakwasla dam, however, no flooding was reported in any of these instances.
5. That however, on 25.07.2024, even with a discharge of only 35,000 cusecs, widespread flooding was experienced in many low-lying residential areas of Pune. Evacuation orders were given in these areas due to extreme flooding and few people also lost their lives due electrocution because of flooding.

Copy of newspaper articles showcasing the flood incidents in Pune on 25.07.2024 are annexed herewith as **ANNEXURE A-2**.

6. That it is the submission of the Applicant that even though it was raining in the city of Pune on 25.07.2024, the discharge from Khadakwasla dam was not enough to submerge the low-lying areas along the River Mutha.



7. That such submergence was caused due to reduction in cross-section of the river and therefore a reduction in the flood carrying capacity of the rivers.
8. That cross section of a river is defined as a section taken sideways across the original river channel or valley. It determines the peak capacity of the river to contain water. Any reduction in the cross-section of the river will reduce the carrying capacity of the river and thus increase chances of flooding. The diagram below illustrates what cross-sectional area of a river implies:



9. That the cross-section of a river can be reduced due to multiple factors. These factors can include encroachments and unplanned constructions which can reduce the flood carrying capacity of the river.
10. That the Ministry of Housing and Urban Affairs, Government of India has issued River Centric Urban Planning Guidelines which provide for guidelines for ensuring that construction activities do not hinder the river ecosystems, especially in urban areas.
11. That these Guidelines acknowledge that encroachments upon the floodplain and unplanned constructions are the reason behind reduction in carrying



capacity of river and consequently lead to floods. Relevant excerpts from the

Guidelines are reproduced below:

"In urban areas, rivers continued to be channelized to accommodate for development and flood prevention. As urban areas expanded, rivers at urban centers have come under more pressure and lost the ability to function naturally. Construction activities on the flood plains damage their natural setting. Damage to floodplains harms the riverine ecosystem, lessens groundwater recharge capacity and poses threats of flash floods. Unplanned construction and encroachment on riverbeds reduce the capacity of rivers to carry flood waters and may lead to floods. (Page 13)

...

16. Increased frequency of flood and reduced flow due to over-exploitation and increased surface run-off in urban areas reduces the flows within a river but increases the frequency of flood in case of heavy rainfall. Continuous encroachment over the floodplains of the country's rivers has resulted into the constriction of the most suitable recharge zone. The water level in the rivers prior to onset of monsoon remains usually low resulting in longer recharge period for the groundwater aquifers compared to the high pumping (discharge) rate. (Page 14)

...

19. The National Water Policy, 2012 includes a section on conservation of rivers and 4 river corridors. It also mentions that encroachments and diversion of water bodies must not be allowed and restoration must be promoted to the extent feasible." (Page 15)

Copy of River Centric Urban Planning Guidelines issued by Ministry of Housing and Urban Affairs, Government of India is annexed herewith as **ANNEXURE**

A-3.



12. That due to multiple encroachments on the rivers in Pune, the cross section of the river has tremendously reduced, leading to a situation that even a discharge of 35,000 cusecs cannot be accommodated in the river and leads to widespread flooding in the city.

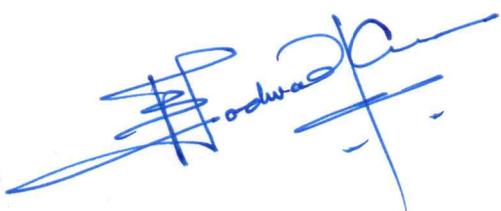
13. That in addition to the encroachments on River Mutha, which is reducing the flood carrying capacity, constructions on River Mula-Mutha are causing a back pressure effect on water, leading to increase in flood levels in Mula and Mutha Rivers.

14. That the cross-section of River Mula-Mutha has been tremendously reduced due to the ongoing construction on the riverbed for Riverfront Development Project. The Applicant is annexing Google Earth images to show how the construction of Riverfront Development Project has reduced the width of the river from 210 metres (in 2019) to only 147 metres (in 2024). This reduction in width reduces the flood carrying capacity of the river, resultantly the water flows back, leading to floods in Mula and Mutha Rivers.

Copy of Google Earth images showing reduction in width of River Mula-Mutha is annexed herewith as **ANNEXURE A- 4**.

15. That similar situation has taken place at the Naik Island, which is located in River Mula-Mutha. Due to ongoing construction work of Riverfront Development Project on both sides of the river, dumping of soil and debris has taken place restricting the flow of water around the island.

16. That the Applicant is annexing Google Earth images of Naik Island to show that due to dumping of soil, the flow of water around the island has severely been constricted, creating back pressure of water into Mula and Mutha Rivers.





Copy of Google Earth images showing reduction in water flow at Naik Island is annexed herewith as **ANNEXURE A- 5**.

17. That this Hon'ble Tribunal has passed orders in the past to ensure that the riverbeds are protected and no construction takes place within the flood lines of rivers. Vide Judgment dated 01.07.2024 in **Tanaji Balasaheb Gambhire v State of Maharashtra & Ors. (Original Application No. 50 of 2020)**, this Hon'ble Tribunal had directed for demolition of private buildings being constructed within flood lines of River Indrayani in Pune. This Hon'ble Tribunal may consider passing similar directions in the present matter.



18. That in light of above facts and circumstances and in the interest of justice, the Hon'ble Tribunal may be pleased to direct for conclusion of the present Original Application and direct that no activities that lead to a reduction in cross-section of the rivers should be undertaken.

BEFORE ME

16/8/24

**SUNIL R. KOTLIKAR
NOTARY, GOVT. OF INDIA
PUNE DISTRICT (MAHARASHTRA)
REGD. No. 9054**

[Signature]

DEPONENT



Information provided by Water Resources Department stating flow of water from Khadakwasla dam to be approximately 35,000 cusecs

* * *

धरणांच्या सांडवा विसर्गाबाबत माहिती (क्युसेक्स) वेळ स. 8.00 वाजता

दिनांक	खडकवासला	पानशत	वरसगाव	टमघर	पवना	मुळशा
२४-०७-२०२४	९४१६	०	०	०	०	
२५-०७-२०२४	३५५७४	०	०	०	०	
२६-०७-२०२४	१३९८१	०	०	०	०	१०७०
२७-०७-२०२४	०	०	०	०	०	२२७
२८-०७-२०२४	०	०	०	०	०	
२९-०७-२०२४	१८४९१	१५१३६	०	०	०	
३०-०७-२०२४	२०६९१	१९४२	०	०	०	
३१-०७-२०२४	९४१६	१९४२	०	०	०	२४६
०१-०८-२०२४	१३९८१	४७५८	०	०	८१४	६२४
०२-०८-२०२४	९४१६	१११९	३४६६	०	१८००	६३५
०३-०८-२०२४	२११४२	३७४४	७७०३	०	१०८५	१८४५
०४-०८-२०२४	२७०१६	७५३९	७७०३	०	३६००	२४७४
०५-०८-२०२४	४५७०५	९९००	९५०२	१२७३	३७८०	२२६८
०६-०८-२०२४	०	३०६९	०	१२७३	०	४४४
०७-०८-२०२४	०	०	०	१०८७	०	
०८-०८-२०२४	०	०	०	१०८७	०	
०९-०८-२०२४	०	०	०	१०८७	०	
एकुण	२२४८२९	४९१४९	२८३७४	५८०७	११०७९	९८४

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Over 4,000 people from low-lying areas in 25 locations prone to flooding relocated

Prasad.Kulkarni
@timesofindia.com

Pune: The Pune Municipal Corporation deployed buses and shifted out 4,175 people from 25 different locations to safer areas on Thursday and the process was on with flood water inundating many areas of the city.

Pune Municipal Corporation (PMC) officials said the shifting took place in locations like Phulenagar, Shantinagar, Wakdevadi, Bopodi, Sangamwadi, Sun City, Vitthalwadi, Erandwane, Mundhwa and Mangalwar Peth.

They said help had been sought from authorities like the army and NDRF to deal with



Mandar Deshpande

The civic body moved residents of Patil Estate to a safer location

the developing situation. "Manpower has been deployed across different parts of the city for evacuation, especially in low-lying areas," said Prithviraj BP, PMC additional commissioner.

Over recent years, the civic administration had identified 39 locations where citizens were to be shifted out on priority basis in case of floods.

The civic administration in-

structed citizens to be prepared for relocations. People were to be moved from their homes based on river water levels and the likelihood of water entering their properties. A public announcement system was put in place to share information about water discharge and flash floods. Cars parked along river banks were shifted.

According to PMC, areas like Rajput slums, Pulachi Wadi, Patil Estate, Parvati, Dattawadi, parts of Sinhagad Road, Katraj, Karvenagar, Narayan Peth, Kasba Peth and Bopodi witnessed frequent floods due to proximity to the river. On an average, around 300 families were shifted out of these areas every year during monsoon.

Residents gaze at loss, seek government relief

[hindustantimes.com/cities/pune-news/residents-gaze-at-loss-seek-government-relief-101722024898726.html](https://www.hindustantimes.com/cities/pune-news/residents-gaze-at-loss-seek-government-relief-101722024898726.html)

July 27, 2024

Pune: The incessant rainfall, with heavy downpour of over 24 hours, has left affected residents fearful and helpless; and disappointed and angry at the authorities.



The incessant rainfall, with heavy downpour of over 24 hours, has left affected residents fearful and helpless as they seek relief from government. (MAHENDRA KOLHE/HT)

“The damage is done, and it will take months to return to normal life. We may face the situation again if there is excess rainfall. Authorities are yet to respond to our sufferings,” said residents from the affected area. Administration began relief work from 10 am at worst-hit Sinhgad Road, Shivane and Dhanori after water level went down in these areas even as muddy soil and dirt has entered many housing societies.

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Disruption of electricity and drinking water supply as preventive measure added to residents' woes. Water supply was not restored as drainage waste got mixed in water tanks constructed at societies.

Angha Thakar of Shri Ganesh Society located near Ektanagar said, “We are coping with grief after my father-in-law died a month ago. My mother-in-law suffers from health issues. The unexpected flooding Thursday morning left our ground-floor house in knee-deep water. We tried to shift the household goods to a safer place but could not move many things as the sudden rise in water level left us helpless. My mother-in-law fell sick and had to be admitted to a hospital. Now, we are busy cleaning our house and no electricity or water supply has aggravated our misery. Relatives and neighbours are helping us in this tough time. We face the big task to visit offices and get important documents that got destroyed due to heavy rain.”

Golu Shirsat of four-floor Shyam Sundar Apartment on Sinhgad Road said, "My family includes wife and our 6-month-old child, and we have flat on the first floor. The watchmen alerted us at around 3-4 am on Thursday that water has entered the housing society premises, and soon the level rose to 3-4 feet. We shifted to higher flats before the water level reached the second floor of the building. We were rescued in the afternoon and shifted to our relative's place in Katraj. I returned to my flat today only to find that all our stuff has been damaged. This area has never been affected by rains in the past, except in 2011 when the water level touched 2-3 feet."

Poonam Tanksale and Swati Pingale from Anand Park Society in Ektanagar said, "Unlike previous years when the Pune Municipal Corporation (PMC) authorities alerted us in advance when water is released from Khadakwasla Dam, this time we were left stranded. The dam water was discharged at midnight and by 4 am our society was flooded till ground floor and parking lot. Till the civic staff came today for rescue work, a youngster from our society was helping shift goods to safe area and cleaning. We hope to get some aid from the municipal corporation."

Radhika Daundakar, owner, Vignesh Mangal Kendra, said, "I deal in things needed for wedding functions and has suffered a loss of ₹4- ₹5 lakh as many items were damaged as water entered my store. I do not know whether authorities will help us or not." Rupali Santosh Gade, who runs Swami Samarth General Store, claimed that she faced a loss of ₹2- ₹2.5 lakh due to goods damaged. Mohan Rawat, who runs a small unit that makes pump, claimed the machinery repair will cost him around ₹10 lakh.

Medical aid

PMC and the Indian Army have sent teams to Ektanagar area to provide medical aid. Tanaji Katewad, a member of the medical team from Laigude Hospital, said, "A five-member team is working here since 10 am and by noon have provided help to 35 people suffering from cough, cold and fever. The team will continue to provide aid."

Loss count

The district collectorate on Friday has appointed teams to record losses in affected housing societies. Chirmilla Venkatesh, a member of one of the teams appointed by the collectorate said, "At least 15-17 teams are formed, and each will cover five housing societies. We began the survey at around 10 am and gathered information from residents. The data will be compiled and submitted to the collectorate for further action."



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Ministry of Housing and Urban Affairs
Government of India



RIVER CENTRIC URBAN PLANNING GUIDELINES

**TOWN AND COUNTRY
PLANNING ORGANISATION**

MINISTRY OF HOUSING AND URBAN AFFAIRS
GOVERNMENT OF INDIA

4. Factors Responsible for Degradation of Floodplains in Urban Areas

10. In urban areas, rivers continued to be channelized to accommodate for development and flood prevention. As urban areas expanded, rivers at urban centers have come under more pressure and lost the ability to function naturally. Construction activities on the flood plains damage their natural setting. Damage to floodplains harms the riverine ecosystem, lessens groundwater recharge capacity and poses threats of flash floods. Unplanned construction and encroachment on riverbeds reduces the capacity of rivers to carry flood waters and may lead to floods.

11. Floodplains in Indian cities are very much exposed to unauthorized construction which has taken place without preparation and approval of layout plans. Built up paved areas on the flood plains are also responsible for reducing the absorption of water into the ground and increasing runoff. Reduced flow along the embankments has led to utilization of urban river plains for residential, commercial and recreational purpose thereby interfering with the ecological functions of the river. Flood plains are encroached upon by various means and are also used as landfill sites, leading to degradation of overall river ecology.

12. River Channelization is the practice of dredging and realigning the river to increase its flow rate and carrying capacity. Traditionally, channelization

of the rivers flowing through the cities is done to check the flooding. However, channelization, through the elimination of riverine habitat and the creation of excessive flows, may not be desirable for "well-being" of streams and rivers. Rivers, which have undamaged floodplain, are considered to be in good health.

13. Water quality degradation, which happens due to indiscriminate discharge of waste water without any treatment through open drains, is also one of the important concerns. Industrial discharge further deteriorates the quality of water. Disposal of untreated waste causes severe pollution in urban and peri urban areas. During 2015, approximately 61,754 Million Litres per Day (MLD) sewage was generated in the country against the available sewage treatment capacity of 22,963 MLD. Because of the deficit in sewage treatment capacity, about 38,791 MLD of untreated sewage (62% of total sewage) is discharged directly into nearby water bodies (CPCB, 2016).

14. Use of such wastewater loaded surface water for irrigation has resulted in the significant built up of heavy metals in agricultural land near several cities and towns of India. In the cities around river Ganga, although untreated sewage is being used by farmers to grow crops on urban peripheral lands due to its high nutrient contents, its use for longer periods is a matter of great concern. Urban sewage carries high amounts of

heavy metals (Ni, Cr, Pb, Cd, and Zn) and salts, causing salinity and alkalinity hazards. It is projected that wastewater generation across the country will reach 1,22,000 MLD by the year 2050. The country generates ~50 million tonnes (Mt) of municipal solid wastes/year from its urban areas (CPCB, 2000). About 9%-10% of these wastes find its way into agricultural land in the form of compost, contaminating soil with heavy metals.

15. Reduction of vegetative coverage also adversely impacts the urban river flood plain. The increase of human population will further lead to degradation of riparian areas, intensification of the hydrological cycle and increase in the discharge of pollutants, leading to proliferation of species. This will disturb the river biodiversity and bio production river flood plains are indeed habitat for more species of plants and animals compared to any other landscape unit in most regions of the world. Since cities are hubs of global transportation networks, urban rivers are also vulnerable to invasion of non-native species which may outcompete the native species and degrade the natural environment.

16. Increased frequency of flood and reduced flow due to over-exploitation and increased surface run-off in urban areas reduces the flows within a river but increases the frequency of flood in case of heavy rainfall. Continuous encroachment over the floodplains of the country's rivers has resulted into the constriction of the most suitable recharge zone. The water level in the rivers prior to onset of monsoon remains usually low resulting in longer recharge period for the groundwater aquifers compared to the high pumping (discharge) rate.

5. River regulations

17. Efforts for regulating the development on floodplains can be traced to the River Conservancy Act of 1884 that directed for conducting surveys and defined limits for the river which was termed "river-bed"; any construction or plantation within the river-bed for the area covering the present States of Tamil Nadu and Andhra Pradesh was to be permitted by Conservators of Rivers.

18. The Central Water Commission (CWC), a part of the Ministry of Water Resources (MoWR) circulated a model bill in 1975 for flood plain zoning which proposed delineating the areas that are subject to flooding including classification of land with reference to relative risk of flood.

19. The National Water Policy, 2012 includes a section on conservation of rivers and 4 river corridors. It also mentions that encroachments and diversion of water bodies must not be allowed and restoration must be promoted to the extent feasible.

State Government Efforts

20. In 1989, Tamil Nadu Pollution Control Board passed an order stating that no industry causing serious water pollution will be permitted within 1 km of reservoirs, rivers and public drinking water sources. Maharashtra Pollution Control Board also framed a River Regulation Zone policy for the State in 2000 (revised in 2009) based on the designated best use as per water quality for rivers, high flood line

and categorizing industry based on their pollution levels. However, this was later withdrawn based on a resolution passed by the state government dated 3 February, 2015. With floodplains, it is also important to look at relevant land use legislations which come under the ambit of States. State Town and Country Planning Acts were enacted by the States based on Model Town and Country Planning Laws in 1962 (later revised in 1985).

21. Ministry of Environment Forests and Climate Change (MoEFCC) released a "River Regulation Zone" (RRZ) notification draft under the Environment Protection Act (EPA), 1986.

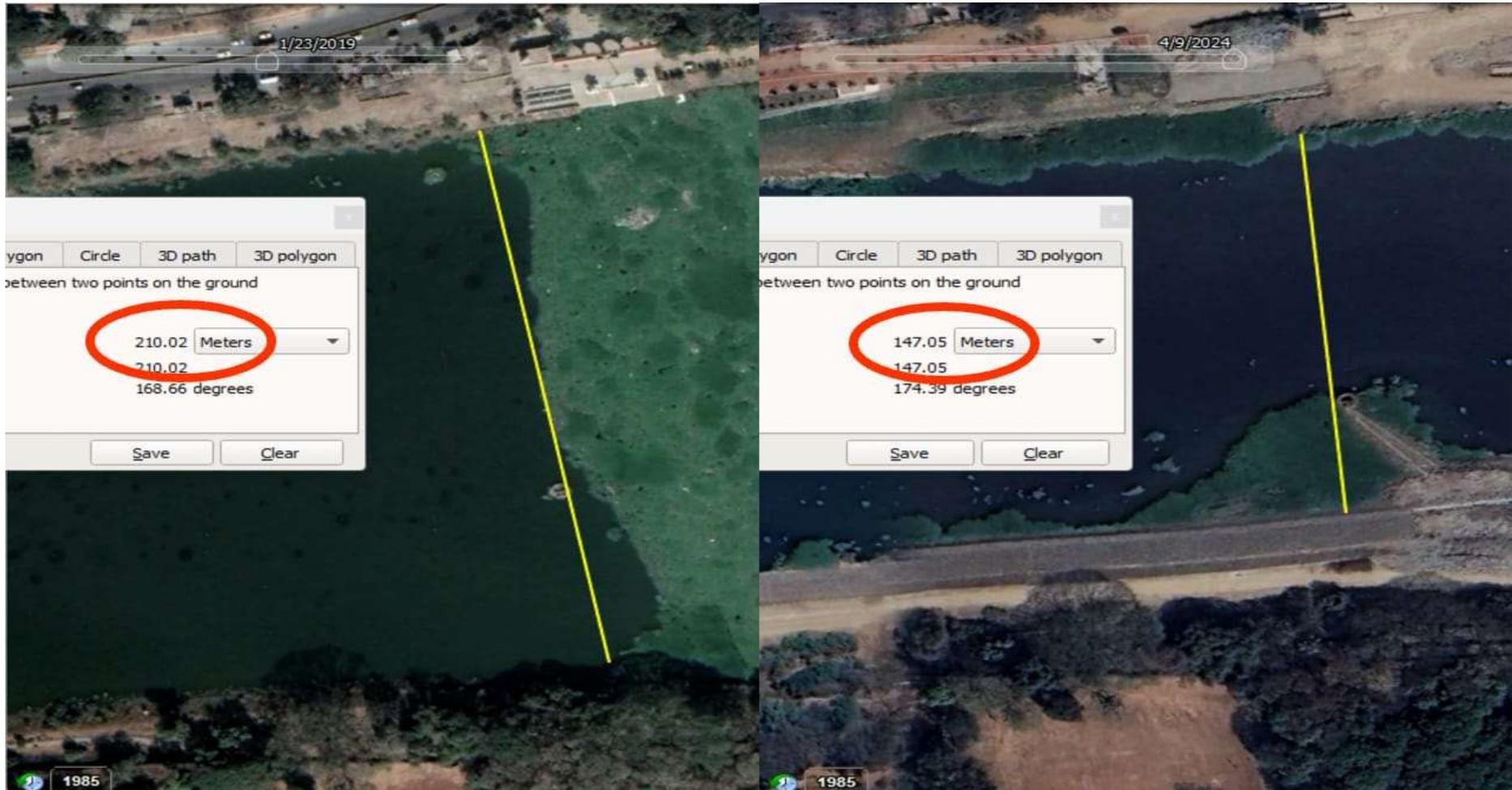
22. Draft RRZ notification intended to regulate developmental and industrial activities upto 5 kms from the banks of the river stretches having floodplains and an equivalent area for mountain/ hill stretches under three River Conservation Zones (RCZ) demarcated with reference to the Highest Flood Level (HFL) with a 100 year return period. The Prohibited Activity Zone (RCZ-PA) in the immediate vicinity of the river is offered the highest protection since existing activities and constructions within the zone should adhere to the notification. Attention has been paid to regulating new developments within three zones.

23. The RRZ draft policy also defined the area for protection from further encroachments as the "active flood plain", which will be marked by the high

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Google Earth image from downstream of the flood affected areas, showing reduction in width and cross-section of the river. Construction of Riverfront Development has created a backflow effect on the river water, leading to floods.



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Google Earth image showing reduction in flow of water around Naik Island due to dumping of debris from Riverfront Development Project, thereby creating a backflow impact on river water

2019 image:



2024 image:





DC Law Chambers <dclaw160@gmail.com>

Copy of Additional Affidavit on behalf of the Applicant in OA No. 79 of 2024 Sarang yadwadkar & Anr. Vs. M/s Pune Municipal Corporation & Ors.

1 message

DC Law Chambers <dclaw160@gmail.com>

Sat, Aug 17, 2024 at 11:39 AM

To: Rahul Garg <rahul.garg@mgklegal.com>, psec.env@maharashtra.gov.in, psecwr.wrd@maharashtra.gov.in

Dear All,

Please find attached- Copy of Additional Affidavit on behalf of the Applicant in OA No. 79 of 2024 Sarang yadwadkar & Anr. Vs. M/s Pune Municipal Corporation & Ors.

Thanks & Regards

Counsel for the Applicant

 **Add Affidavit on behalf of Applicant.pdf**
4334K