

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
WESTERN BENCH AT PUNE
APPEAL NO. 5 OF 2025**

IN THE MATTER OF:

SARANG YADWADKAR & ANR.

...APPELLANTS

Versus

UNION OF INDIA & ORS.

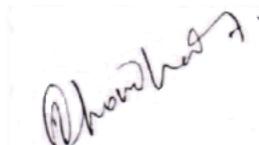
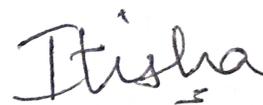
...RESPONDENTS

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THROUGH

**RITWICK DUTTA****RAHUL CHOUDHARY****ITISHA AWASTHI****ADVOCATES****COUNSEL FOR THE APPELLANTS**N-73, Lower Ground Floor, Greater Kailash – 1,
New Delhi – 110048

Mobile: +91 9312407881

Email: litigation@dclawchambers.com**Place: Pune/Delhi****Date: 10.02.2026**

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
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**REJOINDER TO REPLY OF PUNE MUNICIPAL CORPORATION
(RESPONDENT NO. 4)**

MOST RESPECTFULLY SHOWETH:-

1. That the above-titled Appeal has been filed under Section 16 of the National Green Tribunal Act, 2010 challenging the grant of Environmental Clearance bearing proposal number SIA/MH/INFRA2/424828/2023 dated 12.11.2024 by State level Environment Impact Assessment Authority, Maharashtra to Pune Municipal Corporation for Pune River Rejuvenation Project at Mula, Mutha and Mula- Mutha river for a stretch of 44 kilometres.
2. That the Appellants herein are filing a Rejoinder to the Reply filed by Pune Municipal Corporation (Respondent No. 4). The Appellants have the following grounds:

A. On the point that old baseline data can be relied upon as no new Environmental Clearance was granted and only an amendment of the same was granted

3. That the Reply, at Para xxi at page 396 has stated that the Office Memorandum relating to validity of baseline data is not applicable in

the present case as it was not a new project and only an amendment in the existing EC, as per directions of the Hon'ble Tribunal.

4. That the Appellants had relied upon Office Memorandum F. No. IA3-22/10/2022-IA.III [E 177258] dated 08.06.2022 on "*Standardizing the validity of baseline data and public consultation reports for submission of proposal within the validity period of Terms of Reference (ToR) under the provisions of EIA Notification, 2006*" makes it clear that no baseline data can be older than 3 years.
5. That the Appellants submit that it is clear from Form-I that the proposal submitted by R-4 was for the purposes of expansion of the project and not amendment to the EC. The Office Memorandum dated 08.06.2022 referred to by the Appellants does not make a distinction between new projects or expansion projects. It only states that at the time of submission of application for consideration of EC, the baseline data cannot be more than 3 years old. In the present case, the baseline data is from 02.10.2017 to 30.12.2017 and is more than 3 years old at the time of application for consideration of EC.

B. On the point that the flood values in the hydrology and hydraulics report have been prepared in accordance with communications by Irrigation Department

6. That R-4 in its Reply at Para xvii has stated that the flood values provided in the EIA Report were provided by the Irrigation Department and therefore, are as per the correspondences received from the Irrigation Department.
7. It is the submission of the Appellants that the flood values, which are reproduced at Para 32 of the Appeal have been taken from the EIA Report, which was prepared by the EIA consultant for R-4.

Responsibility for the veracity and authenticity of all the information provided in the EIA Report is upon the project proponent who submits the report for the process of appraisal. Therefore, the ground taken by R-4 that the data is only as per the information provided by the Irrigation Department shows the lackadaisical manner in which the EIA Report has been prepared and the appraisal process has been undertaken.

8. That Para 8 (vi) of the EIA Notification, 2006 clearly states that submission of misleading data which is material to screening or scoping or appraisal or decision on the application will make the application liable for rejection, and cancellation of prior environmental clearance granted on that basis. Incorrect information in the EIA Report will make the EC so granted liable to be rejected. Construction of such a large-scale project on the riverbed cannot be undertaken on the basis of incorrect information relating to the quantity of water flowing in the river. Such incorrect information can have serious consequences in evaluation of the impact of the project, as currently the appraisal of the project has been done on the basis of incorrect information on flood levels in the rivers.
9. That at this stage, it is pertinent to point out that the Water Resources Department had filed an Affidavit before the Hon'ble High Court of Bombay in PIL 36 of 2021 (*Sarang Yadwadkar & Ors. v. State of Maharashtra & Ors.*), in which reference is made to a letter dated 02.01.2024 which stated that when the flood lines were marked in 2011, flows from the free catchment areas and the discharges from the streams between Khadakwasla Dam and Mula-Mutha confluence were not taken into account. The letter dated 02.01.2024 stated as follows:

4. While marking the flood lines in 2011, flows from the free catchment areas and the discharges from the streams between Khadakwasla Dam and Mula-Mutha confluence were not taken into account which is necessary to consider.

5. Maharashtra Engineering Research Institute (MERI) has published guidelines for Blue and Red flood lines on 16/11/2015. As the flood lines of Mutha River were identified in earlier in 2011, these guidelines have not been considered. The MERI guidelines have also not been taken in to account by Pune Municipal Corporation while marking the flood lines on the Development Plan in 2016.

6. The Energy and Resources Institute (TERI) has prepared the Action Plan on Climate Change in the State of Maharashtra in 2014. In the Action Plan it is predicted that there will be 37.5% rise in annual rainfall with more frequent events of cloud bursts. This aspect has not been considered while identifying the flood lines. Petitioners also have brought this to notice."

Copy of Affidavit dated 09.01.2024 filed in PIL 36 of 2021 is annexed herewith as **ANNEXURE A-1**.

10. That on the basis of this Affidavit, the Hon'ble High Court passed an order dated 26.06.2024 specifically recording that several factors have not been taken into consideration while determining the flood lines. The Hon'ble High Court also held that wrong determination of flood lines for an urban water body in a city like Pune will result in reducing the flood carrying capacity of such a water channel, which, ultimately is the cause of flood:

*"2. The respondent No. 5 - Maharashtra Krishna Valley Development Corporation has filed an additional affidavit- In reply sworn in by Ms. Shweta Yogendra Kurhade, Executive Engineer, Khadakwasla Irrigation Division which contains a report dated 2 January 2024. Learned Counsel appearing for respondent no. 5 has taken us through said report. Apart from various charts containing necessary statistics, **the report has clearly mentioned that while***

determining the flood lines various important factors and considerations were not taken into account in the past. The relevant extract of the said report contained in clauses 14 to 18 are reproduced hereinbelow:”

“14. It appears **that there are several important factors and considerations that have not been taken into account while making flood lines** in the mentioned areas. Let’s summarize the key points raised in each statement.

15. Free Catchment Area: **The flow from the free catchment area between Khadakwasla Dam and Mula-Mutha Confluence in 2011 has not been considered. It is suggested that this factor should be taken into account in the flood line marking process.**

16. MERI Guidelines: **The Maharashtra Engineering Research Institute (MERI) in Nashik published guidelines for Blue/Red flood lines on 16/11/2015. However, these guidelines were not considered when marking flood lines in 2011, and also not taken into account for the 2016 flood lines superimposed on Development Plan maps.**

17. TERI Action Plan: **The Energy and Resources Institute (TERI) in New Delhi prepared a climate change action plan in 2014 for Maharashtra. This plan predicted a 37.5% rise in rainfall around Pune with more frequent cloud burst events. The applicants point out that this prediction was not considered in the demarcation of flood lines.**

18. **In light of these points, it is suggested that a comprehensive review of the flood line demarcation process be conducted, taking into account the flow from the free catchment area, MERI guidelines, and the TERI climate change action plan. Addressing these aspects would contribute to a more accurate and comprehensive understanding of flood risk in the area.”**

3. **The report has thus suggested that a comprehensive review of the flood line demarcation be carried out taking**

into account various relevant considerations, guidelines and reports etc. Learned counsel for the Pune Municipal Corporation as also the learned counsel representing the petitioners also emphasized that a fresh comprehensive review of demarcation of flood lines in the city of Pune is the need of hour.

4. Demarcation of flood line in an urban area or a city like Pune assumes importance for the simple reason that in case any development activity is permitted by the municipal body of such an urban area in the flood zone of any water channel like a river etc., the same results in reducing the flood carrying capacity of such a water channel, which, ultimately is the cause of flood. *To ensure that the earth continues to remain habitable, it is thus very necessary to appropriately and correctly demarcate the flood line of water channels, failing which the inhabitants of the area may face problems beyond remedies.”*

Copy of Order dated 26.06.2024 in PIL No. 36 of 2021 is annexed herewith as **ANNEXURE A-2.**

11. That on the basis of the directions contained in the Order dated 26.06.2024 of the Hon'ble High Court of Bombay, Maharashtra Engineering Research Institute (MERI) prepared a Report dated 06.01.2025 which gives the revised flood values of Pune rivers for 25 years and 100 years frequency. Following are those values:

River	25 Yrs. Flood Value in CuMecs.	100 Yrs. Flood Value in CuMecs.
Mutha	3050.80	7213.80
Mula up to confluence with Pawana	2796.80	4517.60
Mula-Mutha	6654.00	12868.00

Copy of Maharashtra Engineering Research Institute (MERI) Report dated 06.01.2025 is annexed herewith as **ANNEXURE A-3.**

12. That the above table shows the quantity of water of Mutha river, Mula river, up to its confluence with Pawana and Mula-Mutha river.

A perusal of the hydraulics and hydrology report and a comparison of that data with the above table will show that very low flood values of the rivers have been taken into account while preparing the reports for the project. Following table will show the difference in the flood values:

River	25 Yrs. Flood Value in CuMecs.		100 Yrs. Flood Value in CuMecs.	
	MERI Report dated 05.01.2025	Hydraulics and Hydrology Report of the project	MERI Report dated 05.01.2025	Hydraulics and Hydrology Report of the project
Mutha	3050.80	1700	7213.80	2835
Mula up to confluence with Pawana	2796.80	1206	4517.60	1232
Mula-Mutha	6654.00	3345	12868.00	4762

Copy of relevant pages from the Hydraulics and Hydrology Report is annexed herewith as **ANNEXURE A-4**.

13. That the flood values considered for the project are substantially lower than the revised values that are provided in the MERI Report. If the project is allowed to be continued on the basis of these values, it will have devastating impacts on the Pune city. It is also pertinent to note that SEIAA, the authority that cleared the project for grant of EC has also failed to respond to the paragraphs relating to wrong flood values and has only stated that no comments are necessary from SEIAA on this issue.
14. That the Hydraulics and Hydrology Report of the project is also inadequate in not considering the surface runoffs from free catchment area on both banks of more than 89 Km. of the entire project and discharges from Nallas/streams entering the river. The Hydraulics Report does not, in any manner, show that these flow values have been taken into consideration, which substantially

reduces the flow values for the river and makes the city prone to flooding.

15. That further, as per the information received from Water Resources Department through RTI Reply dated 07.12.2022, the peak discharge from the Khadakwasla Dam, which is on the Mutha River is 2987 CuMecs. However, the Hydraulics Report considers once in 100 years flood as only 2835 CuMecs, even without considering the flow from free catchment area along both banks. There is a vast difference in assessing the flood values from dam discharges, which have a cumulative impact on the flood carrying capacity of the river.

Copy of RTI information dated 07.12.2022 received from Water Resources Department is annexed herewith as **ANNEXURE A-5**.

16. That in this regard, it is important to refer to the Circular dated 21.09.1989 issued by Water Resources Department which clearly states that,

*"More carrying area shall be required to carry maximum possible flood. **Maximum flood shall be considered as the maximum discharge from the dam and free flow on the downstream side of the dam.**"*

Copy of Circular dated 21.09.1989 issued by Water Resources Department is annexed herewith as **ANNEXURE A-6**.

17. That further, the MERI had issued a Circular dated 16.11.2015 that stated that for river with dams, free catchment flow will have to be considered:

"RESTRICTIVE ZONE:

For demarcation of Restrictive Zone, flood to be considered is as under:-

For River with Dams:- Spillway Design flood plus 100 years return period flood from free catchment area below dam upto point of study."

Copy of Circular dated 16.11.2015 issued by MERI is annexed herewith as **ANNEXURE A-7.**

18. That this was further reiterated by the Water Resources Department in its Circular dated 03.05.2018 which stated as follows:

"4. Red Flood Line:

Red Flood Line will be the line marked at water level of the water discharge as under:

*b) Where there is a dam, **maximum flood discharge over the spill way added with flood discharge from the free catchment area of the average frequency of 100 years.**"*

Copy of Circular dated 03.05.2018 issued by Water Resources Department is annexed herewith as **ANNEXURE A-8.**

19. That the Drawings Portfolio prepared by the project proponent shows the longitudinal sections showing flood levels of the river. A perusal of the drawings portfolio will show that the water levels of the river are suddenly rising towards the sky by 8-10 feet, without any change in the topography of the area. This Drawings Portfolio has been cleared by SEIAA without obtaining any comments from CWPRS and an EC has been granted on the basis of flawed drawings.

Copy of relevant pages of Drawings Portfolio is annexed herewith as **ANNEXURE A-9.**

C. On the point that Central Water and Power Research Station, Khadakwasla, Pune (CWPRS) has cleared the Hydraulics and Hydrology Report of the project

20. That R-4 in Para xiv (a) at Page 388 of its Reply has stated that CWPRS has cleared the Hydraulics and Hydrology Report of Riverfront Development project vide letter dated 26.12.2017 and therefore the ground taken by the Appellants that no clearance has been given by CWPRS is incorrect.

21. That the Appellants submit that CWPRS has provided completely different information to the Appellants through its RTI Reply dated 05.04.2021 and letter dated 25.01.2024. Vide letter dated 05.04.2021, CWPRS had clearly stated that "*CWPRS did not conduct any study for RFD of PMC*" and that "*As CWPRS has not conducted or undertook the study for RFD work of PMC, there is no way it can ask PMC to review the study that it did not conduct at the first instance*". Further, the letter dated 25.01.2024 stated that the views of CWPRS have been expressed by the letter dated 05.04.2021.
22. That CWPRS is a hydraulic research institute under the Ministry of Jal Shakti, Department of Water Resources, River Development and Ganga Rejuvenation. A sub-ordinate office of the Ministry under Government of India cannot be allowed to take contradictory views with respect to material issues of grant of Environmental Clearance.
23. That the legal maxim "*Allegans contraria non est audiendus*", with the meaning that "*one who alleges contrary (or contradictory) statements/facts should not be heard*" is applicable in the present case. As per this maxim, any authority cannot be allowed to take contradictory views depending on the circumstances and to its own convenience. In the present case, CWPRS has given diagonally opposite and contradictory views with respect to its clearance to the project, to PMC and to the Appellant. Such a practice has to be deprecated and action ought to be taken against such authority.

D. No response as to compliance with conditions of SEAC

24. That in Para xxiii of the Reply, R-4 has stated that the paragraphs relating to compliance with SEAC conditions in the Appeal do not relate to it and therefore, no response has been given to these paras except stating that conditions directed by SEIAA and SEAC are complied by it.

25. It is the submission of the Appellants herein that the conditions of SEAC have not been complied by R-4 and R-4 in its Reply has also not provided any credible information to counter such statement. R-4 has not given any information to show compliance with the conditions of SEAC.

E. On the point that Riverfront Development project proposes to protect low-lying areas along the river from flooding

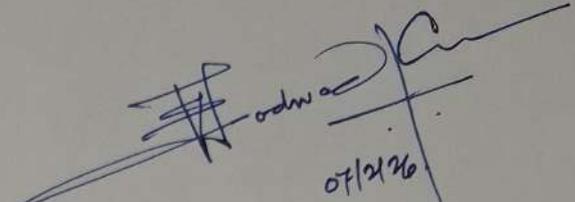
26. That in Para 5 (iii) of the Reply, R-4 has stated that the project proposes to protect low-lying areas along the river from flooding by building embankments along the banks. However, the Hydraulics and Hydrology Report makes the intention of the project very clear in the following manner:

"Riverfront is not a flood control scheme and as such it is not supposed to provide greater protection to the areas on the river banks which have even otherwise been damaged by floods. In principle, therefore, it should be acceptable that Riverfront Development works for Mula, Mutha and Mula-Mutha River are so planned that they do not aggravate the situation compared to what occurred in past."

Copy of relevant pages from Hydraulics and Hydrology Report is annexed herewith as **ANNEXURE A-10**.

27. That it is clear from the above excerpt that the project, in no manner, intends to protect the city from floods but only is a vanity project, which will have a cascading impact on the floods in the city.

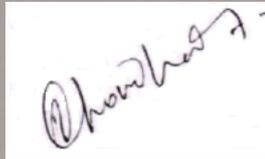
28) Pass any other order as this Hon'ble Tribunal may deem fit in the facts and circumstances of the present case.


07/2/26
APPELLANT NO. 1

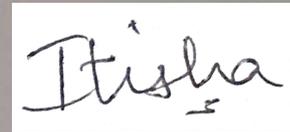
THROUGH



RITWICK DUTTA



RAHUL CHOUDHARY



ITISHA AWASTHI

ADVOCATES

COUNSELS FOR THE APPELLANTS

N-73, LGF, Greater Kailash - 1,

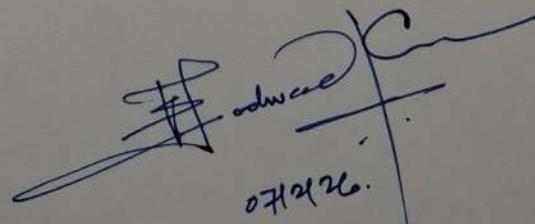
New Delhi - 110048

Mobile: +91 9312407881

Email: litigation@dclawchambers.com

VERIFICATION

Verified by Sarang Yadwadkar, aged about 67 years, S/O Vaman Krishna Yadwadkar, R/O A-9, Pradnyangad, S. No. 119/3, Sinhagad Road, Pune- 411030 do hereby verify that the contents of Paragraphs 1 to 28 are true to my personal knowledge and nothing material has been concealed therefrom.


07/2/26
APPELLANT NO. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONAL BENCH AT PUNE
APPEAL NO. 5 OF 2025**



IN THE MATTER OF:

SARANG YADWADKAR & ANR.

...APPLICANTS

VERSUS

UNION OF INDIA & ORS.

...RESPONDENTS

AFFIDAVIT

I, Sarang Yadwadkar, aged about 67 years, S/O Vaman Krishna Yadwadkar, R/O A-9, Pradnyangad, S. No. 119/3, Sinhagad Road, Pune- 411030, do hereby solemnly affirm and declare as under:

1. That I am Applicant No. 1 in the above titled case, and hence well conversant with the facts and circumstances described in the present case and as such competent to swear this Affidavit.
2. That the contents of the accompanying Rejoinder are true and correct and nothing material has been concealed therefrom.

[Handwritten signature]
05/02/26
DEPONENT

VERIFICATION

Verified on this 5th day of February 2026 that the contents of the present Affidavit are true and correct to my knowledge and belief and nothing material is concealed therefrom.

BEFORE ME
[Handwritten signature] 5/2/26
SUNIL R. KOTLIKAR
NOTARY, GOVT. OF INDIA
PUNE DISTRICT (MAHARASHTRA)
REGD. No. 9054

[Handwritten signature]
05/02/26
DEPONENT



IN THE HIGH COURT OF JUDICATURE AT BOMBAY
CIVIL APPELLATE JURISDICTION

PUBLIC INTEREST LITIGATION NO. 36 OF 2021

DISTRICT : PUNE

Sarang Yadwadkar & Ors.

.. PETITIONER

VERSUS

The State of Maharashtra and others.

..RESPONDENTS

INDEX

Sr. No.	PARTICULARS	Exhibit	Page No.
*	Memo of Additional Affidavit in Reply.	--	226-233
1	Copy of the report dated 02.01.2024 along with the maps indicating the blue and red line submitted by respondent no. 2 Pune Municipal Corporation.	"X"	234-276
	LAST PAGE		276

Date : 9 .01.2024
Place : Mumbai


NITIN GAWARE PATIL
Advocate For Respondent No.5



**IN THE HIGH COURT OF JUDICATURE AT BOMBAY
CIVIL APPELLATE JURISDICTION**

PUBLIC INTEREST LITIGATION NO. 36 OF 2021

DISTRICT : PUNE

Sarang Yadwadkar & Ors.

.. PETITIONER

VERSUS

The State of Maharashtra & Ors.

..RESPONDENTS

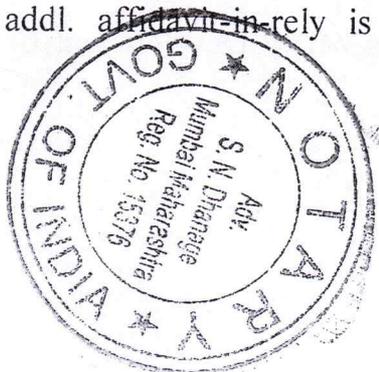
**ADDITIONAL AFFIDAVIT-IN-REPLY ON BEHALF OF
RESPONDENT NO. 5**

I, Shweta Yogendra Kurhade, Age: 35 years, Occ: Service
as Executive Engineer, Khadakwasla Irrigation Division,
Maharashtra Krishna Valley Development Corporation office at



Sinchan Bhavan, Barne Road, Pune, Maharashtra 411011, do hereby state on solemn affirmation as under:

1. I say that, I have been duly authorized to file additional reply affidavit on the behalf of respondent No.5 in the instant public interest litigation and I proceed to file affidavit-in-reply on the basis of documents available with the office of respondent No.5 Maharashtra Krishna Valley Development Corporation and those received from the office of respondent No.2 Pune Municipal Corporation, Pune. I say that, I proceed to file additional affidavit in reply in pursuance to order dated 06.12.2023 passed by this Hon'ble Court in the instant P.I.L. This Hon'ble Court vide said order directed the deponent corporation to complete the examination of the Development Plan prepared by the Pune Municipal Corporation (PMC) and verify whether the flood lines have properly been demarcated as suggested by the Irrigation Department and as to whether the same are in tune with its recommendations. The deponent states that, the instant addl. affidavit-in-rely is being filed for the



limited purpose of placing on record the documents, their study and the consequent report.

2. I say that, the deponent corporation has in detail explained the process which is undertaken to demarcate the red and the blue line:

1. Water resources department technical circular on marking of prohibitive (Blue) and restrictive (Red) flood zones published in 2015

- Flood zones marking are important to ascertain likely inundation area in respect of Cities, Towns and Villages along the river banks. The flood zone marking helps in preventing loss of life, property and environment by regulating land usage in Prohibitive and Restrictive Zones. The marking of flood zones will also help in removal of encroachments to keep required waterway clear for safe passage of floods. Guidelines about the zones and lines have already been issued vide circular under reference. Now to ensure uniform and standardized procedure in the state. The guidelines on marking of flood lines on digital maps and computation of floods to be adopted have also been further elaborated.
- **PROHIBITIVE FLOOD LINE (BLUE LINE):**
The prohibitive flood line commonly denoted as Blue line is the flood line outlining the boundary of prohibitive zone on both banks of river.



• **RESTRICTIVE ZONE:**

This is the zone consisting of area required to pass the Spillway design flood of the reservoir or 100 years return period flood from free catchment, excluding area of prohibitive zone.

For demarcation of Restrictive Zone, flood to be considered is as under –

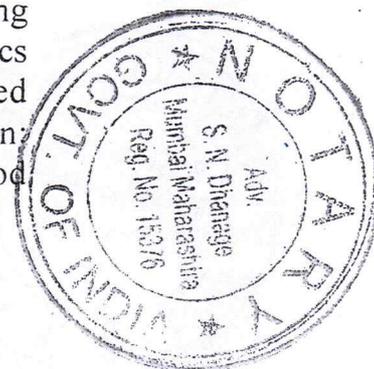
- For River without Dams: - 100 years Return period flood at point of study
- For River with Dams:- Spillway Design flood plus 100 years Return period flood from free catchment area below dam up to point of study.
- Land use regulations may specify Plinth levels of the lowest floors, type of buildings and methods of construction. Restriction on the type of uses of buildings in such zones may also be specified. In case of emergencies, the possibility of floods expected in this zone and necessity of prompt evacuation of people, cattle and goods at short notice to avoid damages to life and property. Shall also be taken into account, by concerned regulatory authorities.

• **Restrictive Flood Line (RED LINE)**

The Restrictive Flood Line commonly denoted as Red Line is flood line outlining the boundary of restrictive zone on both banks of river.

• **METHOD OF FLOOD ESTIMATION:**

The flood estimation of a specific return period is of primary importance for establishing Prohibitive and Restrictive Zones. Economics and Time Constraints do not justify detailed hydrological and meteorological investigation for calculating flood for every Point where Flood



Zones are to be marked. Hence it becomes imperative to Estimate flood by using Central Water Commission (CWC) Regional Flood Estimation Reports. This is a Hydro meteorological Method. Wherein synthetic unit Hydrograph approach has been adopted Central Water

- Commission has published Flood Estimation Reports (FER) for ungauged and Inadequately gauged catchments for 26 hydro meteorologically Homogeneous sub zones of India This Method was developed by CWC
- **Computation of BLUE and RED LINE**
- The flood corresponding to prohibitive and restrictive zones have to be suitable plotted on map to indicate blue and red lines along the river bank
- Channel routing of the floods corresponding to Prohibitive and Restrictive Zones shall be done by Hydrologic Engineering Center- River Analysis system (HEC-RAS) or by using any other suitable software. HECRAS is a computer program me that models the hydraulics of water flow through natural rivers to aid channel flow analysis and flood Plain determination. The output of HEC RAS can be suitably GIS mapped.
- If towns/cities/villages are situated on river banks adjacent to any confluence, adequate check regarding backwater effect on flood lines need to be exercised. In case of rivers joining sea, effect of high tide shall be considered while deciding Prohibitive/Restrictive zones/ lines. Similarly afflux due to constriction in waterway of river



channel due to bridges/weirs / encroachments etc shall also be considered.

• **MARKING OF FLOOD LINES ON MAPS AND ON GROUND.**

- The digitized Village maps which are available in 1:5000 scales or any suitable scale shall be obtained from Director of Land Records along with certified hard copy. These maps shall be joined together. On these maps the prohibitive and Restrictive zones shall be clearly marked with the help of Blue & Red lines, along with the cross sectional details and levels etc. GIS mapping of the flood lines shall be done.
- The Blue and Red lines must be marked on permanent and prominent features! Structures like public building, bridges, temples etc. along the river, so that these markings could be used for reference.
- The marking on maps and on ground shall be cross checked by ground truth verification. After verification the Regional Chief Engineer shall sanction the maps. The digitized maps should be published on web site.

3. I say that, the Auto-Cad copies of the development plan were requested to be submitted to the deponent corporation, and such 17 drawings were submitted of the city of Pune by the respondent no. 2 Pune Municipal Corporation. I say that, surprisingly, the development plans pertaining to two such



stretches i.e. upstream of Rajaram Bridge (Chainage 0-0 to 8863) and downstream of Mundhwa Bridge (Chainage 23000) were never submitted with the deponent corporation.

4. I say that, the deponent corporation undertook the study of the stretches copiously of which the Auto Cad Maps were provided by the respondent No.2 PMC and proceeded to make a detailed report of both the horizontal and vertical sections of the blue and red line. I say that, the studying of the development plan of 2016 was mainly undertaken by comparing the same with the plan of 2011 as laying down blue and red line.

5. I say that, while undertaking the study of the blue and red line in the horizontal section, several infirmities were found. I say that, the gap between the red line and the blue line has been shrunken in few stretches and the said details have been enumerated in a tabular form in the report.

6. I say that, while undertaking the study of the blue and red line in the vertical section, no such infirmity was found. I say that, the same has also been compared and enlisted in a chart prepared in the report. Hereto annexed and marked as



EXHIBIT – “X” dated 02.01.2024 is the copy of the report along with the maps indicating the blue and red line submitted by respondent no. 2 Pune Municipal Corporation.

7. I say that, the petitioners have also put in some suggestions to be considered while preparing the report and same have been considered and dealt with by the deponent corporation.

Hence this Addl. Affidavit-in-reply.

09 JAN 2024
Date : 01.2024
Place : Mumbai

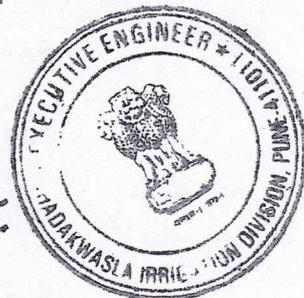
Nitin Gaware
NITIN GAWARE PATI
Advocate For Respondent No.5

[Signature]
Executive Engineer,
Wastewater Irrigation Dept.

Deponent

BEFORE ME

[Signature]

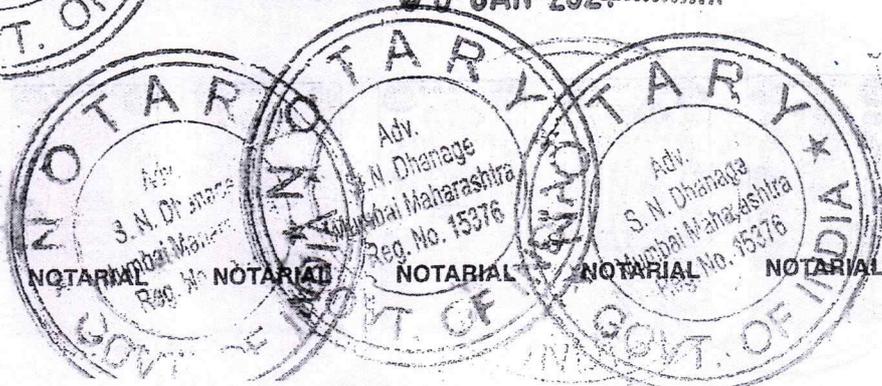
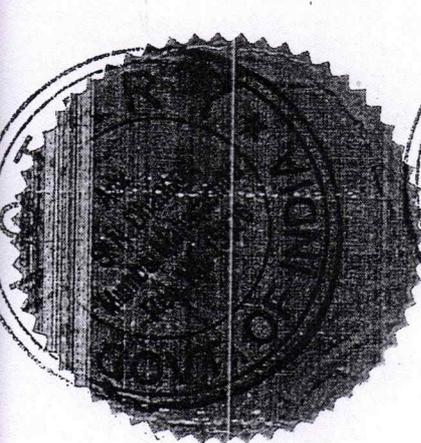


Adv. N. Dhanage
Notary Govt Of India
Regd. No. 15376 MUMBAI (MS)
404-405, 4th Floor, Davar House
97/199, Near Central Camera Bldg.
D.N. Road, Fort, Mumbai - 400001

NOTED & REGISTERED

Page No. 87 Sr. No. 622

Date... 09 JAN 2024





सिंचनाय
"सिंचनाय" राष्ट्रोध्वार



महाराष्ट्र शासन
कार्यकारी अभियंता,

खडकवासला पाटबंधारे विभाग,

सिंचन भवन, बारणे रोड, मंगळवार पेठ, पुणे - ४११ ०११.

दुरध्वनी- ०२०-२६१२७३०९ फॅक्स-०२०-२६१२६३०७

ई-मेल - eekidpune@gmail.com



जा.क्र.खपावि/प्रशा1 / ४०/सन २०२४

दि. ०२/०१/२०२४

प्रति,

मा. अधीक्षक अभियंता,

पुणे पाटबंधारे मंडळ,

पुणे..

विषय:- मा. उच्च न्यायालय, मुंबई येथील जनहित याचिका नं. 36/2021 मधील मे. उच्च न्यायालयाच्या दि.27/3/2023 रोजीच्या निर्देशांच्या अनुषंगाने कार्यवाही करणेबाबत.

संदर्भ:- १) श्री. सारंग यादवाडकर यांनी मे. उच्च न्यायालय, मुंबई येथे दाखल केलेला दावा क्र. 36/2021.

२) या कार्यालयाचे पत्र जा.क्र. खपावि/प्रशा-1/1527,दि.05/03/2011

३) या कार्यालयाचे पत्र जा.क्र. खपावि/प्रशा-1/4826, दि.22/07/2016

४) या कार्यालयाचे पत्र जा.क्र. खपावि/प्रशा-1/1920,दि.18/03/2020

५) मे. उच्च न्यायालय, मुंबई यांचे दि. 27/3/ 2023

६) मे. उच्च न्यायालय, मुंबई यांचे दि. 3/5/2023

७) मा. अधीक्षक अभियंता, डी.पी. सेल/ पुणे मनपा यांचे या कार्यालयास दिलेले पत्र जा. क्र./डिपी सेल/89, दि. 29/5/2023.

८) मा. अधीक्षक अभियंता, डी.पी. सेल/ पुणे मनपा यांचे या कार्यालयास दिलेले पत्र जा. क्र. /डिपी सेल/१२६, दि. २१/६/2023

९) श्री. सारंग यादवाडकर यांचे मा. आयुक्त, पुणे मनपा यांना दिलेले दि.15/12/2023 रोजीचे पत्र.

१०) मंडळ कार्यालयाचे अ.शा.पत्र जा.क्र.प्र.शा.-४/पुररेषा/१२ दिं.१६/०६/२०२२.

विषयांकित प्रकरणी श्री. सारंग यादवाडकर यांनी मे. उच्च न्यायालय, मुंबई येथे जनहित याचिका (क्र. ३६/२०२१) दाखल केली आहे. सदर दाव्याची दि. २७.०३.२०२३ रोजी सुनावणीचे वेळी मे. उच्च न्यायालय, मुंबई यांनी खालील प्रमाणे आदेश दिलेले आहेत.

पुणे महानगरपालिकेमार्फत तयार करणेत आलेल्या विकास आराखड्यामध्ये भ्रूरेषा आखणीबाबत मतभेद आहेत. यास्तव पुणे महानगरपालिकेने विकास आराखडा जलसंपदाविभागाकडे तपासणीसाठी सॉफ्ट कॉपी (Autocad) व हार्ड कॉपीमध्ये सादर करावा.

त्यानंतर जलसंपदा विभागाने त्यांनी निर्धारित केलेल्या पूररेषा विकास आराखडयामध्ये दाखविल्या आहेत याची खातर जमा करून अहवाल सादर करावा. " तदनुषंगाने वरील संदर्भीय पत्र क्र.7 अन्वये पुणे महानगरपालिकेने विकास आराखडा नकाशे,सन २०१६ च्या पूररेषेसह सॉफ्ट कॉपी व हार्ड कॉपी मध्ये सादर केले होते.

तथापि सदर नकाशामध्ये जलसंपदा विभागाने वरील संदर्भ क्र.२ अन्वये निश्चित केलेल्या मान्यता प्राप्त पूररेषा दर्शविल्या नसल्याचे दिसून आले आहे. दरम्यान या कार्यालयामार्फत संदर्भीय पत्र क्र.4 अन्वये मा. आयुक्त, पुणे महानगरपालिका यांना जलसंपदा विभागाने सन २०११ साली आखणी करणेत आलेल्या निळी/लाल पूररेषा अंतिम समजणेत याव्यात असे कळविणेत आले होते.

त्यानुषंगाने पुणे महानगरपालिकेने सन २०११ साली निश्चित केलेल्या पूररेषा दर्शविणे अपेक्षित होते. परंतु पुणे महानगरपालिकेने सन २०१६ च्या पूररेषा विकास आराखडयावर दर्शवून नकाशे या कार्यालयास तपासणीसाठी सादर केलेले आहेत.सदर नकाशावर निळ्या पुररेषा स्पष्ट दिसून येत आहेत तथापी लाल पुररेषा मध्ये स्पष्टता(रंग बोध) नाही.विकास आराखडा नकाशाचे खालीलप्रमाणे नदीचे भाग नकाशे पुणे महानगरपालिकेने सादर केलेले आहेत.

वर्णन	स्केल	Drawing / Sheet No.	लांबी	शेरा
मुठा नदी भाग नकाशा क्र.		TPS-१८१५/२०९ /CR- ६९/१५/DP PUNE/sanction /UD- १३ dtd १७/२/२०१८.		
१	१-२०००	SHEET NO १	१.१६ KM	चव्हाण सायकल ब्रीज पुढे एकुण १.१६KM
२	१-२०००	SHEET NO २	१.४ KM	महर्षी शिंदे पुल डॅगळे पुल एकुण १.४KM
३	१-२०००	SHEET NO ३	-----	नकाशामध्ये पूररेषा दर्शविलेल्या नाहीत.
४	१-२०००	SHEET NO ५	०.४ KM	एस.एम. जोशी पुल ते चव्हाण सायकल ब्रीज पुढे ०.४ KM
५	१-१००००	SHEET NO १	-----	मुठा नदी संबंधीत नाही
६	१-१००००	SHEET NO २	-----	मुठा नदी संबंधीत नाही
७	१-१००००	SHEET NO ६	७.५ KM	महर्षी शिंदे पुल ते येरवडा पुल
८	१-१००००	SHEET NO ७	४ KM	कल्याणी पुल ते मुढंवा पुल
९	१-१००००	SHEET NO ८	७ KM	राजाराम पुल ते गाडगीळ पुल
१०	१-१००००	SHEET NO ९	०.४KM	नदीचा अल्प भाग दर्शविण्यात आलेला आहे.(केसरी वाडया मागील)
११	१-१००००	SHEET NO १		मुठा नदी संबंधीत नाही

		बालेवाडी, बाणेर		
१२	१-१००००	SHEET NO २ बावधन, कोथरुड		मुठा नदी संबधीत नाही
१३	१-१००००	SHEET NO ३ शिवणे, वारजे	२ KM	नकाशामध्ये पुररेषा दर्शविलेल्या नाहीत.
१४	१-१००००	SHEET NO वडगांव धायरी	४.० KM	नकाशामध्ये पुररेषा दर्शविलेल्या नाहीत.
१५	१-१००००	SHEET NO ९ वडगांव शेरी	२.६ KM	नकाशामध्ये पुररेषा दर्शविलेल्या नाहीत.
१६	१-१००००	SHEET NO ९ वडगांव शेरी	३.५ KM	नकाशामध्ये पुररेषा दर्शविलेल्या नाहीत.
१७	१-१००००	SHEET NO १० धानोरी	---	मुठा नदी संबधीत नाही

उपरोक्त नकाशामध्ये राजाराम पुलाच्या उर्ध्व भागाचे (साक्र. ८८६३ वरील) भाग नकाशे दिलेले नाहीत तसेच मुंढवा पुलाच्या (साक्र. २३०००) च्या खालील नकाशे दिलेले नाहीत.

संदर्भिय न्यायालयीन आदेशान्वये पुररेषा नकाशाची तपासणी केली असता त्यामध्ये खालीलप्रमाणे तफावत दिसून येत आहे.

- खडकावासला धरण ते राजारामपुल (सा.क्र.० /० ते ०/८८६३) या भागातील पुर रेखा नकाशे तसेच मुंढवा पुलाच्या (सा.क्र.२३०००) खालील या भागातील पुर रेखा नकाशे दिलेले नाहीत.
- सन २०११ च्या मान्यता प्राप्त पुररेषा व सन २०१६ मधील पुररेषा यांचा तुलनात्मक अभ्यास केलेला आहे. सन २०११ मध्ये निश्चीत केलेल्या पूररेषा यातील निळ्या व लाल पूररेषेमधील अंतरे ही पुणे महानगरपालिकेने सादर केलेल्या सन २०१६ च्या निळ्या व लाल पूररेषा नकाशामधील अंतरापेक्षा कमी अधिक असल्याचे दिसून येते. पर्यायाने नदीची नैसर्गिक पूरवहन क्षमता कमी होत आहे. तुलनात्मक तक्ता खालील प्रमाणे आहे.

Chaingae	WRD Blue Line Width	PMC Blue Line Width	Difference WRD & PMC Blue line	Remark	WRD Red Line Width	PMC Red Line Width	Difference WRD & PMC Red line	Remark
Rajaram Bridge 8863	108	148	40	Excess Width than WRD	128	176	48	Excess Width than WRD
8900	108	160	52		136	188	52	
9000	112	148	36		140	176	36	
9100	96	132	36		124	152	28	
9200	96	136	40		120	140	20	
9300	100	140	40		120	148	28	
9400	96	172	76		120	180	60	

9500	96	180	84		120	196	76	
9600	94	176	82		120	220	100	
9700	112	160	48		152	212	60	
9800	140	156	16		164	256	92	
9900	136	148	12		152	184	32	
10000	140	136	-4		160	172	12	
10100	132	124	-8	Less Width than WRD	152	148	-4	Less Width than WRD
10200	140	130	-10		160	156	-4	
10300	146	120	-26		168	176	8	Excess Width than WRD
10400	124	132	8		144	152	8	Less Width than WRD
10500	120	128	8		136	128	-8	Less Width than WRD
10600	112	158	46		128	216	88	Excess Width than WRD
10700	98	144	46	Excess Width than WRD	120	232	112	
10800	92	138	46		128	228	100	Not possible to measr
10900	124	140	16		0	188	188	
MHATRE BRIDGE	128	156	28		148	264	116	Excess Width than WRD
11000	180	204	24		216	228	12	
11100	144	192	48		168	244	76	
11200	160	156	-4	Less Width than WRD	192	180	-12	Less Width than WRD
11300	168	160	-8		196	172	-24	
11400	148	164	16	Excess Width than WRD	180	220	40	Excess Width than WRD
11500	152	180	28		180	192	12	
11600	152	180	28		188	196	8	
S M JOSHI BRIDGE 11608	152	140	-12	Less Width than WRD	188	200	12	
11700	148	196	48	Excess Width than WRD	180	216	36	
11800	156	216	60		196	224	28	
CHAVAN CYCLE 11848	184	228	44		212	244	32	
11900	180	196	16		208	212	4	
12000	164	192	28	184	204	20		
LAKADI BRIDGE 12081	170	160	-10	Less Width than WRD	192	176	-16	Less Width than WRD
12100	176	148	-28		196	160	-36	
12200	220	160	-60		240	172	-68	
Z BRIDGE 12224	224	164	-60		244	184	-60	
12300	216	160	-56		236	176	-60	
GADGIL BRIDGE 12325	208	136	-72		232	176	-56	
12400	196	140	-56		216	152	-64	
12500	196	128	-68		216	144	-72	
12600	196	140	-56		216	144	-72	
12700	184	140	-44		200	152	-48	
12800	188	136	-52		200	148	-52	
12900	160	128	-32		180	140	-40	
13000	144	112	-32	172	136	-36		

13100	168	144	-24		176	148	-28	
SHINDE BRIDGE 13103	172	144	-28		196	148	-48	
13200	164	140	-24		172	152	-20	
CAUSEWAY 13201	168	120	-48		172	152	-20	
13300	160	136	-24		172	168	-4	
13400	156	140	-16		168	184	16	
13500	156	152	-4		164	184	20	Excess Width than WRD
CORPORATION BRIDGE 13501	152	152	0		168	192	24	
13600	144	144	0		192	168	-24	Less Width than WRD
SHIVAJI BRIDGE 13655	152	144	-8	Less Width than WRD	164	176	12	
13700	152	144	-8		164	184	20	
13800	136	152	16		140	192	52	Excess Width than WRD
13900	132	140	8		140	180	40	
14000	144	152	8		148	180	32	
DENGLE BRIDGE 14035	152	156	4	Excess Width than WRD	164	192	28	
14100	204	156	-48		208	196	-12	
14200	200	188	-12		208	204	-4	
14300	208	172	-36		216	200	-16	
14400	204	160	-44		212	188	-24	
14500	188	180	-8	Less Width than WRD	200	192	-8	
WELLESLLY BRIDGE	232	200	-32		240	288	48	Less Width than WRD
RAILWAY BRIDGE 14567	216	184	-32		224	292	68	
14600	196	180	-16		204	196	-8	
SANGAM BRIDGE 14688	172	--	--	Not possible to measure	176	172	-4	
14700	--	160	--		--	172		
14800	--	176	--		--	240		Not possible to measure
14900	272	--			308	--	--	
15000	288	--			316	--	--	
15100	288	--			324	--	--	
15200	288	--			316	--	--	
15300	332	--			356	--	--	
15400	388	--			408	--	--	
15500	432	--		NOT AVILABALE IN PMC DRAWING	468	--	--	NOT AVILABALE IN PMC DRAWING
15600	440	--			468	--	--	
15700	416	--			440	--	--	
15800	380	--			384	--	--	
15900	320	--			356	--	--	
16000	272	--			292	--	--	
16100	216	--			248	--	--	
16200	176	--			212	--	--	
16300	168	--			200	--	--	

16400	168	--			204	--	--	
16500	172	--			212	--	--	
16600	172	--			216	--	--	
16700	184	--			224	--	--	
16800	184	--			224	--	--	
16900	196	--			224	--	--	
17000	192	--			224	--	--	
17100	188	--			212	--	--	
17200	196	--			224	--	--	
17300	224	--			256	--	--	
17400		--			--	--	--	
BUND GARDEN 17485		--			--	--	--	
17500		--			--	--	--	
17600	228	256	28		--	272	--	Not possible to measure
YERWADA BRIDGE 17656	228	248	20	Excess Width than WRD	256	252	-4	Less Width than WRD
17700	232	252	20		256	252	-4	
17800	232	232	0		260	232	-28	
17900	228	240	12	Excess Width than WRD	256	240	-16	
18000	216	224	8		240	224	-16	
18100	184	236	52		224	236	12	Excess Width than WRD
18200	188	212	24		224	212	-12	Less Width than WRD
18300	176	212	36	Excess Width than WRD	216	212	-4	
18400	204	220	16		236	220	-16	
18500	192	224	32		244	224	-20	
18600	--	156	--		--	156	--	Not possible to measure
18700	--	188	--	Not possible to measure	--	188	--	
18800	--	212	--		256	212	-44	Less Width than WRD
18900	216	244	28		256	244	-12	
19000	208	252	44		244	252	8	Excess Width than WRD
19100	208	248	40		248	248	0	
19200	200	244	44		236	244	8	Excess Width than WRD
19300	188	232	44		228	232	4	
19400	172	216	44		220	216	-4	Less Width than WRD
19500	168	196	28		212	196	-16	
19600	152	192	40	Excess Width than WRD	200	192	-8	
KALYANI BRIDGE 19662	144	200	56		188	200	12	
19700	140	188	48		184	188	4	
19800	128	172	44		168	172	4	
19900	112	176	64		152	176	24	
20000	104	184	80		140	184	44	
20100	116	196	80		156	196	40	
20200	136	192	56		180	192	12	

20300	152	196	44		180	196	16	
20400	144	216	72		172	216	44	
20500	120	232	112		156	232	76	
20600	84	220	136		120	220	100	
20700	100	280	180		128	280	152	
20800	96	292	196		124	292	168	
20900	132	292	160		168	292	124	
21000	128	308	180		160	308	148	
21100	128	300	172		156	300	144	
21200	124	240	116		156	240	84	
21300	124	228	104		156	228	72	
21400	128	208	80		160	208	48	
21500	120	188	68		152	188	36	
21600	88	184	96		160	184	24	
21700	136	144	8		176	144	-32	Less Width than WRD
21800	132	176	44		176	176	0	
21900	--	180	--	Not possible to measure	--	180		Not possible to measure
22000	--	184	--		168	184	16	
22100	152	200	48		184	200	16	Excess Width than WRD
22200	148	184	36	Excess Width than WRD	176	184	8	
22300	156	176	20		188	176	-12	
22400	148	168	20		192	168	-24	
22500	164	152	-12		196	152	-44	Less Width than WRD
22600	180	156	-24	Less Width than WRD	212	156	-56	
22700	196	188	-8		224	188	-36	
22800	192	236	44		216	236	20	
MUNDHWA BRIDGE 22801	192	236	44	Excess Width than WRD	216	236	20	Excess Width than WRD
22900	200	240	40		232	240	8	
23000	176	240	64		212	240	28	

३. जलसंपदा विभागाने निश्चित केलेल्या सन २०११ च्या निळया व लाल पुररेषा तलांकाच्या व सन २०१६ च्या पुररेषा तलांकाची तपासणी केली असता दोन्ही पुररेषा तलांक सारखेच असल्याचे दिसून येते. तुलनात्मक तक्ता खालील प्रमाणे आहे.

**Khadakwasala Irrigation Division, Pune Statement Showing
R.L. of Blue & Red Line of Mutha River @ 500 mtr interval of
year 2011 & 2016**

Sr.No.	Chainage	Blue Line		Red Line	
		L.H. S. & R.H.S 2011	L.H. S. & R.H.S 2016	L.H. S. & R.H.S 2011	L.H. S. & R.H.S 2016
1	2	3	4	5	6
1	0/60	572.300	572.300	573.010	573.010
2	0/255 (KDK Bridge)	569.810	569.810	570.840	570.840
3	0/3358 (Nanded Bridge)	557.730	557.730	559.240	559.240
4	0/510	562.730	562.730	563.490	563.490
5	0/990	560.760	560.760	562.420	562.420
6	1/500	560.290	560.290	561.910	561.910
7	2/010	559.820	559.820	561.420	561.420
8	2/490	558.900	558.900	560.520	560.520
9	3/000	558.290	558.290	560.050	560.050
10	3/510	557.270	557.270	558.710	558.710
11	4/020	556.090	556.090	557.280	557.280
12	4/500	554.600	554.600	555.960	555.960
13	5/010	553.500	553.500	555.480	555.480
14	5/490	553.000	553.000	555.000	555.000
15	6/000	552.820	552.820	554.930	554.930
16	6/314 (NH-4 bypass)	552.710	552.710	554.830	554.830
17	6/510	552.510	552.510	554.700	554.700
18	6/990	552.460	552.460	554.610	554.610
19	7/500	552.220	552.220	554.370	554.370
20	8/010	552.090	552.090	554.170	554.170
21	8/490	551.870	551.870	554.060	554.060
22	8/883 (Rajaram Bridge)	551.940	551.940	554.100	554.100
23	9/000	551.720	551.720	555.880	555.880

24	9/510	550.210	550.210	553.300	553.300
25	9/990	550.510	550.510	552.490	552.490
26	10/500	549.620	549.620	551.450	551.450
27	10/813 (Mahatre Bridge)	548.970	548.970	551.230	551.230
28	11/010	548.500	548.500	551.110	551.110
29	11/490	548.510	548.510	551.050	551.050
30	11/608 (SMJOSHI Bridge)	548.494	548.494	551.035	551.035
31	11/847 (Chavan cycle Bridge)	548.462	548.462	550.865	550.865
32	12/000	548.420	548.420	550.510	550.510
33	12/008 (Lakadi Bridge)	548.420	548.420	550.035	550.035
34	12/224 (Z - Bridge)	547.440	547.440	550.010	550.010
35	12/375 (Gadgil - Bridge)	547.090	547.090	549.652	549.652
36	12/510	546.740	546.740	549.295	549.295
37	13/020	545.400	545.400	548.080	548.080
38	13/108 (Shinde Bridge)	545.260	545.260	548.060	548.060
39	13/500	544.805	544.805	547.840	547.840
40	13/501 (PMC - Bridge)	544.805	544.805	547.840	547.840
41	13/655 (Shivaji - Bridge)	544.630	544.630	547.740	547.740
42	14/010	544.225	544.225	547.365	547.365
43	14/035(Dengale - Bridge)	544.190	544.190	547.365	547.365
44	14/567 (Veslesli - Bridge)	544.100	544.100	546.951	546.951
45	14/490	544.115	544.115	547.200	547.200
46	14/688 (Sangam - Bridge)	544.080	544.080	546.859	546.859
47	15/1000	544.030	544.030	546.629	546.629
48	15/510	543.645	543.645	556.238	556.238

49	15/990	543.565	543.565	545.870	545.870
50	17/485 (Bundgardan - Bridge)	Servey of blue & red line KM 17 is not carried out.			
51	17/656 (Yearawada - Bridge)	Servey of blue & red line KM 17 is not carried out.			
52	18/030	541.960	541.960	542.455	542.455
53	18/510	541.736	541.736	542.231	542.231
54	18/862 (Kalyaninagar - Bridge)	540.716	540.716	231.000	231.000
55	18/990	541.512	541.512	543.117	543.117
56	19/500	541.013	541.013	542.645	542.645
57	19/862	540.716	540.716	541.211	541.211
58	19/890	540.689	540.689	542.294	542.294
59	20/490	539.820	539.820	541.390	541.390
60	21/000	539.000	539.000	540.500	540.500
61	21/510	538.771	538.771	540.243	540.243
62	21/990	538.547	538.547	540.035	540.035
63	22/500	538.230	538.230	539.730	539.730
64	22/801 (Mundhva - Bridge)	538.060	538.060	539.560	539.560
65	23/010	537.900	537.900	539.400	539.400
66	23/490	537.724	537.724	539.235	539.235
67	24/000	537.537	537.537	539.407	539.407
68	24/990	537.174	537.174	538.735	538.735
69	25/500	536.954	536.954	538.525	538.525
70	25/980	536.810	536.810	538.349	538.349
71	26/490	536.657	536.657	538.162	538.162
72	27/000	536.485	536.485	537.940	537.940

४. सन 2011 च्या पूररेषा आखणीचे वेळी खडकवासला धरण ते मुळा-मुठा संगम यामधील मुक्त पाणलोट क्षेत्र (Free Catchment Area) व नाले यांचा पूरविसर्ग विचारात घेण्यात आलेला नाही, तो घेणे गरजेचे आहे.

५. महाराष्ट्र अभियांत्रिकी संशोधन संस्था (MERI) नाशिक यांनी निळी/लाल पुररेषा संदर्भात दि. 16/11/2015 रोजी मार्गदर्शक सूचना प्रसृत केल्या आहेत. तथापि यापूर्वीचे म्हणजेच सन 2011 साली मुठा नदीची पूररेषा आखणी करण्यात आलेली असल्याने सदर मार्गदर्शक सूचना विचारात घेण्यात आलेल्या नाहीत. पुणे महानगरपालिकेने सादर केलेल्या सन 2016 च्या विकास आराखड्यावर दर्शविलेल्या पूररेषेमध्ये देखील मेरीच्या मार्गदर्शक सूचना विचारात घेण्यात आलेल्या नाहीत.

६. The Energy and Resources Institute (TERI) नवी दिल्ली यांनी 2014 मध्ये महाराष्ट्र राज्यातील हवामान बदलाचा कृती आराखडा तयार केला आहे. त्यामध्ये पुणे शहर परिसरात वार्षिक सरासरी पर्जन्यमानात 37.5 टक्के वाढ तसेच वारंवार होण्या-या ढग फुटीचा विचार होण्याची शक्यता वर्तविलेली आहे. त्याचा सदर पूररेषा आखणीमध्ये विचार केला नसल्याचे दिसून येते. ही बाब याचिका कर्त्यांनी देखील निदर्शनास आणून दिलेली आहे.

विषयांकित प्रकरणी अभिप्राय मा.आयुक्त पुणे महानगरपालिका यांना तसेच सदर दाव्याशी संबंधित वकील अॅड. श्री. गवारे यांना प्रदेश स्तरावरून कळविणेबाबत पुढील कार्यवाही व्हावी ही विनंती.

हे आपले माहितीसाठी व पुढील योग्य त्या कार्यवाहीसाठी सविनय सादर.

स्थळ प्रत मा.का.अ.यांना मान्य असे.

सोबत:- म.न.पा. ने सादर केलेली नकाशाची प्रत.


उपकार्यकारी अभियंता
खडकवासला पाटबंधारे विभाग
पुणे-११

प्रत :- मा.मुख्य अभियंता (ज.सं.) जलसंपदा विभाग पुणेयांना माहितीसाठी सविनय सादर.

प्रत :- उपविभागीय अभियंता, मुठा कालवे पाटबंधारे उपविभाग, पुणे यांना माहितीसाठी व कार्यवाहीसाठी.

२/- सदर याचिकेची सुनावणी दि.१०/१/२०२४ रोजी असल्याने संबंधित वकील अॅड. श्री. गवारे यांचेशी संपर्क साधून सर्व कागदपत्रांची पुर्तता करावी.

प्रत :- अॅड. श्री. गवारे यांना माहितीसाठी व कार्यवाहीसाठी.

प्रत :- श्री सारंग यादवाडकर यांना माहितीसाठी.

Translation COPY

Subject:- Regarding taking action in accordance with the directions of the Hon'ble High Court in Public Interest Litigation No. 36/2021 dated 27/3/2023.

- Reference:-**
- 1) Suit No. 36/2021 filed by Mr. Sarang Yadwadkar before Hon'ble High Court, Bombay.
 - 2) This office's Letter O.No. Khapavi/ Prasha-1/ 1527, dt. 05/03/2011,
 - 3) This office's Letter O. No. Khapavi/ Prasha-1/4826, dated 22/07/2016,
 - 4) This office's letter O. No. Khapavi/ Prasha-1/1920, dt. 18/03/2020.
 - 5) Order dtd. 27/3/2023 of Hon'ble High Court, Bombay.
 - 6) Order dtd. 3/5/2023 of Hon'ble High Court, Bombay.
 - 7) Hon'ble Superintending Engineer, D.P. Cell/ Pune Municipal Corporation's letter to this office bearing No./DP Cell/89, dt. 29/5/2023.
 - 8) Hon'ble Superintending Engineer, D.P. Cell/ Pune Municipal Corporation's letter to this office bearing O. No. /DP Cell/126, dt. 21/6/2023

9) Shri. Sarang Yadwadkar's letter dated 15/12/2023 given to Commissioner, Pune Municipal Corporation.

10) Superintending Engineer, Pune Irrigation Circle, Pune's Office Letter O.No.Prasha.-4/Purresha/12 dated 16/06/2022.

In the subject matter Mr. Sarang Yadwadkar has filed Public Interest Litigation (No.36/2021) before Hon'ble High Court, Mumbai. During the hearing on 27.03.2023 the Hon'ble High Court, Bombay has passed the following orders.

1. The Hon'ble High Court's orders dated 27/3/2023 directed an examination of the Development Plan prepared by the Municipal Corporation, particularly focusing on the dispute surrounding flood lines delineated within.
2. Pursuant to the court's directive, the Irrigation Department was tasked with verifying and examine in accordance with its recommendations.
3. Pune Municipal Corporation, in response to Ref. No. 7, submitted Development Plan maps featuring flood lines from 2016. However, it has come to light that the approved flood lines finalized by the Water Resources Department (Ref. No. 2) in 2011 were not incorporated into the submitted maps.
4. In communication under Ref. No. 4 to the Commissioner, Pune Municipal Corporation, this office emphasized that the Blue/Red flood lines marked by the Water Resources Department in 2011 should be considered final.

5. Despite the communication under Ref. No. 4, Pune Municipal Corporation proceeded to submit development plans for scrutiny. Notably, these plans display flood lines from the year 2016, which is contrary to the anticipation that the Corporation should highlight the flood lines conclusively finalized in 2011.
6. The deviation from the expected presentation of flood lines raises serious concerns regarding the accuracy and compliance with the directives of the Hon'ble High Court
7. The submitted maps reveal clarity in the blue lines, while the red lines lack perceptible clarity in coloration. Pune Municipal Corporation has provided partial plans of the Development Plan maps for scrutiny.
8. Water Resources Department Examination

Chart 1: List of map submitted by Pune Municipal Corporation

Description	Scale	Drawing/Sheet No.	Length	Remark
Mutha River Part Map No.		TPS-1815/209/ CR-69/15/DP PUNE/sanction/ UD/13 dtd 17/2/2018		
1	1-2000	SHEET NO. 1	1.16 Km.	Beyond Chavan Cycle Bridge Total 1.16 Km.
2	1-2000	SHEET NO. 2	1.4 Km.	Maharshi Shinde Bridge Dengale Bridge Total 1.4 Km.
3	1-2000	SHEET NO. 3	-	Flood Lines not shown

				in the map
4	1-2000	SHEET NO. 5	0.4 Km.	S M Joshi Bridge to beyond Chavan Cycle Bridge 0.4 Km.
5	1-10000	SHEET NO. 1	-	Not related to Mutha River
6	1-10000	SHEET NO. 2		Not related to Mutha River
7	1-10000	SHEET NO. 6	7.5 Km.	Maharshi Shinde Bridge to Yerawada Bridge
8	1-10000	SHEET NO. 7	4 Km.	Kalyani Bridge to Mundhawa Bridge
9	1-10000	SHEET NO. 8	7 Km.	Rajaram Bridge to Gadgil Bridge
10	1-10000	SHEET NO. 9	0.4 Km.	Small portion of the river behind Kesari Wada is shown
11	1-10000	SHEET NO. 1 Balewadi - Baner		Not related to Mutha River
12	1-10000	SHEET NO. 2 Bavdhar - Kothrud		Not related to Mutha River
13	1-10000	SHEET NO. 3 Shivane - Waraje	2 Km.	Flood Lines not shown in the map
14	1-10000	SHEET NO. WadgaonDhay ari	4.0 Km.	Flood Lines not shown in the map
15	1-10000	SHEET NO. 9 Wadgaon Sheri	2.6 Km.	Flood Lines not shown in the map

16	1-10000	SHEET NO. 9 Wadgaon Sheri	3.5 Km.	Flood Lines not shown in the map
17	1-10000	SHEET NO. 10 Dhanori	-	Not related to Mutha River

9. In the aforementioned maps, it has been noted that the maps pertaining to the upstream of Rajaram Bridge (chainage 8863) and the downstream of Mundhwa Bridge (chainage 23000) have not been provided.

10. Upon careful examination of the flood line map in accordance with the pertinent court order, several discrepancies have been identified.

11. Non-submission of Maps:

It has come to our notice that the maps covering the stretch between Khadakwasla Dam and Rajaram Bridge (Chainage 0-0 to 8863) and those situated downstream of Mundhwa Bridge (Chainage 23000) have not been submitted. These missing maps are essential for a comprehensive understanding of the flood lines and their impact.

12. Discrepancies in Flood Lines - 2011 vs. 2016:

A thorough comparison study has been conducted on the sanctioned flood lines of 2011 and the flood lines of 2016. The analysis has revealed significant variations in the distances between the Blue and Red flood lines as depicted in the maps of 2011 and those provided by Pune Municipal Corporation for the year 2016.

This discrepancy is of utmost concern as it implies a potential reduction in the river's flood-carrying capacity. The details of the comparison are outlined in the attached chart.

• **Chart 2: Comparison of Blue Line Width - WRD 2011 vs. PMC 2016**

This chart provides a detailed comparison of the Blue Line Width between the Water Resources Department (WRD) in 2011 and Pune Municipal Corporation (PMC) in 2016.

Chaingae	WRD Blue Line Width 2011	PMC Blue Line Width 2016	Difference WRD & PMC Blue line	Remark	WRD Red Line Width 2011	PMC Red Line Width 2016	Difference WRD & PMC Red line	Remark
Rajaram Bridge 8863	108	148	40	Excess Width than WRD	128	176	48	Excess Width than WRD
8900	108	160	52		136	188	52	
9000	112	148	36		140	176	36	
9100	96	132	36		124	152	28	
9200	96	136	40		120	140	20	
9300	100	140	40		120	148	28	
9400	96	172	76		120	180	60	
9500	96	180	84		120	196	76	
9600	94	176	82		120	220	100	
9700	112	160	48		152	212	60	
9800	140	156	16		164	256	92	
9900	136	148	12		152	184	32	
10000	140	136	-4		160	172	12	
10100	132	124	-8		152	148	-4	
10200	140	130	-10	160	156	-4	Less Width than WRD	
10300	146	120	-26	168	176	8	Excess	

10400	124	132	8	Excess Width than WRD	144	152	8	Width than WRD
10500	120	128	8		136	128	-8	Less Width than WRD
10600	112	158	46					
10700	98	144	46		128	216	88	Excess Width than WRD
10800	92	138	46		120	232	112	
10900	124	140	16		128	228	100	Not possible to measure
MHATRE BRIDGE	128	156	28		0	188	188	
11000	180	204	24		148	264	116	Excess Width than WRD
11100	144	192	48		216	228	12	
11200	160	156	-4		168	244	76	
11300	168	160	-8	192	180	-12	Less Width than WRD	
11400	148	164	16	196	172	-24		
11500	152	180	28	Excess Width than WRD	180	220	40	Excess Width than WRD
11600	152	180	28		180	192	12	
S M JOSHI BRIDGE				Less Width than WRD	188	196	8	
11608	152	140	-12		188	200	12	
11700	148	196	48	Excess Width than WRD	180	216	36	
11800	156	216	60		196	224	28	
CHAVAN CYCLE					212	244	32	
11848	184	228	44		208	212	4	
11900	180	196	16	184	204	20		
12000	164	192	28	Less Width than				Less Width than
LAKADI BRIDGE					192	176	-16	
12081	170	160	-10					

12100	176	148	-28	WRD	196	160	-36	WRD
12200	220	160	-60		240	172	-68	
Z BRIDGE								
12224	224	164	-60		244	184	-60	
12300	216	160	-56		236	176	-60	
GADGIL BRIDGE								
12325	208	136	-72		232	176	-56	
12400	196	140	-56		216	152	-64	
12500	196	128	-68		216	144	-72	
12600	196	140	-56		216	144	-72	
12700	184	140	-44		200	152	-48	
12800	188	136	-52		200	148	-52	
12900	160	128	-32		180	140	-40	
13000	144	112	-32		172	136	-36	
13100	168	144	-24		176	148	-28	
SHINDE BRIDGE								
13103	172	144	-28		196	148	-48	
13200	164	140	-24		172	152	-20	
CAUSEWA Y 13201	168	120	-48		172	152	-20	
13300	160	136	-24		172	168	-4	
13400	156	140	-16		168	184	16	
13500	156	152	-4		164	184	20	Excess Width than WRD
CORPORA TION BRIDGE								
13501	152	152	0		168	192	24	
								Less Width than WRD
13600	144	144	0		192	168	-24	
SHIVAJI BRIDGE				Less Width than WRD				Excess Width than WRD
13655	152	144	-8		164	176	12	
13700	152	144	-8		164	184	20	
13800	136	152	16	Excess Width than	140	192	52	
13900	132	140	8		140	180	40	
14000	144	152	8		148	180	32	

DENGLE BRIDGE				WRD				
14035	152	156	4		164	192	28	
14100	204	156	-48	Less Width than WRD	208	196	-12	Less Width than WRD
14200	200	188	-12		208	204	-4	
14300	208	172	-36		216	200	-16	
14400	204	160	-44		212	188	-24	
14500	188	180	-8		200	192	-8	
WELLESLL Y BRIDGE	232	200	-32		240	288	48	
RAILWAY BRIDGE								
14567	216	184	-32	224	292	68		
14600	196	180	-16	204	196	-8		
SANGAM BRIDGE				Not possible to measure				Not possible to measure
14688	172	--	--		176	172	-4	
14700	--	160	--		--	172		
14800	--	176	--		--	240		
14900	272	--		NOT AVILAB ALE IN PMC DRAWI NG	308	--	--	NOT AVILAB ALE IN PMC DRAWI NG
15000	288	--			316	--	--	
15100	288	--			324	--	--	
15200	288	--			316	--	--	
15300	332	--			356	--	--	
15400	388	--			408	--	--	
15500	432	--			468	--	--	
15600	440	--			468	--	--	
15700	416	--			440	--	--	
15800	380	--			384	--	--	
15900	320	--			356	--	--	
16000	272	--			292	--	--	
16100	216	--			248	--	--	
16200	176	--			212	--	--	
16300	168	--			200	--	--	
16400	168	--			204	--	--	
16500	172	--			212	--	--	
16600	172	--		216	--	--		
16700	184	--		224	--	--		

16800	184	--			224	--	--	
16900	196	--			224	--	--	
17000	192	--			224	--	--	
17100	188	--			212	--	--	
17200	196	--			224	--	--	
17300	224	--			256	--	--	
17400		--			--	--	--	
BUND GARDEN 17485		--			--	--	--	
17500		--			--	--	--	
17600	228	256	28		--	272	--	Not possible to measure
YERWADA BRIDGE				Excess Width than WRD				Less Width than WRD
17656	228	248	20		256	252	-4	
17700	232	252	20		256	252	-4	
17800	232	232	0		260	232	-28	
17900	228	240	12	Excess Width than WRD	256	240	-16	
18000	216	224	8	Excess Width than WRD	240	224	-16	
18100	184	236	52		224	236	12	Excess Width than WRD
18200	188	212	24	Excess Width than WRD	224	212	-12	Less Width than WRD
18300	176	212	36		216	212	-4	
18400	204	220	16		236	220	-16	
18500	192	224	32		244	224	-20	
18600	--	156	--		--	156	--	Not possible to measure
18700	--	188	--	Not possible to measure	--	188	--	Not possible to measure
18800	--	212	--	Not possible to measure	256	212	-44	Less Width than WRD
18900	216	244	28	Excess Width than WRD	256	244	-12	Less Width than WRD
19000	208	252	44	Excess Width than WRD	244	252	8	Excess

19100	208	248	40		248	248	0	Width than WRD
19200	200	244	44		236	244	8	Excess Width than WRD
19300	188	232	44		228	232	4	Width than WRD
19400	172	216	44		220	216	-4	Less Width than WRD
19500	168	196	28		212	196	-16	Width than WRD
19600	152	192	40		200	192	-8	Width than WRD
KALYANI BRIDGE								
19662	144	200	56		188	200	12	Excess Width than WRD
19700	140	188	48		184	188	4	
19800	128	172	44		168	172	4	
19900	112	176	64		152	176	24	
20000	104	184	80		140	184	44	
20100	116	196	80		156	196	40	
20200	136	192	56		180	192	12	
20300	152	196	44		180	196	16	
20400	144	216	72		172	216	44	
20500	120	232	112		156	232	76	
20600	84	220	136		120	220	100	
20700	100	280	180		128	280	152	
20800	96	292	196		124	292	168	
20900	132	292	160		168	292	124	
21000	128	308	180		160	308	148	
21100	128	300	172		156	300	144	
21200	124	240	116		156	240	84	
21300	124	228	104		156	228	72	
21400	128	208	80		160	208	48	
21500	120	188	68		152	188	36	
21600	88	184	96		160	184	24	
21700	136	144	8		176	144	-32	Less Width than WRD
21800	132	176	44		176	176	0	
21900	--	180	--	Not	--	180		Not

				possible to measure				possible to measure
22000	--	184	--		168	184	16	Excess Width than WRD
22100	152	200	48	Excess Width than WRD	184	200	16	
22200	148	184	36		176	184	8	
22300	156	176	20		188	176	-12	
22400	148	168	20		192	168	-24	Less Width than WRD
22500	164	152	-12	Less Width than WRD	196	152	-44	
22600	180	156	-24		212	156	-56	
22700	196	188	-8		224	188	-36	
22800	192	236	44		216	236	20	Excess Width than WRD
MUNDHW A BRIDGE				Excess Width than WRD				
22801	192	236	44		216	236	20	
22900	200	240	40		232	240	8	

- **Chart 3: Comparison of Blue Line Reduces level - WRD 2011 vs. PMC 2016**
- The reduced levels of the Blue and Red flood lines as finalised by Water Resources Dept. in 2011 and that of 2016 flood lines are same. Comparison chart is as given below.

Sr. No.	Chainage	Blue Line		Red Line	
		L.H. S. & R.H.S 2011	L.H. S. & R.H.S 2016	L.H. S. & R.H.S 2011	L.H. S. & R.H.S 2016
1	2	3	4	5	6
1	0/60	572.300	572.300	573.010	573.010
2	0/255 (KDK Bridge)	569.810	569.810	570.840	570.840

3	0/3358 (Nanded Bridge)	557.730	557.730	559.240	559.240
4	0/510	562.730	562.730	563.490	563.490
5	0/990	560.760	560.760	562.420	562.420
6	1/500	560.290	560.290	561.910	561.910
7	2/010	559.820	559.820	561.420	561.420
8	2/490	558.900	558.900	560.520	560.520
9	3/000	558.290	558.290	560.050	560.050
10	3/510	557.270	557.270	558.710	558.710
11	4/020	556.090	556.090	557.280	557.280
12	4/500	554.600	554.600	555.960	555.960
13	5/010	553.500	553.500	555.480	555.480
14	5/490	553.000	553.000	555.000	555.000
15	6/000	552.820	552.820	554.930	554.930
16	6/314 (NH-4 bypass)	552.710	552.710	554.830	554.830
17	6/510	552.510	552.510	554.700	554.700
18	6/990	552.460	552.460	554.610	554.610
19	7/500	552.220	552.220	554.370	554.370
20	8/010	552.090	552.090	554.170	554.170
21	8/490	551.870	551.870	554.060	554.060
22	8/883 (Rajaram Bridge)	551.940	551.940	554.100	554.100
23	9/000	551.720	551.720	555.880	555.880
24	9/510	550.210	550.210	553.300	553.300
25	9/990	550.510	550.510	552.490	552.490
26	10/500	549.620	549.620	551.450	551.450
27	10/813 (Mahatre Bridge)	548.970	548.970	551.230	551.230

28	11/010	548.500	548.500	551.110	551.110
29	11/490	548.510	548.510	551.050	551.050
30	11/608 (SMJOSHI Bridge)	548.494	548.494	551.035	551.035
31	11/847 (Chavan cycle Bridge)	548.462	548.462	550.865	550.865
32	12/000	548.420	548.420	550.510	550.510
33	12/008 (Lakadi Bridge)	548.420	548.420	550.035	550.035
34	12/224 (Z - Bridge)	547.440	547.440	550.010	550.010
35	12/375 (Gadgil - Bridge)	547.090	547.090	549.652	549.652
36	12/510	546.740	546.740	549.295	549.295
37	13/020	545.400	545.400	548.080	548.080
38	13/108 (Shinde Bridge)	545.260	545.260	548.060	548.060
39	13/500	544.805	544.805	547.840	547.840
40	13/501 (PMC - Bridge)	544.805	544.805	547.840	547.840
41	13/655 (Shivaji - Bridge)	544.630	544.630	547.740	547.740
42	14/010	544.225	544.225	547.365	547.365
43	14/035(Dengale - Bridge)	544.190	544.190	547.365	547.365
44	14/567 (Veslesli - Bridge)	544.100	544.100	546.951	546.951
45	14/490	544.115	544.115	547.200	547.200
46	14/688 (Sangam Bridge)	544.080	544.080	546.859	546.859
47	15/1000	544.030	544.030	546.629	546.629
48	15/510	543.645	543.645	556.238	556.238

49	15/990	543.565	543.565	545.870	545.870
50	17/485 (Bundgardan - Bridge)	Servey of blue & red line KM 17 is not carried out.			
51	17/656 (Yearawada - Bridge)	Servey of blue & red line KM 17 is not carried out.			
52	18/030	541.960	541.960	542.455	542.455
53	18/510	541.736	541.736	542.231	542.231
54	18/862 (Kalyaninagar - Bridge)	540.716	540.716	231.000	231.000
55	18/990	541.512	541.512	543.117	543.117
56	19/500	541.013	541.013	542.645	542.645
57	19/862	540.716	540.716	541.211	541.211
58	19/890	540.689	540.689	542.294	542.294
59	20/490	539.820	539.820	541.390	541.390
60	21/000	539.000	539.000	540.500	540.500
61	21/510	538.771	538.771	540.243	540.243
62	21/990	538.547	538.547	540.035	540.035
63	22/500	538.230	538.230	539.730	539.730
64	22/801 (Mundhva - Bridge)	538.060	538.060	539.560	539.560
65	23/010	537.900	537.900	539.400	539.400
66	23/490	537.724	537.724	539.235	539.235
67	24/000	537.537	537.537	539.407	539.407
68	24/990	537.174	537.174	538.735	538.735
69	25/500	536.954	536.954	538.525	538.525
70	25/980	536.810	536.810	538.349	538.349
71	26/490	536.657	536.657	538.162	538.162

72	27/000	536.485	536.485	537.940	537.940
----	--------	---------	---------	---------	---------

14. It appears that there are several important factors and considerations that have not been taken into account while marking flood lines in the mentioned areas. Let's summarize the key points raised in each statement:

15. Free Catchment Area: The flow from the free catchment area between Khadakwasla Dam and Mula-Mutha Confluence in 2011 has not been considered. It is suggested that this factor should be taken into account in the flood line marking process.

16. MERI Guidelines: The Maharashtra Engineering Research Institute (MERI) in Nashik published guidelines for Blue/Red flood lines on 16/11/2015. However, these guidelines were not considered when marking flood lines in 2011, and also not taken into account for the 2016 flood lines superimposed on Development Plan maps.

17. TERI Action Plan: The Energy and Resources Institute (TERI) in New Delhi prepared a climate change action plan in 2014 for Maharashtra. This plan predicted a 37.5% rise in rainfall around Pune with more frequent cloud burst events. The applicants point out that this prediction was not considered in the demarcation of flood lines.

18. In light of these points, it is suggested that a comprehensive review of the flood line demarcation process be conducted, taking into account the flow from the free catchment area, MERI guidelines, and the TERI climate change action plan. Addressing these aspects would contribute to a more accurate and comprehensive understanding of flood risk in the area.

IN THE HIGH COURT OF JUDICATURE AT BOMBAY
CIVIL APPELLATE JURISDICTION

PUBLIC INTEREST LITIGATION NO. 36 OF 2021

DISTRICT : PUNE

Sarang Yadwadkar & Ors.

.. PETITIONER

VERSUS

The State of Maharashtra and others.

..RESPONDENTS

ADDITIONAL AFFIDAVIT IN REPLY ON BEHALF OF
RESPONDENT NO. 5

Dated ___ January, 2024

NITIN GAWARE PATIL

Advocate for Petitioner

MAH/1755/2001

Office: 39, Third Floor, Islam Building,

Veer Nariman Marg; Opp. Akbarallys, Fort, Mumbai – 400 023.

Mo. No. 98222 17474

E-mail: maharrshiawassociates@gmail.com





AGK

**IN THE HIGH COURT OF JUDICATURE AT BOMBAY
CIVIL APPELLATE JURISDICTION**

PUBLIC INTEREST LITIGATION NO.36 OF 2021

Sarang Yadwadkar & Ors. ... Petitioners

V/s.

The State of Maharashtra, through
Principal Secretary, Urban
Development Department & Ors. ... Respondents

Ms. Gayatri Singh, Senior Advocate with Ms. Ronita
Bhattacharya Bector for the petitioners.

Mr. P.P. Kakade, Government Pleader with Mr. O.A.
Chandurkar, Additional G.P. and Mrs. G.R.
Raghuwanshi, Additional G.P. for respondent No.1 –
State.

Mr. Abhijit P. Kulkarni with Ms. Sweta Shah and Mr.
Gaurav Sahane for respondent Nos.2 & 3 – Pune
Municipal Corporation.

Mr. Nitin Gaware Patil for respondent No.5 –
MKVDC.

Mr. Samir Gosavi, Deputy Engineer, D.P. Cell and
Mr. Ganesh Kamble, Sub-Engineer D.P. Cell, are
present.

**CORAM : DEVENDRA KUMAR UPADHYAYA, CJ &
AMIT BORKAR, J.**

DATED : JUNE 26, 2024

P.C.:

1. Considering the issue raised in this public interest
litigation petition which is of seminal importance as it raises
concerns about faulty demarcation of flood line in the city of

Pune, the Court on 6 December 2023 had passed an order directing the Irrigation Department to complete the study of demarcation of flood lines in the City of Pune and produce it before the Court. The said study has been conducted in terms of an earlier order passed by this Court on 27 March 2023.

2. The respondent No.5 - Maharashtra Krishna Valley Development Corporation has filed an additional affidavit-in-reply sworn in by Ms. Shweta Yogendra Kurhade, Executive Engineer, Khadakwasla Irrigation Division which contains a report dated 2 January 2024. Learned Counsel appearing for respondent no.5 has taken us through said report. Apart from various charts containing necessary statistics, the report has clearly mentioned that while determining the flood lines various important factors and considerations were not taken into account in the past. The relevant extract of the said report contained in clauses 14 to 18 are reproduced hereinbelow:

“14. It appears that there are several important factors and considerations that have not been taken into account while making flood lines in the mentioned areas. Let’s summarize the key points raised in each statement.

15. Free Catchment Area: The flow from the free catchment area between Khadakwasla Dam and Mula-Mutha Confluence in 2011 has not been considered. It is suggested that this factor should be taken into account in the flood line marking process.

16. MERI Guidelines: The Maharashtra Engineering Research Institute (MERI) in Nashik published guidelines for Blue/Red flood lines on 16/11/2015. However, these

guidelines were not considered when marking flood lines in 2011, and also not taken into account for the 2016 flood lines superimposed on Development Plan maps.

17. TERI Action Plan: The Energy and Resources Institute (TERI) in New Delhi prepared a climate change action plan in 2014 for Maharashtra. This plan predicted a 37.5% rise in rainfall around Pune with more frequent cloud burst events. The applicants point out that this prediction was not considered in the demarcation of flood lines.

18. In light of these points, it is suggested that a comprehensive review of the flood line demarcation process be conducted, taking into account the flow from the free catchment area, MERI guidelines, and the TERI climate change action plan. Addressing these aspects would contribute to a more accurate and comprehensive understanding of flood risk in the area.”

3. The report has thus suggested that a comprehensive review of the flood line demarcation be carried out taking into account various relevant considerations, guidelines and reports etc. Learned counsel for the Pune Municipal Corporation as also the learned counsel representing the petitioners also emphasized that a fresh comprehensive review of demarcation of flood lines in the city of Pune is the need of hour.

4. Demarcation of flood line in an urban area or a city like Pune assumes importance for the simple reason that in case any development activity is permitted by the municipal body of such an urban area in the flood zone of any water channel like a river etc., the same results in reducing the flood carrying capacity of such a water channel, which, ultimately is

the cause of flood. To ensure that the earth continues to remain habitable, it is thus very necessary to appropriately and correctly demarcate the flood line of water channels, failing which the inhabitants of the area may face problems beyond remedies.

5. The Government of Maharashtra had appointed an Experts Study Committee to analyze the causes and remedies on flood, which submitted a report which is on record as Exhibit-A appended to the additional affidavit in rejoinder, dated 21 February 2024. The report of the Experts Study Committee analyzes the causes and remedies. Perusal of the said report would reveal that a lot needs to be done by the Government, its agencies and municipal bodies to check the flood in the urban areas.

6. Having regard to the significance of the issue involved, on our request learned Advocate General Mr. Birendra Saraf has addressed the Court and has expressed his concerns as well.

7. Accordingly, we direct that the report dated 2 January 2024 which forms part of the additional affidavit-in-reply filed by the respondent No.5 – Maharashtra Krishna Valley Development Corporation, dated 9 January 2024 shall be placed before the Additional Chief Secretary / Principal Secretary of the Department of Water Resources Development of the State Government, who shall consult all other departments / bodies, including municipal corporation and form a five-member Supervisory Committee comprising of

experts of the Water Resources Department and any other related departments. He shall also co-opt some experts from the external expert agencies, i.e. the agencies other than the Government agencies such as any institute of repute at national level or any academic / research institution.

8. The said Experts Committee to be formed under this order shall be headed by the Additional Chief Secretary of the Department of Water Resources Development which shall formulate a plan for conducting the comprehensive review of the flood line demarcation in the city of Pune. The Committee shall also prepare a blue print for conducting the said review and shall also determine the human resources to be deployed for the said purpose.

9. The Experts Committee to be formed under this order shall also fix a time-line within which the flood line demarcation review is to be completed.

10. We, thus, direct that the Experts Committee under this order shall be formed within two weeks, which shall consider and finalize the blue print for undertaking comprehensive review of demarcation of flood line in the city of Pune within four weeks' thereafter.

11. When the matter is next listed, an affidavit shall be filed by a high-ranking officer to be nominated by the Additional Chief Secretary of the Department of Water Resources Development of the State Government, giving details of the steps which may be taken during this period for ensuring compliance of the directions being issued by us in this order.

12. The affidavit to be filed under this order by the State Government shall be served in advance at least by one week upon the learned counsel for the petitioner and also learned counsel representing Pune Municipal Corporation.

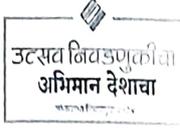
13. List the PIL petition on **14 August 2024**.

(AMIT BORKAR, J.)

(CHIEF JUSTICE)



सत्यमेव जयते



जलसंपदाविभाग
महासंचालक
(संकल्पन, प्रशिक्षण, जलविज्ञान, संशोधन व सुरक्षितता)
मेरी इमारत, दिंडोरी रोड, नाशिक ४२२ ००४

Director General

(Design, Training, Hydrology, Research & Safety) M.E.R.I Campus,
Dindori Road, Nashik 422 004 (M. S.)
Phone No.: 0253-2970619/ 2530628

Email: dgd@hrs.nashik.wrd@maharashtra.gov.in, patodgmeri@gmail.com
Web: www.merinashik.org



जा.क्र.मसं/संप्रजसंसु/आ-६/ ०१ /सन२०२५

दि. ०६ /०१/२०२५

प्रति,

मुख्य अभियंता (जसं),
जलसंपदा विभाग,
पुणे

विषय — जनहीत याचिका क्र.३६/२०२१: श्री. सारंग यादवडकर विरुद्ध महाराष्ट्र शासन व ईतर च्या अनुषंगाने पुणे शहरातील पूर परिस्थितीमुळे सध्या अस्तित्वातील पूर रेषा (निळी व लाल) च्या पुनर्विलोकनाबाबत गठीत तज्ञ समितीच्या दि.१९/१२/२०२४ रोजीच्या मा. अपर मुख्य सचिव (जलसंपदा) यांचे अध्यक्षतेखाली झालेल्या बैठकीतील चर्चेनुसार पुणे शहर परीसरातील नद्यांच्या महत्वाच्या स्थळी निळी व लाल रेषेसाठी घेण्यात आलेल्या पूर किमतीचे पुनर्विलोकन करणेसाठी प्राथमिक पूर अभ्यास अहवाल तयार करणे बाबत

संदर्भ -

- मा. अपर मुख्य सचिव (जलसंपदा) यांचे अध्यक्षतेखाली पुणे शहरातील पूर रेषांचे पुनर्विलोकन करणे बाबतची पहिली बैठक (दि.२६/०७/२०२४ रोजी ०३.०५PM वाजता व्ही.सी. द्वारे) याचे इतिवृत्त
- मा. अपर मुख्य सचिव (जलसंपदा) यांचे अध्यक्षतेखाली पुणे शहरातील पूर रेषांचे पुनर्विलोकन करणे बाबतची दुसरी बैठक (दि.१९/०८/२०२४ रोजी ०४.३० PM वाजता व्ही.सी. द्वारे) याचे इतिवृत्त दि.०४/०९/२०२४
- मा. महासंचालक, मेरी, नाशिक या कार्यालयाचे पत्र मसं/संप्रजसंसु/ आ.६/९६/सन २०२४, दि.२३/०८/२०२४
- मा. महासंचालक, मेरी, नाशिक या कार्यालयाचे पत्र मसं/संप्रजसंसु/आ.६/११२/सन२०२४, दि.१८/०९/२०२४
- मा. महासंचालक, मेरी, नाशिक या कार्यालयाचे पत्र मसं/संप्रजसंसु/आ.६/१२४/सन२०२४, दि.०३/१०/२०२४
- दि.२९/१०/२०२४ रोजी ०३.००PM वाजता व्ही.सी. द्वारे झालेल्या बैठकीचे प्रारूप इतिवृत्त
- मा. महासंचालक, मेरी, नाशिक या कार्यालयाचे पत्र मसं/संप्रजसंसु/आ.६/१४०/सन २०२४, दि.०४/११/२०२४
- अधीक्षक अभियंता, पुणे पाटबंधारे मंडळ, पुणे या कार्यालयाचा ई-मेल संदेश दि. ०४/११/२०२४
- मा. महासंचालक, मेरी, नाशिक या कार्यालयाचे पत्र मसं/संप्रजसंसु/ आ.६/१४२/सन २०२४, दि.११/११/२०२४
- मा. अपर मुख्य सचिव (जलसंपदा) यांचे अध्यक्षतेखाली पुणे शहरातील पूर रेषांचे पुनर्विलोकन करणे बाबतची तिसरी बैठक (दि.१३/११/२०२४ रोजी ०३.३० PM वाजता व्ही.सी. द्वारे) याचे इतिवृत्त दि.२९/११/२०२४
- मुख्य अभियंता, जलसंपदा विभाग पुणे यांचे मा. महासंचालक मेरी नाशिक यांना पत्र क्र.५१८२, दि.२७/११/२०२४ आधार सामग्री सादर करणेसाठी

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१२. मा. महासंचालक, मेरी, नाशिक या कार्यालयाचे पत्र मसं/संप्रजसंसु/ आ.६/१५६/सन २०२४, दि.०९/१२/२०२४
१३. मुख्य अभियंता, जलसंपदा विभाग पुणे यांचे मा. महासंचालक मेरी नाशिक यांना पत्र क्र.५५२३, दि.१८/१२/२०२४ आधार सामग्री सादर करणेसाठी
१४. मा. अपर मुख्य सचिव (जलसंपदा) यांचे अध्यक्षतेखाली पुणे शहरातील पूर रेषांचे पुनर्विलोकन करणे बाबतची चौथी बैठक (दि.१९/१२/२०२४ रोजी ०३.०० PM वाजता व्ही.सी. द्वारे) याचे इतिवृत्त दि.२३/१२/२०२४

उपरोक्त विषयान्वये मा. अपर मुख्य सचिव (जलसंपदा) यांचे अध्यक्षतेखाली पुणे शहरातील पूर रेषांचे पुनर्विलोकन करणे बाबतची चौथी बैठक (दि.१९/१२/२०२४ रोजी व्ही.सी. द्वारे) पार पडली. सदर बैठकीत झालेल्या चर्चेनुसार मुख्य अभियंता, जलसंपदा विभाग पुणे यांनी सादर केलेल्या माहितीच्या अनुषंगाने व सद्यस्थितीत भारतीय हवामान खाते, नवी दिल्ली यांच्याकडून पुणे शहरातील नद्यांच्या पाणलोट क्षेत्रासाठी मागविण्यात आलेली वादळी किंमत व त्याची विभागणी अद्याप अप्राप्त असल्याने PMP Atlas for Krishna Basin मध्ये उपलब्ध असणाऱ्या वादळी किमतीचा उपयोग करून पुणे शहरातील प्रकल्पांच्या निळी रेषा/लाल रेषा संबंधी पूर किमती परीगणित करण्याबाबत प्राथमिक पूर अभ्यास अहवाल सादर करण्याबाबत मा. अपर मुख्य सचिव, जलसंपदा विभाग यांनी निर्देश दिले.

उपरोक्त निर्देशानुसार, आपण पुरविलेल्या माहितीनुसार व पुणे शहरातील नद्यांच्या पाणलोट क्षेत्राच्या विभागणीनुसार निळी रेषा व लाल रेषा संबंधीच्या पुरांचे परिगणन करण्यात आले आहे.

निळी रेषा व लाल रेषेसाठी पूर किमतीचे परिगणन करतांना महासंचालक, मेरी नाशिक यांच्या परिपत्रकातील मार्गदर्शक सूचनांचा अवलंब करण्यात आला आहे. सदर परिपत्रकानुसार निळी रेषा व लाल रेषा यांचे परिगणन पद्धती काही बाबतीत भिन्नता असल्याने निळी रेषेसाठी १:२५ वारंवारतेचा पूर परीगणित करण्यासाठी व लाल रेषा १: १०० वारंवारतेचा पूर परीगणित करण्यासाठी, असे दोन स्वतंत्र प्राथमिक पूर अभ्यास अहवाल तयार करण्यात आले आहेत.

निळी रेषेसाठीचा प्राथमिक पूर अभ्यास अहवाल:

निळी रेषेसाठीचा प्राथमिक पूर अभ्यास अहवाल पत्रासोबत जोडण्यात येत आहे. महासंचालक मेरी, नाशिक यांच्या परिपत्रकानुसार निळी रेषेसाठीचा १:२५ वारंवारतेचा पूर परीगणित करण्यासाठी जर पूर अभ्यासाचे पाणलोट क्षेत्र ५००० चौ.कि.मी. पेक्षा कमी असेल तर ऊर्ध्व भागात असलेल्या धरणांचा विचार न करता पुराचे परिगणन करावयाचे आहे. सदर अभ्यास पाणलोट क्षेत्राचे Outlet मुढवा के.टी. वियर येथे एकूण पाणलोट क्षेत्र २१४५ चौ.कि.मी. हे ५००० चौ.कि.मी. पेक्षा कमी असल्याने ऊर्ध्व भागातील धरणांचा विचार न करता पुराचे परिगणन करण्यात आले आहे. आपण क्षेत्रीय स्तरावरून पुरविलेल्या माहितीनुसार सदर अभ्यास पाणलोट क्षेत्राचे दहा भाग करून पुराचे परिगणन करण्यात आले आहे. सदर पाणलोट क्षेत्राचे ARC-GIS संगणक प्रणाली नुसार 'Delineation' करून दहा भाग (10 Sub Basins) करण्यात आलेले आहेत. नंतर त्यांचे 'Physiographic Parameters' ARC-GIS संगणक प्रणालीच्या सहाय्याने परीगणित करण्यात आले आहेत व सदर 'Physiographic Parameters' च्या सहाय्याने केंद्रीय जल आयोग, नवी दिल्ली (Central Water Commission) यांनी प्रकाशित केलेल्या 'Flood Estimation Report (३h)' अनुसार एकांक जलमानाभिलेख (Synthetic Unit Hydrograph) तयार करून वापरण्यात आला आहे.

वादळी किंमत व त्याची विभागणी उपरोक्तपणे संदर्भ क्र.१४ च्या बैठकीत दिलेल्या सूचनेनुसार 'PMP Atlas for Krishna Basin' मधून घेण्यात आलेले आहे.

उपरोक्त माहिती 'HEC-HMS' संगणक प्रणालीमध्ये भरून 'Quasi-distributed Hydrological Model' तयार करण्यात आले. तसेच त्यामध्ये 'Muskingham Channel Routing' पद्धत अवलंबण्यात आली. उपरोक्तपणे तयार करण्यात आलेल्या 'Quasi-distributed Hydrological Model' चे RUN घेण्यात येऊन निष्कर्ष काढण्यात आले आहेत. ते खाली दिलेल्या तक्त्यात नमूद केल्याप्रमाणे आहेत. भारतीय हवामान खाते, नवी दिल्ली यांच्याकडून पुणे शहरातील नद्यांच्या पाणलोट क्षेत्रासाठी मागविण्यात आलेली वादळी किंमत व त्याची विभागणी प्राप्त झाल्यावर सदर पुराच्या किमतीमध्ये बदल संभवतो.

महासंचालक, मेरी नाशिक यांच्या परिपत्रकातील निळी रेषा बाबतच्या पुराच्या मार्गदर्शक सूचनानुसार उपरोक्तपणे निळ्या रेषेसाठी परीगणित केलेली पूर किंमत ही '1.5 times the flood carrying capacity of the established river channels' शी तुलना करून महत्तम किंमतीसाठी निळी पूर रेषा अंतिम करणे अपेक्षित आहे. त्यानुसार आपण क्षेत्रीय स्तरावर उपरोक्तपणे नमूद केलेल्या पूर किंमतीशी दिडपट विसर्गाशी तुलना करून निळ्या रेषेसाठी पूर किंमत अंतिम करणे आवश्यक आहे.

लाल रेषेसाठीचा प्राथमिक पूर अभ्यास अहवाल :

लाल रेषेसाठीचा प्राथमिक पूर अभ्यास अहवाल सोबत जोडला आहे. महासंचालक मेरी, नाशिक यांच्या परिपत्रकानुसार लाल रेषेसाठी १:१०० वारंवारतेचा पूर परीगणित करावयाचा आहे. त्यासाठी "For Rivers with dams :- Spillway Design flood plus १०० years return period flood from free catchment area below dam upto point of study" घ्यावयाचे आहे. सदर अभ्यास पाणलोट क्षेत्रात पानशेत, वरसगाव, टेमघर, खडकवासला, मुळशी, पवना ही महत्वाची धरणे ऊर्ध्व भागात आहेत. त्यांचे IS ११२२३-१९८५ नुसार व प्राप्त झालेल्या माहितीनुसार वर्गीकरण खालील प्रमाणे आहे.

Sr. No.	Dam	Lowest RBL	FRL	Hydraulic Head (m)	Gross Storage (MCM)	Type of Design Flood
1	2	3	4	5	6	7
1	Panshet Dam	580.32	636.27	55.95	310.61	PMF
2	Warasgaon Dam	579.43	639.5	60.07	375.36	PMF
3	Temghar Dam	641.56	706.5	64.94	107.96	PMF
4	Khadakwasla Dam	554.45	582.47	28.02	86.00	PMF
5	Mulshi Dam	N.A.	607.1	N.A.	747.00	PMF
6	Pawana Dam	579.42	614.47	35.05	305.00	PMF

वरील तक्त्यानुसार सर्व धरणांची क्षमता ६० दलघमी पेक्षा जास्त असल्याने सर्व धरणे अंदाजित महत्तम पुरासाठी (Probable Maximum Flood) पात्र ठरत आहेत. म्हणून सदर अभ्यास पाणलोट क्षेत्रातील धरणांचे पाणलोट क्षेत्र PMP Storm Depth व धरणाखालील मुक्त पाणलोट क्षेत्र १:१०० वारंवारितेच्या पुरासाठी अभ्यासण्यात आला आहे.

आपण क्षेत्रीय स्तरावरून पुरविलेल्या माहितीनुसार दहा भागात विभागलेल्या पाणलोट क्षेत्रातील पुराचे परिगणन करण्यात आले आहे. सदर पाणलोट क्षेत्राचे ARC-GIS संगणक प्रणाली नुसार 'Delineation' करून दहा भाग (10 Sub Basins) करण्यात आलेले आहेत. नंतर त्यांचे 'Physiographic Parameters' ARC-GIS संगणक प्रणालीच्या सहाय्याने परीगणित करण्यात आले आहेत व सदर 'Physiographic Parameters' च्या सहाय्याने केंद्रीय जल आयोग नवी दिल्ली (Central Water Commission) यांनी प्रकाशित केलेल्या 'Flood Estimation Report (3h)' अनुसार एकांक जलमानाभिलेख (Synthetic Unit Hydrograph) तयार करून वापरण्यात आला आहे.

वादळी किंमत व त्याची विभागणी उपरोक्तपणे संदर्भ क्र.१४ च्या बैठकीत दिलेल्या सूचनेनुसार 'PMP Atlas for Krishna Basin' मधून घेण्यात आलेले आहे.

उपरोक्त माहिती 'HEC-HMS' संगणक प्रणालीमध्ये भरून 'Quasi-distributed Hydrological Model' तयार करण्यात आले. तसेच त्यामध्ये 'Muskingham Channel Routing' पद्धत अवलंबण्यात आली. उपरोक्तपणे तयार करण्यात आलेल्या 'Quasi-distributed Hydrological Model'चे RUN घेण्यात येऊन निष्कर्ष काढण्यात आले आहेत. ते खाली दिलेल्या तक्त्यात नमूद केल्याप्रमाणे आहेत. भारतीय हवामान खाते, नवी दिल्ली यांच्याकडून पुणे शहरातील नद्यांच्या पाणलोट क्षेत्रासाठी मागविण्यात आलेली वादळी किंमत व त्याची विभागणी प्राप्त झाल्यावर सदर पुराच्या किंमतीमध्ये बदल होईल.

१:१०० वारंवारतेचा पूर

Sr. No.	Locations-Dam/Confluence	Joint No	Reaches Discharging	Discharge from Elements	Discharge in Cumecs			Catchment Area in Sq.Km			Remark	
					Final @Joint	Lumped Self Catchment	Reach	Reach	Reach	Total		Free
(1)	(2)	(3)	(4)	(5)	(6)			(7)			(8)	
1	Panshet Dam	JNA	-	SBA	2036.00	0	0	0	119.21	119.21	0	
2	Warasgaon Dam	JNB	-	SBB	2041.00	0	0	0	131.08	131.08	0	
3	Temghar Dam	JNC	-	SBC	713.80	713.80	0	0	36.61	36.61	0	
4	Khadakwasla Dam	JND	R1, R2 & R3	SBD + (R1+R2+R3)	4014.00	1639.90	1663.70	495.20	551.04	264.14	286.90	4014 + 1639 + 1663 + 495 = 7812 but due to different Peak Periods @joint flood value is 7410
5	Mutha pre-Confluence with Mula river	JNG	R4	SBG+ (R4)	984.40	6764.20	0	0	736.43	185.39	551.04	Before Confluence of Mutha River with Mula river - i.e.Mutha Free Catchment
6	Mulshi Dam	JNE	-	SBE	3870.70	0	0	0	249.57	249.57	0	
7	Mula pre-Confluence with Pawana river	JNH	R5	SBH+ (R5)	1801.40	2798.60	0	0	729.69	479.90	249.70	Before Confluence of Mula River with Pawana river - i.e.Mula Free Catchment
8	Pawana Dam	JNF	-	SBF	2336.10	0	0	0	113.86	113.86	0	
9	Pawana pre-Confluence with Mula river	JNI	R6	SBI + (R6)	2720.10	1364.70	1402.80	0	561.39	387.53	113.86	Before Confluence of Pawana River with Mula river - i.e.Pawana Free Catchment
10	Mundhwa KT Weir	JNJ (Mundhwa KT Weir)	R7, R8 & R9	SBJ + (R7+R8+R9)	693.90	6981.20	4069.50	2482.70	2144.88	177.59	1967.29	

21+4.55

मुख्य अभियंता, जलसंपदा विभाग, पुणे यांनी उपरोक्तपणे नमूद केल्यानुसार लाल रेषेसाठी पूर किंमत अंतिम करणे आवश्यक आहे

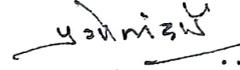
आपण क्षेत्रीय स्तरावरून पुरविलेल्या माहितीनुसार संदर्भ क्र.२ च्या बैठकीच्या इतिवृत्तातील 'Annexure-C' नुसार सद्यस्थितीतील अभ्यास क्षेत्रात आखण्यात आलेल्या निळी रेषा व लाल रेषा बाबतची माहिती देण्यात आली आहे.

उपरोक्त तक्त्यात मुढवा के.टी. वियर च्या स्थानी निळी रेषेसाठी पुराची सद्याची किंमत ३३४३.९६ Cumecs (१,१८,००० Cusecs) एवढी आहे. ती या कार्यालयातील अभ्यासानुसार ६६५४.३० Cumecs (२,३४,८१४ Cusecs) एवढी येते. तसेच लाल रेषेसाठी पुराची सद्याची किंमत ४७६०.८९ Cumecs (१,६८,००० Cusecs) एवढी आहे. ती या कार्यालयातील अभ्यासानुसार १२८६८.८० Cumecs (४,५४,१०८ Cusecs) एवढी येते.

तथापि या कार्यालयातील अभ्यासानुसार प्राप्त निळी रेषेसाठीच्या पूर किंमतीस मुख्य अभियंता, जलसंपदा विभाग पुणे यांनी मा. महासंचालक, मेरी नाशिक यांच्या परिपत्रकानुसार '1.5 times the flood carrying capacity of the established river channels' शी तुलना करून महत्तम किंमतीसाठी निळी पूर रेषा अंतिम करणे अजून बाकी आहे. तसेच सदर प्राथमिक पूर अभ्यास अहवालांचे 'National Institute of Hydrology, Roorkee' यांच्याकडून तपासणी बाकी आहे. त्यामुळे उपरोक्त किंमतीची तुलना सद्यस्थितीत योग्य नाही.

सदर पत्रासोबत जोडलेल्या निळी रेषा व लाल रेषासाठीचा प्राथमिक पूर अभ्यास अहवाल मुख्य अभियंता, जलसंपदा विभाग पुणे यांनी तपासून मा. अपर मुख्य सचिव (जलसंपदा) यांचे अध्यक्षतेखाली पुणे शहरातील पूर रेषांचे पुनर्विलोकन करणे बाबतची दुसरी बैठकीतील (दि.१९/०८/२०२४ रोजी ०४.३० PM वाजता व्ही.सी. द्वारे) निर्णयानुसार 'National Institute of Hydrology, Roorkee' यांचेकडे अंतिम तपासणीसाठी व पुढील कार्यवाहीसाठी पाठवावा.

सोबत: वरीलप्रमाणे



(प्र. गो. मांदाडे)

महासंचालक,

संकल्पन, प्रशिक्षण, जलविज्ञान, संशोधन व सुरक्षितता, नाशिक

- प्रत:- कार्यकारी संचालक, महाराष्ट्र कृष्या खोरे विकास महामंडळ, पुणे यांना माहितीसाठी व पूढील कार्यवाहीसाठी सन्नेह अग्रेषित
- प्रत:- मुख्य अभियंता व सहसचिव, जलसंपदा विभाग मंत्रालय, मुंबई यांना माहितीसाठी व पूढील कार्यवाहीसाठी (लक्षवेध श्रीमती नमीता बसेर, उपसचिव, मंत्रालय, मुंबई)
- प्रत:- मुख्य अभियंता, जलविज्ञान व धरण सुरक्षितता, नाशिक यांना माहितीसाठी व पूढील कार्यवाहीसाठी.
- प्रत:- अधीक्षक अभियंता, आधार सामग्री पृथःकरण मंडळ, नाशिक यांना माहितीसाठी व पूढील कार्यवाहीसाठी.
- ✓ प्रत:- अधीक्षक अभियंता, पुणे पाटबंधारे मंडळ, पुणे यांना माहितीसाठी व पूढील कार्यवाहीसाठी.
- प्रत:- कार्यकारी अभियंता, जलनियोजन विभाग (पूर) यांना माहितीसाठी व पूढील कार्यवाहीसाठी.

Department of Water Resources
Director General

(Design, Training, Hydrology, Research and Safety)
MERI Campus, Dindori Road, Nashik 422 004 (M. S.)
Phone No.: 0253-2970619/2530628

Email: dgdthrs.nashikwrdd@maharashtra.gov.in/patodgmeri@gmail.com

Web: www.merinashik.org

Outward No.: मसं/संप्रजसंसु/आ-६/०१/सन २०२५ **Dt.:** 06/01/2025

To,

Chief Engineer (Water Resources),
Department of Water Resources,
Pune.

Sub.: Regarding flood study report to review the flood values of the rivers in Pune as discussed in the meeting of the Expert Committee held under the chairmanship of Additional Chief Secretary in light of the PIL No. 36/2021: Mr. Sarang Yadwadkar Vs. State Gov. of Maharashtra and Others to redefine the flood lines (Blue and Red) in Pune.

Ref.:

1. Minutes of the first meeting (Dt. 26/07/2024 at 03.05 pm by VC) to review Pune flood lines held under chairmanship of Additional Chief Secretary (Water Resources).
2. Minutes Dt. 04.09.2024 of the second meeting (Dt. 19/08/2024 at 03.05 pm by VC) to review Pune flood lines held under chairmanship of Additional Chief Secretary (Water Resources).
3. Letter from the office of the Director General, MERI Nashik, मसं/संप्रजसंसु/आ-६/१६/सन २०२४ Dt. 23/08/2024.
4. Letter from the office of the Director General, MERI Nashik, मसं/संप्रजसंसु/आ-६/११२/सन २०२४ Dt. 18/09/2024.
5. Letter from the office of the Director General, MERI Nashik, मसं/संप्रजसंसु/आ-६/१२४/सन २०२४ Dt. 03/10/2024.
6. Minutes of the meeting held through VC on 29/10/2024 at 3 pm.

7. Letter from the office of the Director General, MERI Nashik, मसं/संप्रजसंसु/आ-६/१४०/सन २०२४Dt. 04/11/2024.
8. Email Dt. 04/11/2024 from the office of the Superintending Engineer Pune Irrigation Circle, Pune.
9. Letter from the office of the Director General, MERI Nashik, मसं/संप्रजसंसु/आ-६/१४२/सन २०२४Dt. 11/11/2024.
- 10.Minutes Dt. 29/11/2024 of the meeting (Dt. 13/11/2024 at 03.30 pm by VC) to review Pune flood lines held under chairmanship of Additional Chief Secretary (Water Resources).
- 11.Letter No. 5182, Dr. 27/11/2024 from the Chief Engineer, Water Resources to the Director General MERI, Nashik, to provide supporting system.
- 12.Letter from the office of the Director General, MERI Nashik, मसं/संप्रजसंसु/आ-६/१५६/सन २०२४Dt. 09/12/2024.
- 13.Letter No. 55523, Dr. 18/12/2024 from the Chief Engineer, Water Resources to the Director General MERI, Nashik, to provide supporting system.
- 14.Minutes Dt. 23/12/2024 of the meeting (Dt. 19/12/2024 at 03.00 pm by VC) to review Pune flood lines held under chairmanship of Additional Chief Secretary (Water Resources).

As stated above, the fourth meeting to review the Pune flood lines was convened under the chairmanship of the Additional Chief Secretary (Water Resources) on Dt. 19/12/2024 through VC. As per the discussions in the meeting and according to the information provided by the Chief Engineer, WRD Pune, storm values and their divisions are not yet available from the Indian Meteorological Dept. for the catchment areas of Pune rivers. Therefore, the Chief Additional Secretary- Water Resources directed to consider the storm values available in PMP Atlas for Krishna Basin for computation of flood values to present the primary flood studies.

As per these directions, according to the information provided by you and the divisions of the catchment areas of the rivers in Pune city, computation of the flood has been done for Blue Line and Red Line.

While computing the flood values for Blue and Red Lines, the directions in the circular issued by the Director General, MERI are followed. As per the said

circular, as there is some difference in the computation methods for Blue and Red Lines, two separate primary study reports are prepared to compute the flood of 1 in 25 yrs frequency for Blue Line and 1 in 100 yrs frequency for Red Line.

Primary Flood Study Report for Blue Line:

The Primary Flood Study Report for Blue Line is attached with the letter. As per the circular of the Director General, MERI Nashik, while calculating the flood for 1:25 frequency for Blue Line, if the study catchment area is less than 5000 Sq. Km., the flood calculation is to be done without considering the upstream dams. For the said study, as the total catchment area is 2145 2145 Sq. Km., which is less than 500 Sq. Km., the floods are calculated without considering the upstream dams. According to the information provided by you at regional level, said catchment area is divided in 10 parts for flood calculations. After delineation as per the ARC-GIS computer system said catchment is divided in to 10 parts. Thereafter it's Physiographic Parameters are calculated with ARC-GIC computer system and with the help of the Physiographic Parameters, Synthetic Unit Hydrograph is prepared as per the Flood Estimation Report (3h) published by the Central Water Commission.

Storm values and its division has been taken as per the instructions given in the meeting at reference 14 from PMP Atlas for Krishna Basin.

Quasi-distributed Hydrological Model was prepared after filling in the above data in 'HEC-RAS' computer system. Muskingham Channel Routing method was also adopted in it. The conclusions have been drawn after running the above mentioned Quasi-distributed Hydrological Model. The conclusions are as mentioned in the chart below. The flood values may be revised after receiving the storm values and their divisions for catchment areas Pune City from the Indian Meteorological Dept., New Delhi.

1:25 FREQUENCY FLOOD

Sr. No.	Locations-Dam/Confluence	Joint No	Discharge from Elements	Discharging Reach	Discharge in Cumecs					Catchment Area in Sq.Km			Remark
					Final @Joint	Lumped Self Catchment	Reach	Reach	Reach	Total	Free	Intercepted	
(1)	(2)	(3)	(4)	(5)	(6)					(7)			(8)
1	Panshet Dam	JNA	SBA	-	1029.00	1029.00	0	0	0	119.21	119.21	0	
2	Warasgaon Dam	JNB	SBB	-	1027.30	1027.30	0	0	0	131.08	131.08	0	
3	Temghar Dam	JNC	SBC	-	362.60	362.60	0	0	0	36.61	36.61	0	
4	Khadakwasla Dam	JND	SBD + (R1+R2+R3)	R1, R2 & R3	3023.20	1299.50	820.10	828.60	247.40	551.04	264.14	286.90	1299+820+828+247= 3195 but due to different Peak Periods @joint flood value is 3023.20
5	Mutha pre-Confluence with Mula river	JNG	SBG+ (R4)	R4	3050.80	676.40	2751.00	0	0	736.43	185.39	551.04	Before Confluence of Mutha River with Mula river
6	Mulshi Dam	JNE	SBE	-	1947.40	1947.40	0	0	0	249.57	249.57	0	
7	Mula pre-Confluence with Pawana river	JNH	SBH+ (R5)	R5	2796.80	1457.10	1384.00	0	0	729.60	479.90	249.70	Before Confluence of Mula River with Pawana river
8	Pawana Dam	JNF	SBF	-	1123.50	1123.50	0	0	0	113.86	113.86	0	
9	Pawana pre-Confluence with Mula river	JNI	SBI + (R6)	R6	1737.80	1102.20	657.70	0	0	501.39	387.53	113.86	Before Confluence of Pawana River with Mula river
10	Mundhwa KT Weir	JNJ (Mundhwa KT Weir)	SBJ + (R7+R8+R9)	R7, R8 & R9	6654.00	491.70	2954.10	2483.80	1568.60	2144.88	177.59	1967.29	

2144.83

As per the guidelines in the circular from Director General, MERI Nashik, regarding flood for Blue Line, the calculated flood value is to be compared with '1.5 times the flood carrying capacity of the established river channel' and the Blue Line is to be finalised for the highest value. Accordingly, the flood value for the Blue Line is to be finalised after comparing with the 1.5 times flood values mentioned by you at the regional level.

Primary Flood Study Report for Red Line:

The Primary Flood Study Report for Red Line is attached with the letter. The flood for 100 yr frequency is to be calculated as per the circular of the Director General, MERI Nashik. To do that, we need to consider, "For Rivers with Dams:- Spillway Design Flood plus 100 years return period flood from free catchment area below dam up to point of study". Panshet, Warasgaon, Temghar, Khadakwasla, Mulshi and Pawan are the important dams on the upstream in the said catchment area. Their classification as per the information received and according to IS 11223-1985 is as under:

Sr. No.	Dam	Lowest RBL	FRL	Hydraulic Head (m)	Gross Storage (MCM)	Type of Design Flood
1	2	3	4	5	6	7
1	Panshet Dam	580.32	636.27	55.95	310.61	PMF
2	Warasgaon Dam	579.43	639.5	60.07	375.36	PMF
3	Temghar Dam	641.56	706.5	64.94	107.96	PMF
4	Khadakwasla Dam	554.45	582.47	28.02	86.00	PMF
5	Mulshi Dam	N.A.	607.1	N.A.	747.00	PMF
6	Pawana Dam	579.42	614.47	35.05	305.00	PMF

As according to the chart, the storage capacity of all these dams is more than 60 million Cu. M., all dams are to be considered for 'Probable Maximum Flood' and the study for the free catchment area on the downstream of the dams is done for the flood at 1:100 frequency.

As per the information provided by you at the regional level, the calculation for the floods is done from the catchment area divided in ten parts. Said catchment area is divided in ten parts after 'Delineation' as per ARC-GIS programme. Thereafter their 'Physiographic Parameters' are calculated with the help of ARC-GIS. With the help of these 'Physiographic Parameters' and as per the

'Flood Estimation report (3h)' published by Central Water Commission, New Delhi, a Synthetic Unit Hydrograph has been prepared and used.

Storm values and their division has been taken from 'PMP Atlas for Krishna Basin' as instructed in the meeting referred above at Sr. No. 14.

After feeding all above information in 'HEC-HMS' computer programme, 'Quasi-distributed Hydrological Model' is prepared. Muskingham Channel Routing method was adopted in it. The conclusions have been drawn after running the 'Quasi-distributed Hydrological Model' which are given in the chart below. The flood values may change after getting the storm values and their divisions from the Indian Meteorological Dept., New Delhi.

1:100 FREQUENCY FLOOD

१:१०० चारवारतचा पूर

Sr. No.	Locations-Dam/Confluence	Joint No	Reaches Discharging	Discharge from Elements	Discharge in Cumecs					Catchment Area in Sq.Km			Remark
					Final @Joint	Lumped Self Catchment	Reach	Reach	Reach	Total	Free	Intercepted	
(1)	(2)	(3)	(4)	(5)	(6)					(7)			(8)
1	Panshet Dam	JNA	-	SBA	2036.00	2036.00	0	0	0	119.21	119.21	0	
2	Warasgaon Dam	JNB	-	SBB	2041.00	2041.00	0	0	0	131.08	131.08	0	
3	Temghar Dam	JNC	-	SBC	713.80	713.80	0	0	0	36.61	36.61	0	
4	Khadakwasla Dam	JND	R1, R2 & R3	SBD + (R1+R2+R3)	7410.00	4014.00	1639.90	1663.70	495.20	551.04	264.14	286.90	4014+1639+1663-495=7812 but due to different Peak Periods @joint flood value is 7410
5	Mutha pre-Confluence with Mula river	JNG	R4	SBG+ (R4)	7213.80	984.40	6764.20	0	0	736.43	185.39	551.04	Before Confluence of Mutha River with Mula river - i.e.Mutha Free Catchment
6	Mulshi Dam	JNE	-	SBE	3870.70	3870.70	0	0	0	249.57	249.57	0	
7	Mula pre-Confluence with Pawana river	JNH	R5	SBH+ (R5)	4517.60	1801.40	2798.60	0	0	729.60	479.90	249.70	Before Confluence of Mula River with Pawana river - i.e.Mula Free Catchment
8	Pawana Dam	JNF	-	SBF	2336.10	2336.10	0	0	0	113.86	113.86	0	
9	Pawana pre-Confluence with Mula river	JNI	R6	SBI + (R6)	2720.10	1364.70	1402.80	0	0	501.39	387.53	113.86	Before Confluence of Pawana River with Mula river - i.e.Pawana Free Catchment
10	Mundhwa KT Weir	JNJ (Mundhwa KT Weir)	R7, R8 & R9	SBJ + (R7+R8+R9)	12868.00	693.90	6981.20	4069.50	2482.70	2144.88	177.59	1967.29	

2144.88

The values for Red Flood Line need to be finalised as mentioned above by the Chief Engineer, Water resources, Pune.

According to the information provided by you, as per 'Annexure-C' from the minutes of the meeting at reference No. 2 above, the information regarding Blue and Red lines is given as per the markings in the present study area.

In the above table, the present flood value of Blue Line at Mundhwa KT Wier is **3343.96 CuMecs (1,18,000 CuSecs.)**. This value should be **6654.30 CuMecs. (2,34,814 CuSecs.)**. Current flood value for Red Line is **4760.89 CuMecs. (1,68,000 CuSecs.)** as per study, it is **12,868.80 CuMecs. (4,54,108 CuSecs.)**.

It is still pending to finalise the Blue Flood Line for the Highest Flood Value as per the study of this office after comparing with '1.5 times the flood carrying capacity of the established river channels' as per the circular from the Director General of MERI, Nashik. The verification of this primary study from 'the National Institute of Hydrology, Roorkee' is pending. Therefore, comparison of the values could not be correct.

The Primary Study of the Blue and Red Lines attached with this letter should be sent to 'National Institute of Hydrology, Roorkee' by the Chief Engineer, Water Resources, Pune after verification as decided in the meeting (Dt. 19.08.2024 at 04.30 pm on VC) for further action of finalization.

Attached: As above.

P. G. Mandade
Director General,
Planning, Training, Hydrology, Research and Safety, Nashik

Copies to:

Managing Director, Maharashtra Krisha Valley Development Corporation, Pune for information and further action.

Chief Engineer and Joint Secretary, Water Resources Dept., Mantralaya for information and further action.

Chief Engineer, Hydrology & Dam Safety, Nashik for information & further action.

Superintending Engineer, Support Analysis Circle, Nashik for information and further action.

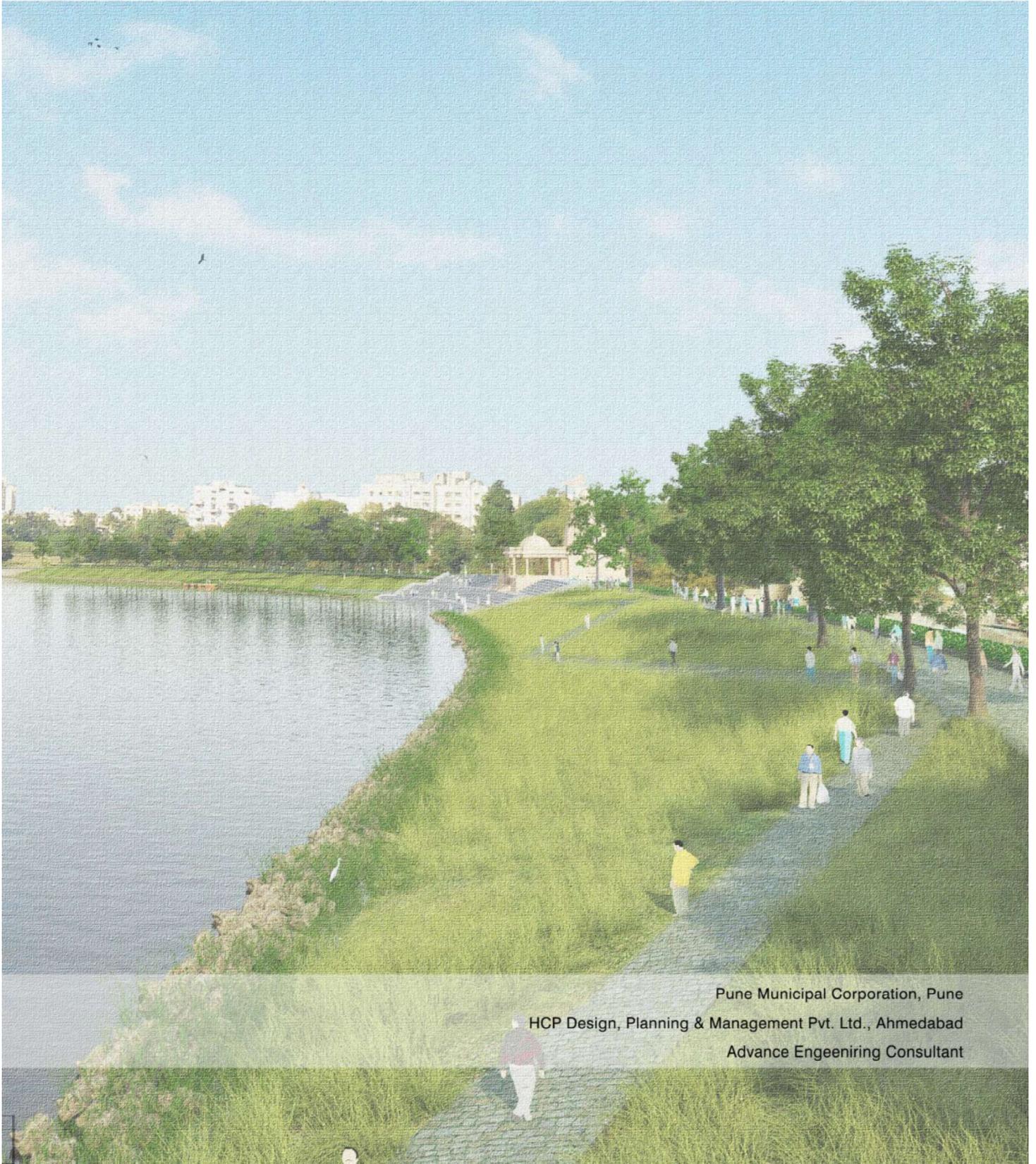
Superintending Engineer, Pune Irrigation Circle, Nashik for information and further action.

Executive Engineer, Hydraulic Planning Division (Floods), for information and further action.

1292
Pune River Rejuvenation Project
Detailed Project Report - Draft

Annexure 2 - Hydrology and Hydraulics
25 January 2018

Annexure A-4



Pune Municipal Corporation, Pune
HCP Design, Planning & Management Pvt. Ltd., Ahmedabad
Advance Engineering Consultant

Flow data and Gradient.

The flood adopted for Mula Mutha river at Sangam i.e. at the confluence of Mula and Mutha river is 4758 Cumecs. Considering that simultaneous flood will not occur in both the river, the flood distribution is carried out in such a way that alternatively maximum discharge is passed through each river to match adopted flood discharge of Mula Mutha river. The flood discharge and gradient adopted for computing water surface elevation (WSEL) in HEC-RAS for 1 in 25,100 year return period flood for Mula ,Mutha and Mula Mutha river natural section is tabulated in Table 8.

Sr. No.	Particulars	Flood Discharge (Cumecs) 100 Year Return Period	Flood Discharge (Cumecs) 25 Year Return Period	Gradient
1	Mula River Up to Confluence Of Pawana River	1232 (Up to Babashaheb Ambedkar Bridge)	1206	1 In 2777
		1670 (Up to Confluence Point with Pawana River)	1536	
2	Mula River After Confluence Up To Sangam	3971	2875	1 In 1630
3	Mutha River	2835	1700	1 In1650
4	Mula - Mutha River Up To Project End Reach I.E. Kt Weir.	4762	3345	1 In1350

Table 8 :Flood Discharge and Gradient Adopted in HEC RAS for Natural River Section.

4.4 ANALYSIS AND RESULT

Water surface elevations/HFL are estimated in HEC-RAS for Mula , Mutha, Mula Mutha river within project reach as per flood tabulated in Table 8. Longitudinal section of water surface elevation at various flood discharges as generated in HEC RAS is shown in figure 9. Red line and Blue line marked in Longitudinal section are water surface elevation/HFL corresponding to 100 year and 25 year return period flood.



महाराष्ट्र शासन
कार्यकारी अभियंता, खडकवासला पाटबंधारे विभाग,
 सिंचन भवन, मंगळवार पेठ, बारणे रोड, पुणे ४११०११
 दुरध्वनी-०२०-२६१२७३०९ फॅक्स-०२०-२६१२६३०७
 ई-मेल - eekidpune@gmail.com

जा.क्र.खपावि/आ-2/७५३०/सन 2022

दि. /11/2022

प्रति,

श्री. सारंग वामन यादवडकर,
 ए-9, प्रजागड अपार्टमेंट,
 सर्व्हे नं.119/3, सिंहगड रोड,
 पुणे-30

07 DEC 2022

विषय:- माहिती अधिकार अधिनियम-2005 अन्वये माहिती देणेबाबत...

संदर्भ:- मा. मंडळ कार्यालयाचे पत्र जा.क्र. 2017 दि.22.03.2022 चे पत्रासोबत प्राप्त झालेला श्री. सारंग वामन यादवडकर यांचा दि.17.02.2022 रोजीचा माहिती अधिकार अर्ज.

उपरोक्त संदर्भिय विषयान्वये माहितीचा अधिकार अधिनियम-2005 अंतर्गत आपला माहिती अधिकार अर्ज प्राप्त (आवक क्र.2549 दि.28.03.2022) झालेला आहे. सदरील माहिती अर्जात आपण Pune river front developmemt project बद्दल माहिती मागीतलेली आहे. Pune river front developmemt project पुणे महानगरपालिकेशी संबंधीत आहे तसेच या विभागीने याबाबत कसलाही सर्व्हे रिपोर्ट केलेला नाही तथापी धरणांची विसर्गाबाबतची माहिती सोबत देण्यात येत आहे. विभागीय कार्यालयाकडे उपलब्ध असलेली माहिती खालील प्रमाणे आपणांस देण्यात येत आहे.

Sr.no.	Description	Answer
1	Peak discharge from Khadakwasla Dam	1,05,470 cusecs.
2	Peak discharge from Pawana Dam	44,145 cusecs.
3	Peak discharge from Mulshi Dam	1,40,695 cusecs.
4	Peak water released in the rivers by various streams and tributaries from the free catchment areas on the downstream of these dams up to Mundhwa wier.	No such record maintained in this office.
5	Copy of the CWPRS study report, which has been verified by you before giving your opinion on the said project.	Study not carried by this office.

6	Whether Red and Blue flood line will be laterally / vertically shifted because of this project. If yes, the shift at every cross section of the riverbed.(@30M. intervals)	As mentioned in point no.5 such study not carried by this office hence no information.
7	Whether the project proponent or any other organization except WRD has the authority to shift the flood lines.	
8	Whether the Embankments proposed in the said project are as per the Indian Standard, "GUIDELINES FOR PLANNING AND DESIGN OF RIVER EMBANKMENTS"	

अर्जदाराचे समाधान झाले नसेल तर दिलेल्या माहितीच्या विरोधात त्यांना 30 दिवसांत प्रथम अपिलीय अधिकारी तथा कार्यकारी अभियंता, खडकवासला पाटबंधारे विभाग, पुणे-11 यांचेकडे प्रथम अपिल करता येईल.



जनमाहिती अधिकारी
तथा
उपकार्यकारी अभियंता
खडकवासला पाटबंधारे विभाग,
पुणे-11

प्रत- मा.जनमाहिती अधिकारी तथा अधीक्षक अभियंता पुणे पाटबंधारे मंडळ पुणे यांना माहितीसाठी सविनय सादर.

Government of Maharashtra

Executive Engineer, Khadakwasla Irrigation Division,

Sinchan Bhavan, Mangalwar Peth, Barne Road, Pune 411011

Telephone No.: 020-26127309 Fax: 020-26126307

E-mail: EEKIDPUNE@gmail.com

Outward No.: KID/A-2/7530/Yr 2022

Date:07.12.2022

To,

Shri. Sarang Vaman Yadwadkar,

A-9, 10, Pradnyangad,

S. No. 119/3, Sinhgad Road

Pune-30

Subject: Regarding providing information under Right to Information Act 2005..

Ref.: Hon. Circle Office's Letter, Outward No. 3133, Dt. 05.05.2022 and Sarang Yadwadkar's RTI Application.

Vide ref. to the subject, under Right to Information Act 2005, your RTI application (Inward No.: 2549, Dt. 28.03.2022) is received. In the said application you have asked information vide. Ref. Pune River Front Development Project. The said project is related to PMC and this department has conducted no survey report for the said project. However, the dam discharge data is attached below. Following information is available in the regional office and is being provided to you:

Sr.No.	Description	Answer
1	Peak discharge from Khadakwasla Dam	1,05,470 cusecs.
2	Peak discharge from Pawana Dam	44,145 cusecs.
3	Peak discharge from Mulshi Dam	1,40,695 cusecs.

4	Peak water released in the rivers by various streams and tributaries from the free catchment areas on the downstream of these dams up to Mundhwa weir.	No such record maintained in this office
5	Copy of the CWPRS study report, which has been verified by you before giving your office opinion on the said project.	Study not carried by this office.
6	Whether Red and Blue flood line will be laterally vertically shifted because of this project. If yes, the shift at every cross section of the riverbed. (@30M. intervals)	As mentioned in point no.5 such study not carried by this office hence no information.
7	Whether the project proponent or any other organization except WRD has the authority to shift the flood lines	
8	Whether the Embankments proposed in the said project are as per the Indian Standard, "GUIDELINES FOR PLANNING AND DESIGN OF RIVER EMBANKMENTS"	

If the applicant is not satisfied with the information provided, within 30 days of this reply, first appeal can be filed with First Appellate Authority aka Executive Engineer, Khadakwasla Irrigation Department, Pune-11.

XXXX
Public Information Officer
aka
Sub Executive Engineer
Khadakwasla Irrigation Division
Pune-11

Copy to: Hon. Public Information Officer aka Superintending Engineer, Pune Irrigation Circle for information.

आत कोणतेही बांधकाम न होण्याच्या दृष्ट्या
पुररेषेची आखणी करण्याबाबत.

महाराष्ट्र शासन,
पाटबंधारे विभाग,

शासन परिपत्रक क्र. एफडीडव्यू-१०८९/२४३/८९/सि.व्य.(काम) नत्रालय, मुंबई-३२.

दिनांक २५/९/१९८९.

संदर्भ :- शासन परिपत्रक क्र. एफडीडव्यू-१०८९/२४३/८९/सि.व्य.(काम) दि. २/९/१९८९.

परिपत्रक

पावसाळ्यात झालेल्या अतिवृष्टी व पूर यामुळे काही वेळा शहरांमध्ये/गावांमध्ये नदी किनाऱ्यावरील कराची मोठ्या प्रमाणावर पडझड होते. पडझड झालेल्या घरांच्या धुरधांधणी कायकाम महसूल व घन विभागातर्फे हाती घेतांना संबंधित जिल्हाधिकार्यांकडून पाटबंधारे विभागाच्या अधिकार्यांकडे संबंधित शहरात/गावात पुररेषा आखून देण्याबाबत मागणी आल्यास संबंधित शहरात/गावात पुररेषा आखून देण्याबाबत पाटबंधारे विभागाच्या अधिकार्यांनी कशा प्रकारे कार्यवाही करावी याबाबत सूचना संदर्भाधीन परिपत्रकाच्या देण्यात आलेल्या आहेत. आता पुरक्षेत्र (Flood Zone) व संबंधित पुररेषा यांच्या आखणीविषयी तसेच पुरक्षेत्रातील जमिनीच्या वापराबाबत धरण सुरक्षितता संहिता प्रकरण-८, १९८४ मध्ये दिलेल्या मार्गदर्शक सूचनांच्या आधार

खालीलप्रमाणे अधिक साविस्तर खुलासा या परिपत्रकाद्वारे करण्यात येत आहे. त्यामध्ये वापरण्यात आलेले शब्दप्रयोग, जसे की, निषिद्ध क्षेत्र, निषेधक पुररेषा इ. यापुढे मराठीत वापरात आणावेत.

महत्वाच्या पुररेषा ह्या मुख्यत्वेकरून दोन प्रकारच्या आहेत. निषेधक पुररेषा की, ज्या कोणत्याही वर्षी पूर येण्याच्या शक्यतेमुळे बांधकामाचे दृष्टिकोनातून पुरक्षेत्र निषिद्ध ठरवितात. नियंत्रक पुररेषा ह्या पुर्जन्यमानाने दृष्टीने कोणत्याही वर्षी (परंतु साधारण १०० वर्षांत एकदा) ज्या ठिकाणा पर्यंत पूर येऊ शकता तो तलाक दर्शवितात. म्हणून बांधकामे केली तरी पूर येणारच नाही असे गृहीत न धरता नियंत्रित प्रकारचे बांधकाम या रेषेखाली परंतु निषिद्ध क्षेत्र वगळून करता येईल. ही क्षेत्र व पुररेषा खालीलप्रमाणे असाव्यात.

अ) निषिद्ध क्षेत्र (Prohibited Zone)

धरणाचे जलोशयातून नियंत्रित पद्धतीने नदीत सोडण्यात येणारा विसर्ग तसेच धरणाखालील मुक्त पाणलोट क्षेत्रामुळे येणारा पावसाळ्यातील विसर्ग वाहून जाण्यात जे नदीचे मुख्य पात्र व त्याचे लगतचे क्षेत्र आवश्यक असते त्यांना निषिद्ध क्षेत्र म्हणावे. हे प्रत्यक्षात ठरवितांना सरासरीने २५ वर्षातून एकदा या वारवारितेने (Frequency) येणारा पुरविसर्ग किंवा प्रस्थापित नदी पात्राच्या विसर्ग क्षमतेच्या दीडपट विसर्ग यातील जास्तीचा विसर्ग वाहून नेण्यासाठी नदीचे पात्र व त्यालगतचे क्षेत्र आवश्यक असेल तें क्षेत्र निषिद्ध क्षेत्र म्हणून अशा क्षेत्रांचा उपयोग फक्त मोकळ्या जमिनीच्या स्वरूपात उदा. उद्याने, खळाची मैदाने किंवा हलकी पिके घेणे (ज्या ठिकाणी पिके घेण्याचा हक्क पारंपारिक वापरामुळे प्रस्थापित झाला आहे अशा ठिकाणी) अशा सारख्या कारणासाठी केला जावा.

ब) निषेधक पुररेषा (Blue Line)

नदीचे दोन्ही तीरांवरील निषिद्ध क्षेत्राची हद्द ठरविणाऱ्या गावाजवळील अशा पुराच्या हिशोबाने जी पाण्याची पातळी येईल तिच्या समतल रेषांना त्या गावातील निषेधक पुररेषा असे संबोधण्यात यावे.

क) नियंत्रित क्षेत्र (Restrictive Zone)

संकल्पित महत्तम पूर वाहून नेण्यासाठी वरील पेक्षा जास्त वाहून क्षेत्राची आवश्यकता लागेल अकल्पित महत्तम पूर प्रवाह हा प्रकल्पाचे संकल्पातील सांडव्यावरून वाहणारा संकल्पित महत्तम पूर विसर्ग व धरणाखालील स्वतंत्र पाणलोट क्षेत्रातून तसांच अपेक्षित पूर विसर्ग यांचेमुळे एकत्रित पुरविसर्ग धरण्यात यावा (ज्या भागात धरण नसेल त्या भागात १०० वर्षातून एकदा या वारवारितेचा पुरविसर्ग विचारात घेण्यात यावा).

हा संकल्पित महत्तम पूर वाहून नेण्यासाठी लागणाऱ्या क्षेत्रातून निषिद्ध क्षेत्र वगळता उरणाऱ्या नदीचे दोन्ही तीरांवरील क्षेत्रात नियंत्रित क्षेत्र असे संबोधण्यात यावे. नियंत्रित क्षेत्रातील बांधकामाच्या तळमजल्याच्या जोत्साची पातळी सुरक्षित उंचीपर्यंत असावी, की ज्यामुळे पुरपातळी नियंत्रित क्षेत्रात जास्त प्रमाणात उदावयाचे आत अशा इमारतीमधील माणसे इमारत सोडून सुरक्षित ठिकाणी सहजतेने जाऊ शकतील. ही उंची दाराची संबंधित स्थानिक अधिकार्यांनी जमिनीचा चढउतार व उपलब्ध रस्त्याचे तलाक इ. याची विचारात घेऊन ठरविणे अपेक्षित आहे. तसेच इमारतीचे बांधकाम अशा प्रकारचे असावे की, जे क्वचित येऊ शकणाऱ्या पुरामुळे कोसळणार नाही.

अशा क्षेत्रातील इमारतीच्या वापराबाबतची बंधनेदेखील सुस्पष्टपणे विहित असणे आवश्यक आहे. हे करताना या क्षेत्रातून येणारा संभाव्य पूर व तसेच पुरामुळे होणारी जीवितानी हानी व आर्थिक नुकसान टाळण्यासाठी ह्या क्षेत्रातील लोकांना, जनावरांना व वस्तूंना अल्पवधीची पूर सूचना मिळताच हे क्षेत्र तातडीने सोडून सुरक्षित स्थळी जाणे/येणे आवश्यक राहिल. याचा विचार घ्यावा.

ड) नियंत्रक पुररेषा (Red Line)

नदीचे दोन्ही तीरांवरील नियंत्रित क्षेत्राची हद्द ठरविणाऱ्या समतल रेषांना नियंत्रक पुररेषा म्हणून संबोधण्यात यावे.

वरील बाबींचा विचार करून पुराचा संभाव्य धोका असणाऱ्या शहरांमध्ये/गावांमध्ये वरील प्रकारच्या पुररेषा आखून देण्याबाबत पाटबंधारे विभागाच्या अधिकार्यांनी कार्यवाही करावी. त्याचप्रमाणे वरील पुररेषासाठी नकाशे तयार करतानाही धरण सुरक्षितता संहितेच्या प्रकरण-८ मधील सूचनांचे अनुषंगाने कार्यवाही करावी. महाराष्ट्राचे राज्यपाल यांचे आदेशानुसार घेतांवाणे.

(च. ल. थोरात)

शासनाचे सहाय्यक सचिव.

Regarding marking of flood line to restrict any type of construction inside.

**STATE GOV. OF MAHARASHTRA,
IRRIGATION DEPARTMENT,**

Government Circular No.: FDW-1089/243/89/Sin Vya (Work) Mantralaya,
Mumbai-32

Dat. 21/9/1989.

Ref.: Government Circular No.: FDW-1089/243/89/Sin Vya (Work) Dat.
2/9/1989.

CIRCULAR

Due to heavy rains and floods in rainy seasons, sometimes houses on the riverbanks get seriously damaged in towns and cities. While reconstruction of the damaged houses is undertaken by Revenue and Forest Departments, and when concerned Dist. Collectors demand demarcation of flood lines to Irrigation officers in the affected towns/cities, instructions are given to the Irrigation officers in the referred Circular regarding how to implement the demarcation of flood lines. Now; demarcation of Flood Zones, Flood Lines and land use in the Flood Zones is explained in more details in this Circular as per the guide lines given in the Dam Safety Manual Chapter 8-1984. The phrases used in this circular, like Prohibited Zone (Nishiddha Kshetra), Prohibitive Flood Line (Nishedhak Poor Resha) etc. shall be henceforth used in Marathi.

Mainly flood lines are of two types. Prohibitive Flood Lines, which earmark the area prohibited for any construction due to probability of floods any year. And Restrictive Flood Lines, which earmark the levels of floods which may come any year (but generally once in 100 years). Therefore buildings can be constructed below this line but excluding Prohibited Zone, with certain restrictions without assuming that floods will not come though buildings are constructed. These Zones and the Flood Lines should be as mentioned below:

A) Prohibited Zone:

Main riverbed and the area on both banks required to carry the controlled discharge from dam and the flow from free catchment area below the dam should be called as "Prohibitive Zone". While identifying this, flood discharge frequency in average 25 years or one and half times the discharge of the established riverbed carrying capacity, whichever is more and the area

on its both banks should be considered as Prohibited Zone. This zone should be left open and can be used for gardens, play grounds or light crops (only where the easement right to take such crops is established).

B) Prohibitive Flood Line (Blue Line):

The level of water on both banks of the river during such floods shall be considered as Prohibitive Flood Line of that particular town identifying the "Prohibitive Zone".

C) Restricted Zone:

More carrying area shall be required to carry maximum possible flood. Maximum flood shall be considered as the maximum discharge from the dam and the free flow on the downstream side of the dam. (Where there is no dam, flood at the frequency of once in 100 years shall be considered.)

The balance area after deducting the Prohibited Zone from this area required to carry the maximum flood shall be considered as Restrictive Zone. Plinth level of the buildings in Restricted Zone shall be sufficiently high so that, occupants shall be able to shift easily to safer places. Concerned local officers are expected to finalise this level after considering the topography of the ground and levels of the roads. The construction of the buildings should be such that it shall not collapse in the rare floods.

The restrictions on the use of buildings in this zone also should be clear. While doing this, possible flood in this zone and need of fast shifting of the occupants residing in this area at a short notice to avoid loss of life and property should be considered.

D) Restrictive Flood Line (Red Line):

The lines earmarking Restricted on both banks of river shall be called as Restrictive Flood Lines.

After considering the above mentioned points, Irrigation Department officers should mark flood lines in the towns/cities where there is a risk of floods. Also instructions in Chapter 8 of Dam Safety Manual should also be implemented while preparing the maps of flood lines.

At the order and in the name of the Governor, Maharashtra State.

(D. L. Thorat)

Dy. Secretary to Gov.

T.T.C.

"CIRCULAR"

**Technical Circular on Marking
of Prohibitive (Blue) and
Restrictive (Red) Flood Zones**

**Government of Maharashtra
Water Resources Department
Director General
MERI, Nashik**

Circular No. DSO/PB-4/1582, dated : 16/11/2015

- Reference:**
- 1) Govt. Circular No. FDW 1089/5243/89/IM(W) dated 21/9/1989
 - 2) Dam Safety Manual, WRD, Chapter No.8 on "Preparedness for dealing with emergency situations on Dams"(1984)
 - 3) CWC's Flood Estimation Reports for various sub zones (for lower Godavari sub zone 1995)
 - 4) Govt. of Maharashtra (WRD) Marathi Ltr. No. न्या. प्र. -२०१४ (प्र. क्र. ४२४/२०१४) सि. व्य. (स) दि. ७/११/२०१५

INTRODUCTION :

Flood zones marking are important to ascertain likely inundation area in respect of Cities, Towns and Villages along the river banks. The flood zone marking helps in preventing loss of life, property and environment by regulating land usage in Prohibitive and Restrictive Zones. The marking of flood zones will also help in removal of encroachments to keep required waterway clear for safe passage of floods. Guidelines about the zones and lines have already been issued vide circular under reference. Now, to ensure uniform and standardized procedure in the state, the guidelines on marking of flood lines on digital maps and computation of floods to be adopted have also been further elaborated.

CIRCULAR :

1.0 In respect of inundation area due to floods, the following types of land use zoning should be adopted.

1.1) THE PROHIBITIVE ZONE : This is the zone consisting of normal river channel for discharge of regulatory floods from the reservoir and also from the free catchment.

The river channel required for passing a 25 years Return Period Flood or a flood equivalent to 1.5 times the flood carrying capacity of the established river channel whichever is higher, should be classified as the Prohibitive Zone.

While arriving at 25 years Return Period as defined in Circular of 1989, the highest regulated flood from the upstream dams (Maximum discharge released through spillway gates) from available data of 25 years or more plus 25 years Return

period flood of free catchment below downstream of said dam shall be considered. For considering regulated flood value, minimum 25 years data is necessary.

For demarcation of Prohibitive zone, floods to be considered at the point of study are as under:-

- a) For Rivers without Dams - 25 years Return period flood at the Point of study or 1.5 times the flood carrying capacity of the established river channels whichever is higher.
- b) For Rivers with Dams: 25 years Regulated flood from immediate upstream dam plus 25 years return period flood for remaining catchment or 1.5 times the flood carrying capacity of the established river channel which ever is higher.
 - i) If the catchment area of the river above the point of study is less/equal to 5000 sq.km then flood to be considered is 25 year return flood, without considering the existence of Dam.
 - ii) If the catchment area of the river above the point of study is more than 5000 sq.kms, maximum regulated flood values within 25 years from the immediate upstream dam shall be considered.
 - If the available regulated flood data is for less than 25 years, then consider regulated flood from any of upstream dams which has completed 25 years and plus 1:25 years flood for remaining catchment in the complex.
 - If regulated flood data is not available for 25 years, then consider a "No dam scenario" and calculate 1 in 25 years return period flood for the whole catchment area considering it as unintercepted catchment.
- c) In case of ungated dams Weirs/Diversion Weirs/Pickup Weirs/KT Weirs/Barrages procedure same as in (a) above will apply.

Within Prohibitive zone, no permanent construction shall be allowed. This area may be used only for the open land type of use such as playgrounds, Parks, River side esplanades or cultivation of light crops wherever such riparian rights exist. Thus any kind of obstruction to the safe passage of floods shall not be allowed.

1.1) PROHIBITIVE FLOOD LINE (BLUE LINE):

The prohibitive flood line commonly denoted as Blue line is the flood line outlining the boundary of prohibitive zone on both banks of river.

1.2) RESTRICTIVE ZONE :

This is the zone consisting of area required to pass the Spillway design flood of the reservoir or 100 years return period flood from free catchment, excluding area of prohibitive zone.

For demarcation of Restrictive Zone, flood to be considered is as under :-

- For River without Dams: - 100 years Return period flood at point of study.
- For River with Dams :- Spillway Design flood plus 100 years Return period flood from free catchment area below dam upto point of study.

Land use regulations may specify Plinth levels of the lowest floors, type of buildings and methods of construction. Restriction on the type of uses of buildings in such zones may also be specified. In case of emergencies, the possibility of floods expected in this zone and necessity of prompt evacuation of people, cattle and goods at short notice to avoid damages to life and property, shall also be taken into account, by concerned regulatory authorities.

1.3) RESTRICTIVE FLOOD LINE (RED LINE) :

The Restrictive Flood Line commonly denoted as Red Line is flood line outlining the boundary of restrictive zone on both banks of river.

2.0 METHOD OF FLOOD ESTIMATION:

The flood estimation of a specific return period is of primary importance for establishing Prohibitive and Restrictive Zones. Economics and Time Constraints do not justify detailed hydrological and meteorological investigation for calculating flood for every Point where Flood Zones are to be marked. Hence it becomes imperative to Estimate flood by using Central Water Commission's (CWC) Regional Flood Estimation Reports. This is a Hydrometeorological Method, wherein synthetic unit Hydrograph approach has been adopted.

Central Water Commission has published Flood Estimation Reports (FER) for ungauged and inadequately gauged catchments for 26 hydrometeorologically homogeneous sub zones of India. This Method was developed by CWC in

- At sudden change in vertical and horizontal alignments of the rivers i.e. steep slopes/falls, curves, bends etc.
- District and Taluka boundaries

Accuracy of these flood lines/zones is of utmost importance. Geographic Information System (GIS) mapping of these flood zones especially of highly populated cities along the rivers shall be done, to facilitate the transfer of these lines on ground.

Survey work can be carried out by Differential Global Positioning System (DGPS) alongwith survey instruments like Total station which will be helpful for GIS mapping of flood zones, and also for accurate and fast completion of the work.

4.0 COMPUTATION OF BLUE AND RED LINE :

The flood corresponding to Prohibitive and Restrictive zones have to be suitably plotted on Maps to indicate Blue and Red lines along the river banks.

Channel routing of the floods corresponding to Prohibitive and Restrictive Zones shall be done by Hydrologic Engineering Center- River Analysis system (HEC-RAS) or by using any other suitable software. HECRAS is a computer programme that models the hydraulics of water flow through natural rivers to aid channel flow analysis and flood Plain determination. The output of HEC RAS can be suitably GIS mapped.

If towns/cities/villages are situated on river banks adjacent to any confluence, adequate check regarding backwater effect on flood lines need to be exercised. In case of rivers joining sea, effect of high tide shall be considered while deciding Prohibitive/Restrictive zones/ lines. Similarly afflux due to constriction in waterway of river channel due to bridges/weirs / encroachments etc shall also be considered.

5.0 MARKING OF FLOOD LINES ON MAPS AND ON GROUND

The digitized Village maps which are available in 1:5000 scales or any suitable scale shall be obtained from Director of Land Records along with certified hard copy. These maps shall be joined together. On these maps the prohibitive and Restrictive zones shall be clearly marked with the help of Blue & Red lines, alongwith the crosssectional details and levels etc. GIS mapping of the flood lines shall be done.

The Blue and Red lines must be marked on permanent and prominent features/ structures like public building, bridges, temples etc along the river; so that these markings could be used for reference.

The marking on maps and on ground shall be cross checked by ground truth verification. After verification the Regional Chief Engineer shall sanction the maps. The digitized maps should be published on web site.

In future if any dispute arises, regarding flood lines marked on ground and that on maps, the flood lines and levels thereof marked on approved maps shall be considered final and binding.

The manual on computation of floods for marking flood lines shall also be referred for detailed methodology and further guidance (Annexed- Guidelines for marking of prohibitive and restrictive flood zones)



(Ramesh W. Nikum)
Director General
MERI, Nasik-4

Copy to -

1. All Executive Directors/ All Chief Engineers/ All Superintending Engineers, Water Resources Department.
2. All managing Directors/ All Chief Engineers/ All Superintending Engineers, Water Conservation Department.

पुराचा संभाव्य धोका टाळण्यासाठी पूररेषेच्या आत कोणतेही बांधकाम न होण्याच्या दृष्टीने पूररेषेची आखणी करणे व निषिद्ध व नियंत्रित क्षेत्राचा उपयोग करण्याबाबत मार्गदर्शक सूचना

महाराष्ट्र शासन
जलसंपदा विभाग,
शासन परिपत्रक क्र पूरनि-२०१८/(१८२/२०१८) सिं.व्य.(महसूल)
मंत्रालय, मुंबई ४०००३२,
दिनांक:-३ मे, २०१८

वाचावे :- शासन परिपत्रक क्र.एफडीडब्लू -१०८९/२४३/८९/ सिं.व्य.(कामे), दि. २.०९.१९८९,
दि.२१.९.१९८९

प्रस्तावना :-

पाटबंधारे विभाग शासन परिपत्रक क्र एफडीडब्लू १०८९/२४३/८९/ सिं.व्य (कामे) दि.२.९.१९८९ व दि.२१.९.१९८९ अन्वये पुराचा संभाव्य धोका टाळण्यासाठी पूररेषेच्या आत कोणतेही बांधकाम न होण्याच्या दृष्टीने पूररेषेची आखणी करण्याबाबत सूचना निर्गमित करण्यात आल्या आहेत.

नदीच्या निळ्या पूररेषेच्या आत निषिद्ध क्षेत्रात व लाल पूररेषा व निळी पूर रेखा यांच्यामधील नियंत्रित क्षेत्रात शहरांच्या ,गावांच्या, तिर्थक्षेत्र विकासाच्या दृष्टीने नदीवर पूल बांधणे,पूलाचे दोन्ही बाजूने पोहोच रस्ते तयार करणे, शहराच्या विकास आराखडयानुसार नदीच्या बाजूने जाणारे रस्ते, उद्याने व जॉर्गींग ट्रॅक तयार करणे तसेच पूरसंरक्षक कामांतर्गत नदीच्या तीरालगत पूर संरक्षक भिंत बांधणे,घाट बांधणे या शिवाय गॅस पाईपलाईन क्रॉसिंग करणे ,विद्युत वाहिनी क्रॉसिंग करणे, नदीच्या कडेने ड्रेनेज पाईप लाईन टाकणे,मल:निसारण प्रकल्पाचे काम करणे, इ. प्रकारच्या सार्वजनिक स्वरुपाच्या अपरिहार्य कामांसाठी संबंधित शासकीय / निमशासकीय संस्था, स्थानिक स्वराज्य संस्था कडून ना-हरकत प्रमाणपत्रांची वाढती मागणी, जलसंपदा विभागामार्फत राज्यातील विविध नदीनाल्यांवर पूर्ण झालेल्या प्रकल्पांची संख्या व बांधकामाधीन प्रकल्पांची संख्या ,काळानुरूप बदलेले पर्जन्यमानाचे स्वरुप, पूरनियंत्रण व पुराचे अंदाज वर्तवण्याबाबत उपलब्ध अत्याधुनिक यंत्रणा इत्यादी गोष्टींचा एकत्रित पणे विचार करण्याची आवश्यकता निर्माण झाली आहे.

शासन परिपत्रक क्र न्यायप्र -२०१४ प्र.क्र.४२४/२०१४ सिं.व्य (म), दि.२.३.२०१५ , अन्वये जलसंपदा विभागामार्फत पूरक्षेत्र व पूररेषा नकाशे व आराखडयांना मान्यता देण्यात येते. तथापि पाटबंधारे विभाग शासन परिपत्रक क्र एफडीडब्लू १०८९/२४३/८९/ सिं.व्य (कामे), दि.२.९.१९८९ व दि.२१.९.१९८९ अन्वये नदीच्या निळ्या पूररेषेच्या (Blue Line) आत निषिद्ध क्षेत्रात (Prohibitive Zone) आणि लाल पूररेषा(Red Line) व निळी पूर रेखा(Blue Line) यांच्यामधील नियंत्रित क्षेत्रात(Restrictive Zone) सार्वजनिक सुविधांच्या दृष्टीने आवश्यक नेमकी कोणती अपरिहार्य कामे घ्यावीत याबाबत अधिक स्पष्टता आणण्याच्या दृष्टीने सुधारणा करण्याची बाब शासनाच्या विचाराधीन होती. यादृष्टीने एकत्रित सुधारित / अद्ययावत सूचनांचा समावेश करुन आता खालील प्रमाणे परिपत्रक निर्गमित करण्यात येत आहे.

शासन परिपत्रक क्रमांक: पूरनि-२०१८/(१८२/२०१८) सि.व्य.(महसूल)

परिपत्रक -

१. पाटबंधारे विभाग शासन परिपत्रक क्र एफडीडब्लु १०८९/२४३/८९/ सिव्य (कामे) दि.२.९.१९८९ व दि.२१.९.१९८९ अद्ययावत करण्यात येत आहे.

२. पूरक्षेत्रातील जमिनीच्या वापराबाबत धरण सुरक्षितता संहिता (Dam safety Manual) प्रकरण ८/ १९८४ मध्ये दिलेल्या मार्गदर्शक सूचनांच्या आधारे महत्वाच्या पूररेषा ह्या मुख्यत्वेकरून दोन प्रकाराच्या आहेत. निषेधक पूररेषा (Blue Line) व नियंत्रक पूररेषा (Red Line) .

३. निळी पूररेषा (Blue Line) :-

निळी पूररेषा (Blue Line) ही खालीलपैकी येणाऱ्या जास्तीत जास्त विसर्गाच्या पाणी पातळीला आखलेल्या रेषेला संबोधण्यात यावी.

अ) सरासरीने २५ वर्षातून एकदा (१ in २५ year) या वारंवारीतेने (Frequency) येणारा पूर विसर्ग किंवा

ब) प्रस्थापित नदीपात्राच्या विसर्गक्षमतेच्या दिडपट विसर्ग.

४. लाल पूररेषा (Red Line) :-

लाल पूररेषा (Red Line) ही खालीलपैकी येणाऱ्या विसर्गाच्या पाणी पातळीला आखलेल्या रेषेला संबोधण्यात यावी.

अ) ज्या भागात धरण नसेल तेथे :- सरासरीने १०० वर्षातून एकदा (१ in १०० year) या वारंवारीतेने (Frequency) येणारा पूर विसर्ग.

ब) ज्या भागात धरण असेल तेथे :- प्रकल्पाच्या संकल्पनातील सांडव्यावरून वाहणारा संकल्पित महत्तम पूर विसर्ग अधिक धरणाखालील पाणलोट क्षेत्रातून येणारा अपेक्षित १०० वर्षातून येणारा (१ in १०० year) या वारंवारीतेने (Frequency) येणारा पूर विसर्ग.

५. निषिध्द क्षेत्र (Prohibitive Zone) :-

नदीच्या उजव्या तीरावरील निळी पूर रेषा (Blue Line) ते नदीपात्र ते डाव्या तीरावरील निळी रेषा (Blue Line) या मधील क्षेत्राला निषिध्द क्षेत्र (Prohibitive Zone) म्हणून संबोधण्यात यावे.

६. नियंत्रित क्षेत्र (Restrictive Zone) :-

नदीची निळी पूररेषा (Blue Line) ते त्याच तीरावरील लाल पूररेषा (Red Line) यामधील क्षेत्राला नियंत्रित क्षेत्र (Restrictive Zone) संबोधण्यात यावे.

७. निषिध्द क्षेत्राचा (Prohibitive Zone) उपयोग फक्त मोकळ्या जमिनीच्या स्वरूपात उदा. उदयाने, खेळाची मैदाने किंवा हलकी पिके घेणे , ज्याठिकाणी पिके घेण्याचा हक्क पारंपारिक वापरामुळे प्रस्थापित झाला आहे अशा ठिकाणी (उदा. नदीपात्राजवळ करण्यात येणारी कलींगड / टरबूज / खरबूज इ.ची लागवड सार्वजनिक शौचकूप व मल:निस्सारण सुविधा) अशा सारख्या कारणांसाठीच केला जावा की जेणे करून नदी प्रवाहात कोणताही अडथळा येणार नाही , नदीची वहनक्षमता कमी होणार नाही व नदीच्या काटछेदात कोणताही बदल होणार नाही .

शासन परिपत्रक क्रमांक: पूरनि-२०१८/(१८२/२०१८) सि.व्य.(महसूल)

८. नियंत्रक क्षेत्राचा (Restrictive Zone) उपयोग खालील कारणांसाठीच केला जावा .

i) सार्वजनिक हिताच्या दृष्टीने आवश्यक व अपरिहार्य मलःस्सारण योजना .

ii) सार्वजनिक हिताच्या दृष्टीने आवश्यक व अपरिहार्य सार्वजनिक रस्ते की जेणेकरून सदर रस्त्याची माथा पातळी निळ्या पूररेषा पातळीच्या वर असेल. सदर पातळी किती वर असावी याची निश्चिती संबंधित Indian Road Congress Code मधील तरतुदीनुसार करावी.

iii) सार्वजनिक हिताच्या दृष्टीने आवश्यक व अपरिहार्य पाणीपुरवठा पाईपलाईन, गॅस पाईप लाईन , ड्रेनेज पाईपलाईन की जेणेकरून सदर पाईप लाईन भूमिगत असावी व त्यामुळे नियंत्रित क्षेत्रातील नदीच्या काटछेदात कोणताही अडथळा येऊन त्यात बदल होणार नाही.

iv) नियंत्रित क्षेत्रातील बांधकामांच्या तळमजल्याच्या जोत्याची पातळी लाल पूररेषा पातळीच्या वर सुरक्षित उंचीपर्यंत असावी की ज्यामुळे पूरपातळी नियंत्रक क्षेत्रात जास्त वाढण्यापूर्वी तेथील नागरिकांना सुरक्षितस्थळी सहजपणे जाता येईल. तसेच या क्षेत्रामध्ये येणारा संभाव्य पूर व तसेच पुरामुळे होणारी जिवित हानी व मालमत्तेचे नुकसान टाळण्यासाठी ह्या क्षेत्रातील लोकांना, जनावरांना व वस्तुंना अल्पावधीची पूरसूचना मिळताच हे क्षेत्र तातडीने सोडून सुरक्षित स्थळी जाणे शक्य होईल.

९. उपरोक्त मुद्दा क्र. ८ मध्ये नमूद उपयोगांमुळे नदी प्रवाहात कोणताही अडथळा येणार नाही , नदीची वहनक्षमता कमी होणार नाही व नदीच्या काटछेद क्षेत्रात कोणताही बदल होणार नाही , याची दक्षता घेण्यात यावी . प्रवाहाला अडथळा आणणारे बांधकामाविरुद्ध मुख्य अभियंता कारवाई करण्यास सक्षम असतील. निषिद्ध (Prohibitive Zone) व नियंत्रित क्षेत्रात (Restrictive Zone) करावयाच्या सदर सार्वजनिक कामांच्या सुरक्षिततेची संपूर्ण जबाबदारी संबंधित विभागाची / स्थानिक स्वराज्य संस्थेची असेल व संभाव्य पुरामुळे होणाऱ्या जिवित व वित्त हानीस संबंधित विभाग/ स्थानिक स्वराज्य संस्था जबाबदार राहिल व त्याअनुषंगाने उद्भवणाऱ्या न्यायालयीन प्रकरणास संबंधित विभाग / स्थानिक स्वराज्य संस्था जबाबदार असेल.

१०. वरील बाबींचा विचार करून पुराचा संभाव्य धोका टाळण्यासाठी व निषिद्ध व नियंत्रित क्षेत्राची निश्चिती करण्याच्या दृष्टीने आवश्यक पूररेषा आखून देण्याबाबत जलसंपदा विभागाकडे जिल्हाधिकारी , स्थानिक स्वराज्य संस्था अथवा अन्य विभागाकडून मागणी प्राप्त झाल्यास जलसंपदा विभागाच्या संबंधित क्षेत्रिय मुख्य अभियंता यांनी शासन परिपत्रक क्र न्यायप्र -२०१४ प्र.क्र.४२४/२०१४ सिंव्य (म), दि.२.३.२०१५ अन्वये कार्यवाही करावी.

११. जलसंपदा विभागाचे कार्यक्षेत्र नदी किनारी पूररेषेची आखणी करण्याइतपतच मर्यादित असल्याने निषिद्ध क्षेत्रातील व नियंत्रित क्षेत्रातील उपरोक्त परिच्छेदात नमूद केलेली सार्वजनिक हिताच्या दृष्टीने अपरिहार्य व आवश्यक कामांना जलसंपदा विभागाच्या ना-हरकत प्रमाणपत्राची आवश्यकता राहणार नाही .

शासन परिपत्रक क्रमांक: पूरनि-२०१८/(१८२/२०१८) सि.व्य.(महसूल)

तथापि, पर्यावरण विभाग/ इतर विभाग/ स्थानिक संस्था/ इतर शासकीय विभाग यांची वैधानिक मान्यता आवश्यक असेल तर ती स्वतंत्रपणे घेण्यात यावी.

१२. सदर शासन परिपत्रक विधी व न्याय विभागाचा अनौपचारिक संदर्भ क्र. ३८८-२०१८/E दि.१३.४.२०१८ व नगरविकास विभागाच्या अनौपचारिक संदर्भ क्र. टिपीएस -१०१८/अनौस.५/२०१८/ नवि -९ दि.१९.४.२०१८ नुसार निर्गमित करण्यात येत आहे .

१३. सदर शासन निर्णय महाराष्ट्र शासनाच्या www.maharashtra.gov.in या संकेतस्थळावर उपलब्ध करण्यात आला असून त्याचा संकेतांक २०१८०५०३१८०१५९५७२७ असा आहे. हा आदेश डिजीटल स्वाक्षरीने साक्षांकित करून काढण्यात येत आहे.

महाराष्ट्राचे राज्यपाल यांचे आदेशानुसार व नावाने,

C. A. Birajdar

Digitally signed by C. A. Birajdar
DN: c=IN, o=Government Of Maharashtra, ou=Water
Resources Department, postalCode=400032,
st=Maharashtra,
2.5.4.20=bf1b26f0a8f1d09e25cd9d6bf37b84d8e843d220d27
2af12bd94b7eee717c5fa, cn=C. A. Birajdar
Date: 2018.05.03 18:06:32 +05'30'

(च.आ.बिराजदार)

सचिव (लाक्षेवि)

प्रत :- मा. राज्यपाल यांचे सचिव,

१. मा.मुख्यमंत्री यांचे कार्यालय,
२. मा.अध्यक्ष / उपाध्यक्ष, विधानसभा, विधानभवन, मुंबई,
३. मा.सभापती / उपसभापती, विधानपरिषद, विधानभवन, मुंबई,
४. मा.विरोधी पक्षनेते, विधानसभा, मुंबई, यांचे कार्यालय, विधानभवन, मुंबई,
५. मा.विरोधी पक्षनेते, विधानपरिषद, मुंबई, यांचे कार्यालय, विधानभवन, मुंबई,
६. मा. मंत्री, जलसंपदा यांचे खाजगी सचिव, मंत्रालय, मुंबई,
७. मा. राज्यमंत्री (जलसंपदा) यांचे खाजगी सचिव, मंत्रालय, मुंबई,
८. महालेखापाल १ / २ (लेखा व अनुज्ञेयता) महाराष्ट्र राज्य, मुंबई/नागपूर
९. महालेखापाल १ / २ (लेखा परीक्षा) महाराष्ट्र राज्य, मुंबई/नागपूर,
१०. अ.मु.स (गृह) यांचे स्वीय सहायक, गृह विभाग, मंत्रालय, मुंबई,
११. अ.मु.स (महसूल) यांचे स्वीय सहायक, महसूल व वन विभाग, मंत्रालय, मुंबई
१२. अ.मु.स. (पर्यावरण) यांचे स्वीय सहायक, पर्यावरण विभाग, मंत्रालय, मुंबई,
१३. प्रधान सचिव (जलसंपदा) यांचे स्वीय सहायक, जलसंपदा विभाग, मंत्रालय, मुंबई,
१४. प्रधान सचिव (नगरविकास) यांचे स्वीय सहायक, नगरविकास विभाग, मंत्रालय, मुंबई,
१५. सचिव (जसंब्य व लाक्षेवि) यांचे स्वीय सहायक, जलसंपदा विभाग, मंत्रालय, मुंबई,
१६. सचिव (प्रकल्प समन्वय) यांचे स्वीय सहायक, जलसंपदा विभाग, मंत्रालय, मुंबई,
१७. सर्व मंत्रालयीन विभाग, मंत्रालय, मुंबई,
१८. माहिती व जनसंपर्क महासंचालनालय, मंत्रालय, मुंबई,
१९. सर्व महासंचालक, जलसंपदा विभाग,

शासन परिपत्रक क्रमांक: पूरनि-२०१८/(१८२/२०१८) सि.व्य.(महसूल)

२०. सर्व विभागीय आयुक्त, महसूल विभाग, महाराष्ट्र राज्य,
२१. सर्व जिल्हाधिकारी, महाराष्ट्र राज्य,
२२. सर्व कार्यकारी संचालक, जलसंपदा विभाग,
२३. संचालक, नगररचनाकार, पुणे,
२४. सर्व मुख्य अभियंता/मुख्य अभियंता व मुख्य प्रशासक, जलसंपदा विभाग,
२५. जलसंपदा विभागातील सर्व सहसचिव व उपसचिव, मंत्रालय, मुंबई,
२६. सर्व अधीक्षक अभियंता/अधीक्षक अभियंता व प्रशासक, जलसंपदा विभाग,
२७. ग्रंथालय, विधानमंडळ सचिवालय, विधानभवन, मुंबई,
२८. सि.व्य. (महसूल) कार्यासन, संग्रहार्थ,

Directives to demarcate flood lines and use of Prohibitive and Restrictive Zones to not to allow any construction inside flood line to avoid possible risk of floods.

**STATE GOV. OF MAHARASHTRA
WATER RESOURCES DEPARTMENT,**

Government Circular No. PuRaNi-2018/(182/2018) Sin. Vya. (Revenue)

Mantralaya, Mumbai-32

Date: 3rd May 2018.

Read: Government Circular No.: FDW-1089/243/89/Sin Vya (Works)

Dt. 2/9/1989, Dt. 21/9/1989

FOREWORD:-

To avoid possible threat of flooding, with a view to demarcate flood lines to prohibit any type of construction inside flood lines, instructions have been given vide Irrigation Department Gov. Circular No. FDW-1089/243/89/Sin Vya (Works) Dt. 2/9/1989 and Dt. 21/9/1989.

There is increasing demand for No Objection Certificates from Gov./Semi Gov. organisations, local Gov. bodies for development of cities, towns and pilgrimage places to construct bridges, approach roads for bridges, roads on river banks as per the Development Plans, gardens and jogging tracks, flood protection wall on river edge, construction of Ghats, crossing of gas pipe lines and electrical cables, laying of drainage pipe lines on river edges, construction of sewage treatment plants etc. unavoidable works of public use on Prohibitive Zone inside Blue flood lines and on Restrictive Zone between Blue and Red Flood Lines. In light of this and also in view of various projects completed and under construction by Water Resources Dept. on streams and rivers, changes in rain pattern with time, flood control and modern flood prediction systems etc. need to be reviewed again.

As per Gov. circular No. Nyaypra-2014 Pra. Kra. 424/2014SinVya (M), Dt. 2.3.2015, approval to flood zones and flood maps is given by Water Resources Dept. But it was under consideration of the government to improve and to get more clarification with respect to which public utility works should be allowed on Prohibitive Zone inside Blue Flood line and on Restrictive Zone between Red and Blue Flood line as per Gov. circular No. FDW-1089/243/89/Sin Vya (Works) Dt. 2/9/1989 and Dt. 21/9/1989.

Accordingly following circular is published with collectively improved/latest instructions

CIRCULAR-

1. Gov. Irrigation Department circular No. FDW-1089/243/89/Sin Vya (Works) Dt. 2/9/1989 and Dt. 21/9/1989 is being modified.
2. With respect to the land use in flood prone zones, as per the guidelines given in the Dam Safety Manual Chapter 8/1984 important flood lines will be primarily of two types. Prohibitive Flood Line (Blue Line) and Restrictive Flood Line (Red Line).
3. Blue Flood Line:

Blue Flood Line will be the line marked at the water level of the highest discharge of:

 - a) Flood discharge at the average frequency of 25 years.
 - b) One and half times the discharge of the established riverbed.
4. Red Flood Line:

Red Flood Line will be the line marked at the water level of the water discharge as under:

 - a) Where there is no dam, flood discharge at the average frequency of 100 years.
 - b) Where there is a dam, maximum flood discharge over the spill way added with flood discharge from the free catchment area at the average frequency of 100 years.
5. Prohibitive Zone:

The area between the Blue Flood line on the right bank of the river to riverbed to the Blue Flood line on the left bank of the river shall be called as Prohibitive Zone.
6. Restrictive Zone:

The area between the Blue Flood Line of the river and the Red Flood Line on the same bank shall be called as Restrictive Zone.
7. Prohibitive Zone can be used only in the form of open land e.g. gardens, play grounds, light crops; where there is established easement right to take crops (e.g. water melons, musk melons etc. public toilets and sewage

- discharge facilities), so that there will not be any obstruction to the flow of the river, there will not be reduction in the carrying capacity of the river and there will not be any change in the cross section of the river.
8. Restrictive Zone should be used only for the following:
 - i) Sewage carrying projects unavoidable in public interest.
 - ii) Public roads unavoidable in public interest; provided the top level of such road shall be above the level of Blue Flood line.
 - iii) Water supply pipe lines, gas pipe lines, drainage pipe lines unavoidable in public interest provided such pipe lines shall be underground and will not cause obstruction in the cross section of the Restrictive Zone.
 - iv) The plinth level of the ground floor of the buildings in Restrictive Zone shall be safely above the level of Red Flood line so that the people could be evacuated to safe location before the flood level rises in the Restrictive Zone and it will be possible for the people and cattle to shift urgently to safe location with their belongings to avoid the loss of life and property due to floods.
 9. Care shall be taken that there shall be no impediment to the flow of river, carrying capacity of the river shall not be reduced and there shall be no change in the cross section of the river due to the land used mentioned in para No. 8 above. Chief Engineer shall be empowered to take action against the construction that causes obstruction to the flow of river. Concerned dept./Local Governing Body shall be responsible for the safety of the works done in the Prohibitive and Restrictive Zones. Concerned dept./Local Governing Body shall be responsible for the loss of life and property and possible litigations due to it because of the possible floods.
 10. Considering all above mentioned points, to avoid possible flood risk, the regional Chief Engineer shall take necessary action as per Gov. circular No. Nyaypra-2014 Pra. Kra. 424/2014SinVya (M), Dt. 2.3.2015, to demarcate flood lines to identify Prohibitive Zone and Restrictive Zone as per the demand to Water Resources Dept. by Dist. Collector, Local Governing Body or other dept.

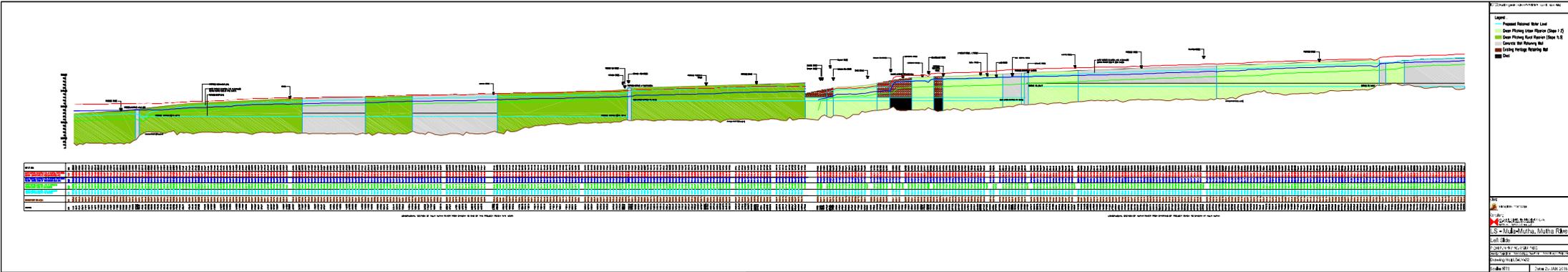
- 11.As the scope of work of Water Resources Dept. is limited only to demarcation of flood lines on river banks, works in Prohibitive Zone and Restrictive Zone as mentioned above shall not need No objection Certificates from Water Resources Dept. But if approval from Environmental Dept./other depts./Local bodies/other Gov. depts. is required, it shall be taken independently.
- 12.This Gov. circular is being issued as per Legal and Justice Dept. informal reference No. 388-2018/E Dt. 13.4.2018 and Town Planning dept. informal reference No. TPS-1018/Anaus.5/2018/Navi-9 Dt. 19.4.2018.
- 13.Said Gov. Resolution is made available on the Maharashtra government's website www.maharashtra.gov.in and its code No. is 201805031801595727. This order is digitally signed.

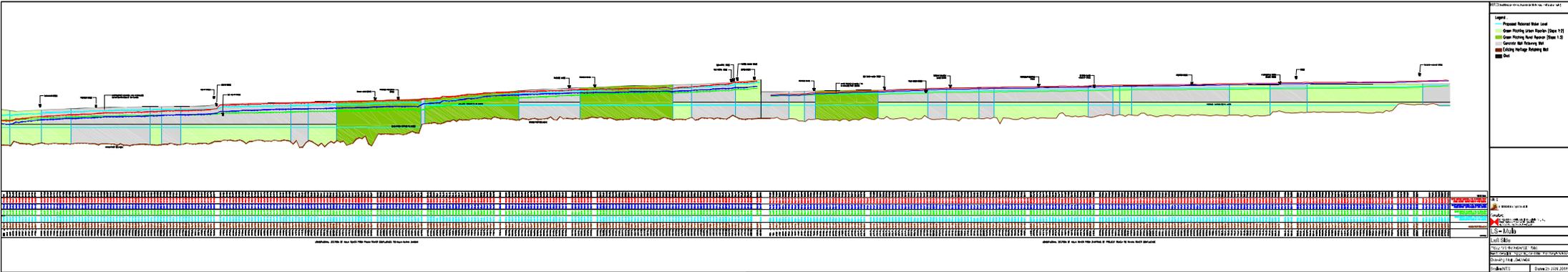
In the name and as per the orders of the Governor of Maharashtra.

C. A. Birajdar,
Secretary

Annexure A-9



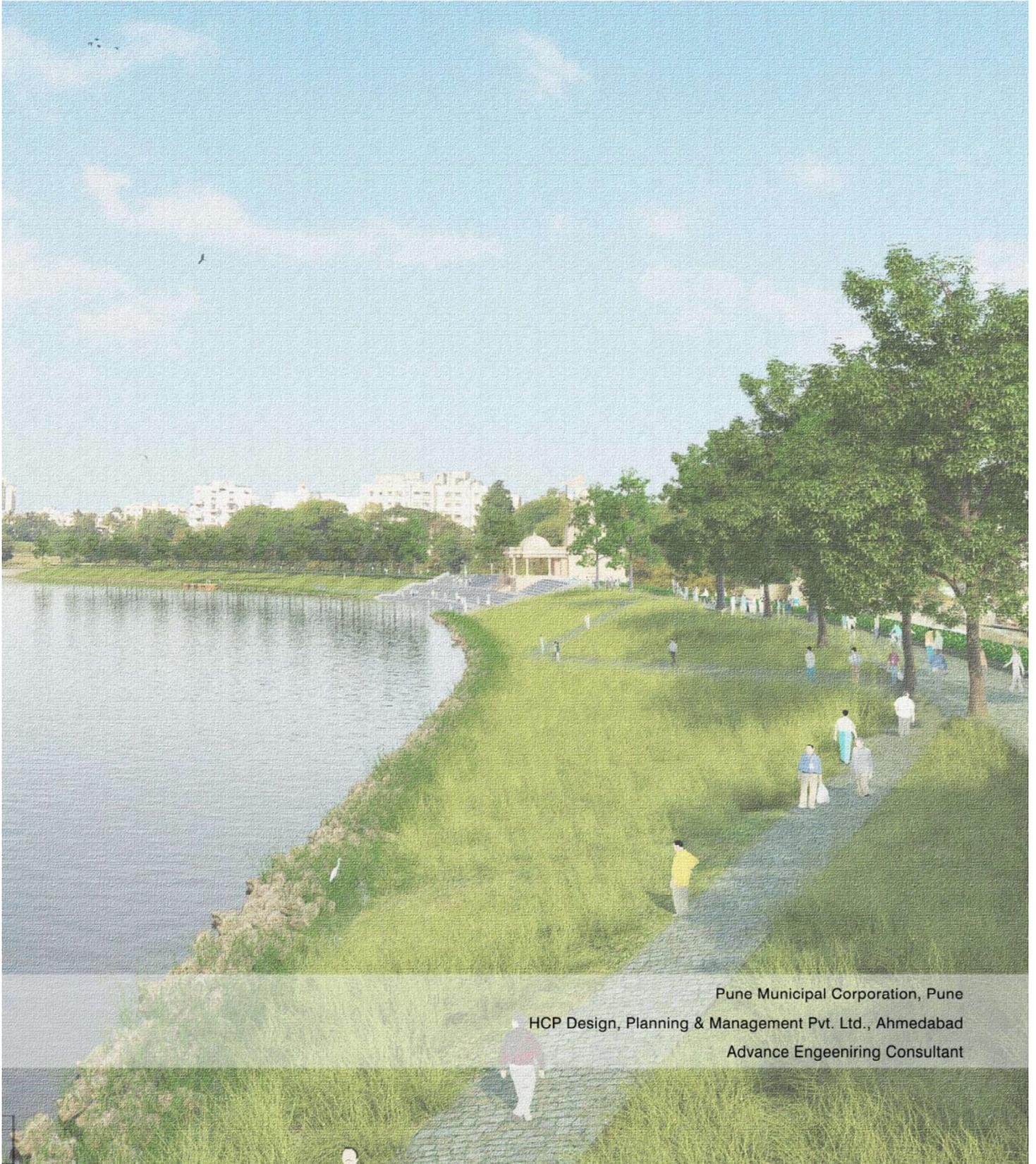




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Pune River Rejuvenation Project
Detailed Project Report - Draft

Annexure 2 - Hydrology and Hydraulics
25 January 2018

Annexure A-10



Pune Municipal Corporation, Pune
HCP Design, Planning & Management Pvt. Ltd., Ahmedabad
Advance Engineering Consultant

3. HYDROLOGY STUDY

3.1 INTRODUCTION

Hydrology includes the review of rainfall events and watershed characteristics to determine the runoff rates and resultant surface water flow. A design storm is defined as statistically the worst rainfall event which would occur once within the design time period and which would produce the design flow for that period, for example, a 1:100-year design storm would statistically occur within a 100-year time period and would produce the 1:100-year design flood.

It is often noticed that clear distinction is not made between a flood that can occur at a given location due to certain hydro-meteorological parameters and catchment characteristics and the flood (called the design flood) for which a structure or location is made safe by resorting to appropriate constructions. While the former is more or less uncontrollable as it essentially depends on natural phenomena, in the case of the latter, the owner or the engineer of a structure has the choice to select an appropriate design, which is safe against the selected flood. This involves a socio-economic trade-off between marginal investments and marginal benefits or reduction in losses over a stipulated life time. Such a risk analysis is, therefore, an essential part of the process of selecting a design flood. The design flood has to be selected on the basis of its probability of occurrence, the damage that can occur if it is exceeded and also the existing safety status of the surrounding areas and structures. The protective structure has, therefore, to be selected based on the importance of its hazard potential in case of failure, the resulting economic loss and the cost of rebuilding it as well as the existing safety status of the surrounding areas. The studies that follow have been done in the background of this logic.

3.2 SELECTION OF DESIGN FLOOD

The construction of the proposed flood embankment walls for jacketing the river has two purposes. One, to channelize the flow in a constricted width so that additional side widths are released for other use, and two, to protect the adjacent areas against erosion and damage that may be caused by the increased flood velocities. There are no specific Indian Standards or guide lines for selection of the design flood for such structures. However, the design flood for similar flood protective structures is being normally adopted as a 100-year return period flood in city.

The hazard potential at the probable failure or over flanking of the embankments retaining walls, probable loss to lives and properties on this account and the effect of back water levels on the existing bridges, are the aspects that need to be accounted for while selecting the design flood for the proposed scheme.

Riverfront is not a flood control scheme and as such it is not supposed to provide greater protection to the areas on the river banks which have even otherwise been damaged by floods. In principle, therefore, it should be acceptable that Riverfront Development works for Mula, Mutha and Mula-Mutha River are so planned that they do not aggravate the situation compared to what occurred in past.

For estimation of the design flood in Mula, Mutha and Mula-Mutha river two approaches have been followed for development of MMRFD

- Flood Frequency Analysis
- Hydro Meteorological approach

3.2.1 FLOOD FREQUENCY ANALYSIS

The statistical approach for design flood estimation, otherwise also called flood frequency analysis, may be performed on the past recorded data of annual flood peak discharges either directly observed at the site or estimated by a suitable method. Alternatively, frequency analysis may be carried out on the available record of annual rainfall events of the region.

Flood frequency analysis studies interpret past record of events to predict the future probabilities of occurrence and estimate the magnitude of an event corresponding to a specific return period. For the estimation of flood flows of large return periods, it is often necessary to extrapolate the magnitude outside the observed range of data.

The Flood Frequency analysis is based on the observed gauging data available from year 1976 to 2015 for Mula Mutha River at Bund Garden in Pune. As gauges are not available on Mula and Mutha river flood frequency analysis are not performed for this river. Since the analysis assumes that the flood events are independent of each other, it is appropriate to take the annual flood peaks and not to base the analysis on the partial duration series, which enhances the risk of flood events not being independent of each other. The annual series is most commonly used and the design flood values derived from it are more appropriate for extrapolation.

Based on Gumble distribution method mentioned by Indian standard code of practice (IS 5477(PART IV)) 25, 50 year and 100 year return period flood as per gauging data at Bund Garden is worked out as below



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Litigation . <litigation@dclawchambers.com>

Rejoinder on behalf of the Appellant in Appeal No. 05 of 2025 SarangYadwadkar & Anr. Versus. Union of India & Ors.

1 message

Litigation . <litigation@dclawchambers.com>

Tue, Feb 10, 2026 at 12:32 PM

To: Aniruddha Kulkarni <aniruddha1488@gmail.com>, Rahul Garg <rahul.garg@mgklegal.com>, secy-moef@nic.in, psec.env@maharashtra.gov.in, director@cwprs.gov.in, info@punecorporation.org, commissioner@pcmcindia.gov.in, ceokirkee@gmail.com

Cc: itishaawasthi@proton.me

Dear Sir/madam,

Please find attached- Rejoinder on behalf of the Appellant in Appeal No. 05 of 2025 SarangYadwadkar & Anr. Versus. Union of India & Ors.

Thanks & Regards
Counsel for the Appellant Rejoinder to PMC on behalf of the Appellant.pdf

 **Rejoinder to SEIAA on behalf of the Appellant.pdf**
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