

BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

Original Application No. 537/2023

In re: News report published in The Times of India dated 22.08.2023 titled
 "Why Flooding Has Forced DDA'S Master Plan Rethink"

NDOH: 19.09.2024

INDEX

S.No.	Particulars	Page No.
1.	Status report in compliance of orders dated 02.07.2024	1-4
2.	<u>Annexure I</u> Minutes of Meeting dated 02.08.2024 held under Chairmanship of Chief Secretary, GNCTD	5-9
3.	<u>Annexure II</u> Copy of Terms of Reference	10-14
4.	<u>Annexure III</u> Copy of Preliminary Estimate and details by CWPRS	15-20
5.	<u>Annexure IV</u> Copy of Action Taken Report by IFCD	21-24
6.	<u>Annexure V</u> Copy of order of constitution of joint district teams	25-26

(K. S. Jayachandran)

Special Secretary (Environment)

Department of Environment,

Govt. of NCT of Delhi

Place: New Delhi

Date: 17.09.2024

86
BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
Original Application No. 537/2023

In re: News report published in The Times of India dated 22.08.2023 titled "Why Flooding Has Forced DDA'S Master Plan Rethink"

STATUS REPORT IN COMPLIANCE OF ORDER DATED 02.07.2024

1. That this Hon'ble Tribunal was pleased to take *Suo moto* cognizance of the News report published in The Times of India dated 22.08.2023 titled "Why Flooding Has Forced DDA's Master Plan Rethink," with respect to flooding in Delhi on account of unauthorized constructions in the river flood plain in the 22 km stretch of Yamuna, falling in Delhi, from Wazirabad to Palla.
2. That in compliance of Order dated 17.10.2023 passed by this Hon'ble Tribunal, a High-Level Committee (HLC) was constituted under chairmanship of Chief Secretary GNCTD vide office order dated 02.11.2023. And status reports have been filed on 29.01.2024, 19.03.2024 and 06.06.2024 in compliance to orders passed by this Hon'ble Tribunal and same are available on records of this Hon'ble Tribunal.
3. That this Hon'ble Tribunal heard the matter on 02.07.24 and perused the submission of HLC that work of defining the flood plain zone of River Yamuna keeping in view the highest flood level of once in 100 years has been given to CWPRS (Central Water and Power Research Station, Pune). However this Hon'ble Tribunal highlighted the lack of information on terms of reference, date of award of the work and timeline for completion.

4. That, a meeting of the High Level Committee was held on 02.08.2024 under Chairmanship of Chief Secretary (Delhi), GNCTD, to review the progress made to comply with this Hon'ble Tribunal's directions as well as to expedite compliances of pending decisions of HLC. Minutes of Meeting dated 02.08.2024 is annexed at Annexure I.
5. That, the Committee directed IFCD to submit the terms of reference, date of award of the work and timeline for completion, so that Hon'ble Tribunal can be appraised. The committee also directed IFCD to complete the payment to CWPRS, and in case there are difficulties, Finance Department may be requested to do the necessary re-appropriation.
6. That, IFCD submitted that the work has been assigned to CWPRS, Pune for "Scientific Assessment of impact on Flood Prone Area for Delhi region and to suggest the measures". The copy of Terms of reference is annexed as Annexure II.
7. That, a Preliminary Estimate by CWPRS, Pune is Rs.42.43Lakh. A part payment i.e. Rs. 10 Lakh has been paid to CWPRS, Pune. Duration of 05 months is required for conducting the study after getting the full payment and all requisite data as per their letter annexed as Annexure III. Regarding the additional Budget requirement, the matter has already been taken up with the Finance Department.
8. That, additionally, in parallel, a request has also been made by IFCD to GSDL for preparation of flood maps for HFL 208.66m (highest ever recorded level at Old Railway Bridge), in flood 2023. I&FC Department has also requested Central Water Commission, Govt. of India for providing water level and discharge at Old Railway Bridge passes through Delhi region w.r.t. its greatest flow or flood frequency 1 in 100 (Copy may be

seen at **Annexure IV**). Accordingly after getting the discharge and water level, flood maps for the frequency 1 in 100 can be made by GSDL on similar pattern/ format.

9. That the second mandate of the HLC as directed by the Hon'ble NGT was to suggest measures to prevent and remove encroachment and unauthorized constructions falling within flood plains.
10. That, the High Level Committee was apprised, that DDA in pursuance of Hon'ble High Court in contempt case WP(C) 715/2015 and WP(C) 5751/2014 - Sh. Vijay Kumar Diwakar Vs SDMC & Ors on 27.03.2024 have started drone survey in June 2024 of O Zone (97 KM²) in collaboration with Survey of India. DDA informed that ortho-rectified aerial images have been generated from survey followed by visual interpretation of drone images and found built up area in the surveyed area. The Committee felt that the extensive drone survey exercise should be outcome oriented, and shall have to result in finding out the exact area which is under encroachment in the floodplains.
11. That, joint district teams of DDA and Revenue Department were constituted under the chairmanship of respective District Magistrates to assess the area under encroachment, district-wise, in floodplain, and submit authenticated ground coordinate details to GSDL for enabling their depiction on base map and imageries of GSDL. Copy of the order is at **Annexure V**. Action taken by the joint district teams will be apprised to this Hon'ble Tribunal soon.
12. That, meanwhile, DDA informed that encroachments are being continuously removed from floodplain on regular basis and so far 1530 acres of floodplain have been repossessed during the period of 26 months (May 2022 to July

2024). DDA also informed that in pursuance of this HLC's direction, Hon'ble High Court, Delhi was requested to club all the land related cases in the Yamuna flood plains / O zone, so that effective representation of cases with court can be ensured, and resultantly 44 cases have been clubbed out of which 18 cases have been decided favourably.

13. That the present status report may please be taken on record.



(K. S. Jayachandran)
Special Secretary, (Environment)
Department of Environment,
Govt. of NCT of Delhi

Place: New Delhi

Date: 17.09.2024

Department of Environment,

Government of NCT of Delhi, 6th Level, C-Wing, Delhi Secretariat
New Delhi-110002, Ph. 011-23392306 (e-mail: msdpcc@nic.in)

F.No. F.DPCC/(10)/(86)/Leg-2023/ pt.file-1 /2602-24

Dated: 13-08-2024

Minutes of Meeting

The third meeting of the High Level Committee (HLC) constituted vide order dt. 02.11.2023 in compliance to Order dated 17.10.2023 in OA No. 537/2023 titled In re: News report published in The Times of India dated 22.08.2023 titled "Why Flooding Has Forced DDA's Master Plan Rethink," was convened under the chairmanship of Chief Secretary, Delhi on 02.08.2024 at Delhi Secretariat.

1. The meeting was attended by the members of High Level Committee (HLC) and senior officers of various departments including District Magistrates of districts falling within the Yamuna floodplains. Record of attendance is at Annexure A.
2. At the outset, the Chief Secretary welcomed all the officers and thereafter, with due permission of the Chair, Special Secretary (Environment), GNCTD gave a brief presentation about the constitution of the HLC, its mandate and Hon'ble NGT's directions. The last order of Hon'ble NGT dated 02.07.2024 was appraised to the members that:

"5. Learned Counsel for Delhi Development Authority (DDA) has submitted that exercise of defining the flood plain keeping in view the highest level once in 25 years is for the internal purposes.

..... submission has been made that work of defining the flood plain zone with flood level of once in 100 years has been given to CWPRS (Central Water and Power Research Station, Pune).

The said paragraph does not disclose the terms of reference, date of award of the work and timeline for completion.

7. From the reply of NCT of Delhi, it cannot be ascertained that any effective step has been taken till now for demarcating the flood plain zone of River Yamuna, having due regard to the provisions of order of 2016."

"8. At this stage, prayer has been made by Counsel for NCT of Delhi as also for the DDA to grant time to place on record fresh report disclosing the steps which have been taken for demarcation of flood plain zone in terms of Clause 3 (I) of 2016 order.

Said respondents are directed to disclose the timeline on affidavit of Competent Authority for completing work of demarcation of flood plain zone of River Yamuna as also modalities which will be adopted for same.

9. Let fresh report in terms of observations above be filed within a period of eight weeks.

3. The work of defining the flood plain zone with flood level of once in 100 years has been given by IFCD to CWPRS (Central Water and Power Research Station, Pune). The committee directed IFCD to submit the terms of reference, date of award of the work and timeline for completion, so that Hon'ble Tribunal can be appraised. The committee also directed IFCD to complete the payment to CWPRS, and in case there are difficulties, Finance Department may be requested to do the necessary re-appropriation.

(Action: IFCD and Finance Department)

4. Director General, NMCG mentioned that a holistic, yet simple, strategic framework called Urban River Management Plan (URMP), is developed by National Mission for Clean Ganga (NMCG) that shall be adopted by the river cities in the Ganga River Basin to manage the rivers within their stretch. The URMP will help the river cities systematically and holistically plan for interventions required to revive and maintain the rivers within their limits in a sustainable manner, and is embedded in the central idea that maintaining healthy rivers is crucial to enhance liveability and productivity in the cities. Chief Secretary requested NMCG to do a presentation on this concept in the next HLC on rejuvenation of river Yamuna.
5. Director, Central Water Commission informed that the basic concept of flood plain zoning is to regulate land use in the flood plains to restrict the damage caused by floods, and there are technical guidelines released Department of Water Resources, River Development and Ganga Rejuvenation (DoWR, RD & GR), Government of India for floodplain zoning which contains the methodology towards determination of various zones in the floodplains as well. The zoning would aim at determining the locations and the extent of areas for developmental activities in such a fashion that the damage is reduced to a minimum. The committee directed IFCD to utilize the guidelines during the exercise of determining the floodplain zone, and share them with the CWPRS.

(Action: IFCD)

6. Meanwhile, on compliances of previous directions of the HLC regarding the first mandate of the committee to get spot inspections and demarcation of flood plains of Yamuna in the area concerned, GSDL informed that the demarcation of Zone "0" as well as 1:25 years on map has been completed, but there are some gaps in pockets which need ground truthing. No physical ground truthing have been done yet by DDA as well as Revenue Department, and hence while demarcating the same digitally, GSDL is facing shifting issues related to boundaries. It was seen that despite lapse of 02 months as well as the coordination support offered by 30 IAS/DANICS Probationers, the directions of High Level Committee have not been adhered to. The committee expressed displeasure and directed that joint teams of Revenue Department and DDA under the lead of District Magistrate now shall complete the

ground truthing of the shifting issues, observed by GSDL in the floodplain map of 1:25 flood frequency for provision of authenticated ground coordinates, without further delay, as per a predetermined schedule. It was briefed to the committee that the Hon'ble Tribunal during the last hearing was appraised that exercise of defining the flood plain keeping in view the highest level once in 25 years is for the internal purposes. Chief Secretary directed that this exercise shall be completed before 6th September, 2024.

(Action: DDA, GSDL)

7. The above action is very critical towards determining the area of the floodplain of 1:25 flood frequency. There are discrepancies in data regarding the area between submissions of DDA and GSDL. GSDL has submitted that the area is 6552.97 hectares. DDA was asked to reconcile.

(Action: DDA, GSDL)

8. The HLC had previously directed joint physical verification by DDA and Revenue Department of the 591 Bollards, installed by DDA for demarcation of 1:25 year's flood plain of River Yamuna according to the 2015 Hon'ble NGT order, and 375 Flag Posts & 27 sign boards in the stretch from Wazirabad barrage to Jaitpur. HLC was briefed that the joint verification was completed and it was found that 265 out of 591 Bollards, 86 out of 375 Flag Posts and 21 out of 27 Sign Boards were found in the field. A report was also to be submitted on the boundary length covered and uncovered, which is awaited. The joint teams of DDA and Revenue Department under the lead of respective District Magistrate will ensure submission of the report before the next HLC meeting.

(Action: DDA, Revenue Department)

9. DDA was asked to reinstall the missing Bollards, Flag Posts and Sign Boards. DDA was also asked to share the geo-coordinates with GSDL and also place in public domain.

(Action: DDA)

10. The second mandate of the HLC as directed by the Hon'ble NGT was to suggest measures to prevent and remove encroachment and unauthorized constructions falling within flood plains. GSDL informed that encroachment details have not been received from DDA and the Revenue Department in the required format.

11. The committee was appraised that DDA in pursuance of Hon'ble High Court in contempt case WP(C) 715/2015 and WP(C) 5751/2014 - Sh. Vijay Kumar Diwakar Vs SDMC & Ors on 27.03.2024 have started drone survey in June 2024 of O Zone (97 KM²) in collaboration with Survey of India. DDA informed that ortho- rectified aerial images have been generated from survey followed by visual interpretation of drone images and found built up area in the surveyed area. It was felt that the extensive drone survey exercise should be outcome

oriented, and shall have to result in finding out the exact area which is under encroachment in the floodplains.

12. The same joint district teams constituted for the purpose of ground truthing shall assess the area under encroachment, district-wise, in floodplain of 1:25 year frequency, and submit authenticated ground coordinate details to GSDL for enabling their depiction on base map and imageries of GSDL. Ground truthed information is also crucial towards validating the drone generated information.

(Action: Revenue Department, DDA, GSDL)

13. GSDL shall offer all the geospatial technology related advice to the joint district teams.

(Action: GSDL)

14. DDA informed that encroachments are being continuously removed from floodplain on regular basis and so far 1530 acres of floodplain have been repossessed during the period of 26 months (May 2022 to July 2024). The HLC directed that information on the quantum of encroachment removed from floodplain may be submitted to the Hon'ble Tribunal.

(Action: Environment Department)

15. DDA informed that in pursuance of this HLC's direction, Hon'ble High Court, Delhi was requested to club all the land related cases in the Yamuna flood plains / O zone, so that effective representation of cases with court can be ensured, and resultantly 44 cases have been clubbed out of which 18 cases have been decided favourably.

Meeting ended with a vote of thanks to the chair.

Nigam
13-08-2024
(Nigam Agarwal)
Director (Environment)

To

1. Divisional Commissioner, GNCTD
2. Additional Chief Secretary, Irrigation Flood and Control Department, GNCTD
3. Director General, National Mission for Clean Ganga (NMCG), Govt. of India
4. Principal Secretary, Finance Department, GNCTD
5. Pr. Secretary, Environment & Forests, GNCTD
6. Vice Chairman, Delhi Development Authority
7. Secretary (IT), GNCTD
8. Managing Director, GSDL.
9. District Magistrates ((North-East, Shahdara, East, Central, North and South-East), Revenue Department, GNCTD

Copy for kind information to:

1. Secretary, DoWR, RD & GR, Ministry of Jal Shakti (MoJS), Govt. of India
2. Secretary, Ministry of Housing & Urban Affairs, Govt. of India
3. Addl. Chief Secretary, Urban Development Department, GNCTD
4. Addl. Chief Secretary, Industries Department, GNCTD
5. Commissioner, Municipal Corporation of Delhi
6. Chairman, Delhi Pollution Control Committee.
7. Executive Director, National Mission for Clean Ganga (NMCG), Govt. of India
8. Land & Development Office (L&DO), Ministry of Housing & Urban Affairs, Govt. of India
9. Principal Secretary, Services Department, GNCTD
10. Commissioner of Police, Delhi Police
11. MD, DSIIDC
12. Staff Officer to Chief Secretary, GNCTD
13. Addl. Director (WMC-II), Delhi Pollution Control Committee
14. Guard file, Department of Environment

*Nigam
15.02.17*
(Nigam Agarwal)
Director (Environment)



95

OFFICE OF THE EXECUTIVE ENGINEER,
CIVIL DIVISION-XIV: IRRIGATION & FLOOD CONTROL
DEPARTMENT: GOVT. OF NCT OF DELHI: L.M. BUND OFFICE
COMPLEX, SHASTRI NAGAR, DELHI-110031:
PHONE NO.: 011-21210867-68, Email: lfccdxiv@gmail.com

Annexure II



No: EE/CD-XIV/SAFPA/2018-19/2770-2776
To,

Dated: 23/11/23

The Director,
Central Water And Power Research Station,
Sinhagad Road, Khadakwasla,
Pune, Maharashtra-411024.

Sub: To conduct a study of Scientific Assessment of impact on Flood Prone Area for Delhi region after the recent flood wherein highest water level at ORB was reached at 208.66m and to suggest the measures.

Sir/Madam,

Due to a combination of Western Disturbances and Southwest Monsoon, heavy rainfall in different places of Himachal Pradesh, Uttarakhand and Haryana occurred during 09-13 July 2023, leads flooding in the hills and plains. The heavy rainfall in the catchment area of river Yamuna resulted in huge runoff in the river, due to which new HFL of 208.66m was observed on 13th July 2023 at Old Railway Bridge surpassed an earlier HFL of 207.49m recorded on 6th September 1978. In this regard, a departmental committee has also been constituted by Pr. Secretary (I&FC) consisting of three retired Chief Engineers of I&FC Department vide order no.F.4(1)/2012/Misc./Estt./CE(I&FC)/Vol.III/ Pt.III/5776-82 dated 09.08.2023 (CP-8) to suggest short term and long term measures in coordination with other concerned departments of GNCT of Delhi to regulate and control flood like situation in NCT of Delhi region.

Due to this flood the water has over topped from the right side embankment of river Yamuna from Boat Club to Yamuna Bazaar and above said committee was also suggested that a scientific study to be carried out for assessment of flood prone areas for 10 years, 50 years & 100 years return period floods for Delhi region. This office have available record of data of topographical post monsoon survey of river Yamuna from Palla to Jaitpur carried out by M/s. Wapcos Ltd. in 2013-14 and M/s Intech Pvt. Ltd. in 2021-22 and peaks of recent & past floods discharge & gauge data of river Yamuna from 1978 to 2023 at different locations.

In view of above, a scientific study may be conducted through your department, to carry out the assessment of causes of the high level/ breach and to suggest the remedial measures. The financial implication may also be intimated to this office immediately before conducting the study, so that approval may be accorded from competent authority for payment. This may be treated as Most Urgent.

Yours faithfully,


(SHIV KUMAR)

EXECUTIVE ENGINEER, CD-XIV

No: EE/CD-XIV/SAFPA/2018-19/2770-76 o/c
Copy forwarded for kind information to:

Dated: 23/11/23

1. P.S to Secretary (I&FC), Govt. of NCT of Delhi, 5/9, Under Hill Road, Delhi.

2. Chief Engineer, Zone-I, I&FC Deptt., Govt. of NCT of Delhi, L.M. Bund Office Complex, Shastri Nagar, Delhi.
3. Superintending Engineer, CWC, Hydrological Observation Circle H. No. 285, Sec-1, Vaishali, Ghaziabad-201010. U.P. w.r.t. your letter dated 27.11.2018.
4. Superintending Engineer, FC-I, I&FC Deptt., Govt. of NCT of Delhi, L.M. Bund Office Complex, Shastri Nagar, Delhi.
5. Assistant Enginner-III, CD-XIV.

Sh
25/11/18

EXECUTIVE ENGINEER, CD-XIV

a/c

To conduct a study of Scientific Assessment of impact on Flood Prone Area for Delhi region after the recent flood wherein highest water level at ORB was reached at 208.66m and to suggest the measures.

1 message

Executive Engineer CD-XIV Civil Division-XIV <lfccdxiv@gmail.com>
To: arun.k@cwprs.gov.in, patil.rg@cwprs.gov.in
Cc: ceifcd <ceifcd@gmail.com>, ifcfci <ifcfci@gmail.com>

8 February 2024 at 13:42

Dear Sir,

Kindly refer to the letter No. EE/CD-XIV/SAFPA/2018-19/2770-76 dated 23.11.2023, on the above cited subject, vide which it was requested for scientific study to carry out the statement of causes of the high level of water in river Yamuna during recent flood / breach and to suggest remedial measures. In this connection, please find herewith the terms of reference / scope of study for the above cited matter. In this regard, you are requested to intimate time required to conduct above said study & the financial implication may also be intimated to this office immediately before conducting the study, so that approval may be obtained from competent authority. Please find the attachment for the same.

With regards

EECD-XIV



Terms of reference.docx

15K

Sub.: To conduct a study of Scientific Assessment of impact on Flood Prone Area for Delhi region after the recent flood wherein highest water level at ORB was reached at 208.66m and to suggest the measures.

Terms of Reference

During recent flood of 2023 peak level of 208.66m has been reached at ORB which is 1.17m above the previous highest ever recorded level during most devastating flood of 1978 in river Yamuna. Flooding has been noticed at various locations between Wazirabad Barrage and Okhla Barrage on right Bank of river particularly near Chandgi Ram Akhara, ISBT Kashmere Gate, Nigam Bodh Ghat, Shanti Van, Raj Ghat, ITO etc. Capital of the country should be properly protected from the revenges of floods from river Yamuna. The river has embankments on both sides. Works of raising and strengthening of embankment had been carried out after its construction. These works resulted into safe passage of discharge during 2010 & 2013 flood. However, due to urbanization almost all along the embankment and also jacketing of the river by neighboring states in the upstream reaches the vulnerability of Delhi stretch is very high. It has been advised by Advisory Group of Chief Engineers (Retd.) as expert member to get the stretch studied and to Raise & Strengthen the embankments along the river in the U.T. of Delhi, considering highest flood level of 208.66m at ORB recorded during recent flood, along with free board as per latest codal provisions/guidelines in this regard. Estimation of 25, 50, 100 & 500 Years return period floods at Hathni Kund Barrage, Wazirabad Barrage, ORB Delhi and Okhla Barrage. With these requirements, the water profile in the river Yamuna had to be worked out corresponding to the present conditions of the embankments in the U.T. of Delhi and neighbouring states of Uttar Pradesh and Haryana. Locations shall be identified for raising & strengthening of embankments along with other river training works for making recommendations in this regard by CWPRS Pune, based on outcome of Hydro Dynamic model Study.

In addition to the above scope the following points may also be considered to assess their impact:-

1. Construction of embankment /retaining wall on right bank of river Yamuna between Old Railway Bridge to Wazirabad Barrage.

2. Widening of Left Forward Bund from Badarpur Khadar village to Nanaksar T-point Wazirabad Road as desired by Hon'ble MP / MLAs. (letter attached).
3. Construction of another Bund on Left Bank of river Yamuna from Wazirabad to Shastri Park parallel to existing L.M. Bund in continuity of L.F. Bund upto L.M. Bund.
4. Study of Islands formed on D/s & U/s of ITO barrage and to suggest the corrective measure.
5. To assess the location and extent for dredging/ sand mining in river bed to remove the extra load deposited in between Wazirabad barrage to Okhla barrage to increase the carrying capacity.
6. To suggest the corrective action in solid approach road of various bridges across the river between Wazirabad barrage to Okhla barrage to give safe passes of discharge w.r.t. the recent flood.
7. To review the danger & warning level w.r.t. Old Railway Bridge in consideration of recent flood.
8. To suggest solutions of existing solid approach roads of bridges.
9. Suggest the strengthening / raising of existing regulators & pump house.





15

Annexure III

भारत सरकार / Government of India
जल शक्ति मंत्रालय / Ministry of Jal Shakti
जल संसाधन, नदी विकास और गंगा संरक्षण विभाग
Department of Water Resources, River Development and Ganga Rejuvenation
केन्द्रीय जल और विद्युत अनुसंधान शाला

खडकवासला, पुणे - ४११०२४
CENTRAL WATER & POWER RESEARCH STATION
Khadakwasla, Pune - 411 024

टेलीफोन : 020-24103378
फैक्स : 020-24381004
वेबसाइट : www.cwprs.gov.in
ईमेल : cro_tc@cwprs.gov.in

No. TC/BE/2024/ 409

Date: 17 MAY 2024
124 MAY 2024

To,
Shri Shivkumar,
Executive Engineer, CD-XIV,
Irrigation and Flood Control Division,
Government of NCT of Delhi,
L. M. Bund Office Complex, Shastri Nagar,
Delhi-110031

Sub: Mathematical model studies to assess the impact on flood prone areas along river Yamuna at Delhi.

Ref: Your Letter No. EE/CD-XIV/SAFPA/2018-19-/2770-2776 dated 23/11/2023

Sir,

This has reference to the above referred letter regarding subject proposal. CW&PRS would be glad to take up the study in accordance with the identified scope. An estimate as detailed below for the following study is enclosed in duplicate for your acceptance and approval.

S.No.	Name of work	Cost of Study (Rs.)*
1.	Mathematical model studies to assess the impact on flood prone areas along river Yamuna at Delhi.	42,43,860.00/-
	GST	Nil
	Total	42,43,860.00/-

(Rupees forty two lakh forty three thousand eight hundred and sixty only)
(*including contingency charges @ 5%)

It is requested that one copy of the estimate duly countersigned in token of your approval and acceptance may be returned to this office. E-PAYMENT IS TO BE MADE STRICTLY UPON REGISTERING AT <https://bharatkosh.gov.in/UserRegistration.aspx> and following necessary steps thereon as a onetime process for all future payments. E- PAYMENTS BY ANY OTHER MEANS SHALL NOT BE ENTERTAINED. The remitter must read the guidelines and follow the same while making payments (<https://bharatkosh.gov.in/static/UserGuide.aspx>). The details of the E- payment MUST be informed to this office in the Proforma given in FORM - E (copy enclosed) through email at cpc.cwprs-pune@gov.in with a copy to cro_tc@cwprs.gov.in and paocwprs@gmail.com or by Fax on 020-24381004.

The work will be taken up only on receipt of sanction to the estimate and deposit of the full estimated amount. For any further clarification, you may contact Dr. R.G.Patil, Scientist 'E' (Ph. 020-24103444, e-mail - patil.rg@cwprs.gov.in).

Goods and Services Tax @ 18% is applicable to the service provided by CWPRS, Pune as per rules. This service falls under the reverse charge mechanism as per section 9(3) of CGST Act 2017. Therefore the recipient of the service shall pay GST @18% (if applicable). CWPRS GSTN registration number is 27AAATC7523J1ZO and Service Area Code (SAC) is 998349. The PAN No. of CWPRS is AAATC7523J. A certificate along with the approval and GST Number is to be submitted to CWPRS along with the details of payment of the full estimated amount.

CWPRS being a Government of India Organization under the Ministry of Jal Shakti, Department of Water Resources, River Development & Ganga Rejuvenation no tax is deductible at source in accordance with Section 196 of the Income Tax Act. 1961. Moreover no deduction may be made from the payment towards GST, DD Commission etc.

हमारी उत्कृष्ट सेवाओं का आश्वासन देते हुए आप को धन्यवाद !

Encl: As above

भवदीय,

Manoj 16/5/24
f (एस. जी. मंजुनाथ / S. G. Manjunatha)
वैज्ञानिक 'ई' (तकनीकी समन्वय)
Scientist 'E' (Technical Co-ordination)
For Director, CWPRS

Copy to:

- ✓ 1. Shri. Kuldeep Malik, Scientist 'C' (BE) through Dr. R. G. Patil, Scientist 'E'
- 2. Scientist 'E', T.C. Division.
- 3. Scientist 'C', CPC

भारत सरकार
Government of India
जल शक्ति मंत्रालय
Ministry of Jal Shakti
जल संसाधन, नदी विकास और गंगा संरक्षण विभाग
Department of Water Resources, River Development and Ganga Rejuvenation

केन्द्रीय जल और विद्युत अनुसंधान शाला
Central Water and Power Research Station

खडकवासला पुणे-411 024
Khadakwasla, Pune 411 024



प्रारंभिक प्राक्कलन
PRELIMINARY ESTIMATE

Name of Work	:	Mathematical model studies to assess the impact on flood prone area along river Yamuna at Delhi.
Date	:	May 2024
Laboratory	:	River Engineering

STATE	DIVISION	BRANCH
Maharashtra	CWPRS	Bridge Engineering

Name of work: Mathematical model studies to assess the impact on flood prone area along river Yamuna at Delhi.

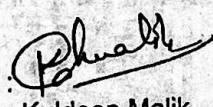
<i>Major Head</i>	<i>Minor Head</i>	<i>Detailed Head</i>
	Deposit	

Estimate framed by Scientist-C, Bridge Engineering Division for the probable cost of Rs. 42,43,860.00/- (Rupees forty two lakh forty three thousand eight hundred and sixty only) including contingency charges @ 5% towards the subject studies.

REPORT

History	<p>During recent flood of 2023 peak level of 208.66 m has been reached at old rail bridge which was 1.17 m above the previous highest ever recorded level during most devastating flood of 1978 in river Yamuna. Flooding has been noticed at various locations between Wazirabad Barrage and Okhla Barrage on right bank of river particularly near Chandgi Ram Akhara, ISBT Kashmere Gate, Nigam Bodh Ghat, Shanti Van, Raj Ghat, ITO etc. Due to urbanization almost all along the embankment and also jacketing of the river by neighboring states in the upstream reaches the vulnerability of the Delhi stretch is very high. In this regard advisory Group of Chief Engineers (Retd.) as expert member has also been constituted.</p> <p>In this connection, Executive Engineer, CD-XIV, Irrigation and Flood Control Division, Government of NCT of Delhi, requested CWPRS vide Letter No. EE/CD-XIV/SAFPA/2018-19-/2770-2776 dated 23/11/2023 to carry out the studies to assess the impact on flood prone area along river Yamuna at Delhi.</p>
Scope of study	<p>Mathematical model studies to assess the impact on flood prone area along river Yamuna at Delhi considering following point:</p> <ul style="list-style-type: none"> • Construction of embankment/retaining wall on right bank of river Yamuna between Old Railway Bridge to Wazirabad Barrage. • Widening of left forward bund from Badarpur Khadar village to Nahaksar T-Point Wazirabd Road. • Construction of another bund on left bank of river Yamuna from Wazirabad to Shastri Park parallel to existing L. M. bund in continuity of L. F. bund upto L. M. bund. • Study of Islands formed on D/S and U/s of ITO barrage and to suggest the corrective measures. • To suggest the corrective action in solid approach road of various bridges across the river between Wazirabad barrage to Okhla barrage to give safe passes of discharge w. r. t. the recent flood. • To review the danger & warning level w. r. t. old railway bridge in consideration of recent flood. • To suggest solutions of existing solid approach roads of bridges. • Suggest strengthening/raising of existing regulators and pump house. <p>CWPRS Officers will also visit the site to appreciate ground realities of the study area.</p>
Methodology	<p>Topographical/cross-sectional data of river Yamuna in the study reach will be utilized to develop a 1-D / 2-D mathematical model. Major existing structures in the study reach like bridges, barrages, weirs, etc. will be reproduced. Water levels and velocities will be computed with the help of the model. Flow conditions in the study reach will be observed and analysed. On the basis of site inspection, flow conditions, observed</p>

	<p>velocities and water levels etc. The assessment of impact on flood prone area along river Yamuna at Delhi will be carried out. All topographical, cross-section, hydraulic and other related data required for the study will be collected and provided by the project authority before start of study.</p>
Duration of studies	05 months after receipt of all requisite data, receipt of sanction to the cost estimate and deposit of full estimated amount.
Validity of estimate	This estimate is valid for six (6) months from the date of issue. Further, the estimate can be revised based on the requirement from Project Authority.
Other Information	<ol style="list-style-type: none"> 1. This preliminary estimate, amounting to Rs. 42,43,860.00/- (Rupees forty two lakh forty three thousand eight hundred and sixty only) has been framed to cover the expenditure likely to be incurred for the above-mentioned studies. 2. Prevailing market/ schedule rates have been adopted while framing the estimate. 3. The Goods and Service Tax @ 18% is applicable to the services provided by CWPRS, Pune as per rules. These services fall under the reverse charge mechanism as per section 9(3) of CGST act 2017. Therefore the recipient of the services shall pay GST @ 18% (if applicable). CWPRS GSTN registration number is 27AAATC7523J1ZO and Service Area Code (SAC) is 998349. The PAN number of CWPRS is AAATC7523J. A certificate along with the approval and GST Number is to be submitted to CWPRS along with the details of payment of full estimated amount. 4. The provision of TA covers expenses for travel of officers from CWPRS to Delhi and back only. The project authorities will have to make the arrangements for further travel and stay. 5. On completion of the studies a final report based on the findings would be submitted. 6. CWPRS reserves the right to publish the findings of the studies in Conferences/Journals.

Signature : 
Name : Kuldeep Malik
Designation : Scientist-C
Division : Bridge Engineering

Date: 16.05.2024

STATE	DIVISION	BRANCH
Maharashtra	CWPRS	Bridge Engineering.


Abstract of cost

Name of the work: Mathematical model studies to assess the impact on flood prone area along river Yamuna at Delhi.

Sr. No.	Subheads of charges	Amount (Rs.)
I	Model Construction / Fabrication	0.00
II	Procurement of equipment/ material	4,90,000.00
III	Service / Operational charges/Software charges	85,400.00
IV	Other charges	2,15,320.00
V	TA / DA / Transport Charges	1,83,680.00
VI	Establishment Charges	30,67,365.00
	Sub Total	40,41,765.00
	Contingency charges (@ 5%) on Sub Total	2,02,088.25
	Total	42,43,853.25
	GST	NII
	Say(Rs.)	42,43,860.00

(Rupees forty two lakh forty three thousand eight hundred and sixty only)

Date: 16.05.2024

Signature : 
Name : Kuldeep Malik
Designation : Scientist-C
Division : Bridge Engineering
Phone : 020-24103480

CERTIFICATE

This is to certify that the Goods & Service Tax applicable to the above estimated cost, will be paid by this office and a copy of challan shall be submitted to you at the earliest.

Accepted



Signature:
Name of signatory :
Designation:
Address:

Action Taken Report in respect of I&FC Department


Sub: NGT Matter, "News report Published in the Times of India dated 22.08.2023 titled, Why Flooding has forced DDA's Master Plan Rethink."

Kindly peruse the minutes of meeting held under the chairmanship Chief Secretary GNCTD on 07.05.2024 at 3:30 PM, on the subject cited above to review the pending issues and compliance of order dated 02.07.2024 by Hon'ble NGT in OA No. 537/2023 vide order dated 02.11.2023 on demarcation of Yamuna flood plains in Delhi and removal of encroachments from the flood plains with proper marking on the maps digitals, copy placed at Cr side.

Action taken report in r/o various points of Court Order and said meeting pertaining to I&FC Department are as under:-

Point No.	Issues	Reply
Minutes of Meeting held on dated 07.05.2024 (PUC-I)		
3	The committee was informed that IFCD had clarified on the criteria or SOP (Standard Operating Procedure) to be adopted, that: "On the direction of Hon'ble NGT in Manoj Mishra Vs. Union of India OA 06/2012 vide judgment dated 13.01.2015 I&FC department was directed to prepare flood maps for flood of 1 in 25 years in interest of ecology, bio-diversity and river flow. Flood of 2011 was identified as 1 in 25 frequency flood. The water level recorded at ORB was 205.75 m. Since GSDL had contour of min. of 1m. interval, so the water level was considered as 206.00 m. for 1 in 25 years flood frequency".	On the direction of Hon'ble NGT in the matter Manoj Mishra Vs Union of India OA 06/2012 vide judgement dated 13.01.2015 it was directed to I&FC department to prepare flood maps for the flood of 1 in 25 years in interest of ecology, bio-diversity and the river flow. In this context, this department requested to IIT Delhi to provide the 1 in 25 flood frequency. IIT Delhi, conveyed through e-mail dated 03.03.2015 that flood of 2011 is identified as 1 in 25 frequency flood, during which maximum discharge released from Hathni Kund Barrage and Wazirabad Barrage was 6,41,462 cusec and 1,56,430 cusec respectively. The water level recorded at ORB was 205.75 m. This data was shared/ forwarded to GSDL for preparation of flood maps. GSDL having contour of min. of 1m. interval, so the water level was considered as 206.00 m. for 1 in 25 years flood frequency. Accordingly GSDL provided the flood maps containing in 20 sheets which were forwarded to DDA for its physical demarcation being the land owning agency vide letter No. EE/CD-XIV/NGT/2014-15/4589-4602 dated 20.03.2015 (Annexure-A) and also available on our web portal https://ifc.delhi.gov.in/doi-tabcontent/378 .

<p>4 The Hon'ble NGT's direction that the flood plain corresponding to its greatest flow or with a flood frequency once in 100 years is required to be demarcated was discussed. Executive Director, National Mission for Clean Ganga, one of the members of the HLC, informed the committee that Ministry of Jal Shakti had constituted a committee for joint flood management study of river Yamuna for its reach between Hathnikund and Okhla Barrage in which Principal Secretary IFCD is a member from GNCTD and the report broadly focuses on cause of event and measures for better ground preparedness in case of such events in future. Further, IFCD informed that for this exercise, the department has engaged CWPRS (Central Water and Power Research Station, Pune) for determining area and outer limit of 1:100 years floodplain based upon flood frequency analysis and water level stimulation. It was informed that the outcome is awaited. IFCD was directed to expedite the exercise. Accordingly it was further decided that demarcation of flood plain with flood frequency once in 100 years will be taken up once IFCD completes the above mentioned exercise. However floodplain once in 25 years basis shall be completed.(Action: IFCD)</p>	<p>A request has been made to GSDL for preparation of flood maps HFL 208.66m (highest ever recorded level at Old Railway Bridge), in flood 2023. (copy annexed at Annexure-B). I&FC Department has also requested to Central Water Commission, Govt. of India for providing ORB water level and discharge passes through Delhi region w.r.t. its greatest flow or flood frequency 1 in 100. (copy annexed as Annexure-C). Accordingly after getting the discharge and water level floods map for the frequency 1 in 100 can be made by GSDL on similar pattern/ format.</p> <p>The work has been assigned/ awarded to CWPRS, Pune for Scientific Assessment of impact on Flood Prone Area for Delhi region after the recent flood wherein highest water level at ORB was reached at 208.66m and to suggest the measures. CWPRS Pune, vide e-mail dated 05.04.2024 has been requested to expedite the study. The expected stipulated time of submission of report as per the letter of CWPRS, Pune is 05 months after the full payment of estimated cost of study.</p>
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 Executive Engineer
 Civil Division-XIV
 I & FC Department
 Govt. of NCT of Delhi


5	<p>Learned Counsel for Delhi Development Authority (DDA) has submitted that exercise of defining the flood plain keeping in view the highest level once in 25 years is for the internal purposes. Referring to paragraph 8 of the reply of NCT of Delhi dated 06.06.2024, submission has been made that work of defining the flood plain zone of River Yamuna keeping in view the highest flood level of once in 100 years has been given to CWPRS (Central Water and Power Research Station, Pune). The said paragraph does not disclose the terms of reference, date of award of the work and timeline for completion.</p>	<p><u>Regarding 1 in 25 flood frequency</u></p> <p>On this issue it is submitted that DDA (being land owning agency) had got demarcated the 1 in 25 years flood plain after following due process and assessment. The copy of said report of 1 in 25 years flood plain demarcation for study is annexed as Annexure-D. It is suggested that same SoP may be followed adopted by DDA for demarcation of highest ever flood land in Delhi which is 208.66 mtr. at Old Railway Bridge.</p> <p><u>Regarding 1 in 100 flood frequency</u></p> <p>A request has been made to GSDL for preparation of flood maps for HFL 208.66m (highest ever recorded) at Old Railway Bridge in flood 2023. (copy annexed at Annexure-B). However, I&FC Department has also requested to Central Water Commission, Govt. of India for providing water level and discharge at Old Railway Bridge w.r.t. its greatest flow or flood frequency 1 in 100. (copy annexed as Annexure-C). The details received for GSDL and CWC shall be shared with DDA.</p>
6	<p>Ms. Neelima Soni, Director, DDA present in person has informed that payment for the work has not been made to the CWPRS till now and work has not been started.</p>	<p>The work has been assigned to CWPRS, Pune for "Scientific Assessment of impact on Flood Prone Area for Delhi region after the recent flood wherein highest water level at ORB was reached at 208.66m and to suggest the measures" and part payment of the amount sought for the study by CWPRS, Pune for the same has been made.</p>
7	<p>From the reply of NCT of Delhi, it cannot be ascertained that any effective step has been taken till now for demarcating the flood plain zone of River Yamuna, having due regard to the provisions of order of 2016.</p>	<p>Does not pertain to I&FC Department.</p>
8	<p>At this stage, prayer has been made by Counsel for NCT of Delhi as also for the DDA to grant time to place on record fresh report disclosing the</p>	<p>Does not pertain to I&FC Department.</p>


Executive Engineer
 Civil Division-XIV

	<p>steps which have been taken for demarcation of flood plain zone in terms of Clause 3 (1) of 2016 order. Said respondents are directed to disclose the timeline on affidavit of the Competent Authority for completing the work of demarcation of flood plain zone of River Yamuna as also the modalities which will be adopted for the same.</p>	
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Submitted for kind perusal and onward submission to the Environment Department before Hon'ble NGT High Court in OA No. 537/2023.

Submitted please


Executive Engineer, CD-XIV
 Executive Engineer
 Civil Division-XIV
 I & FC Department
 Govt. of NCT of Delhi


Assistant Engineer-III, CD-XIV
 Assistant Engineer-III
 Civil Division-XIV
 I & FC Department
 Govt. of NCT of Delhi

Department of Environment,
Govt. of NCT of Delhi, 6th Level, C-Wing,
Delhi Secretariat, IP Estate, New Delhi-110002

No. F.DPCC/(10)/(86)/Leg-2023/ pt.file-1/2596-2601

Date: 13-08-2024

ORDER

This is with reference to the compliance of directions of High Level Committee (HLC) constituted by Hon'ble NGT in OA No. 537/2023 vide order dated 02.11.2023 on demarcation of Yamuna flood plains in Delhi. The High Level Committee chaired by Chief Secretary, Delhi on 07.05.24 had directed the Revenue Department and the DDA to complete the ground truthing of the shifting issues faced by GSDL in demarcation of floodplains of 1:25 year frequency and submit encroachment details on the floodplain.

However, it is seen that despite lapse of 02 months as well as the coordination support offered by 30 IAS/DANICS Probationers, the directions of High Level Committee have not been adhered to. The Hon'ble NGT in its order dated 02.07.24 (uploaded in website on 10.07.24) as well as the subsequent High level Committee meeting on 02.08.2024 has observed that no effective steps have been taken till now for demarcation of floodplain.

In the above circumstances, it is evident that proactive immediate and coordinated actions are required on part of DDA and Revenue Department, and hence following actions may be completed by joint team of Revenue Department, DDA and GSDL before convening the next meeting of the High Level Committee:

1. Joint district teams of DDA and Revenue Department under chairmanship of respective District Magistrates shall conduct spot field inspections and complete the ground truthing of shifting issues, observed by GSDL in the floodplain map of 1:25 flood frequency for provision of authenticated ground coordinates
2. The same joint district teams shall assess the area under encroachment, district-wise, in floodplain of 1:25 year frequency, and submit authenticated ground coordinate details to GSDL for enabling their depiction on base map and imageries of GSDL.
3. A district wise report to be submitted on the boundary length (of the floodplain of 1:25 flood frequency) covered and uncovered by Bollards, which is awaited.
4. The following time bound spot inspection schedule shall be followed by the joint district teams:

District	Date of field visit by Joint District teams
Central	10.08.2024 to 15.08.2024
South East	16.08.2024 to 21.08.2024
East	22.08.2024 to 26.08.2024
North East	27.08.2024 to 31.08.2024
North	01.09.2024 to 03.09.2024
Shahdara	04.09.2024 to 06.09.2024

5. If certain teams wish to extend the duration of field visits, they may do so but the compliances shall be completed within 6th September, 2024.
6. GSDL shall offer all the geospatial technology related advice to the joint district teams.

The above action shall be completed within the scheduled time positively without fail.

This issue with approval of competent authority.

Nigam
13-08-2024
(Nigam Agarwal)
Director, Environment

Copy to:

1. Divisional Commissioner, GNCTD
2. Vice Chairman, Delhi Development Authority
3. Managing Director, GSDL.
4. District Magistrates (North-East, Shahdara, East, Central, North and South-East), Revenue Department, GNCTD

Copy for information to:

1. Addl. Chief Secretary, Irrigation Flood Control Department, GNCTD
2. Staff officer to Chief Secretary, Delhi.