

Request for Proposal (RFP) is invited from Consultant/ Joint Venture/ Multi-disciplinary Consortia, Government Organization , Public Sector undertaking, Government Educational Institute and I&FC Empanelled agencies, for Project Management Consultancy (PMC) for the work to rejuvenate drain in holistic manners by using ecologically sensitive sustainable technique like creation of stationary and floating wetlands and in-situ aeration & installation of ozonizer in drains which can reduce BOD load, improve dissolved oxygen levels, reduce bad odour and harmful gas emission from the drains. Further to develop the vacant land by landscaping, developing it for recreation activities such as cycling track, jogging track, Illumination of dark spots of drain by installation of street lighting automated with solar energy/wind energy wherever feasible and Installation of solar panels for generation of solar energy where ever feasible in respect of drains falls under the jurisdiction of Civil Division VI, I&FC Department, Govt. of NCT of Delhi.

Introduction:-

The quality of waste water of the drains falling under the Jurisdiction of Civil Division VI, I&FC Department here-in-after called as Department, is alarming due to industrial effluent, waste water and septage from the adjoining un-sewered villages and industrial waste flowing into the drains. BOD of the waste water has been found to vary high at different locations. The fumes of waste water in drains are also contributing to the air pollution and pollute the sub soil of the area along which it flows.

BACK GROUND:-

There are 57 major and minor storm water drains under the jurisdiction of Irrigation and Flood Control Department in Delhi. Out of the 57 drains following drains fall under the jurisdiction of Civil Division VI, I&FC Department.

S. No.	Name of Drain	Length in Metre	Catchment area (In Hect.)	Designed Discharge (In Cusecs)	(Avg.) Width of Drain in meter		Land Width
					Bottom	Top	
1.	Drain No.6 (RD.0m to RD.14725m)	14725.00	Drain No.6 off takes from Drain No.8 of Haryana State and outfalls into New Drain after passing approx. 15 Km 5650.00 Hectares	Varying from 264 Cusec to 887 Cusec	Varying from 7.5 Metre to 28.70 Metre		Varying from 28 Metre to 45 Metre
2.	New Drain	5400.00	Discharge of drain No.6 and Bawana escape drain Nagli poona, Swaroop Nagar, Libaspur and Shardhanand Colony (28,038 Hectares)	1180.00	38.00	48.00	61 Metre
3.	Burari Drain	6038	Hiranki Village, Saleempur Majra, Sunil Colony, Pradhan Enclave, Burari Shankarpur Vijay Colony (644 Hactares)	25.00	4.00	4.00	7.50 Metre
4.	Burari Creek	8863.00	Ibrahimpur, D.C.M. Colony, Nathupura, Kadi Vihar, Swaroop Nagar, I.P. Colony, Amrit Vihar, Mohanpur Colony, West Kamal Vihar, Harit Vihar, Himgiri Enclave, Bangali Colony and Jharoda (1476 Hectares)	74.00	8.00	12.00	20 Metre

5.	Link Drain No.II Extended Portion	2850.00	Link drain No.II start from Gate No.1, Bio Diversity Park and flowing alongwith Supplementary drain road and outfalls into Supplementary drain after passing approx.1.20 Km	10.00	2.00 to 2.50	2.00 to 2.50	15 Metre
6.	Toe Drain	4000.00	Toe drain start from Baba Colony mod and outfalls into Supplementary drain after passing approx. 4.00 Km. In 4.00 Km, this drain passing many unauthorized colonies namely Baba Colony A-Block and B-Block, Sant Nagar, Shiv Kunj, Jharoda Part-I II & III and Jharoda Harijan Basti	18.00	1.50	1.50	4 Metre

Brief about Drains.

- 1. Drain No.6** Drain No.6 off takes from Drain No.8 of Haryana State and outfalls into New Drain after passing approx. 15 Km. During this course of flow, various storm water drains and inlets e.g. Bankner Link Drain, Singhola Village MCD Drain, Singhu MCD Drain, Hamidpur Drain, Bakoli Drain and Mukhmelpur Drain etc.
- 2. New Drain :** New drain off takes from Bawana Escape drain which caters the discharge/household waste water, seepage, floating material etc. of Villages Harevali, Daryapur, Bawana, Sanoth, Alipur and Boodpur and outfall into Supplementary drain near Mukarba Chowk.
- 3. Burari Drain :** Burari drain start from Hiranki check Post Near RME at RD 11000 M and outfalls into River Yamuna after passing approx. 6.00 Km. In 6.00 Km, this drain passing Burari & Saleempur Mazra Villages and many unauthorized colonies namely Pradhan Enclave, Sunil Colony, Vijay Colony, and Parshuram Enclave, due to which this drain cater household waste water, rain water, sewage, floating material and other foreign material etc.
- 4. Burari Creek:** Burari Creek drain starts from Village Ibrahimpur and outfall into Supplementary drain. It caters the discharge/household waste water, seepage, floating material etc. of the various colonies in Burari Assembly Constituency.
- 5. Link Drain No.II** Link drain No.II start from Gate No.1, Bio Diversity Park and flowing alongwith Supplementary drain road and outfalls into Supplementary drain after passing approx.1.20 Km. In 1.20 Km, this drain passing two unauthorized colonies namely Sangam Vihar and Wazirabad, due to which this drain cater household waste water, rain water, sewage, floating material and other foreign material etc.
- 6. Toe Drain:** Toe drain start from Baba Colony mod and outfalls into Supplementary drain after passing approx. 4.00 Km. In 4.00 Km, this drain passing many unauthorized colonies namely Baba Colony A-Block and B-Block, Sant Nagar, Shiv Kunj, Jharoda Part-I II & III and Jharoda Harijan Basti due to which this drain cater household waste water, rain water, sewage, floating material and other foreign material etc.

Department has decided to rejuvenate all above drains **in holistic manners by using ecologically sensitive sustainable technique like creation of stationary and floating wetlands and in-situ aeration & installation of ozonizer in drains which can reduce BOD load, improve dissolved oxygen levels, reduce bad odour and harmful gas emission from the drains. Further to develop the vacant land by landscaping, developing it for recreation activities such as cycling track, jogging track, Illumination of dark spots of drain by installation of street lighting automated with solar energy/wind energy wherever feasible and Installation of solar panels for generation of solar energy wherever feasible in respect of drains** and therefore is calling this Request For Proposal (RFP) from the agencies having expertise in this field, for Project Management Consultancy (PMC).

Broad Scope of Work:-

1. Secondary Data Collection.
2. Map Based Information System.
3. Topographic & hydro graphic survey of the catchment area by using drone sensing technology.
4. Hydraulic Load Assessment.
5. Soil Bearing Capacity.
6. Silt Load Assessment & Management Plan.
7. Designing of wetland system required based on the water quality of the drain.
8. Feasibility of installation of aerator, ozonation wherever required.
9. Landscaping of vacant area, developing recreation activity area such as cycling track, jogging track, park etc.,
10. Illumination of dark spots of drain by installation of street lighting automated with solar energy/wind energy wherever feasible.
11. Installation of solar panels for generation of solar energy where ever feasible.
12. Proper integrated mechanism for removal of silt wherever required including use of Geo bags / Geo tubes whichever is feasible i.e. Geo fabrics for trapping floating waste/slit/sewerage .
13. Measures for management for solid waste including prevention of dumping solid waste in the drain, usage of silt and reuse of treated effluent.
14. Submission of inception report & feasibility report.
15. Submission of detail project report.
16. Supplying working Drawing, Structural Design along with BOQ including the cost of maintenances for (05) year from the date of commissioning of the work.
17. Tender Document preparation.
18. Technical supervision of work during execution and maintenance period.
19. Any other measure suggested by Committee for Controlling the Pollution constituted by National Green Tribunal or any other Authority.

2. INSTRUCTION FOR BIDDERS

A. GENERAL

2.1. General terms of Bidding

2.1.1 No Bidder shall submit more than one Bid for the Project. A Bidder bidding individually or as a member of a Consortium/JV shall not be entitled to submit another bid either individually or as a member of any Consortium/JV, as the case may be.

2.1.2 (a) The Bid should be furnished in the format at Appendix-I [Technical Bid] and Appendix-II [Financial Bid]. *Note:- Bid not submitted in prescribed format i.e. Appendix I and Appendix-II will liable to be rejected without going through merits.

2.1.2 (b) The Financial bid submitted in the Appendix-II should clearly indicate the Bid amount quoted in both figures and words against each of the drain separately and signed by the Bidder's authorized signatory. In the event of any difference between figures and words, the amount indicated in words shall be taken into account.

2.1.3 The Bidder shall deposit a Bid Security (EMD) of Rs. 1,00,000/- (Rupees One Lakh Only) in the shape of Demand Draft drawn in favour of Executive Engineer Civil Division VI, I&FC and payable at Delhi to participate in RFP. Government Organization, Semi-Government Organization, PSU, Government Educational Institutes are exempted from deposition of Bid Security amount of Rs. 1,00,000/-

2.1.4 In case the Bidder is a Consortium/JV, the members thereof should furnish a Power of Attorney in favour of the Lead Member.

2.2 **Site visit and verification of information**

2.2.1 Bidders are encouraged to submit their respective Bids after visiting the Project site and ascertaining for themselves the site condition, traffic, location, surrounding, climate, availability of power, water and other utilities.

2.2.2 **It shall be deemed that by submitting a Bid, the Bidder has:**

- (a) Made a complete and careful examination of the Bidding Documents;
- (b) Received all relevant information requested from the Department;
- (c) Accepted the risk of inadequacy, error or mistake in the information Provided in the Bidding Documents or furnished by or on behalf of the Department relating to any of the matters.
- (d) Satisfied itself about all the matters, things and information for submission of bid and performance of all of its obligations there- under;

2.2.3 The Department shall not be liable for any omission, mistake or error in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to RFP, the Bidding Documents or the Bidding Process, including any error or mistake therein or in any information or data given by the Department.

2.3 **Verification and Disqualification**

2.3.1 The Department reserves the right to verify all statements, information and documents submitted by the Bidder in response to the RFP or the Bidding Documents and the Bidder shall, when so required by the Agency, make available all such information, evidence and documents as may be necessary for such verification.

2.3.2 The Department reserves the right to reject any Bid and appropriate the Bid Security if:

- (a) At any time, a material misrepresentation is made or uncovered, or
- (b) The Bidder does not provide, within the time specified by the Department the supplemental information sought by the Department for evaluation of the Bid.

Such misrepresentation/ improper response shall lead to the disqualification of the Bidder. If the Bidder is a Consortium, then the entire Consortium and each Member may be disqualified / rejected.

2.4 **Clarifications**

2.4.1 Bidders requiring any clarification on the RFP may contact either through e-mail, ifccdvi@gmail.com or personally in the Office of Executive Engineer-CD VI, I&FC Department, Govt. of NCT of Delhi, Bharat Nagar, Office Complex, Delhi-110052 at least 7 days before the closing date of submission of bid.

2.5 **Amendment of RFP**

- 2.5.1 At any time prior to the Bid Due Date, the department may, for any reason, whether at its own initiative or in response to clarification requested by a Bidder, modify the RFP by the issuance of Addendum/Corrigendum.
- 2.5.2 Any Addendum/Corrigendum issued hereunder will be in writing and shall be sent to all the Bidders.

In order to afford the Bidder a reasonable time for taking an Addendum into account, or for any other reason, the Department may, in its sole discretion to extend the Bid Due Date.

Bidder has to submit bid document in two envelope marked as “Technical” and “Financial” and putting these two envelope in one sealed cover envelope clearly marking as “Bid documents for RFP-Drains” and submit the same in the office of Executive Engineer CD-VI, I&FC Department, Bharat Nagar, Office Complex, Delhi-110052 on or before 01.03.2019 upto 3.00PM.

The evaluation of RFP has two stages (i) Technical and (ii) Financial. The agency has to qualify both the stages for award of work. Financial bid shall be opened only for those bidders who so ever are qualified technically. L-1 bidder shall be awarded with the work of the respective drain for which it has come out to be L-1. **Empanelled Consultant/agencies for PMC of I&FC Department need to submit only Financial bid and they are exempted from submitting the Technical Bid. However, Empanelled Consultant/agencies need to submit Bid Security (EMD) amounting to Rs. 1,00,000/- (Rs One Lakh) along with Financial bid.**

A Bidder requires/ submit following to qualify in technical bid.

1. Self attested copy of Firm registration, registered in India as per law.
2. Rs. 1,00,000/- (Rupees One Lakh Only) in the form of DD drawn in favour of Executive Engineer CD-VI, I&FC, GNCTD payable at Delhi as EMD. Not applicable to Govt. Organizations, institutes, Public Sector Undertakings.
3. Solvency certificate amounting to Rs. 25 lakh issued by a Bank for current Financial year (Not applicable to Govt. Organizations, Semi Government Organization, PSU, Government Educational Institutes and Empanelled consultants/agencies).
4. The applicant must be a profit making organization with an average annual turnover of at least Rs. 40 lakh in last three years (Not applicable to Govt. Organizations, Semi Government Organization, PSU, Government Educational Institutes and Empanelled Consultant/agencies). In case of a Joint Venture or Consortia, the lead member alone will have to meet this condition (Turn Over Certificate should be signed by Chartered Accountant).
5. Self-attested copies of TAN/PAN, GST.

Criteria for technical qualification

{Please note:- The experience certificate should be signed by (i) in case of Govt Organization- Not Less Than the Executive Engineer (ii) in case of Private Organization-Not Less Than the Manager.}

1.	Having experience waste water treatment, project using eco-friendly sustainable technology such as Wet Land, pythorid technology. Experience certificate should be issued on the letter of the department/client and signed by authorized signatory. (10marks for each project executed and maximum of 20 marks)	10x2=20
2.	Having experience of Topographic/ hydrological survey of storm water drain, water body, river etc. (1x2.5 marks for topography survey and 1x2.5 marks for hydrological survey)	2x2.5=5
3.	Project of landscaping of water bodies, parks, drains, river front etc. (10 marks for each project maximum of 20 marks).	2x10=20
4.	Project done for establishing solar energy or wind energy plants (Solar energy plant-2.5 marks and Wind energy plant-2.5 marks).	2.5x2=5
Total (A)		50

Requirement of Technical Expertise

S. No.	Qualification	Experience	Marks
1.	B.E, B.Tech., M. Tech. Environmental or any graduate of science having experience in designing in Eco-Friendly sustainable Technology (Wet land, Phythorid on other similar Technology)	5 Years	20
2.	M. Arch. Specialization in land escaping	5 Years	10
3.	M. Tech. Hydrology or equivalent degree	5 Years	5
4.	B.E./B. Tech. Civil Engineering 2 Nos	5 Years	10 (2x5)
5.	M. Tech Structural Engineering	5 Year	5
Total (B)			50

Bidder has to score at least 65 Marks (A+B) to qualify in the Technical Stage.

A Bidder requires to submit quote in Rupees against each drain mentioned in Annexure-I with RFP document. The Financial bid will be opened for those bidders who qualify in Technical Stage. The Financial evaluation will be done for each drain and bidder who has quoted the lowest rate will be awarded the work of PMC for that drain.

The Selected Agency/ Organization is subject to following conditions:

1. The amount quoted is valid upto the completion of maintenance period of 5 years from the date of signing of the agreement. The same can be extended at the discretion of I&FC Deptt.

2. The Selected agency has to sign a MOU with the Executive Engineer In-charge before start of work and submit PG amounting to 5% of the quoted amount in the form of FDR.
3. **Security Deposit:-** 5% will be deducted from the amount payable in bill raised by the selected agency, on account of security deposit which shall be released after the completion of work including maintenance period.
4. The EMD amount deposited with the bid will be returned on submission of PG amount.
5. The Selection does not confer any right / guarantee of entrusting the work/ jobs in the favour of selected agencies.
6. I&FC Deptt. , reserves the right to reject applications without assigning any reason. The decision of I&FC Deptt. in this respect shall be final and binding on all applicants.
7. Any dispute/ legal case arising out of this empanelment or award of work will be subject to jurisdiction of Delhi Courts only.
8. The Selected Agency is to abide by the General Financial Rules of Government of India, CVC guidelines, instructions issued by the Finance Department, Govt. of Delhi etc.
9. The amount payable to the agency shall be the amount quoted by the agency or 5% of the cost worked out after preparation of Detailed Project Report excluding (labour cess), contingencies and 3rd party quality check)whichever is lower.
10. The rate quoted by the agency shall be inclusive of all taxes. No separate claim for reimbursement of any type of tax will be entertained by the deptt. at any stage.
11. Time allowed for submission for DPR along with detailed estimate, design and drawing is 120 days from the date of issue of award letter. 0.50% will be deducted from the amount payable to the agency for delay of every 10 (Ten) days.

12. Payment schedule:-

- (i) 2% of quoted rates on submission of feasibility report after ascertaining physical status of drains i.e. encroachment, availability of sufficient land for treatment of waste water of required discharge, landscaping etc. as per land records of Revenue Department so that drains can be developed by means of adopting ecologically sensitive sustainable technology. Only drains where works is feasible all should be considered for further course of action. In case of drains where work is not feasible, payment shall be made as per payment schedule upto submission of feasibility report. No extra claim on account of pre-mature termination shall be entertained.
- (ii) 8% of quoted rates on submission of preliminary report-like survey report, technology most viable and economical along with conceptual plan.
- (iii) 10% of quoted amount rates on submission of DPR along with detail estimate, details drawing & design along with landscaping plan and drawing .
- (iv) 15% after submission of BOQ, Tender Documents, detail working drawing and design and on award of work .
- (v) 15% of quoted amount rates on Physical completion of $\frac{1}{4}$ of the work.
- (vi) 10% of quoted amount rates on Physical completion of $\frac{1}{2}$ of the work.
- (vii) 10% of quoted amount rates on Physical completion of $\frac{3}{4}$ of the work.
- (viii) 20% of quoted amount rates on physical completion of the work and successful commissioning of the project.
- (ix) 10% of quoted rates during 05 years maintenance period (@2% per Year).
- (x) Performance Guarantee will be returned after completion of maintenance period.
- (xi) Further, 5% will be deducted from the amount payable in bill raised by the selected agency, on account of security deposit which shall be released after the completion of work including maintenance period.

Pre-bid meeting will be held in the Chamber of Executive Engineer-VI, I&FC Department, Govt. of NCT of Delhi, Bharat Nagar Office Complex, Delhi-110052, at 12.00 am on 27.02.2019. The prospective bidders before participating in the bidding process are requested to attend the meeting on venue and time given above.

Applicants may submit their bid in sealed cover, so as to reach to office of I&FC, on or before 01.03.2019 upto 03.00 P.M. at the following address: The Executive Engineer, Civil Division – VI, Irrigation & Flood Control Department, Govt. of NCT of Delhi, Bharat Nagar, Office Complex, Delhi-110052.

(GAGAN GAUR)
EXECUTIVE ENGINEER-CD VI
9958890106

FORMET FOR SUBMISSION OF TECHNICAL BID :- Annexure-I**Name of Applicant Firm:-**

S. No.	Description	Page No.	
1.	Name of Lead Member along with details of members forming Consortia/JV		
2.	Affidavit clearly stating name of Lead Member by the other members of JV/Consortia		
3.	Details of Bid Security: DD No, Bank, date and amount		
4.	Self attested copy of Firm registration, registered in India as per law.		
5.	Solvency Certificate amounting to Rs. 25 lakhs issued by a Bank for Current Financial Year.		
6.	Average annual turnover of at least 40 lakhs, certificate issued by the Chartered Accountant.		
7.	Self-attested copies of TAN/PAN, GST.		
9.	Experience certificate issued on letter of department/client and signed by authorized signatory for project executed for waste water treatment, using eco-friendly sustainable technology such as Wet Land, pythorid technology.		
10	certificate issued on letter of department/client and signed by authorized signatory for execution of Topographic/ hydrological survey of storm water drain, water body, river etc.		
11	certificate issued on letter of department/client and signed by authorized signatory for execution of Project of landscaping of water bodies, parks, drains, river front etc.		
12	B.E, B.Tech., M. Tech. Environmental or any graduate of science having experience in designing in Eco-Friendly Sustainable Technology (Wet land, Phythorid on other similar Technology)	Educational Qualification Certificate and experience Certificate	Page No
13	M. Arch. Specialization in land- scaping	Educational Qualification Certificate and experience Certificate	
14	M. Tech. Hydrology	Educational Qualification Certificate and experience Certificate	
15	B.E./B. Tech. Civil Engineering 2 Nos.	Educational Qualification Certificate and experience Certificate	

16	M. Tech Structural	Educational Qualification Certificate and experience Certificate	
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*Note: Authorized Signatory for experience certificate:
1. Issued by Govt. Agencies: Not less than Executive Engineer.
2. Pvt. Client, PSU etc: Not less than Manager/Project Manager

Signature & Stamp of Applicant

FORMAT FOR SUBMISSION OF FINANCIAL BID:- Annexure-II

Annexure	Name of work	Quoted amount for PMC (In Rs.)
1	PMC for the work of “Rejuvenation of drain No.6 drain from RD 0 to RD 14725 m in Distt., North West Delhi in accordance with the scope of work mentioned on RFP.	
2	PMC for the work of “Rejuvenation of New Drain from RD 0 to RD 5400 m in Distt., North West Delhi in accordance with the scope of work mentioned on RFP	
3	PMC for the work of “Rejuvenation of Burari drain from RD 0 to RD 6038 m in Distt., North West Delhi in accordance with the scope of work mentioned on RFP	
4	PMC for the work of “Rejuvenation of Burari Creek drain from RD 0 to RD 8863 m in Distt., North West Delhi in accordance with the scope of work mentioned on RFP	
5	PMC for the work of “Rejuvenation of Link Drain No.II Extended portion from RD 495 to RD 1190 M and 500m extended portion Distt., North West Delhi in accordance with the scope of work mentioned on RFP	
6	PMC for the work of “Rejuvenation of Toe drain from RD 0 to RD 3240 m Distt., North West Delhi in accordance with the scope of work mentioned on RFP	

Signature & Stamp of Applicant

**GOVT. OF NCT OF DELHI
IRRIGATION & FLOOD CONTROL DEPARTMENT
OFFICE OF THE EXECUTIVE ENGINEER
CIVIL DIVISION-VI, BHARAT NAGAR, DELHI-110052
PHONE No.011-27306798: E-MAIL ID – ifccdvi@gmail.com**

CORRIGENDUM

Name of work:- Request for Proposal (RFP) is invited from Consultant/ Joint Venture/ Multi-disciplinary Consortia, Government Organization , Public Sector undertaking, Government Educational Institute and I&FC Empanelled agencies, for Project Management Consultancy (PMC) for the work to rejuvenate drain in holistic manners by using ecologically sensitive sustainable technique like creation of stationary and floating wetlands and in-situ aeration & installation of ozonizer in drains which can reduce BOD load, improve dissolved oxygen levels, reduce bad odour and harmful gas emission from the drains. Further to develop the vacant land by landscaping, developing it for recreation activities such as cycling track, jogging track, Illumination of dark spots of drain by installation of street lighting automated with solar energy/wind energy wherever feasible and Installation of solar panels for generation of solar energy where ever feasible in respect of drains falls under the jurisdiction of Civil Division VI, I&FC Department, Govt. of NCT of Delhi.

A Bidder requires/submit following to qualify in technical bid at

Sr. No.2 read as

2. Rs. 1,00,000/- (Rupees One Lakh Only) in the form of DD drawn in favour of Executive Engineer CD-VI, I&FC, GNCTD payable at Delhi as EMD. Not applicable to Govt. Organizations, institutes, Public Sector Undertaking.

Instead of

2. Rs. 1,00,000/- (Rupees One Lakh Only) in the form of DD drawn in favour of Executive Engineer CD-VI, I&FC, GNCTD payable at Delhi as EMD. Not applicable to Govt. Organizations, institutes, undertaking and Empanelled consultants/agencies.

Sr. No. 3 read as

1. Solvency certificate amounting to Rs. 25 lakh issued by a Bank for current Financial year (Not applicable to Govt. Organizations, Semi Government Organization, PSU, Government Educational Institutes and Empanelled Consultant/agencies).

Instead of

1. Solvency certificate amounting to Rs. 25 lakh issued by a Bank for current Financial year (Not applicable to Govt. Organizations, Semi Government Organization, PSU, Government Educational Institutes, public sector undertakings).

EXECUTIVE ENGINEER-CD-VI

**OFFICE OF THE EXECUTIVE ENGINEER,
CIVIL DIVISION NO. VI,
IRRIGATION AND FLOOD CONTROL DEPARTMENT,
GOVT OF NCT OF DELHI,
BHARAT NAGAR OFFICE COMPLEX, DELHI – 110052**

CORRIGENDUM

- A. The Broad Scope of work may be read as under instead of mentioned in original RFP document**

Broad Scope of Work:-

1. Mapping of all components and appurtenances of Drain land but not limited to indicate inlet drain, bridge/culverts, ditches, swales, concrete curb, gutter, concrete pan and other existing structures and features by drone/latest technology. All positional data must be collected using mapping grade with best available GPS equipment.
2. The estimation of pollution discharged from different drains discharging into Drain directly, includes biological/organic, inorganic, chemical/industrial pollution.
3. Identify deficiencies in the existing position of drain and maintenance mechanism then recommend and prioritize project improvements to correct deficiencies.
4. Mandates for assessing the pollution sources and taking preventive and corrective measures, which includes creation of sewerage infrastructure in order to have a long term sustainable management of sewage pollution
5. Soil Bearing Capacity.
6. Silt Load Assessment & Management Plan.
7. To suggest Ecologically Sensitive sustainable technologies to reduce the pollution load of drain through in-situ and ex-situ treatment technologies as such feasibility of wetland system, installation of aerator, ozonation wherever required.
8. Designing of wetland system required based on the water quality of the drain.
9. Suggest ways to segregate dirty water and storm water incoming into the drain and ways for treatment of dirty water.
10. Evaluating quantum of siltation in the drain, projection of existing capacity of the drain and thereafter suggesting feasible modern techniques/methods to carry desiltation, cleaning of drain from floating materials, hyacinth/floating weeds etc
11. Evaluate future flow projections and the impact of future development on flow projections. Make recommendations for extending, expanding, or modifying the drain.
12. Providing Landscaping for the dry area around the Drain including forestation, creation of park, walking track, recreation facilities, etc depending upon the availability of dry area.

13. Illumination of dark spots of drain by installation of street lighting automated with solar energy/wind energy wherever feasible.
14. Installation of solar panels for generation of solar energy where ever feasible.
15. Proper integrated mechanism for removal of silt wherever required including use of Geo bags / Geo tubes whichever is feasible i.e. Geo fabrics for trapping floating waste/slit/sewerage.
16. Exploring modern and sustainable techniques to dispose-off/consume the desilted materials,
17. Assessment of underneath soil Hydrogeology, including sub-soil water level, storage capacity, sub-soil type, present percolation rate, traverse movement rate of ground water, Fresh water - Saline water interface, nature of aquifers available underground etc.
18. To suggest and explore idea of available water/run-off of drain to recharge sub-soil water by modern techniques/methods including deepening of drain as per sites specific feasibility without contaminating existing ground water.
19. Feasibility study quantum and depth of water could be stored in subsoil/aquifer in additional to existing without submergence of nearby residential area or agriculture fields.
20. Survey of existing government vacant land adjacent to the drain as such of Forest, Gram Sabha, waterbody, irrigation minors including assessment of ownership and likely hindrances of etc to be used as treatment/recharging point for improving quality/ground water table.
21. Assessment and Designing for improving of existing structures/ Bridges/Road and proposing/designing for construction of new bridges & Inspection roads as per traffic intensity.
22. Suggestion for land protection of drain and plan to curb unauthorized dumping of C&D wastes and malba on the drain land boundary as also identify encroachment.
23. Submission of Inception report & feasibility report.
24. Submission of DPR with detail estimates based on DSR 2016 for scheduled items and on market rates for non-scheduled items along with rate analysis.
25. Supplying working Drawing, Structural Design along with BOQ which shall also include cost of maintenance for five years from the date of commissioning project.
26. Assisting I&FC department in tendering process including preparation of NIT, selection of pre-qualification criteria for contractors, opening of tenders, checking requisite pre-qualification criteria etc.
27. Assist and supervise the execution of work and ensure the work is being carried out as per detailed drawing & design so the objective of scheme may be achieved including checking of quality and quantity of the work executed.

28. Monitoring the pace of work, submission of fortnightly inspection reports and final completion certificate and successful commissioning of the project.
29. During the execution of work the consultant shall bear all costs for collection of samples of construction material, transportation, testing from approved laboratory and submission of test reports for 3rd party quality control.
30. I&FC deptt. at its discretion may appoint DPCC and/or CPCB/Private agency to check the quality of treated water. In case the quality of treated water is not found as per norms it shall be the responsibility of the consultant to suggest rectification measures in the technique without any extra charge.
31. Consultancy during 05 years maintenance period after completion of work for operation and maintenance of the structure/systems.
32. Awareness campaign among different stakeholders as part of the rejuvenation plan.

B. The requirement of Technical expertise of work may be read as under instead of mentioned in original RFP document

Requirement of Technical Expertise S. No.	Qualification	Experience	Marks
1.	B.E, B.Tech., M. Tech. Environmental or any graduate of science having experience in designing in Eco-Friendly sustainable Technology (Wet land, Phythorid on other similar Technology)	5 Years	15
2.	M. Arch. Specialization in land escaping	5 Years	10
3.	M. Tech. Hydrology or equivalent degree	5 Years	10
4.	B.E./B. Tech. Civil Engineering 2 Nos (2 x 5)	5 Years	5
5.	M. Tech Structural Engineering	5 Year	5
6.	B.E./B. Tech. Mechanical/Electrical Engineering 1 Nos.	5 Year	5
Total (B)			50

C. The scheduled dates for pre-bid meeting and bid submission are as under:

Sl.No	For	Read as
1.	Note: Pre bid meeting will be held in the chamber of Executive Engineer-VI, I&FC Deptt., Govt of NCT of Delhi, Bharat Nagar Office Complex, Delhi-110052 at 12:00 A.M. on 27.02.2019.	Note: Pre bid meeting will be held in the chamber of Executive Engineer-VI, I&FC Deptt., Govt of NCT of Delhi, Bharat Nagar Office Complex, Delhi-110052 at 12:00 A.M. on 01.03.2019.
2.	Applicants may submit their bid in sealed cover, so as to reach to office of I&FC, on or before 01.03.2019 upto 03.00 P.M. at the following address: Executive Engineer-VI, I&FC Deptt., Govt of NCT of Delhi, Bharat Nagar Office Complex, Delhi-110052	Applicants may submit their bid in sealed cover, so as to reach to office of I&FC, on or before 05.03.2019 upto 03.00 P.M. at the following address: Executive Engineer-VI, I&FC Deptt., Govt of NCT of Delhi, Bharat Nagar Office Complex, Delhi-110052

GAGAN GAUR
EXECUTIVE ENGINEER,CD-VI
9958890106

**OFFICE OF THE EXECUTIVE ENGINEER,
CIVIL DIVISION NO. VI,
IRRIGATION AND FLOOD CONTROL DEPARTMENT,
GOVT OF NCT OF DELHI,
BHARAT NAGAR OFFICE COMPLEX, DELHI – 110052**

CORRIGENDUM

The last date of submission of bid may be read as 15.03.2019.

**GAGAN GAUR
EXECUTIVE ENGINEER,CD-VI
9958890106**