

Project Management Unit
Jal Marg Vikas Project -II (Arth Ganga) for NW-1
INLAND WATERWAYS AUTHORITY OF INDIA
(Ministry of Ports, Shipping and Waterways, Government of
India) Head Office: A-13, Sector – 1, Noida - 201301
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REOl Reference : IN-IWAI-348223-CS-QCBS

Expression of Interest

1. Inland Waterways Authority of India (IWAI) is implementing “Jal Marg Vikas Project (JMVP)” for capacity augmentation of NW-1 (Varanasi-Haldia stretch of the Ganga-Bhagirathi-Hoogly River System) with the technical and financial assistance of the “World Bank” to improve the navigability of NW-1 through: (i) fairway development by providing an assured depth of 2.2m to 3.0m throughout the corridor for at least three hundred thirty (330) days in a year to make it navigable for comparatively larger vessels of 1,500-2,000 DWT; and (ii) civil structures, logistics and communications interventions required that includes multimodal terminals, jetties, navigational locks, barrages, channel marking systems etc. Under this project, IWAI intends to Engage an Organization for providing Technical Support Services Consultancy for Modernization / Renovation of Existing Navigation Lock at Farakka under Jal Marg Vikas Project (National Waterway-1)

2. The detailed ToR is enclosed as Annex-I. The broad scope of the assignment includes:
 - a) Project Preparation
 - b) Project Management related to Project Monitoring and Control & Project Execution
 - c) Contract Management and Coordination
 - d) Quality Assurance and Control
 - e) Environmental Impact of works
 - f) Carry out final inspections
 - g) Provide services during “Defects Liability Period of the Contract
 - h) Overall Support for the project

The Vice Chairman & Project Director, Project Management Unit (PMU), JMVP, IWAI, invites eligible consulting firms (“Consultants”) to submit their interest to provide Consultancy services for “**Engagement of an Organization for providing Technical Support Services Consultancy for Modernization / Renovation of Existing Navigation Lock at Farakka under Jal Marg Vikas Project (JMVP) (National Waterway-1)**” Consultants interested in providing the Service should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services. Consultants may associate with other firms in the form of a Joint Venture or a sub-consultancy to enhance their qualifications. It should be noted that CVs shall not be evaluated at REOl stage and therefore need not to be submitted with REOl. The short-listing criteria are:

- A) Consultant should be engaged in conducting similar activities for the past 5 years – copy of Certificate of Incorporation to be submitted along with the EoI.

- B) Consultant should have a minimum average annual financial turnover of INR 1.22 Crores during the last 5 years – CA certified declaration for last 5 years to be submitted along with the EOI.

- C) Consultant should have completed 3 consultancy works of similar nature i.e., Technical Support Services Consultancy for Infrastructure projects during last 5 years – List of Scope of work, date of commencement, date of completion, client's details, along with copies of work order, completion certificate issued by client to be submitted.
- D) Consultant should be having a minimum of 11 employees on their payroll – declaration to be submitted.
- E) Notarized copy of Power of Attorney of the signatory/ies signing the EoI and/or associating to submit the EoI - to be submitted.
- F) In case of EOI submission as an association of consultants, then nature of association whether Joint Venture or as Sub-Consultant and name of the leader consultant needs to be mentioned.
5. The EoI can be submitted by the interested consultants through e-procurement portal by **20.04.2023 by 15:00 hours (IST)** and it shall be opened on the same day at 15:30 Hours (IST) and it shall be clearly marked “**Expression of interest for Consultancy services for “Engagement of an Organization for providing Technical Support Services Consultancy for Modernization / Renovation of Existing Navigation Lock at Farakka under Jal Marg Vikas Project (JMVP-II) (National Waterway-1)”**”.
6. The attention of interested Consultants is drawn to paragraph 1.9 of the World Bank's *Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers* dated January, 2011 (“Consultant Guidelines”), setting forth the World Bank's policy on conflict of interest.
7. A firm or an individual debarred by Government of India / any other government/ quasi agencies / World Bank in accordance with the anticorruption guidelines shall be ineligible for this assignment in any form or way. A list of debarred firms and individuals is available at the Banks external website: www.worldbank.org/debarr.
8. A Consultant will be selected in accordance with the Quality and Cost Based Selection method set out in the Consultant Guidelines in the RFP Document.
9. Further information can be obtained at the address mentioned above during office hours.

Instructions for submission of Expression of Interest:

1. Accomplished Expression of Interest (Application) must be submitted together with a Letter of Intent not later than **15:00 hours (IST) on 20.04.2023** and it shall be opened on the same day at 15:30 Hours (IST). Documents in support of all qualification information shall be submitted with application. Proposal of EOI with qualification information shall be furnished on / before the due date of submission at the address mentioned above.
2. The Application shall be basis of drawing up a shortlist of eligible Consultants who will be invited to submit proposal for services required.
3. All Applications shall be submitted in English.
5. A Consultant shall submit only one proposal. If a Consultant submits or participates in more than one proposal, all such proposals shall be disqualified. This does not, however, preclude a consulting firm to participate as a sub-consultant, or an individual to participate as a team member, in more than one proposal when circumstances justify

and if permitted by the Request for Proposals.

6. The Application and all related correspondence and documents should be written in the English language. Supporting documents and printed literature furnished by Applicant with the Application may be in any other language provided that they are accompanied with translations in the English language. Supporting materials, which are not translated into English, may not be considered. For the purpose of interpretation and evaluation of the Application, the English language translation shall prevail.
7. IWAI reserves the right to reject any Applications, without assigning any reasons thereof.
8. The Applicant shall provide all the information sought under this Qualification Document. The evaluation shall be done of only those Applications that are received within the specified time and complete in all respects. Incomplete and/or conditional Applications shall be liable to rejection.

Guidelines for preparation of Expression of Interest

Following information shall be submitted:

1. Complete name of firm(s), date of establishment and type of organization whether individual, proprietorship, partnership, private limited company, public limited company etc.
2. Exact and complete corporate/registered/home office address, business address, telephone numbers, fax numbers, E-mail and cable address. For Consultant of foreign registry, indicate if there is any branch office(s) established in India with details in aforesaid manner.
3. If present firm(s) is the successor to or outgrowth of one or more predecessor firms, fresh name(s) of former entity (ties) and year(s) of their original establishment with details in aforesaid manner.
4. Present a brief narrative description of the firm(s). Kindly avoid submission of company brochures for the purpose description of the firm.
5. List of not more than two (2) principals who may be contacted by this Office.
6. Listed principals must be empowered to speak for him or for the firm on policy and contractual matters.
7. Indicate financial figures from consultancy business for past 5 (five) financial years.
8. Organizational strength of consultant shall be given.
9. Check list : Annexure-II

(Vice Chairman & Project Director)

Terms of Reference for appointment of Technical Support Services Consultant for Renovation and Modernization of Existing Navigation Lock

1. Background & Introduction

- 1.1 Inland Waterways Authority of India (IWAI) (hereinafter referred to as “the **Client**”) is a statutory body of the Ministry of Ports, Shipping and Waterways (MoPSW), Government of India (GoI). The Client was set up in 1986 and is primarily responsible for the regulation and development of inland waterways for purposes of shipping and navigation for Inland Water Transport (IWT). With five (5) National Waterways (NWs) up to 2016 and today, with the enactment of NWs Act, 2016, there are a total of one-hundred eleven (111) waterways that have been declared as NWs.
- 1.2 The Allahabad-Haldia/Sagar stretch (1620km) of Ganga-Bhagirathi-Hooghly river system was declared as NW-1 in the year 1986 and is a waterway of national significance passing through four (4) states of West Bengal, Jharkhand, Bihar and Uttar Pradesh. It links the gateway ports of Haldia and Kolkata to Bhagalpur, Patna, Ghazipur, Varanasi and Allahabad, their industrial hinterland, and several other industrial hubs located along the Ganga basin.

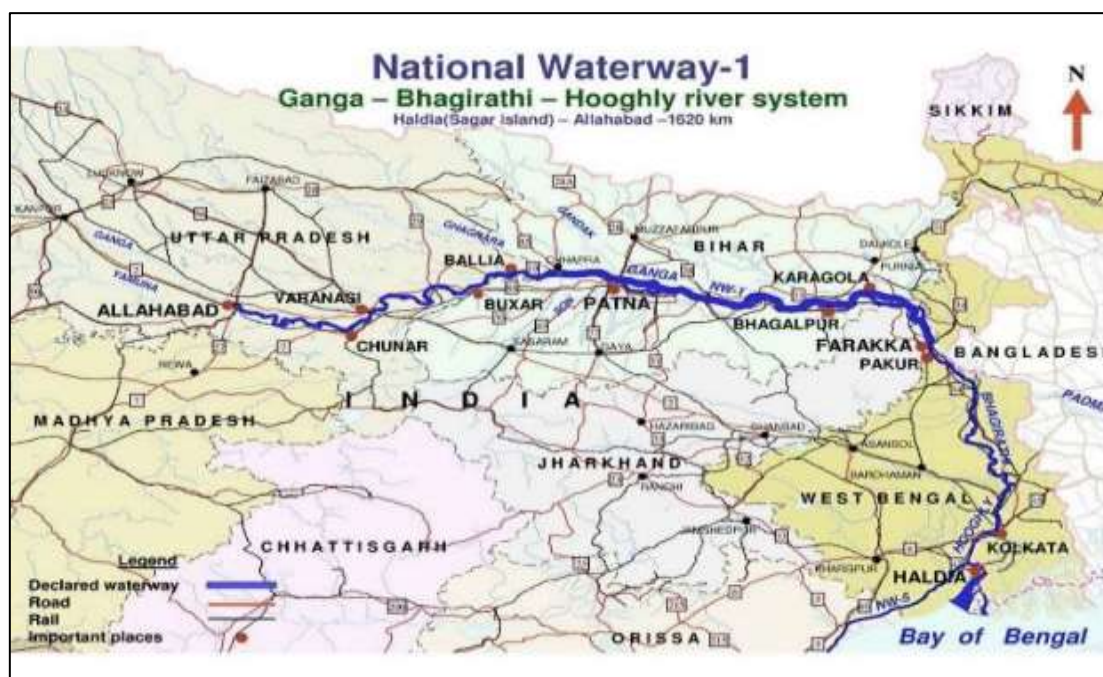


Figure 1: Index Map of NW-1

- 1.3 The entire length of NW-1 has been divided into nine (9) stretches namely (i) Haldia – Tribeni; (ii) Tribeni - Farakka (351km); (c) Farakka – Kahalgaon (146km); (d) Kahalgaon – Farakka (km); (e) Sultanganj – Mahendrapur (74km); (f) Mahendrapur – Barh (71km); (g) Barh - Digha (69km); (h) Digha – Majhaua (98km); (i) Majhaua – Ghazipur (120km); and (j) Ghazipur -Varanasi (133km) and (k) Varanasi - Allahabad
- 1.4 IWT on NW-1 has the potential to provide a cost efficient, economic, reliable, safe and environment friendly mode of transport. When developed for use by modern inland vessels operating on dependable fairway, it can reduce congestion and investment needs in rail & road infrastructure, promote greater complementarities in the riparian states, enhance intra-regional trade and through increased economies of scale, significantly reduce overall logistics costs for the benefit of the entire economy and India’s global trade competitiveness.

- 1.5 Considering the strong potential for transportation of multiple cargoes such as coal, fly ash, cement and clinker, stone chips, edible oils, petroleum products, foods grains and over dimensional cargo, the Client is implementing “*Jal Marg Vikas Project (JMVP)*” for capacity augmentation of NW-1 with the technical and financial assistance of the “*World Bank*” (hereinafter referred to as “**Bank**”) to improve the navigability of NW-1 (Haldia-Varanasi) through: (i) fairway development by providing an assured depth of 2.2m to 3.0m throughout the corridor for atleast three hundred thirty (330) days in a year to make it navigable for comparatively larger vessels of 1,500-2,000 DWT; and (ii) civil structures, logistics and communications interventions required that includes multimodal terminals, jetties, navigation locks, barrages, channel marking systems etc.
- 1.6 With regard to the terminals, IWAI has developed floating terminals at twenty (20) locations and four (4) Reinforced Cement Concrete (R.C.C) jetties / permanent terminals at GR Jetty-2 (Kolkata), Gaighat (Patna), Multi-modal terminals (MMTs) at Varanasi (Uttar Pradesh) and Sahibganj (Jharkhand) for handling / berthing of cargo vessels, cruise vessels and others inland vessels. Also, one (1) MMT at Haldia, one (1) Inter-modal terminal (IMT) at Kalughat (West Bengal) and a **new navigation lock at Farakka (West Bengal) have also been taken up under JMVP. Presently, MMT at Haldia is in substantial completion stage and construction of new navigation lock at Farakka is in advance stage (Further details on the Navigation lock has been appended below)**
- 1.7 Assured depth dredging contracts have also been taken up under JMVP to achieve targeted Least Available Depth (LAD) of 3.0m between Haldia & Barh, 2.5m depth between Barh & Ghazipur and 2.2m between Ghazipur & Varanasi with minimum channel width of 45m. In order to provide safe navigation for various cargo vessels, tourist vessels and other IWT vessels by IWT operators and mechanized country boats moving in NW-1, day navigation marks with bamboos i.e. (left hand/right hand/snag/channel closing marks) are being provided in entire stretch of NW-1 all-round the year. In order to provide twenty-four (24) hours safe navigation, night navigational aids comprising of solar powered lights fixed on country boats/ bamboo structures/ MS Poles/Trestle beacon towers have also been provided from Tribeni to Varanasi stretch.
- 1.8 In addition to the above, a state-of-the-art River Information System (RIS) that includes vessel tracking and the dissemination of important navigation information to mariners is also being implemented.

2. **JMVP-II (Arth Ganga) and its alignment with JMVP’s objective**

- 2.1 India, with a huge network of rivers and interconnecting canals is ideal for an efficient inland waterways system which has multifarious advantages and is the cheapest mode of transportation. However, this potential could not be tapped to its full extent as development of inland waterways as a means for passenger & cargo transportation, had not been a focus area till recently.
- 2.2 In India, almost half the population lives around the Ganges river belt. In terms of trade, 1/5th of all India’s freight originates, and 1/3rd terminates in the states around the Ganges belt. Due to the congestion faced by the cities and space constraints, there is hardly any scope for land-based development in the region. Hence, river Ganga can play a pivotal role in generating growth prospects for sustainable economic development of the regions.

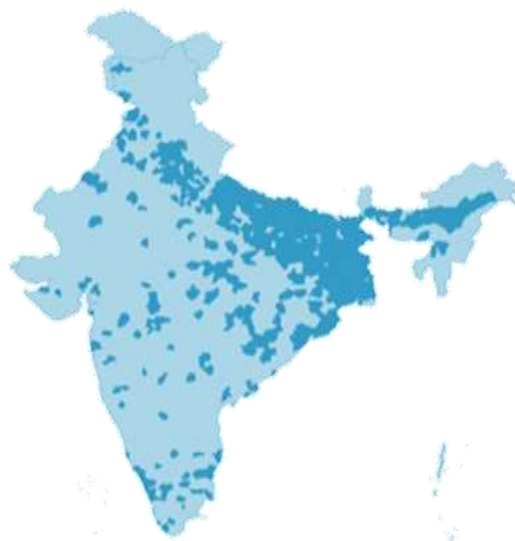
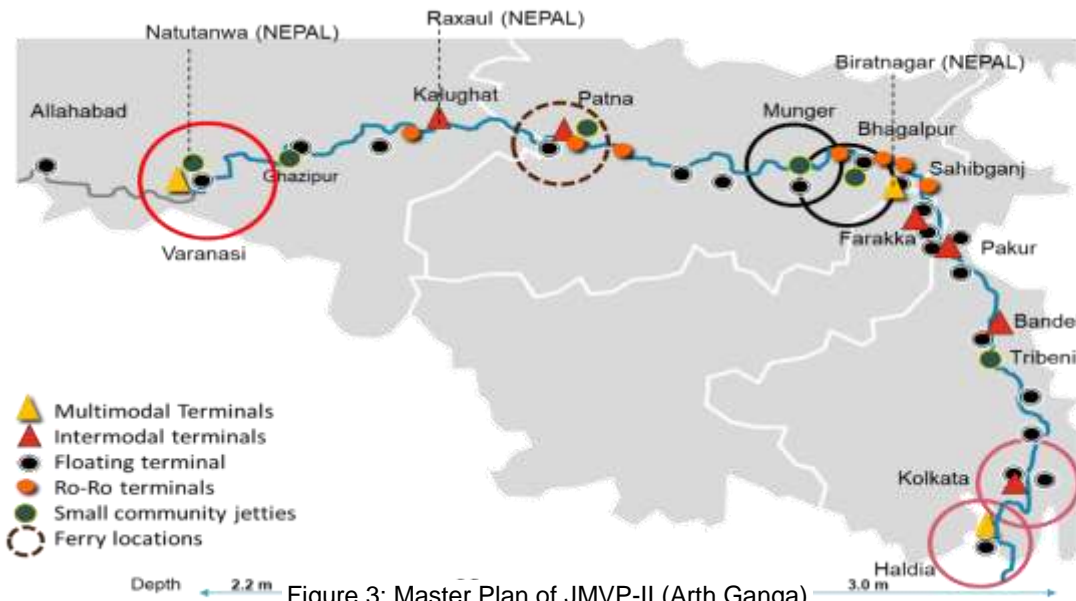


Figure 2: India's population split in half

2.3 The conceptualization of JMVP-II (Arth Ganga) program was finalised to energise economic activities which will impact the overall ecosystem along the riverbank. Inland waterways is one of the most important pillars of JMVP-II (Arth Ganga), that can lead to inclusive growth and play a key role in improving the livelihoods of the populations.



2.4 JMVP-II (Arth Ganga) of JMVP is being developed on an approach based on principles of sustainable development model that focus on economic activities in & around the hinterland of river Ganga by providing opportunity to local communities to transport their goods / produce and passenger & tourist movements through waterways as well as skill development and public / private sector capability developments to support the following:

- (a) Economic benefits to the farmers, traders and public living around the Ganga belt;
- (b) Growth of small-scale industries;
- (c) Employment opportunities;
- (d) Easy, cost-effective and environment friendly transportation of cargo;
- (e) Improved logistics through small jetties; and
- (f) Wider choice of logistics mode for cargo movement

Since efficient logistics and transport systems are a critical enabler for sustaining as well as accelerating the economic growth along river Ganga. In this regard, JMVP has the potential to greatly channelize economic activities along river Ganga, thus also aligning to the objective of JMVP-II (Arth Ganga).

2.5 The development works under JMVP-II (Arth Ganga) will be implemented as part of JMVP through the technical assistance & investment support of the Bank. The following major components have been envisaged under JMVP-II (Arth Ganga):

- (a) Fairway development through dredging including bandalling and navigational aids;
- (b) Channel Stabilization works;
- (c) Construction of Ro-Ro terminals;
- (d) Construction of new community jetties;
- (e) Modernization / Rehabilitation of existing jetties;
- (f) **Modernization / Rehabilitation of existing Navigation Lock at Farakka;**

- (g) River Information System and DGPS;
- (h) Hydrographic equipment, HDP Software, Automatic Gauge Stations etc.; and
- (i) IWT Promotional activities

3. Navigation lock at Farakka

3.1 A barrage has been constructed across river Ganga at Farakka, to divert the water from Ganga to Bhagirathi through a feeder canal. The navigable route through the main Ganga River up-stream to the river Bhagirathi downstream is facilitated by the existing navigation lock at Farakka. The Feeder Canal of Farakka Barrage and the existing navigation lock become the link between the main Ganga and Bhagirathi rivers.

3.2 The existing navigation lock was a part of Farakka Barrage Project (FBP) which was commissioned in the year 1975 with the primary objective of improving the navigation facilities of river Hooghly and maintaining Kolkata Port. However, this navigation lock was constructed and commissioned in the year 1987 at Farakka (in Murshidabad district in the state of West Bengal) to facilitate movement of inland vessels on National Waterway-1 (NW-1) through Feeder Canal. This existing navigation lock along with all ancillary assets was taken over by the Inland Waterways Authority of India from FBP Authority in April 2018.

3.3 In addition to the existing Navigation lock, the construction of a parallel New Navigation Lock at Farakka is currently on-going and is expected to functional soon.

3.4 The existing navigation lock is an important part of NW-1 and the renovation of the same will help in achieving the overall goals of JMVP and improve the navigability of NW-1. Accordingly, the renovation & modernization of the existing Navigation lock (**the “Project”**) will be undertaken by IWAI for further improve the navigability & capacity of NW-1.

3.5 The Project site is located at Farakka in Murshidabad district of West Bengal. An index map of the project area is shown in Figure 3.5.1 whereas Figure 3.5.2 and Figure 3.5.3 shows satellite images of the project site.

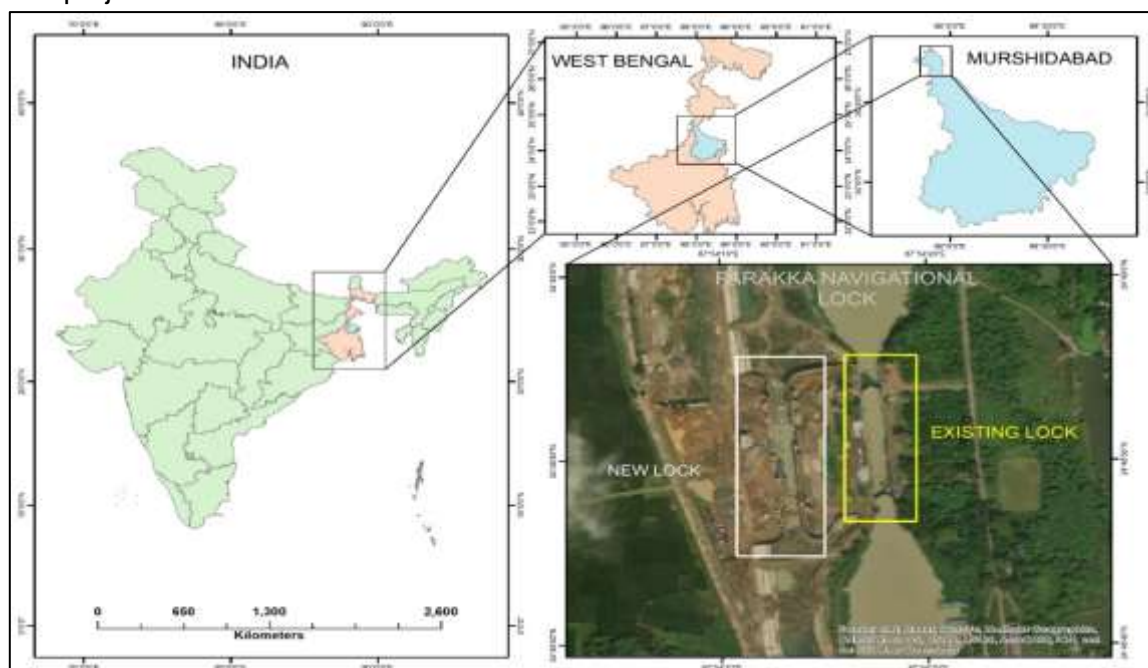


Figure 3.5.1 Index map of the project area with existing and new lock



Figure 3.5.2 Plan Map of Farakka Barrage and Navigation Lock

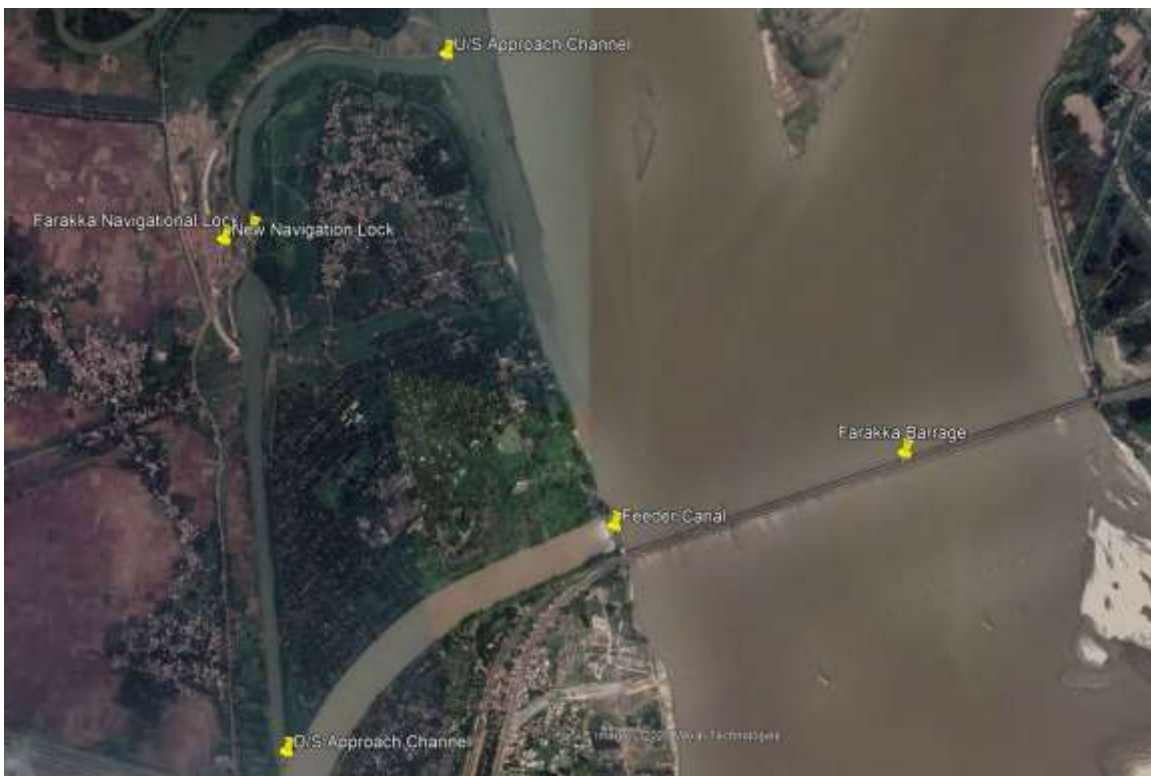


Figure 3.5.3 Close up view of Farakka Barrage, Feeder Canal and Locks

3.6 Existing Navigation Lock

The existing navigation lock is 179.8m long and 25.145m wide. It comprises of Mitre Gates, Radial Gates, Bollards, Caisson Gates/Stoplogs and Bulkhead Gates. Layout of the existing navigation lock is given in Figure 3.6.1. The salient features of the existing lock are given in Table 3.6.1.

Table 3.6.1 Salient Features of Existing Navigation Lock

S. No.	Parameter	Details
1	Number of Locks	One (1)
2	Length of lock	179.8m (b/w Mitre Gates) 250m (b/w Caisson Gates)
3	Width of lock	25.148m
4	Average depth of lock	12.89m at u/s to 10.89m at d/s
5	Major Structural Components	<ul style="list-style-type: none"> • Base Slab, Retaining Walls & Guide Walls • Filling / emptying Culverts including gate chambers • Bollards – eight (8) numbers floating type (four (4) on each bank) and fourteen (14) numbers fixed type (seven (7) on each bank) • 1 Central Control Room and 2 local control room
6	Major Hydro-mechanical Components	<ul style="list-style-type: none"> • Mitre Gates – two (2) sets 1 on U/S and 1 on D/S end, having two (2) leaves per set, • Caisson Gates/Stoplogs - 2 numbers (one (1) for u/s & one (1) for d/s) • Radial Gates – four (4) numbers (two (2) for u/s & two (2) for d/s) • Bulkhead Gates – eight (8) numbers (four (4) numbers for u/s and d/s each)

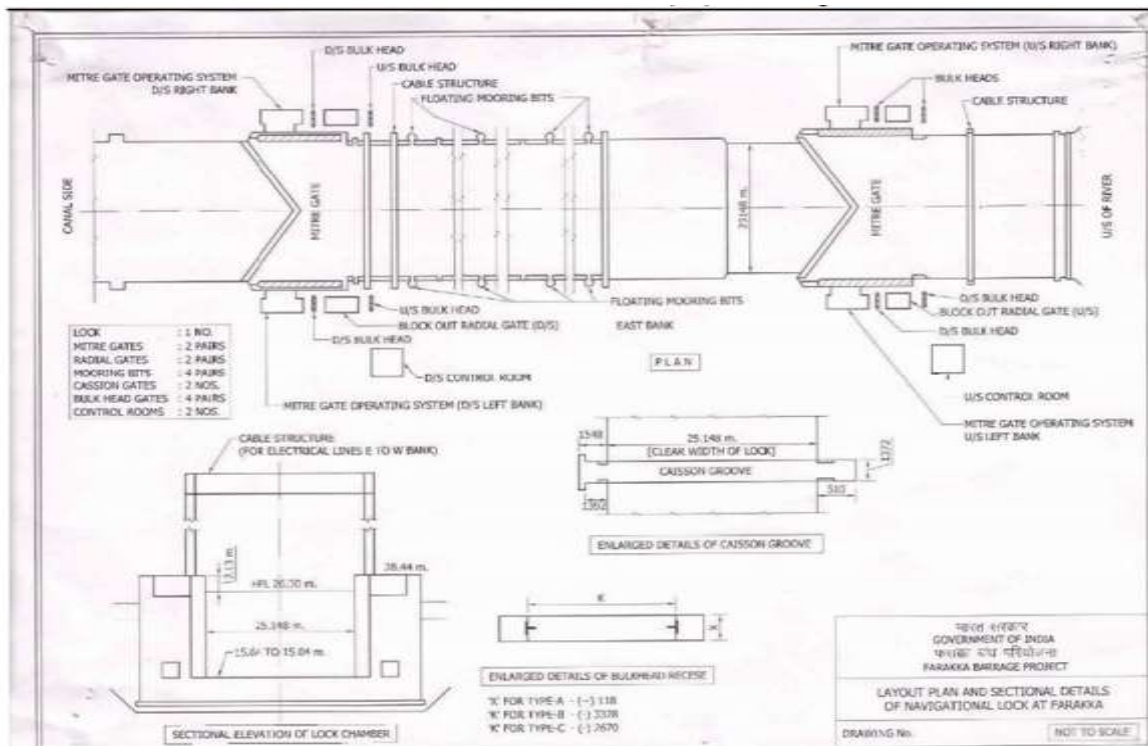


Figure 3.6.1: Layout of the Existing Navigation Lock

4. Objective of the Assignment

- 4.1 IWAI intends to engage Technical Support Services Consultants (TSSC) for Renovation and Modernization of Existing Navigation Lock at Farakka (“**Assignment**”). TSSC will efficiently manage the Contractor appointed for the above work and provide assistance to successfully complete and deliver the project on behalf of IWAI. TSSC shall ensure progress of the works and quality of deliverables by the Contractor in implementation of the Project as per the WORLD BANK guidelines and applicable Employer’s acts, rules and regulations.
- 4.2 The TSSC will provide Technical Support Services (TSS) on behalf of IWAI in technical, operational and advisory related matters for all relevant fields. Such services shall be in the form of on-site advisory and support services covering all critical aspects of the envisaged Assignment. Overall timeline for this Assignment has been allocated as 20 Months, however, the same may be extended from time to time as per the requirement & completion of the Project. In addition, the services of TSSC shall also cover during the Defect liability period of the Project. The deployment of all the manpower at project site & employer’s office as mentioned in serial no 9 is not fully required during Defect Liability Period. For detailed understanding of the requirement of services during Defect Liability Period may be referred serial no 7.7 (services during Defects Liability Period of the contract with Contractor) of this EoI
- 4.3 The objective of this Assignment is to efficiently manage the Contract awarded by PMU for Jal Marg Vikas Project such that all the activities envisaged for the project are completed in agreed timeline, within budgeted cost frame and in full compliance with the WORLD BANK guidelines and applicable Employer’s acts, rules and regulations. The objective is also to ensure compliance to loan agreement covenants and to achieve project monitoring indicators and milestones as agreed-upon in the stipulated time frame.
- 4.4 TSSC shall be a well-equipped and qualified firm to provide consultancy services in particular the works for engineering and site execution, contract management, environmental and social (impact) management, works dispute resolution, overall project performance management of all execution agencies including consultants involved and reporting the same, along with providing related operational support, to IWAI. The Consultant shall be responsible for day-to-day construction management, quality assurance and control, safety management and supervision services including review of Engineering Design, approval of materials and managing day to day Construction at site / installation of all the works along with associated works as outlined in this tender document.
- 4.5 The TSS Consultant shall provide comprehensive technical support for the Project & advise on the integration of the two locks (New Navigation Lock & Existing Navigation Lock), so that both the Navigation locks can be operated together in synchronize manner.
- 4.6 The TSSC will be required to provide a team of suitably qualified experts covering such fields for a period, including full-time and need based/ part time resource deployment, as specified in Clause 9 of ToR.
- 4.7 The following are the principal tasks envisaged under the TSSC services.
- 4.7.1 Comprehensive Project technical support including day to day construction supervision & project management for ensuring progress, review and checking of designs & drawings, quality and safety parameters as outlined for scope of EPC Contractor including works related to various critical elements (approach channels, lock pit, filling/emptying arrangement, lock gates, valves & as detailed in Table 1.1), coordination and management with all stakeholders including Contractors and Consultants.
- 4.7.2 Contract management and Administration Services.

- 4.7.3 Preparing Project Reports and reviewing / updating project activities.
- 4.7.4 Ensuring Compliance to Quality and Safety parameters for the Project.
- 4.7.5 Preparing various SOPS which includes synchronizing & handholding of Existing Navigation Lock & New Navigation lock
- 4.7.6 Any other assignment as directed by IWAI related to this particular project.

5. Implementation Mechanism

5.1 The Employer (IWAI) will administer the project through its dedicated wing called as Project Management Unit (PMU) for Jal Marg Vikas Project-II (Arth Ganga). The Employer i.e., IWAI acting through its Project Director, Jal Marg Vikas Project may nominate Engineer in Charge (EIC) for the declared scope of work of TSSC as defined in clause 7 of ToR. TSSC shall act as “Engineer’s Representative” of the “Engineer in Charge (EIC)”. The “Engineer’s Representative” for the Project” shall be responsible for management of all project activities and shall make all engineering decisions at site during the implementation of the Contract, after requisite approvals of Engineer In-Charge. The Resident Engineer of TSSC shall be responsible and report to EIC responsible for the Project. The team shall be deputed at the project site along with the support team as per the terms outlined in Clause 7 of TOR.

5.2 The Project Director (PMU) for Jal Marg Vikas Project has charge of overall project administration. The Regional Directors at Varanasi, Patna and Kolkata assisted by PIU (Project Implementation Unit) at these regional sites will be the main interface between the Employer (through Project Director of PMU) and TSSC. The PIU will conduct its business as per authorization and under rules and regulations of the Employer. PIU shall assist the EIC and PMU in coordinating with TSSC. The respective regional Director shall regularly coordinate with and arrange for all submittals, deliverables from TSSC including but not limited to progress reports, design submittals, financial issues, risk management etc. to PMC and PMU appointed at IWAI head office for managing and ensuring smooth functioning of respective Project Sites within timelines, budget and agreed quality and safety parameters as outlined in the Contract.

6. Contract Management

The EIC for the Project to take responsibility on behalf of IWAI for managing the TSSC’s work with assistance of PIU and for ensuring delivery on the project. The EIC will assign a project team from PIU to engage regularly with the TSSC for efficiently completing the various delivery items. Resident Engineer of PIU will be nominated for regular coordination with TSSC at Project Site. Frequent meetings between the PIU, PMU, TSSC and PMC at the Employer’s office in Noida are foreseen during the period of Assignment. The aforesaid teams (TSSC, PIU, PMC, PMU and IWAI) shall meet at least monthly and the TSSC through EIC shall report progress to these meetings. During the entire period of services, the TSSC shall interact closely with PIU / PMC/PMU/IWAI to receive input and provide information sought by Employer.

7. Detailed Scope of Work for the Assignment

Unless explicitly restricted in the Contract, the Scope of Work under the Contract shall include but shall not be limited to following:

7.1 Project Preparation

The consultant shall be responsible in preparation of various documents:

- (a) Set procedures, systems, standards, criteria and reporting systems for the Contractor and 'Design Consultants engaged by the Contractor'. Review design and provide guidance to 'Design Consultants engaged by the Contractor'.

- (b) Review & approve of Billing schedule as per contract agreement of the EPC contractor with the defined milestones.
- (c) Preparation of Cash flow schedule after discussion with the EPC contractor for further submission to IWAI.
- (d) Review Contractor's Methodology for undertaking the work, such that it does not obstruct the operation of the New Navigation lock.
- (e) Preparing various SOPS which includes synchronizing & handholding of Existing Navigation Lock & New Navigation lock

7.2 Project Management Works:

7.2.1 Project(s) Monitoring & Control

The Consultant shall be responsible for monitoring of the project development and progress related to execution thereby assisting all stakeholders in efficient project management and rendering advice in taking necessary action for timely and quality completion of the project.

- (a) reporting monthly & quarterly project status to all the stakeholders and identification of critical interfaces that need to be managed carefully by the key personnel of the Consultant.
- (b) conducting regular project review meetings with the contractors and other relevant stakeholders to discuss the various project related aspects and preparing, circulating, following up and reporting on the action points discussed during various project review meetings and highlight any non-compliance;
- (c) monitoring the status of statutory approvals required for the successful completion of the project activities and highlight red flags;
- (d) monitoring the main KPIs of contractors, manufacturers etc. vis-à-vis actual performance to highlight the key areas of concern and suggest improvement areas; and
- (e) reviewing the reports/schedules prepared by contractors and conduct trend analysis, schedule analytics including planned vs actual analysis & critical path analysis and recommendations on course correction/ look ahead plans
- (f) Preparation and monitor the detailed works programme on Microsoft Project (MSP) and regular review and updating the same.

7.2.2 Project Execution

The Consultant shall assist the Authority in the following activities:

- (a) Assist IWAI, EIC, PMC and PMU including other concerned stakeholders on actions required on review done/ suggestions for design and construction aspects
- (b) checking contractors setting out of works prior to execution, for conformance with Good for Construction (GFC) drawings and file weekly & monthly reports to ensure works are being executed as per the approved drawings / layouts, alignments and levels;
- (c) regular site reporting on day-to-day basis with dedicated staffing to monitor progress in implementation (both physical and financial) including contractor's performance, adequacy of contractor's supervision and environmental mitigation;
- (d) ensuring adequacy and safety of all personnel and works being executed by the contractors during the execution of the contract;
- (e) assisting in monitoring and tracking statutory approvals and clearances;
- (f) assisting concerned stakeholders in management of performance deviation by contractors;

- (g) assisting and advising on encumbrance removal / utility shifting during construction period;
- (h) maintaining records and inspecting at regular intervals the contractor's plant and facilities, dredgers etc., including the workers' accommodation at site, to ensure conformity with the construction contract and all Government / State regulations;
- (i) inspecting the contractor's safety measures, including labour welfare, and immediately notify both the EIC and the contractor of any infringement or violation;
- (j) maintaining records of working / as-built drawings, and test data, details of variations, correspondence, and diaries in the formats approved / specified by the EIC;
- (k) ensuring that the quality of materials used meet the specifications of contract agreement;
- (l) ensuring that the quality of workmanship and the temporary arrangements/ structures made for carrying out the works meet the requirement of specifications and safety standards;
- (m) verifying the measurements taken by the contractors for payment and maintain measurement records in standard format;
- (n) review of contractor's bill & invoice and recommend payment for works completed in part or full as per provisions of the contract;
- (o) assisting / advising regarding timely handing over of the site by contractors in stages and the advance actions required to be taken for handing over of the site and to achieve the milestones for completion of the construction packages;

7.3 Contract Management and Coordination

The Consultant shall assist the Authority in the following activities:

- (a) overall administration of the contracts and monitoring of various documents submitted during the contract execution between the Authority and contractors;
- (b) keeping track of all the contract documentations and ensuring timely renewal of these documents during the course of the contract and / or at the time of any contract extensions;
- (c) monitoring any major change in scope of the project(s) and reporting impact of the change on overall time and cost;
- (d) analyzing claims submitted by the contractors and preparing recommendations for the approval of EIC in terms of both technical and financial issues, for the claims for response to the contractors; and
- (e) providing advice on contractor's claims /disputes

7.4 Quality Assurance (QA) and Quality Control (QC)

The Consultant shall assist the Authority in the following activities:

7.4.1 Quality Assurance Plan (QAP) and Quality Control Procedures (QCP)

- (a) preparing a QAP and a QCP, which will detail, Consultant's plan to conduct various activities and measures / procedures to keep a check on the quality of the products. The QAP and QCP will be continuously checked by the Consultant's team to oversee that the works are completed according to specifications as laid out in the contract and applicable relevant Indian Code of Practice including international and good practices. The main considerations that should weigh with preparation of an overall QAP and QCP are:
 - (i) clearly defining the objectives;
 - (ii) enumerating the activities involved;

- (iii) incorporating the requirements of quality in each activity and providing for a fail-proof safeguard, if any;
 - (iv) laying down the surveillance plan, checks for each apprehended lapse & omission; and
 - (v) establishment of corrective action and continuous improvement process
- (b) developing forms and procedures for proper implementation of QAP and QCP. They shall, inter alia, include the following:
- (i) procedure for storing of materials to be used in permanent works. Organization of materials from stockyards during laying and finished works;
 - (ii) type, frequency and procedure of tests for different kinds of materials used for construction and permanent installations including mechanical, electrical and electronic equipment;
 - (iii) inspection and test plans including requirement for witnessing;
 - (iv) requirements for record keeping;
 - (v) norms and procedures for control of process related to laying of concrete structures and installation of other permanent works covering all disciplines involved in enabling construction;
 - (vi) acceptability criteria for works and workmanship;
 - (vii) formats for recording and compilation of test data; and
 - (viii) reporting system for test results and actions to be taken in respect of quality
- (c) reviewing and approving the quality assurance/ control system & procedures being followed by the contractors

7.4.2 *Review of Testing*

- (a) The Consultant will check the requirement of tests and testing which are to be carried out for the successfully completing the work;
- (b) All test and controls before, during and after execution of the works are to be defined beforehand and agreed leading to an organized systematic QC;
- (c) The Consultant will set-up a comprehensive testing program and standardization of forms for testing purpose. Typical standard sheets will be produced for all the test required. They shall, inter alia, include the following:
 - (i) type of test to be performed;
 - (ii) demands of specifications in relation to materials or final product;
 - (iii) person responsible for testing;
 - (iv) periodicity and frequency of the test; and
 - (v) standard and limits to be observed

7.4.3 *Quality and Technical Audit*

- (a) assisting the Authority on matters connected with QA / QC aspects of works in order to ensure the quality of work and its conformity with the standards & specifications prescribed in the contract;
- (b) ensuring that the contractor maintains systematic documentation of all testing as per the forms that will be developed by the Consultant;

- (c) checking & approving sources of materials and agreeing to the contractor's materials ordering schedule;
- (d) reviewing suitability of source and quality of construction materials on the basis of inspections, test results/ manufacturer's certificates etc.;
- (d) witnessing all the QC tests being conducted by the staff of the contractor in the contractor's field-testing laboratory or in any third party laboratory. The Consultant shall also ensure to get the samples of contractor's material to be tested in 3rd party / independent and NABL accredited field-testing laboratory. During course of inspection, if any item of the work is found substandard or unacceptable, the Consultant would inform the EIC, the rectification required in writing, giving full justification thereof with necessary supporting data; and
- (e) auditing the quality reports maintained by the contractors and also witnessing the testing of materials. Where necessary, testing in other laboratories will be arranged by the contractors and monitored by the Consultant. The source of materials will also be reviewed, and test reports of quarry material will be audited to assess their engineering properties. For all prefabricated and ready-mix items, certificate from manufacturers will be audited to verify that that the items meet the project(s) requirement and specifications

In addition to the above, the Consultant shall also assist the Authority during inspection of the construction equipment and other related machinery in order to assess their suitability for the works. The Consultant shall check the calibrations of the necessary equipment and also carry out periodical inspection of the equipment to be utilized.

7.5 Environmental Impacts of Works

The Consultant will be constantly alert to environmental concerns and recommendations in the Environmental Management Plans prepared as part of the project(s). Apart from the measures built into the project(s), the Consultant will pay particular attention to proper handling of rain run-off during construction and to air pollution from dust and exhaust fumes from contractor's equipment and pollution due to improper disposal of waste. The Consultant will ensure that precautions for safeguarding the environment are observed by the contractors as per the specifications and requirements of the project(s). The Consultant will ensure that the facilities are built complying with the environmental standards required (such as GRIHA Platinum Standard for energy-efficiency and cleanliness; with "zero-discharge" standards with respect to both solid and liquid wastes generated within the facilities and collected from berthed vessels and barges, etc.).

The Consultant will give particular attention to environmental impacts resulting from construction activities, such as:

- (a) Noise and pollution levels;
- (b) Contamination of soil/ground water by construction wastes/fuel and lubricants;
- (c) Damage/loss of vegetation due to contamination of soils or water;
- (d) Transportation and dumping of waste material;
- (e) Clearing of trees and plants during construction; and
- (f) Soil erosion and sedimentation

In case of observed or potential environment degradation, the Consultant will prepare recommendations to the Authority and shall assist the Authority in appointment of specialized contractors for mitigation measures.

7.6 Carry out final inspection

After completion of the project(s), the Consultant will make an inspection of the entire project(s) or part of the project(s) with the representatives of the Authority. All defects, imperfections, and faults will be notified to the Authority and in turn the Authority will instruct the contractors for rectification of the defects. Upon completion of all rectification, a final Inspection will be performed with the Authority and representatives of the contractors.

Following final inspection of the project(s) and the correction of all identified deficiencies on the project(s), the Consultant shall recommend to the Authority to issue the Project Completion Certificate.

7.7 Services to be provided during Defects Liability Period of the contract with Contractor.

The Consultant shall assist during the defect's liability period of the contract with the contractor. During this period, the consultant will make at least one visit per month to verify the behaviour of the structure and note defects (if any). If necessary, the consultant shall notify the EIC. In assessing any possible defect that may appear, care will be taken to differentiate between a "construction defect", which is the contractor's responsibility to correct and "normal wear and tear", which is a maintenance item.

Following each inspection, a detailed report detailing the observed defects will be prepared and discussed with the EIC and PIU and the Contractor involved. The solution to the problems will be determined in consultation with the above-mentioned parties.

At the end of the Defects Liability Period the consultant shall make a final inspection with Regional Directors, IWAI and PIU and representative of the contractor and certify to PMU through Regional Director, IWAI that all is in order and that contractor may be released from further obligation as per provision for contract.

7.8 Overall Support

The Consultant shall assist the Authority in the following:

- 7.8.1** coordinating various meetings with the third-party consultants and/ or contractors or with any other agency. The Consultant shall prepare agendas/ write ups /presentations/ notes before each meeting and should discuss the same with the officials of the Authority. The Consultant shall also prepare and submit minutes after every meeting for necessary actions and follow ups;
- 7.8.2** various audits/ inspections/ investigations and prepare the replies on the comments/ observations raised by these agencies from time to time;
- 7.8.3** maintaining all relevant records & correspondences and keep them updated from time to time

8. Reporting Requirements & their Timelines

The Consultant will prepare and submit the following reports in hard and soft copy to the Authority in the format prepared by the Consultant and as approved by the Authority:

S. No	Particulars of the Report	No. of Copies	Content of the Report	Time of submission
1.	Inception Report	3	The Consultant shall prepare and submit an Inception Report at the end of first month containing a description on approach and methodology along with detailed	Within 30 days from commencement of services.

S. No	Particulars of the Report	No. of Copies	Content of the Report	Time of submission
			work plan and resource deployment plan.	
2.	QAP & QCP	3	The Consultant shall prepare and submit a QAP & a QCP in terms of clause 7.4.1 above for achieving quality in construction based on national / international standards and best practices being followed.	Within 45 days from commencement of services.
3.	Monthly Progress Reports	3	<p>The Consultant has to ensure that various components of the project(s) are progressing in accordance with the approved work program. The Consultant shall prepare & submit a brief Monthly Progress Report summarizing the works accomplished by the contractor for the preceding month.</p> <p>The report shall outline physical & financial progress in approved formats, any problems encountered (administrative, technical or financial) and give details/recommendations on how these problems have been/ may be overcome. The report shall also record the status of payment of contractors, monthly certificates of all claims for cost or time extensions, and of action required from the Authority to permit unconstrained works implementation.</p>	For every month by 7 th date in the following month
4.	Quarterly Progress Reports	3	The Consultant shall prepare and submit a comprehensive Quarterly Progress Report summarizing all activities under the Contract at the end of each quarter, and also at other times when considered warranted by the concerned stakeholders because of delay of the works or because of the occurrence of technical or contractual difficulties.	For every quarter by 7 th date in the following quarter

S. No	Particulars of the Report	No. of Copies	Content of the Report	Time of submission
			Such reports shall include but not be limited to: (i) details of major milestones achieved; (ii) progress of the contract of the contractor; (iii) all contract variations and change orders; (iv) status of contractor's claims, if any and will include brief descriptions of the technical & contractual problems being encountered, physical & financial progress in approved formats, financial status of the contract of the contractor as a whole consisting of the cost incurred, cost forecast and other relevant information	
5.	Final Completion Report	3	<p>The Consultant shall prepare and submit a comprehensive Final Completion Report, for project(s) that have been completed before the completion of the Assignment. These reports must be submitted within one month after the completion of the work by the contractor and before taking over of all the works by the Authority.</p> <p>The report shall incorporate summary of the method of construction, the construction supervision performed, as built construction drawings, final punch list still awaited for rectification by the contractor, handing over of all the documents prepared by the Consultant during the currency of the Contract, documents related to contractual closure with summary statement, problems encountered & solutions undertaken thereon and recommendations for future projects of similar nature to be undertaken by Authority.</p>	Within 60 days after issuance of completion certificate to the contractor

9. Minimum Key Personnel and minimum Support Personnel to be deployed

S#	Position	Experience and Education Qualification Requirement	Authority's Head Office	Authority's Regional / Sub Offices
				Farakka
				Nos (Man Months)
A. Key Personnel				
1.	Team Leader cum Resident Engineer	<p>Should be a Graduate in Civil Engineering, Post-Graduation in Port/Harbour/ Dock Engineering will be preferred.</p> <p>Minimum 20 years of overall experience including 5 years of experience as Team Leader in Port/ Harbour/ Dam/ Navigation Lock/ IWT related construction supervision and project management</p>		1(20)
2.	Sr. Mechanical Engineer	<p>Should be Graduate in Mechanical Engineering with experience in Port/ Dam/ Navigation lock/ IWT related construction supervision and project management.</p> <p>Minimum of 15 years of overall experience in the relevant field.</p>		1(10)
3.	Sr. Electrical Engineer	<p>Should be Graduate in Electrical Engineering with experience in Port/ Dam/ Navigation lock/ IWT related construction supervision and project management.</p> <p>Minimum of 15 years of overall experience in the relevant field.</p>		1(10)

S#	Position	Experience and Education Qualification Requirement	Authority's Head Office	Authority's Regional / Sub Offices
				Farakka
				Nos (Man Months)
4.	Sr. Marine Engineer	Should be Graduate in Marine Engineering with experience in review of design and drawings for marine/ port/ Dam infrastructure projects. Minimum 15 years of overall experience in the relevant field. Should have been a part of minimum one marine infrastructure project from start to finish.		1(10)
5.	Quality Assurance Engineer	Should be Graduate in Civil Engineering. Post-Graduation in Soil & Foundation Engineering/ Geo-Technical Engineering with specialization in Port/ Harbour/Dam/ IWT/ Navigation Lock structures will be preferred. Minimum 15 years of overall experience in works related to Port/ Harbour/Dam/ IWT/ Navigation Lock structures including at least 5 years of experience in formulation and implementation of Quality Assurance Plan for civil works		1(10)
6.	Project Co-ordinator	Should be Graduate in Engineering with Post	1(10)	

S#	Position	Experience and Education Qualification Requirement	Authority's Head Office	Authority's Regional / Sub Offices
				Farakka
				Nos (Man Months)
		Graduation in Construction Management. Minimum 07 years of experience of working in Port/ Harbour/ Dam/ IWT/ Navigation lock projects.		
7.	Sr. Safety Expert	Should be Graduate in Civil Engineering/ Safety with additional specialist training and qualification in EHS directly relevant to engineering aspects of traffic and transport safety in waterways/ large infrastructure construction management. Minimum 15 years of relevant professional experience, including at least 5 years directly in the waterways/ relevant safety field	1(10)	
B. Support Personnel				
1.	Jr. Safety Expert	Should be Graduate in Civil Engineering/ Safety with additional specialist training and qualification in EHS directly relevant to engineering aspects of traffic and transport safety in waterways/ large infrastructure construction management.		1(10)

S#	Position	Experience and Education Qualification Requirement	Authority's Head Office	Authority's Regional / Sub Offices
				Farakka
				Nos (Man Months)
		Minimum 5 years directly in the waterways/ relevant safety field		
2.	Engineer (Mechanical)	<p>Should be Graduate in Mechanical Engineering with experience in construction supervision of infrastructure projects. Preference will be given to individuals having experience in Port/ Dam/ Harbour/ IWT/ Navigational Lock projects.</p> <p>Should have minimum 5 years of overall experience including 1 years of port related constructions</p>		1(20)
3.	Engineer (Civil)	<p>Should be Graduate in Civil Engineering with experience in construction supervision of infrastructure projects. Preference will be given to individuals having experience in Port/ Dam/ Harbour/ IWT/ Navigation Lock projects.</p> <p>Should have minimum 5 years of overall experience including 1 years of port related constructions</p>		2(20)

[DOCUMENT TITLE]

Reference :-

Date:-

To,
 Vice Chairman & Project Director
 Jal Marg Vikas Project
 Inland Waterways Authority of India
 (Ministry of Ports, Shipping and Waterways, Govt. of
 India)
 A – 13, Sector – 1, Noida -201301 (U.P.)

Subject:- “Engagement of an Organization for providing Technical Support Services Consultancy for Refurbishment and Modernization of Existing Navigation Lock at Farakka under JMVP (National Waterway-1)”

IWAI Reference: -

Dear Sir,

Refer your Expression of Interest

We are pleased to enclose our credentials for the subject cited assignment as per your requirements listed at Para 3 (a through c).

SL.NO	Description of Documents	Documents required to be furnished	Yes / No	Reference
1	Name of the Organization	<i>Copy of Certificate of Incorporation.</i>		
	Nature of Business			
	PAN No			
	GST No			
	Present a brief profile - narrative description of the firm(s)..	<i>Kindly avoid submission of company brochures for the purpose description of the firm</i>		
	Organizational strength of Consultant			
	Key persons ... 2 principals with contact details.			
1.1	EOI Submitted as Sole Applicant or Joint Venture	<i>If yes, details of JV Partner similar to 1 above</i>		
	Details of Joint Venture Partner			
2	For Consultant of Foreign registry , indicate if there is any branch office(s) established in India with details in aforesaid manner	<i>If yes, details similar to 1 above</i>		

3	Qualification Requirements	<i>Details of relevant documents</i>			
3a	Consultant should have a minimum average annual financial turnover of INR 1.22 Crores during the last 5 years – CA certified declaration for last 5 years to be submitted along with the EOI’.	2021-22	<i>CA certified declaration/ copy for last 5 years.</i>		
		2020-21			
		2019-20			
		2018-19			
		2017-18			
3b	Consultant should have completed 3 consultancy works of similar nature i.e. Technical Support Services Consultancy/ Project Management Consultancy. during last 5 years – List of Scope of work, date of commencement, date of completion, client’s details, along with copies of work order, completion certificate issued by client to be submitted.	<i>Kindly Provide following details toward completed works.</i>			
		<ul style="list-style-type: none"> • <i>Client’s details</i> • <i>Scope of work</i> • <i>Date of completion,</i> 			
3c	Consultant should be having a minimum of 11 employees on their payroll – declaration to be submitted.	<i>Declaration to be submitted for supporting.</i>			

Certificate

This is to confirm & certify that the information furnished with this Expression of Interest (EOI) are true & correct and we are not debarred by the Government of India / any other government/ quasi agencies / World Bank.

Signature & Name of the Consultant
Date & Seal