



**Government of West Bengal
Irrigation & Waterways Directorate
Office of the Executive Engineer
River Research Institute
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SHORT NOTICE INVITING TENDER No. 02/ EE / SDP 2025-26

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Separatesealed tenders are being invited by the Executive Engineer, Sundarban Delta Project, Irrigation & Waterways Directorate, on behalf of the Governor of West Bengal, for the works mentioned in the list given below from eligible and resourceful contractors/bidders having sufficient credential and financial capability for execution of works of similar nature.

The intending tenderers should apply for tender paper in the office of the Executive Engineer Sundarban Delta Project.

The intending bidder/contractor must read the Terms & Conditions contained in the Notice Inviting Tender (NIT) carefully. He/she should particularly go through the eligibility criteria, and satisfy himself/herself of the mandatory requirements. Contractors/bidders desirous of participating in the tender may submit their application for the work only if they fulfill the minimum eligibility criteria and are in possession of all the required documents.

Eligibility for participation Bonafide contractors/bidders, Registered Co-operative Societies, and Partnership Firms registered with the State Government and contractors/bidders of equivalent grade or Class, registered with the Union Government / Military Engineering Services / Indian Railways for execution of civil works are eligible to participate depending on the criteria as laid down below in the subsequent para/clause. Joint venture firms are not eligible to participate in tenders. Net notional amount calculated from Completion Certificate (CC) of a single work during last 5 years issued in favour of the contractor/bidder /agency/firm/consortium for a work of similar nature should be at least 50 % of the amount put to tender (Tender Value) for the work.

Submission of Tenders

1, Tender documents to be submitted in the tender box in the office of the Executive Engineer Sundarban Delta Project per scheduled time & date.

2.a) Separate Tender should be submitted for each Work, as per attached List, in sealed cover inscribing the NIT No., Sl. No. and Name of the work on the envelope and addressing to the Executive Engineer Sundarban Delta Project.

b) Submission of Tenders by post or FAX or through Internet is not allowed.

3. The Tender Document and other relevant Particulars (if any) may be seen by the intending Tenderers or by their duly authorized representative during office hours between 11.00 A.M. to 4.00 P.M. on every working day, till the date of issue of tender papers in the office of the Executive Engineer Sundarban Delta Project any tenderer may send his authorized representative to attend interview, bid or any other purpose allowed by tender accepting authority. Such authorization must be submitted in stamped paper in presence of 1st class Judicial Magistrate or Notary Public.

4) a. Intending Tenderer should apply for tender paper addressing to the Executive Engineer Sundarban Delta Project in their respective letterhead enclosing self attested copies of the following documents, originals of which and other documents like Register of Partnership (for partnership firm) etc. are to be produced on demand, as well as during interview (if any).

b. Latest available Professional Tax Payment Certificate (PTPC) or the PT payment challan/ receipt for current

financial year/Waiver Order of competent authority in other States if applicable.

- c. Valid 15 digit Goods and Service Tax payer Identification Number (GSTIN) as per GST Act, 2017 & Rules of the bidder.
- d. For Partnership Firms: Documents of Registration of Partnership Firms in the certified copy of 'Form No. VIII,' issued under Indian Partnership Act, 1932 (Act-IX of 1932) by the Registrar of Firms. In case a Partnership Firm is yet to receive Form No. VIII, a "Memorandum" issued by the Registrar of Firms may also be accepted
- e. For Companies: Incorporation Certificate, valid Trade License or acknowledgement of issuing authority of receipt of application for Trade License / renewal, 'Memorandum of Articles' registered under the Registrar of Companies (ROC) under the Indian Companies Act, List of owners/ Directors/Board Members are to be submitted.

For State Registered Co-operative Societies:

- f. Society Registration certificate from ARCS (Assistant Registrar of Co-operative Societies, GoWB) and By-Laws for Cooperative Societies under West Bengal Co-operative Societies Act, 2006 and Rules, 2011 and all amendments.
- g. Latest Auditor's Report of Directorate of Co-operative Audit under Department of Co-operative, Government of West Bengal within preceding five financial years as per Societies Act & Rules.
- h. Work Order/Award of Contract or the Letter of Acceptance (LoA) duly authenticated by the competent issuing authority is to be submitted.
- i. Pre-Qualification (PQ) credential of one 100% completed work of Gross Notional Value as desired in the NIT as the Credential Certificate (CC) duly authenticated by competent authority.
- j. Credential Certificates (CC) for one/single 100% completed work within last five financial years on the date of publication of NIT will only be accepted as valid PQ credential of work. Incomplete ongoing work shall not be considered for valid PQ Credential. Payment Certificate without containing mandatory details shall not be treated as valid.

- 5. i) Suspension including debarment of Bidders / Agencies will be applicable as per Memorandum No-03-W/2017-18, dated-18.05.2017 of the Secretary, Irrigation & Waterways Department, Govt. of West Bengal.
- ii) Intending Tenderers having not satisfied with the decision of the Tender Paper Issuing Authority may prefer an appeal to the next superior Officer. Necessary communication regarding his appeal to the Appellate Authority must be brought to the notice of such authority within two days after the date of issue of Tender Paper and copy of such communication should also be submitted to the Tender Paper issuing authority within the same period failing which no such Appeal will be entertained.
- iii) Tender documents are available free of cost and also made available in the Departmental website www.wbiwd.gov.in. Cost of tender documents shall not be charged even during execution of formal tender agreements. However, the contractors/bidders may wherever necessary be charged suitably for asking additional multiple copies of drawings, specifications, Schedule of Rates of the Circle/s (SOR) etc. and such fee may be suitably determined by the Tender Inviting Authority as per norms.
- iv) No Tender Paper will be supplied by Post.
- v) No Tender Paper will be issued after expiry of date & time mentioned in the notice.
- 6. Cost towards Earnest Money Deposit (EMD), for each work as noted in the List of Works, in the form other than those mentioned below, will not be accepted. Earnest Money Deposit (EMD) must presently be submitted in the form of Bank Draft (BD) / Bankers Cheque (BC) / Deposit Call Receipt (DCR) of any scheduled Commercial Bank in India approved by RBI & having a branch in West Bengal and payable at Kolkata or / in West Bengal which is to be drawn in favour of the Executive Engineer Sundarban Delta Project. Payment in any other forms viz. NSC, KVP, cheques etc will not be accepted. Additional Performance Security as Bank Guarantee shall be

obtained in Specimen Form-6 from any RBI approved Indian Bank located in West Bengal only, as per Memorandum No. – 09-W/2017- 18 Dated 20th July, 2017 of Secretary to the Govt. of West Bengal, Irrigation & Waterways Department, Govt. of West Bengal. Finance Department has exempted from payment of EMD to State Registered Labour Cooperative Societies, Mackintosh Burn Limited, Westinghouse Saxby Farmer Limited & Britannia Engineering Limited only. State & Central Govt. SSI Units are exempted from EMD for tenders for procurements and supply of Goods only and not works contracts. However, all other PQ credentials are to be fulfilled by each.

7. Earnest money as noted in the list of works will have to be deposited by the contractors.
- i) The Tenderer should quote the rate both in figures & in words on the basis of percentage above/ below /at par the scheduled of rates attached with the tender form and also in the space provided in the Tender Form.
- ii) Any tender containing over writing is liable to be rejected.
- iii) All corrections are to be attested under the dated signature of the Tenderer.
- 11) When a Tenderer signs his tender in an Indian language, the total amount Tendered should also be written in the same language. In the case of illiterate Tenderer, The Rates Tendered should be attested by a Witness.
8. The Tenderer who will sign on behalf of a Company or a Firm, must produce the registered documents in support of his competency to enter into an Agreement on behalf of the Company or the Firm under the Indian Partnership Act, failing which the Tender will not be considered and the deposited Earnest Money will be forfeited.
9. Any letter or other instrument submitted separately in modification of the sealed Tender will not be entertained.
10. Conditional Tender, which does not full fill any of the above conditions, and is incomplete in any respect, is liable to summarily rejection.
11. GST, Royalty, Building & Construction Workers Cess and all other statutory Levy/Cess etc. will have to be borne by the Contractor (he will have to produce necessary documentary evidence of his having done so at the time of receiving the final payment for the work).
12. As per memorandum No-11-W/2017-18, dated-01.08.2017, Secretary to the Government of West Bengal, Irrigation & Waterways Department Tender Evaluation Committee (TEC) is responsible for issuing tender paper. Lowest valid rate should normally be accepted. The Executive Engineer Sundarban Delta Project, is the accepting authority of Tender and The Tender Accepting Authority does not bind himself to accept the lowest Tender and reserves the right to reject any or all of the Tenders received, without assigning any reason whatsoever and also reserves the right to distribute the work amongst more than one Tenderers on technical feasibility.
13. The Tenderer will have to, if so desired by the Tender Accepting Authority, submit his analysis of rate to justify the rate quoted by him.
14. The Tenders will be opened, as specified in the List of works in the Chamber of the Executive Engineer Sundarban Delta Project, in presence of the participating Tenderers or their duly Authorized Representative who may be present at the time of Opening and who may also put their signature in the Tender Opening Register.
15. The successful Tenderer will have to execute the formal agreement in duplicate which will have to be obtained from the office of the Executive Engineer Sundarban Delta Project, failing which the Earnest Money shall forthwith stand forfeited in the favour of the Government and the communication of acceptance of the tender/ Formal work order shall automatically stand cancelled.
16. The successful Tenderer will have to abide by the provisions for the West Bengal Contract Labour (Regulation and Abolition) Rules, 1972 and such other Acts as may be applicable, as will be in force from time to time.
17. In the following cases a Tender may be declared informal and unacceptable.
 - a) Correction, alterations, additions etc. if not attested by the Tenderer.

- b) Earnest Money in the form of D.C.R. / Demand Draft etc which are short deposited and / or not deposited in the favour of the Executive Engineer Sundarban Delta Project.
 - c) If the Tender Form is not properly filled in respect of the general Description of the work, Estimated Cost, Rate of deduction of Security Deposit etc. in page -3 and other pages as are required to be filled in.
 - d) If the specified pages of the Tender Document are not signed by the Tenderer.
 - e) If the Tender is not submitted in a Cover properly sealed and name of the work is not indicated on the cover with N.I.T No.
18. For the refund of the Earnest Money of the unsuccessful Tenderer(s), he / they is / are to apply for the same to the Executive Engineer Sundarban Delta Project, giving the reference to the work, N.I.T. No., Date of Tender, amount and mode of Earnest Money deposited – all in complete form. The Earnest Money of All Tenderer other than the 1st Tenderers in each case may be refunded after acceptance of rate in the comparative statement, as early as possible.
- 19. To verify the Competence Capacity and Financial Stability of the intending Tenderer(s) the Issuing Authority may demand production of any necessary Document(s) as it may deem necessary.
 - 20. The payment of R/A as well as Final Bill for any work will be made according to the availability of specific Fund and no claim whatsoever for delayed payment will be entertained.
 - 21. Depending on response to various serials in the NIT Tender Paper Issuing Authority may Issue Tender Paper for any serial even though it may not be preferred by the applicant.

Additional Terms & Conditions

- 1. Executive Engineer of the concerned Division is the Engineer-in-Charge in respect of the contract and all correspondences concerning rates, claims, change in specifications and/or design and similar important matters will be valid only if accepted/recommended by the Engineer-in-Charge. If any correspondence of above tender is made with officers other than the Engineer-in-charge for speedy execution of work, the same will not be valid unless copies are sent to the Engineer-in-Charge and approved by him. Instructions given by the Executive Engineer/Assistant Engineer and the Section Officer/Junior Engineer on behalf of the Engineer-in-Charge shall also be valid (who have been authorized to carry out the work on behalf of the Engineer-in-Charge) regarding specification, supervision, approval of materials and workmanship. In case of any dispute, the decision of Engineer-in-Charge shall be final and binding.
- 2. Acceptance of the tender including the right to distribute the total work between two or amongst more than two contractors/bidders will rest with the Engineer-in-Charge without assigning reason to the contractors/bidders thereof. The Executive Engineer as the accepting authority reserves the right to reject any or all tenders without assigning any reason thereof.
- 3. The contractors/bidders shall have to comply with the provisions of (a) Contract labour (Regulation & Abolition) Rules, 1970 and its revision (b) Minimum Wages Act 1948 and its amendments, or the modifications thereof or any other laws relating thereto enforced by the appropriate Government from time to time.
- 4. Engineer -in-Charge shall not entertain any claim whatsoever from the contractors/bidders regarding payment of compensation on account of idle labour on such grounds including non-possession of land in the working zone.
- 5. Engineer-in-Charge shall not be held liable by the contractor/bidder for any compensation claim due to machines becoming idle, for any circumstances including untimely rains, other natural calamities, strikes etc.

6. Any duty / tax / royalty etc. whatsoever is imposed by the appropriate Government after issuance of work order / commencement and completion of the work, is to be borne by the contractor/bidder. Original challan of materials, which are procured by the contractor/bidder, may be asked to be submitted for verification by the Engineer-in-Charge.
7. Cess @ 1% of the cost of construction work or otherwise as per relevant order of appropriate Government shall be deducted from the gross value of all works bill. Also, it is instructed to register his/her establishment under the relevant Act with the competent registering authority, i.e. Assistant Labour Commissioner / Dy. Labour Commissioner of the region.
8. No mobilization / secured advance will be allowed unless specified otherwise in the contract.
9. GST, Cess, Royalty of sand, stone chips, stone metal/ gravels, boulders, forest products, Toll Tax, Income Tax, Ferry Charges and other Local Taxes if any, are to be paid by the contractor/ bidder. No extra payment will be made as re-imbursement or compensation for the above. The rates of supply of finished work items are inclusive of these taxes and charges.
10. All working tools & plants, scaffolding, construction of vats & platforms arrangement of Labour camps shall have to be arranged by the contractor at his/her own cost.
11. The contractor shall arrange for supply of mazdoors, bamboo, ropes, pegs, flags etc. for taking/ layout for the work and for giving and checking measurements by the Engineer-in-Charge or any other Department officer assigned by him / her for which no extra payment claim will be entertained.
12. The contractor should thoroughly scrutinize the site of work and relevant tender documents, drawings etc. before submitting the off line tender and satisfy himself/herself regarding the conditions and nature of works and ascertain the difficulties that might be encountered during execution of the work, carrying of materials to the site of work, availability of drinking water and other human requirements including safety and security etc. Works on river banks may be interrupted due to various unforeseen reasons e.g. sudden rise in water level, inundation of site caused by flood, inaccessibility of working site for carriage and transportation of materials. Engineer-in Charge may instruct the contractor to suspend work that may be subjected to damage due to extremely adverse weather/climatic conditions and no claim will be entertained on this account. There may be variations in alignment, height of embankment or depth of cutting, location of revetment, structures etc. due to change of topography, river conditions and local requirements etc. from the approved work estimate during actual execution of the scheme. For all such modifications or alterations, the tendered rate and contract will remain valid. The contractor will not be entitled to any additional financial claims or extra rates on any of these accounts.
13. A machine page numbered Site Order book (with triplicate copy of every page) will have to be maintained at site by the contractor and the same has to be issued by the Engineer-in-Charge before commencement of work at site. Instructions issued by the inspecting engineer officers not below the rank of Assistant Engineer will be recorded in this site order book and the contractor must note down and comply the same at the earliest.
14. The work will have to be completed within the time period as mentioned in the NIT. A suitable work programme based on time period allowed for completion of work as per tender is required to be submitted by the contractor within 7(seven) days from the date of receipt of work order which should satisfy the time limit assigned for completion. Contractor should inform in writing the name of his authorized representative/s who are to remain present at site daily during work execution to receive instructions relating to the work, sign measurement book & bills and other Govt. papers etc on the basis of Power of Attorney conferred within 7 (seven) days from the date of receipt of work order, if not done earlier.
15. No compensation is payable for idle labour, contractor's establishment charges or on accounting of reasons such as variations in price indices/escalation cost etc.
16. All sort of precautions should be taken for the safety of the work force deployed by the contractor and also others at worksite as per safety rules as is enforced by appropriate authority. The contractor will remain liable towards payment of compensation in accordance with the Workman's' Compensation Act etc for the labourers engaged and should deal to settle such cases promptly. Proper road signs as per

P.W.D. practice will have to be erected by the contractor at his own cost while operating on or near public thoroughfares.

17. The contractor will have to maintain technically qualified employees and/or apprentices at site as per prevailing Apprentice Act or as stipulated in the contract.
18. The contractor will have to accept the work programme as per modification and priority of work as fixed by the Engineer-in-Charge so that most vulnerable reach and/or critical items are completed before the due date for arrival of monsoon or rise of water level or for any other suitable reason/s.
19. Quantity of various items of work mentioned in the tender schedule or in work order is only tentative. During actual execution, these tendered items may vary, even substantially. Payment will be made on the basis of quantum of work actually done in different items and as per specification and no claim will be entertained for reduction of quantities in some items or due to omission of some tendered items. For execution of quantitative excess in any item beyond 10% or supplementary works, approval of the Superintending Engineer / Chief Engineer Government in the Irrigation & Waterways Department would be required depending on who ever is the Tender Accepting Authority and financial involvement thereof, before making any excess and /or supplementary item work payment but in all cases the final value of the works will not exceed tendered amount of the works as per I&WD Notification circulated vide memo.no.-378(7)-IB/IW/O/IA/11C(T)-01/2004(pt) dt. 06/02/2017
20. Any construction materials brought to work site by the contractor must be approved by the Engineer-in-Charge. Materials rejected must be removed by the contractor from work site at his own cost within 24 hrs of issue of the order to that effect. The rates in the schedule are inclusive of cost and carriage of all materials to worksite. The materials will have to be supplied in phases with due intimation to the Executive Engineer/Assistant Engineer concerned, in conformity with the progress of the work. For special type of materials, i.e. Geo-Synthetic Bags, HDPE Bags, Geo- Textile Filters, Geo-jute Filters etc. if any, relevant data sheets containing the name of the manufacturers, test report etc. are also to be submitted on each occasion. Engineer-in-Charge may conduct independent tests of all construction materials on the samples drawn randomly before accordance of approval for using these materials for the work. In this regard decision of Engineer-in-Charge is final and binding.
21. For materials under category 20 (a), (b) & (c), the contractor will act as the custodian thereof. The construction materials will have to be carried from the departmental godown to the worksite by the contractor at his own cost. The contractor shall remain responsible for proper storage & safety of the materials. Suitable godowns / Stores shall have to be made by the contractor at his/her own cost. Penalty charges shall be levied at higher rates for loss, wastage, misuse. Surplus departmentally issued materials if any, shall have to be returned in the godown or store maintained by the Engineer-in-charge at the contractor's cost within the time frame as fixed by Engineer-in-Charge. Otherwise, the cost at penal rates will be recovered from the bill. Indent for departmental materials shall be submitted by the contractor to the S.D.O/AE at least 7 days in advance of actual requirement. No claim will be entertained for non-issuance of such materials on time, but reasonable extension of time will be granted. All materials, whatever be its category thereof, shall be properly stored by the contractor in suitably maintained godowns near the site of work at his own cost & under no circumstances whatsoever shall any material be removed from the site of work without prior written permission of the Engineer-in-Charge. The contractor shall be responsible for any damage or loss of such materials.
22. The contractor shall also have to satisfy the Engineer-in-Charge regarding proper utilization of materials which have been issued departmentally.
23. 'Additional Performance Security' has been made mandatory which shall be obtained only from the successful L1 bidder, if the accepted bid price is below by 20% or more than 20% of the amount put to tender. This Additional Performance Security shall be equal to 10% of the **tendered amount** i.e. the L1 bid price.

The Additional Performance Security shall have to be submitted by the selected L1 bidder after issuance of Letter of Acceptance / Letter of Invitation (LoA/LoI) within seven working days and before issuance of Award of Contract (AoC) in the form of "Bank Guarantee" of any Scheduled Bank approved by RBI, payable at Kolkata or / in West Bengal, as per specimen format Form-6. If the bidder fails to submit the said value of BG as Additional Performance Security within the seven working days, he may pray for extension of BG submission date within the prescribed 7 days period by another seven days with reasons

to be recorded in writing (which is 14 working days from date of issuance of LoA). Else, its/their Earnest Money Deposit (EMD) will be forfeited without any prejudice by the Tender inviting authority and the defaulting bidder also debarred from further participation in all future I&WD tenders for a period of one year for committing the offence on the first occasion and for a period of two years for recurrence of the same offence.

The said Bank Guarantee (BG) shall have to be valid till the end of the contract/Agreement period including extended time period till 100% physical completion of work in all respects and shall be renewed within validity period accordingly if required. The said Bank Guarantee shall remain in custody of the DDO & Executive Engineer in-charge of the work, which shall be returned to the bidder/contractor after successful physical completion of the work as per contract. If the bidder fails to complete the work successfully, this Additional Performance Security shall be forfeited at any time during the pendency of the contract period after serving suitable notice to the contractor/bidder agency. Necessary provisions regarding deduction of security deposit from progressive bills of the contractor in respect of the tendered work shall be governed as per relevant clauses of the tender contract/Agreement which will in no way be affected / altered due to this Additional Performance Security.

24. All queries and disputes arising out of the works tender contract is to be brought to the notice of Chairman of the Departmental Dispute Redressal Committee in writing for decision within 15 days.
25. “ Contractor (s) should have to ensure the mandatory engagement of job card holders as unskilled workers for execution of awarded work, in order to implement the “Karmashree” Scheme launched by the State Government, vide No. 1140-PRD-33011/1/2024-MGNREGA SEC dated – 07.03.2024.They also have to submit periodic statement on such engagement in the manner stated in the aforesaid order.”

1. SCOPE OF WORK:

- Establishment of various permanent and temporary Ground Control Points (GCPs) by Differential Global Positioning System (DGPS) and Digital-level (DL) surveying instruments along the riverbank /drainage channel bank and construction of permanent bench mark (BM) structures.
- Bathymetric survey for obtaining river cross sections at specified intervals and long section, river bed profile using Real Time Kinematic (RTK) enabled Acoustic Doppler Current Profiler (ADCP), Echo sounder or RTK/DGPS based on the requirement.
- Topographic survey for obtaining details of bank cross sections at specified intervals along-with details of hydraulic structures, embankments, natural or artificial channels, canals, chars and other topographic features viz. transportation lines, electricity lines, forests, water bodies, residential areas, public utility structures (schools, hospitals, police station, market, park, auditorium, electricity sub-station, bus stand, railway station etc.) within the specified area from the river banks.
- Submission of the survey data with topographical maps, cross section, long section and other detail drawing, also in tabular data forms using PDF, Auto Cad, MS Excel or other software in both hard copy and soft copy format. Necessary pictures and videography of the work also to be appended.
- General Scope of work should be properly maintained as given in below.
- Submission of survey report should be properly maintained as given in below.

- Qualification and Competence of the staff for assignment should be properly maintained as given in below.

2. DETAILED SCOPE OF WORK WITH TECHNICAL SPECIFICATIONS:

A. Establishment of Permanent and Temporary Ground Control Points (GCPs)

B. Location of GCPs:

There will be **two** Base Points and **two types** of GCPs (Permanent GCPs / Primary Survey Control Points and Temporary GCPs / Secondary Survey Control Points) to be established along the river at strategic locations. The two Base Points to be established at locations equally covering the whole survey area and placed centrally in each of their covered areas. Permanent GCPs to be placed at a maximum interval of 5 km and Temporary GCPs at a maximum interval of 2.5 km.

These points shall be established in such a way that further surveys can be carried out in the same coordinate system. The GCPs will form a network of triangles preferably not too acute nor obtuse covering the survey area.

The locations of these Base points and GCPs to be fixed by the survey agency and will be furnished for approval by the competent authority for commencement of the survey.

The GCPs shall be setup with reference to known Survey of India Permanent Bench Marks. Local geoid corrections are to be made using SOI GTS (Great Trigonometrical Survey)/Continuously Operating Reference Stations (CORS) with an accuracy limit of 5 mm.

C. Construction of permanent BM pillars and selection of locations for temporary GCPs:

Permanent BM pillars shall be constructed at the locations of the Primary GCPs and to be constructed as per the design and specifications given in the Tender drawing. Bench Mark pillars are to be constructed at suitable locations on embankment proper or at places not more than 100 m from embankment as per direction of the Engineer in charge. Secondary Survey Control Points to be established on any permanent structures of the Govt. The GCPs shall be established at such a location so that it may not be disturbed/damaged by local people.

All GCPs with proper indexing & labelling shall be painted yellow and duly marked for identification with black paint.

D. Datum of Coordinates of the Base Points and GCPs:

The horizontal coordinates of the GCPs will be derived based on WGS 84 Datum and presented both in Geographical Coordinate Systems (Latitude and Longitude in decimal degrees with 9 digits after decimal & Ellipsoidal Height) and Projected Coordinate System (Zone-45N, Easting and Northing values in m, with 9 digits after decimal point).

The vertical coordinates will also be based on WGS 84 Datum and will give the **Ellipsoidal** height in m. The Ellipsoidal values will be converted into **Orthometric** value (MSL) by the client, based on the Survey of India Geoid model (EGM 96 and EGM 08 will not be accepted) and then these values will be used for bathymetric and topographic survey, to be carried out further.

E. Process of obtaining Coordinates of the Base Points and GCPs:

- a) For Base Points survey.
With DGPS instrument from CORS network of Survey of India. (Registration for CORS network will be given by the client). Or, with DGPS instrument in Static mode for a period of **24 hours**. (If mobile network is not available or very poor around Base Point location.).

Only the Latitude, Longitude and Ellipsoidal height from the instrument to be recorded.

- b) For Primary GCPs.

With DGPS instrument from CORS network of Survey of India. (Registration for CORS network will be given by the client). Or, with DGPS instrument in Static mode for a period of **6 hours** with the base placed over any nearest established Primary GCP. (If mobile network is not available or very poor around GCP location.)

Elevation of all BM should be measured using Digital level instrument and Static mode in DGPS instrument from the nearest established GCP as a Base point. The final value of the elevation will be finalized after necessary scrutiny by the Engineer In-Charge/ Site in Charge from the data acquired in both modes of survey. All raw data from digital level shall be submitted along with adjusted and unadjusted levels in tabular form & using applicable Geo-Office software or any other software as per direction of Engineer in- Charge complete.

- c) For Secondary GCPs.

With DGPS instrument from CORS network of Survey of India. (Registration for CORS network will be given by the client). Or, with DGPS instrument in Static mode for a period of **3 hours** with the base placed over any nearest established Primary or secondary GCP. (If mobile network is not available or very poor around GCP location).

Elevation of all BM should be measured using Digital level instrument and Static mode in DGPS instrument from the nearest established GCP as a Base point. The final value of the elevation will be finalized after necessary scrutiny by the Engineer In-Charge/ Site in Charge from the data acquired in both modes of survey. All raw data from digital level shall be submitted along with adjusted and unadjusted levels in tabular form & using applicable Geo-Office software or any other software as per direction of Engineer in- Charge complete.

I. Process of measurement with DGPS instrument for better accuracy:

- a) Static Observation time frame should be used within preferably 6:00 hrs to 14:00 hrs.
b) DGPS/ GNSS Receiver Accuracy (RMS) should be maintained:

Static & Fast Static: Horizontal accuracy – (5 mm ± 0.5 ppm) or better

Vertical accuracy – (5 mm ± 1 ppm) or better

Kinematic RTK: Horizontal accuracy – (10 mm ± 1 ppm) or better

Vertical accuracy – (15 mm ± 1 ppm) or better

- c) The threshold value shall not exceed 02 for PDOP (Positional Dilution of Precision) and HDOP (Horizontal Dilution of Precision).
d) The control point locations should be selected so as to be:
- Clear of HT/LT lines
 - Free from multi path problems associated with tall features in the vicinity

- Free from foliage
- Open to sky with a clear view of the horizon

II. Ground Control Points (GCP) establishment report:

Control point establishment report shall be submitted after completion of activities covering the following:

- Final list of all Base Points, GCPs with Co-ordinate [X, Y, Z] in Universal Transverse Mercator (UTM) system and Geographical Coordination System with their location with respect to existing roads/identifiable permanent features for easy identification have to be prepared and submitted to Engineer in-charge/ Site in charge.
Geo-referenced digital photographs of these pillars shall be taken from three different directions. A satellite image clip of approximate size 100 X 100m, around the selected location, should also be furnished along with other site photographs. Further description of the selected location should also be provided. The measurements from permanent features identifiable nearest to the point shall also be taken.
- Both, the Raw Data file [in RINEX (Receiver Independent Exchange Format) or .T02 as well as proprietary formats of DGPS manufacturer] and the Transformed Data for the entire survey area and adjoining areas of interest. The raw data will be checked properly by the concerned authority, if not satisfied after checking the raw data as per technical specification, then the same point should be re-surveyed.
- The Agency shall download the raw GCP data (static data) on a computer at site or suitable location itself and same working day to be provided to site in-charge.
- Base line report and necessary correction made during establishment of Control Points.
- Processed data in MS-Excel Worksheet/ASCII/XML, .kml & .dwg format.
- Each day's work shall be compiled and mapped/documented the same day to be sent to the site in-charge through electronic medium.

F. Bathymetric Survey

Bathymetric survey will be started with the established GCPs.

Echo-sounder (Dual frequency), RTK/DGPS based ADCP or RTK/DGPS (for shallow depth of water) to be used for developing under water river or reservoir bed profile, cross sections etc. in river channels & other water bodies shall be conducted. The bathymetry setup shall comprise of positioning system and echo-sounder should be of latest specification to meet the specified accuracy levels.

- Bathymetric details i.e. the river bed elevation, flow bifurcation, tributaries, shoals, dead pools, deep channels, island, char, thalweg etc. shall be clearly indicated. Waterline of rivers and reservoirs shall be marked on survey plan.
- Survey should be done using Echo-sounder, DGPS & RTK based ADCP and licensed survey software for developing under waterbed profile in river channels & other water bodies.
- Echo sounder or ADCP data should be interfaced with HYPACK/ Eiva software or equivalent to data logging software in respect of tide correction (if required).
- Echo-sounder (Dual frequency) & RTK/DGPS based ADCP should be calibrated and checked by concerned authority before using in field.

G. Topographical survey:

Topographic survey will be started with the established GCPs.

RTK/DGPS/TS to be used for developing a map of the overbank areas of approximate width up to 50 m from the bank of the river or embankment. The topographic setup shall comprise of instruments which should be of latest specification to meet the specified accuracy levels.

- a) All topographic details on both the banks of the river up to a distance of 50 m from the country side toe of embankment or from river bank to be captured with Total station or Drone survey or RTK/DGPS for levels.
- b) Topographic survey should show natural features viz. streams, lakes, ponds, forests, hills, caves, low lands, silt depositions, chars, open space water logged areas etc.
- c) Topographic survey should also show manmade features viz. communication lines (roads, rail, ferry), electric poles (HT), transformers, rail station, bus terminus, markets, schools, houses (permanent or temporary), hutments, agricultural fields, tea gardens, important govt. infrastructures and establishments viz. schools, hospitals, markets, water tanks, military camps, police station, forest beat, electrical substation, bridges (temporary and permanent), all hydraulic structures, spurs, canals, important land marks etc.
- d) Average G.L. of the flood plain, agricultural fields, village settlements etc. to be provided.
- e) Important levels of all the hydraulic structures, embankments and spurs to be provided.
- f) Geological features visible on ground such as firm banks, rocky outcrops, etc. to be shown.

H. Plotting of Cross section:

- a. The cross sections of river are to be plotted with stitching as per topographical CS survey details in horizontal direction and vertical direction.
- b. Offset interval of each cross section shall be taken at an interval of not more than 1m to clearly depict the existing river bed profile.
- c. River station should be marked starting from left high bank to the right high bank.
- d. Cross section of River/ Khal shall be taken at an interval of 45 m to 90 m c/c for straight and uniform reach, and 15m to 20m c/c for non-uniform and curved reach. These two types of reaches should be identified, marked and should be approved by the competent authority prior to taking up the survey.
- e. The following items shall be shown on the Cross Section survey sheet:
 - 1. Each cross section should be properly indexed and the D/S reach length should be mentioned.
 - 2. Date of survey and water level on that day.
 - 3. Levels and dimensions of embankment, if any.
 - 4. Maximum historical/ observed HFL from any water mark for any particular year, if available.
 - 5. Any hydraulic structure with dimensions of the substructure and superstructure across the river.
 - 6. Existing Bituminous/Cement Concrete/Moorum/ Earth road etc. along the banks or embankments, with width and av. level.
 - 7. Any deep pool formed in the river.
 - 8. Rapids and outcrops in the river bed, if any.

9. Bank locations.

- f. Additional cross sections (both U/S and D/S) should be taken at points like bridges, regulators, cross drains, inlets, tributaries, branch channels, drains, out channels from pump houses, important structures etc. If another drainage channel falls into or bifurcates from the drainage channel/canal/river proposed for survey, additional cross section should also be taken at same interval thereon up-to 300 m length u/s from the outfall points.
- g. Embankment line along the sloped sides, capturing physical features like bank protection (including the type of protection), present status (damaged or not and degree of damage), vegetative growth, pond, inlet/outlet structure (with details and photograph), jetties, hutments, encroachment etc. to be shown.

I. Plotting of Longitudinal Section/profile along final River/khal/canal alignment:

A longitudinal profile of ground along the final canal alignment (centreline) should be shown. It should have ground levels (as well as bathymetric details in case canal is crossing any water body/Structure should be shown) at every 50 m interval.

J. General Scope of work:

The successful Bidder has to submit a detailed plan of the work after award of the work:

1. Raw data as per specified format (.CSV/.txt etc.) should be submitted in day to day during survey by electronic medium. Failure to provide data on time, data for that day will be considered ineligible/ unacceptable/ tempered data. Thereafter again resurvey will be taken in that part from your end.
2. .dwg& .kmz/.kml and shape file of the detailed topographic survey of the embankment/ bank shall be made from the reconnaissance survey such that the layer can be visualized in Google Earth/Arc GIS Earth.
3. The safety and security of the survey equipment is responsibility of the owner. Survey equipment to be protected from adverse climatic conditions.
4. Arrangement of boats, vehicles, power source, ropes, other necessary tools etc. for surveying to be done by the survey agency.
5. Safety of the survey personnel is the responsibility of the company/proprietor and maximum precaution should be taken for surveying in rivers, jungles, deep forests against snake bite, animal attack etc. Wearing of life jackets and gum boot is a must for ADCP surveys and surveys in marshy land.
6. Necessary ancillary works for accessibility to site like jungle cutting, water hyacinth removal and any other such hindrances to be sorted out by the agency.
7. Coordinates and level of 50 % of the established GCPs will be cross checked by the client with their own instrument and RMS values of errors of horizontal positional values and vertical positional values with that obtained by the agency will be checked. The surveyed data given by the agency will be accepted if the RMS value of errors is within 2 cm for horizontal coordinates and 5 cm for vertical coordinates. The level data given by the agency will be accepted if the RMS value of errors is within 1 cm.
8. Logistic support for carrying instruments from RRI to the site and back and movement to different GCP points for checking by the client, shall be arranged by the agency, and the cost of which shall be included in the quoted rate.

9. In case, the RMS error of any point is more than the acceptable value, a joint survey will be conducted and for that all the logistic support shall be provide by the agency, as mentioned above.
10. The technical evaluation of the tender shall very much depend upon the technical strength of the Bidder. The bidder has to provide inputs to meet the evaluation criteria as given below.

Adequate technical knowledge, as mention in TOR, the survey agency shall be discussed and evaluated in presence of client before final technical evaluation or after opening of tender at RRI. Details in respect of work, instrument calibration, experience of the staff deployed, understanding of scope of work, manpower etc. will also be verified by TIA. If fails to achieve TOR milestone in bid meeting, the concerned bidder may be DISQUALIFIED in technically.

K. Submission of survey report:

The contractor shall submit 1 set of draft report after completion of field activities, processing of data completes in all respect etc. for scrutiny by the competent authority. The corrections, if any, observed by the authority should be incorporated and 5 sets of final drawings to be submitted thereafter. A set of survey document should comprise of the following.

1. Index map of the surveyed area showing all the river network, important features and GCPs in a scale of 1: 50k (or suitable scale as decided by EIC), all geo referenced. Details like name of GP, name of mouza, name of village and name of local inlet channel related with the survey, any others data etc. should be recorded during survey and to be incorporated into the map. Print copy of this map should be kept at site during detailed survey.
2. Geo referenced maps showing the river stations where cross sections are taken and the length of each cross section, river bank, embankment, and water line, nearest property line, nearby waterbodies in a scale of 1:10 k (or suitable scale as decided by EIC).
3. Topographic sheets in a scale of 1:5k (or suitable scale as decided by EIC), showing necessary details with dimensions where necessary and spot levels of average G.L.
4. Cross section sheets in a suitable vertical and horizontal scale. Observed HFL value to be shown, where such information is available. Water level on the date of survey to be shown on each cross section. Cross sectional value also to be shown in tabular form.
5. Longitudinal sections of river along the thalweg line.
6. Contour of the river bed or reservoir bottom, showing deep pools formed in the river bed, main channel, braided channels etc.
7. Relevant photographs taken during survey.
8. All raw survey control data used or derived from this awarded contract of survey work will be supplied to client to ensure independent Quality Assurance (QA) of the survey operations.
9. The Contractor also shall submit the DGPS survey/ DL survey data in raw format along with processed data in format proper naming convention for the layers and features needs to be developed by the contractor.
10. All type of soft copy in editable formats in Hard disk/Pen drive (32GB).

L. Specification of Instruments/Equipment's:(European type/American type)

1. DGPS:
2. Echo sounder:
3. ADCP
4. Total station:
5. Digital level:

M. Qualification and Competence of the staff for 1no assignment:

1. Civil Engineer (BE/B.Tech/Diploma) with 5 years of Experience of similar nature of work: 1 no.
2. GIS/ Geo Informatics Expert with 3 years' Experience: 1 no.
3. Auto-cad draughtsman: 1 no.
4. Surveyor with 2 years of related type of work experience: 4 nos.
5. The strength of the personnel is the minimum required for this work and may engage more personnel as needed.

N. Documents (in original) to be submitted/presented for the work:

1. Educational Qualification certificate of technical manpower.
2. Experience certificate of the technical manpower for similar nature of work.
3. Purchase certificate or challan of all the instruments used for the work viz. RTK/DGPS, ADCP, ECHO SOUNDER, TOTAL STATION, DIGITAL LEVEL INSTRUMENT, DRONE etc.
4. Calibration certificate of all survey instruments. Calibration should be done within 1 year period before commencement of the work.
5. Valid licences certificate of the software's and date of expiry of the software's.

Parma *1/12/25*

Executive Engineer
Sundarban Delta Projects

Memo No. **1434/10**

Dated: 04.12.2025

Copy for information & wide Circulation to the:-

1. Director, River Research Institute, W.B., HCL, Mohanpur, Nadia, WB.
2. Deputy Director (Hyd.), RRI, HCL, Mohanpur, Nadia, WB.
3. Deputy Director (Engg.), RRI, HCL, Mohanpur, Nadia, WB.
4. Sub-Divisional Officer, Sub-Division No.-I, RRI, HCL, Mohanpur, Nadia, WB.
5. Sub-Divisional Officer, Sub-Division No.-II, RRI, HCL, Mohanpur, Nadia, WB.
6. Assistant Engineer/SDP, RRI, HCL, Mohanpur, Nadia, WB.
7. Assistant Engineer/BR, RRI, HCL, Mohanpur, Nadia, WB.
8. Divisional Accountant, R.R.I., HCL, Nadia.
9. Divisional Estimator, R.R.I., HCL, Nadia.
10. Notice Board, R.R.I., HCL.

Partha *Paul*
4/12/25-

Executive Engineer
Sundarban Delta Projects

SHORTNOTICE INVITING TENDER No. 02/EE / SDP/2025-26

Circulated Vide T. O. No.1434/dated 04.12.2025.

Time Schedule of Tender procedure:-

i)	Last Date & Time for application for Tender Form	09.12.2025	Upto 14.00 Hours
ii)	Last Date & Time for issue of Tender paper.	10.12.2025	After 14.00 Hours
iii)	Last date & Time of receiving filled up Tender documents	12.12.2025	Upto 14.00 Hours
iv)	Date & Time of opening of Tender in the office of the undersigned	12.12.2025	After 15.00 Hours

LIST OF WORKS –

Sl. No.	Name of the Work	Amount put to tender (Rs.)	Earnest Money (Rs.)	Eligibility of contractor for issue of tender form	Time of Completion
1.	Estimate for collection of soil samples for Geotechnical Investigation at different location including laboratory testing for design of bridge & guard wall at Kanchantala over river Khaldari khal at Maheshtala block under the jurisdiction of Suburban Drainage Division to be conducted by River Research Institute, I&W Dte, Govt of West Bengal.	3,04,692.00	6,094.00	Bonafide outsiders preferably having 50% minimum credential in a single work of similar nature within last 5 (five) years.	7 (Seven) days.
2.	Survey work of new alignment of retired embankment at country side of Paschim ratanpur alongwith BM carry & connection at different points under Malda irrigation Division in respect of urgent flood mitigation work of bhutni char, Paschim ratanpur in the district of Malda to be conducted by River Research Institute, Mohanpur, Nadia during the year 2025-26.	1,79,724.00	3,594.00	Bonafide outsiders preferably having 50% minimum credential in a single work of similar nature within last 5 (five) years.	7 (Seven) days.

Parma Paul
9/12/25

Executive Engineer
Sundarban Delta Projects