

Response to pre-bid queries raised by bidders

S.no.	Clause No. & Page No.	Content of the RFB requiring clarifications	Clarification sought by Bidder	Response by IWAI
1.	Section VII 2., Page no. 78	<p>The objective of the contract is to conduct <b>Bank to Bank Detailed Hydrographic Survey of National Waterway-1 from Tribeni to Varanasi in three stretches:</b></p> <p>I. <u>SCHEDULE 'A': Stretch 1 [Tribeni (193 km) to Farakka Lock Gate (544 km)]</u></p> <p>II. <u>SCHEDULE 'B': Stretch 2 [(Farakka Lock Gate (544 km) to Patna (955 km)]</u></p> <p>III. <u>SCHEDULE 'C': Stretch 3 [Patna (955 km) to Varanasi (1319 km)]</u></p>	Lat, Long of the three stretches	<p>The objective of the contract is to conduct <b>Bank to Bank Detailed Hydrographic Survey of National Waterway-1 from Tribeni to Varanasi in three stretches:</b></p> <p>I. SCHEDULE 'A': Stretch 1 {Tribeni [Ch. 193 km (Latitude 22°59'0.76" N, Longitude 088°24'16.09" E)] to Farakka Lock Gate [ Ch. 544 km (Latitude 24°48'54.76"N, Longitude 087°54'17.02"E) and (Latitude 24°48'8.73"N, Longitude 087°55'17.38"E)]}</p> <p>II. SCHEDULE 'B': Stretch 2 {Farakka Lock Gate [Ch. 544 km (Latitude 24°48'39.32"N, Longitude 087°55'47.10"E) and (Latitude 24°48'54.76"N, Longitude 087°54'17.02"E)] to Patna [Ch. 955 km (Latitude 25°37'0.98"N, Longitude 085°12'16.27"E)]}</p> <p>III. SCHEDULE 'C': Stretch 3 {Patna [Ch. 955 km (Latitude 25°37'0.98"N, Longitude 085°12'16.27"E)] to Varanasi [Ch. 1319 km (Latitude 25°14'47.03"N, Longitude 83°01'48.68"E)]}</p>
2.	Section VII 2.2 i), Page no. 79	<p>Benchmark Pillars i) Construct Benchmark Pillars of dimension 0.3m x 0.3m x1.5m (0.6m above GL) RCC pillar with 6mm thick 50mm dia. GI pipe inserted (as per construction drawing of Survey Pillar in the tender document), at every 10km interval of river/canal length and also at 500m upstream and 500m downstream of Locks, Sluice gates, Barrages, Dams, Tributaries etc. Minimum Benchmark Pillars to be constructed in following Schedules:</p> <p>i. Tribeni-Farakka: 42 nos.  ii. Farakka-Patna: 49 nos.  iii. Patna-Varanasi: 50 nos.</p>	This dwg is not available in the tender document. Can you please provide it?	<p>Benchmark Pillars i) Construct Benchmark Pillars of dimension 0.3m x 0.3m x1.5m (0.6m above GL) RCC pillar with 6mm thick 50mm dia. GI pipe inserted, at every 10km interval of river/canal length and also at 500m upstream and 500m downstream of Locks, Sluice gates, Barrages, Dams, Tributaries etc. Minimum Benchmark Pillars to be constructed in following Schedules:</p> <p>i. Tribeni-Farakka: 42 nos.  ii. Farakka-Patna: 49 nos.  iii. Patna-Varanasi: 50 nos.</p> <p><b>Construction drawing of Survey Pillar is attached at Annex-1.</b></p>

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3.	Section VII 2.2 ii), Page no. 79	The bench mark needs to be established at place which is preferably close to motorable road and above HFL.	The numbers indicate that the pillars are to be constructed along only one bank. Please indicate whether right or left bank.	The bench mark needs to be established at place which is preferably close to motorable road, <b>close to navigable channel</b> and above HFL.
4.	Section VII 2.3 ii), Page no. 79	Static baseline observation on GTS Bench mark and Bench mark pillar (origin of survey) shall be carried out simultaneously for continuous 12 Hours observation and the same needs to be submitted. The fly levelling Digital Level Data also needs to be submitted from GTS to Bench Mark Pillar (origin of survey).	We believe this is an unnecessarily long period of observation and would be superfluous beyond 4 hrs. Request this period to be reduced to 4 hrs.	Tender condition prevails.
5.	Section VII 2.3 iii), Page no. 79	All other bench mark pillars (both side of origin of survey) needs to be connected from the nearest bench mark pillar with minimum of 4 hours simultaneous DGPS observations only. Fly levelling from one BM to another BM is not allowed. Rinex Data from one Bench mark to another bench mark also needs to be submitted with raw data.	“both sides of origin of survey” is not understood. The survey would progress in only one direction from the origin of survey. “4 hrs simultaneous DGPS obs” will add considerably to the time required for this preliminary activity before starting the survey and the time allotted for the entire project will not be sufficient. Request 30 minutes observation only at the pillar concerned, to reduce the time factor.	Tender condition prevails.
6.	Section VII 2.3 v), Page no. 80	The Topographic survey has to be carried out with the help of RTK DGPS or LIDAR. Minimum five numbers of Ground Control Points (GCP) are to be established in a one sq.km area and data is to be submitted. The Topographic survey has to be carried out with the help of RTK DGPS or LIDAR (Ground / Drone / Airborne), however, all the permissions shall be taken by the Contractor from the concerned authorities.	This requirement is considered excessive and will result in unnecessary loss of time, considering the deadline specified by IWAI. Latest drone systems require only one ground control point per sq km.	The Topographic survey has to be carried out with the help of RTK DGPS or LIDAR. Ground Control Points (GCP) are to be established at a minimum grid <b>of 1 Km X 1 KM</b> . The Topographic survey has to be carried out with the help of RTK DGPS or LIDAR (Ground / Drone / Airborne), however, all the permissions shall be taken by the Contractor from the concerned authorities.
7.	Section VII 2.3 vi), Page no. 80	Photogrammetry for extraction of topo Level is not Allowed.	This restriction may please be elaborated upon.	Tender condition prevails.
8.	Section VII 2.3 vii), Page no. 80	All permissions from the concerned authorities for Drone and Air Lidar needs to be obtained by the contractor, however, IWAI will provide only the documentary support.	Can IWAI (being a government department) clarify whether it can help the contractor arrange for a single permission document which can be used for the entire project, by all the teams in all three segments? This would help in improving the efficacy of the legal procedures and reduction of time for the	Tender condition prevails

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			project. Areas in the proximity of airports or naval bases cannot be surveyed using drones. Can IWAI confirm if any survey areas lie within such zones?	
9.	Section VII 2.4 ii), Page no. 80	Available CWC / Irrigation / Flood Control Deptt. gauges and referenced pillars shall also be fixed (horizontal and vertical both) and photographed.	Will IWAI provide the locations of these points?	Tender condition prevails
10.	Section VII 2.4.1 ii), Page no. 80	<b>Reading at all the gauges</b> in a stretch (Tribeni-Farakka or Farakka-Patna or Patna-Varanasi) to be taken <b>simultaneously for entire duration (as mentioned in Table 3.1.1 below) of bathymetric survey.</b> Readings are to be taken at 1 hr interval from 0600 hours to 1800 hours. If survey is commenced before 0600 hours, the reading is to be taken 15 minutes before commencement of survey time. Similarly, if survey of a day is ending after 1800 hours, reading shall be taken up to completion of survey time.	Sometimes it may not be possible to reach some of these locations by 6AM for the water level readings, or to begin the bathymetry or topo survey. Therefore, can the readings be taken only during survey periods? Further, if survey is not carried out at a location for any reason will it still be necessary to take water level readings for that period? Also, is it necessary to continue taking readings for the sections that have been completed and the teams have moved on?	Tender condition prevails.
11.	Section VII 2.4.1 vi), Page no. 80	The Photographs are to taken at each site with date and time of photographs for confirmation of tide reading in day time.	Please confirm if photos are to be taken at each hour or once a day or just once for each site.	The Photographs are to be taken at site daily at 04 hours interval for confirmation of tide reading.
12.	Section VII 2.5, Page no. 81-82	<b><u>Scale and limit of survey</u></b>	1. A chart scale of 1:30,000 will result in readable hydrographic levels at intervals of 150m. Please confirm. 2. Similarly, a chart scale of 1: 20,000 will result in readable hydrographic levels at intervals of 100m. Please confirm. 3. Topo survey will also have a similar plotting scale. Please confirm.	Tender condition prevails.
13.	Section VII 2.7, Page no. 82	Topographic Survey is to be carried out from bank to bank on Islands, both the banks, shallow depths at spacing specified in above table.	Topo survey line spacing is not specified. Please confirm if topo survey lines will be in continuation with the bathymetric survey lines, with the same line spacing.	Tender condition prevails.
14.	Section VII 2.11 iii), Page no. 84	Contours of 0m, 1m, 2m, 3 m, 4m, 5m and 10 m are to be indicated on the charts with respect to Chart Datum / Sounding Datum. Soundings are also to be reduced w.r.t. MSL	This is confusing. If charts are to be prepared wrt MSL, then the contours will also be wrt MSL. Please clarify which single datum is to be used for the deliverables in the entire	Contours of 0m, 1m, 2m, 3m, 4m, 5m and 10 m are to be indicated on the charts with respect to Chart Datum / Sounding Datum. Soundings are also to be reduced w.r.t. MSL and charts are to be prepared as follows:

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		and charts are to be prepared w.r.t. MSL.	project. Please refer to Section 2.4 i) of the activity schedule-scope of work, which specifies that the vertical control point for both bathy and topo survey should be the same.	(i) Soundings w.r.t. CD/SD and Topo levels w.r.t. MSL and contours are to be drawn only for Soundings. (ii) Soundings and Topo levels both in MSL and contours are to be drawn for both Soundings and topo levels. Contours at 2m interval are to be drawn.
15.	Section VII 2.11 iv), Page no. 84	Spot level values are to be indicated w.r.t. Mean Sea Level (MSL) up to three decimal places & Soundings w.r.t. Chart Datum / Sounding Datum. Charts which are to be prepared w.r.t. MSL (soundings also) shall also be plotted up to three decimal places.	As queried above, this is confusing. Please specify which single datum is to be used for both, topo as well as bathy survey charts.	As per SI#14 above.
16.	Section VII 2.11 vi), Page no. 84	On completion of the survey, dredge channel is to be identified linking deepest soundings on the cross-sections. Dredging quantity is to be estimated for developing a navigational channel of dimension of (i) 45m x 2m, (ii) 45m x 2.5m and (iii) 45m x 3m. Side slope of 1:5 w.r.t. chart datum/sounding datum is to be considered.	Is the slope of 1:5 to be included within the 45m width or outside it?	Tender condition prevails.
17.	Section VII 2.12 vii), Page no. 85	Reports are to be prepared as per report available at IWAI web site at link <a href="http://www.iwai.nic.in/fsr-report">http://www.iwai.nic.in/fsr-report</a> .	The reports referred to at this website are all very different from each other. Furthermore, no charts are available with these reports. Please specify one report we can use as a sample for the reporting on this project. <u>Please note, all the reports referred to here are Feasibility Study Reports, different from the requirements of this project.</u> Also, please provide sample charts so that similar formatting can be followed for the charts in this project. Also, please provide basic charting requirements, such as paper size etc.	Tender condition prevails.

