

Clarifications to the Minutes of the Pre- Bid meeting held on 18.06.2014 at 1100 hours in connection with "Tender for Detailed Hydrographic Survey in NW-4 (South Buckingham Canal) from Shollinganur Bridge to Thiruvanmiyur Bridge (9km) and Kalpakkam to Puducherry (75kms)" and additional points raised by the bidders.

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| Queries of M/s DEEBA ORTHOGRAPHICS (P) LTD. | | | | |
| 1 | | | Which types of Instruments are used? | Instruments are to be used as per requirement of the tender Scope of work, Terms of Reference & Special conditions. |
| 2 | 6.3/50 | The position fixing should be done by using differential global positioning system not less than 12 channel receivers for submetre accuracy. | Which company DGPS used? | Any company DGPS with Submetre accuracy. |
| 3 | 6.4/50 | Land survey party should be equipped with land survey equipment like theodolite, levels, Total Station with required accuracy standard for carrying out land survey. | What is the accuracy of the Instrument (Total Station)? | Total Station with 1mm accuracy |
| 4 | 5.0/10 | Bio data of key survey personnel. | What is the experience of field Surveyors and Engineer? | Land Survey team: Minimum qualification - III (survey) / Diploma in Civil / SR-II (Survey Recorder Grade-II, Indian Navy) Bathymetric Survey: Minimum qualification - Diploma in Civil with 3 yrs. Hydrographic survey experience or SR-II |

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| Queries of M/s IIC TECHNOLOGIES LIMITED, HYDERABAD | | | | |
| 5 | 4.a/49 | Construct Bench Mark Pillars of dimension 0.3mx0.3mx1.5m (0.6m above GL) RCC pillar with 6mm thick 50mm dia GI pipe inserted, at every 10km interval. Erect Water level gauges at every 10 km interval and readings are to be taken at 1 hr interval for 12 hours (6 AM to 6 PM) or for the entire period of survey. The gauges are to be connected to a nearest Bench Mark by levelling and its datum value shall be established w.r.to MSL&CD. Detailed description of the bench mark along with its position and value to be given in the report for future recovery. Standard method shall be adopted for transfer of datum in rivers/canals. For tidal reaches standard transfer of datum as per Admiralty Manual shall be adopted. At least 2 gauges (one U/s and one D/s at 10 Km apart) shall be read simultaneously and soundings to be carried out within the gauge stations. | What would be the distance of nearest established Bench Mark for levelling to newly constructed BM Pillars. | (1) GTS BM is near Mutukadu Lock (10km from Shollinganallur). (2) Nearest IWAI BM Pillar is at Shollinganallur. (3) at 2km from Kalpakkam. (4) Other BM details (if available) being obtained from SOI and would be intimated to the successful bidder. |
| 6 | 4.b/49 | No payment will be made for running longitudinal lines. | Does this mean "No Cross lines are expected to be run" as they won't be counted towards final LKMs. | Only Cross-sectional lines will be counted for final LKMs. |
| 7 | 4.d/49 | The water level, current velocity and discharge at every 10 km interval shall be observed once in a day during the survey period. | What would be optimum duration of taking Current meter readings? Will 15 mins daily recording at fixed time qualify as good current meter data. | As per equipment manual for good Current Meter data. |
| 8 | 6.6/51 | The boat should be provided with at least 2 sets of current meter. Measurement should be taken at depth surface, 0.5d, 0.3d and d (d-measured depth of water) & values indicated in the report along with position. | Does it requires simultaneous current measurements to be taken at 0.5d, 0.3d and d, using three Current meters OR the observations can be taken by single instrument over three different time spans. | Measurements at different depths may be taken by single equipment over three depths as indicated in tender document. |
| 9 | Schedule of quantities/6 2 | 1225 line km | Is 1225 LKMs the max line kilometres to be surveyed (Bathy + Topo). What is the level of variation allowed in the final figure, as costing would depend on this figure. | Variation in quantity is ±20% |

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| 10 | Schedule of quantities/6 2 | | <p>The project consists of certain fixed and variable expenditures. Hence costing the whole project based on LKM basis is neither logical nor cost effective. It is suggested that one of the following options be implemented for costing of project:-</p> <p>a) Divide the costing on following lines:-</p> <ul style="list-style-type: none"> - Cost of Mobilisation & Demobilisation - Cost of undertaking Seabed sampling, Water sampling, Analysis, Current meter analysis, establishing BM Pillars and reporting results - Cost for hydrographic & topographic survey (Per LKM)* <p>* Can be calculated as variable cost of survey.</p> <p>Alternatively,</p> <p>b) The minimum LKM for the project can be decided by IWAI and overall cost can be quoted for the guaranteed LKM with cost for additional LKM mentioned separately.</p> | No change. |
| 11 | (A) 1/8 | The bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders | Is the complete waterway, navigable by small draft boats. Our experience in the past had forced us to mobilise the boat at different locations of the River, which means additional Mobilisation costs. | Bidders may inspect the area to be surveyed and satisfy themselves with respect to site conditions before submission of bid. Prospective bidders may coordinate with IWAI, Chennai office (Mr. T.V. Prasad, Officer-In-Charge, [Mo.: 08056079757, 09952974150], F-14, IMU Chennai Campus, East coast road, Uthandi, Chennai-600119) for inspection of the scheduled survey area. |
| 12 | 40.1/43 | <p>i) On submission of preliminary charts & survey report after completion of 50% field works: 30%</p> <p>ii) On submission of preliminary charts & survey report after completion of 100% field works: 40%</p> <p>iii) On submission of Draft Report: 10%</p> <p>iv) On submission of Final Report: 10%</p> <p>v) On Acceptance of Final Report: 10%</p> | We request you to include Mobilisation advance of 20% of the contract value against a Bank Guarantee. | As estimated cost of work is less than one crore and as per CVC guidelines, no mobilization advance is allowed for works less than one crore. Hence, no change. |

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| Queries of M/s PRECISION SURVEY CONSULTANCY, HOWRAH | | | | |
| 13 | 6.7/51 | Suitable computer compatible & loaded with the automatic hydrographic survey software like HYPACK MAX or equivalent software is to be used for the survey purpose. All other computer Peripherals like colour Plotter, Printer etc. to be used for generating out puts. | In case of data processing 'Hydaspro' (Make:- PAN India) software is equivalent to HypackMax? | Contractor may use Hydaspro / HypackMax or equivalent software. However, data is to be submitted to IWAI in HypackMax format (RAW data, Edit data, Sort data, Planned lines, Contours, Dredging quantity etc.). Drawings are to be submitted in DWG format of AutoCAD. |
| 14 | 6.1/50 | Contractor is free to deploy any vessel / boat suitable for bathymetric surveys, subject to safety of personnel & equipment | Is it essential to deploy our own 'Vessel' or it may be deployed on hiring basis at site? | Contractor is free to deploy any vessel / boat suitable for bathymetric surveys, subject to safety of personnel & equipment |
| 15 | 6.6/51 | The boat should be provided with at least 2 sets of current meter. Measurement should be taken at depth surface, 0.5d, 0.3d and d (d-measured depth of water) & values indicated in the report along with position. | Which type and what specification is needed in 'Current Meter'? | Either Acoustic based or Impeller based Current Meter may be used. |
| 16 | (A) 1/8 | The bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders | Average width of the canal and depth along with existing topographic features. | The survey area consists of canal sections, lakes, sea openings of different dimensions. Hence, a standard width can not be specified. Bidder has to inspect the area to be surveyed and satisfy themselves with respect to site conditions before submission of bid. |
| 17 | 5.p/10 | p) Scanned Copies of similar work orders and performance certificates / job completion certificates for each individual item for which the bid is submitted (as per prequalification requirement), issued by the client during the past 3years | Non-Government and public sector work order / completion certificate acceptable? | Acceptable |
| 18 | 9.ii/52 | All raw data and processed data of AHS system are required to be submitted along with final charts in DVDs. | What is AHS system? | Automatic Hydrographic Survey system used for data collection and processing. |

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| Queries of M/s FUGRO SURVEY (INDIA) PVT. LTD., NAVI MUMBAI | | | | |
| 19 | 3.3/22 | The total performance guarantee/security deposit shall remain with IWAI till defect liability period after satisfactory completion of work. | Kindly confirm the Defect Liability Period after completion of work, as the same is not mentioned in the bid document. | Till acceptance of final report and clearance of final bill. |
| 20 | 25.5 (v)/32 | Employer's Liability Act 1938 (Amended) | Please note that all our employees are skilled employees and we have Group Personal Accident Insurance for them in place of Workmen's Compensation. Please confirm acceptance of the same. | Acceptable. |
| 21 | 3.2.1/22 | The successful bidder EMD will be converted in to security deposit (SD) and the successful bidder has to remit balance amount of Security Deposit Balance Security Deposit (i.e. Total 5% Security Deposit deducting EMD submitted with technical bid) in the form of Demand Draft. Bank guarantee will not be accepted as security deposit. | Please specify the amount of Security deposit. | Amount is 5% of total work order amount minus deposited EMD. |
| 22 | 4.1/9 | The successful Bidder EMD will be converted into Security Deposit (SD) and the successful Bidder has to remit balance amount of SD in the form of Demand Draft (DD) / Bank Guarantee as per clause 3 of "General Conditions of the Contract". | Cl 3.2 page 22 mentions that Security deposit has to be submitted in the form of Demand draft only Whereas cl 4.1 page 9 mentions that Security Deposit has to be submitted in the form of Demand Draft or Bank Guarantee. Please confirm if we can submit the same in the form of Bank Guarantee. | Demand draft or Bank Guarantee as per clause 3.1 page 21 and Demand draft as per clause 3.2.1 page 22 of the tender document. |
| | 3.1/21 | The contractor shall be required to deposit an amount equal to 5% of the tendered value of the work as performance guarantee in the form of either demand draft payable at any nationalized/schedule bank OR an irrevocable bank guarantee bond of any scheduled bank or State Bank of India in accordance with the form prescribed within 15 days of the issue of the work order. | | |

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| 23 | 43/44 | The final bill shall be submitted by the contractor within one month from the date of completion of the work or of the date the certificate of completion furnished by the Engineer-in-Charge. No further claim in this regard unless as specified herein under shall be entertained. Payment shall be made within three months. | We request you to make the payment of final bill in 30 days instead of 3 months. | Payment will be made after satisfactory completion, final measurement & No Demand certification from Engineer-In-Charge. |
| 24 | 4.a/49 | Construct Bench Mark Pillars of dimension 0.3mx0.3mx1.5m (0.6m above GL) RCC pillar with 6mm thick 50mm dia GI pipe inserted, at every 10km interval. Erect Water level gauges at every 10 km interval and readings are to be taken at 1 hr interval for 12 hours (6 AM to 6 PM) or for the entire period of survey. The gauges are to be connected to a nearest Bench Mark by levelling and its datum value shall be established w.r.to MSL&CD. Detailed description of the bench mark along with its position and value to be given in the report for future recovery. Standard method shall be adopted for transfer of datum in rivers/canals. For tidal reaches standard transfer of datum as per Admiralty Manual shall be adopted. At least 2 gauges (one U/s and one D/s at 10 Km apart) shall be read simultaneously and soundings to be carried out within the gauge stations. | Please confirm whether we have to install water level gauges permanently or temporarily, if temporary instalment is to be made then only two water gauges shall be installed at a time, i.e., one up-stream and second down-stream at a distance 10 km apart. And the survey shall be carried within this limit. After completion of first 10 km water level gauges will be shifted to next 10 km and survey will be carried with in this 10km limit. Please confirm our understanding is correct. | Water level gauges are to be installed temporarily during the survey period. Two water level gauges shall be installed at a time, i.e., one up-stream and second down-stream of survey area at a distance 10 km apart. |

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| 25 | 4.c/49 | Spot levels at 50m x 20m grid are to be taken on both banks of the canals beyond water line for 100 m corridor (100m corridor includes canal width, where canal width is less than 100m). Spot levels at 50m x 20m grid are to also be taken on both banks for wider portions like sea opening, lakes etc (where width is more than 100m). If Island or sand chur exist in the middle of the canal / lake, spot levels on the same spacing should also be taken and indicated in the charts along the same cross-section line. Reduced spot level w.r.to MSL to be indicted on the charts. | We understand that topo survey shall be carried on either side of canal within 100m corridor which includes canal also. However, kindly confirm the limits of topo survey in case of areas where width of channel is more than 100m, i.e., water reservoirs, lakes, sea openings etc. Kindly confirm that topo survey is not required in non-approachable areas. | If bathymetry cross-sectional is limited up to 60 mts width, then Contractor has to do 100m corridor including spot levels in 50m line spacing x 20m grid on both banks. For cross-sectional bathymetric survey more than 60m in canals, water reservoirs, lakes, sea opening etc.), spot levels at 50m line spacing x 20m width grid, on both banks should be taken. If Island or sand chur exist in the middle of the canal / lake, spot levels on the same spacing should also be taken. Survey in non-approachable areas are to be informed by the Contractor and joint inspection (Contractor's representative & Engineer-In-Charge or his representative) will be held to confirm the non-approachable areas. |
| 26 | 4.d/49 | The water level, current velocity and discharge at every 10 km interval shall be observed once in a day during the survey period. | Please confirm whether we have to measure current velocity and water discharge simultaneously at every 10km of entire survey stretch or whether we can install current meter like ADCP on survey boat and measure the current profile and discharge in the area where the vessel is carrying out bathymetry survey. | The current velocity and discharge at every 10 km interval shall be observed once in a day during the survey period. Current velocity and discharge can also be measured with the help of ADCP during survey, at every 10km interval. |
| 27 | 6.2.a)/50 | Can be a single/dual frequency type standard dry/thermal paper recording system with a range up to 60 mtr and sufficient resolution. | We understand we can propose either single frequency or dual frequency echo sounder which has a range up to 60m with analogue or digital recorder. Kindly confirm our understanding is correct. | Can be a single/dual frequency type standard EchoSounder. May also refer clause 6.2.c) page 50 of tender document. |
| | 6.2.c)/50 | Digital echo sounder with recording paper roll (for Bar Check only) is required to be used. Bar check is to be carried out before start and end of survey. Necessary corrections in soundings are to be applied, if any. | | |

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| 28 | 7.Note/51 | If survey is required to be suspended during heavy wind / rain / storm, Contractor will inform E-i-C within 7 days (via e-mail / courier) of such suspension, with proper proof (such as cutting of local newspaper) and E-i-C will decide to give further extension in time on such conditions and thus, will be part of Force Majeure. | Kindly confirm if Liquidated Damages will be applicable in this case. | Liquidated Damages are not applicable on Force Majeure. |
| Queries of M/s SEA GEO SURVEYS PVT. LTD., MUMBAI | | | | |
| 29 | 4.d/49 | The water level, current velocity and discharge at every 10 km interval shall be observed once in a day during the survey period. | Clarification is sought that if the observations are required to be taken simultaneously at every 10km in the entire stretch of 84km or only at that 10km where survey is being carried out. | Observations at every 10km where survey is being carried out. |
| 30 | 4.c/49 | Spot levels at 50m x 20m grid are to be taken on both banks of the canals beyond water line for 100 m corridor (100m corridor includes canal width, where canal width is less than 100m). Spot levels at 50m x 20m grid are to also be taken on both banks for wider portions like sea opening, lakes etc (where width is more than 100m). If Island or sand chur exist in the middle of the canal / lake, spot levels on the same spacing should also be taken and indicated in the charts along the same cross-section line. Reduced spot level w.r.to MSL. to be indicted on the charts. | Clarification is sought if the line kilometre of 1225 mentioned in the BOQ caters for the distance from canal (32m) end to water lines on both the banks and if average width of this portion can be known as this is going to be varying. | Line km in the BOQ caters both bathymetric & spot levels. However, variation in quantity is $\pm 20\%$. Width of survey area is varying and can be assessed by the bidders on site inspection. |
| 31 | 6.6/51 | The boat should be provided with at least 2 sets of current meter. Measurement should be taken at depth surface, 0.5d, 0.3d and d (d-measured depth of water) & values indicated in the report along with position. | Clarification is sought if only one current meter will be used at a time and the other current meter is stand by. | Measurements at different depths may be taken by single equipment over three different time spans. |

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| 32 | 6.3/50 | The position fixing should be done by using differential global positioning system not less than 12 channel receivers for submetre accuracy. | As standard 12 channel DGPS receivers provide accuracy of 1 to 3m and for getting required submetre accuracy RTK or satellite based DGPS receivers like C Nav will need to be provided but that will increase the cost considerably. However, 1 to 3m accuracy DGPS is normally used for bathymetry survey. Clarification is therefore sought if submetre accuracy DGPS like RTK or satellite based DGPS C Nav is required to be provided or normal 12 channel DGPS receiver with 1 to 3m accuracy will be acceptable. | Submetre accuracy is required for position fixing. |
| OTHER CLARIFICATIONS | | | | |
| 33 | 6.6/51 | The boat should be provided with at least 2 sets of current meter. Measurement should be taken at depth surface, 0.5d, 0.3d and d (d-measured depth of water) & values indicated in the report along with position. | Calibration certificate | From any certified agency like CWPRS, Pune or OEM test certificate would suffice. |


 (RAJIV SINGHAL)
 J.H.S


 (MUKESH SHARMA)
 Sr. A.O.


 (CDR. P.K. SRIVASTAVA)
 HY. CHIEF