

Government of India
Ministry of Science & Technology
Survey of India

ADVERTISED TENDER ENQUIRY (ATE)

**PROCUREMENT OF NON-CONSULTANCY
SERVICES UNDER ATE**

for
**Provision of services for Acquisition, Processing and Delivery of
DEM and Digital Ortho-Image**

ATE No: *SOI-NMCG/PDO/01 /NMCG/Survey of India* Dated 17-09- 2018

Project: NATIONAL MISSION FOR CLEAN GANGA (NMCG)

Employer: Surveyor General of India, Survey of India, Dehra
Dun.

Issued on: 17-Sep-2018

GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
SURVEY OF INDIA

National Mission for Clean Ganga

BID NO: *SOI-NMCG/PDO/01 Dated 17-Sep-2018*

INTERNATIONAL COMPETITIVE BIDDING for
NON-CONSULTING SERVICES

- NAME OF NON-CONSULTING SERVICE : **Provision of services for Acquisition, Processing and Delivery of DEM and Digital Ortho-Image**
- PERIOD OF SALE OF BIDDING DOCUMENT : FROM 17-September-2018 TO 29-October-2018
- PRE-BID MEETING : 01-October-2018 at 10:00hrs.
Conference Hall at Office of
Director, Western Printing Group,
Survey of India, Palam Village Road,
Near Railway Crossing
Delhi Cantt-110010
- LAST DATE AND TIME FOR RECEIPT OF BIDS : DATE 29-October-2018 TIME **17:00 hrs (Server Time)**
- TIME AND DATE OF OPENING OF BIDS : DATE 01-November-2018 TIME **14:30 hrs (Server Time)**
- PLACE OF OPENING OF BIDS : Conference Hall, G&RB
Survey Of India
17 EC Road
Dehra Dun- 248001
Uttarakhand (India)
- OFFICER INVITING BIDS : *Project Director NMCG
& Director G&RB
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Part-I Bidding Procedure

Section I. Instructions to Bidders

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Instructions to Bidders

A. General

- 1. Scope of Bid**
 - 1.1 The Employer, as defined in the **Bidding Data Sheet (BDS)**, invites bids for the Services, as described in the Appendix A to the Contract. The name and identification number of the Contract is **provided in the BDS**.
 - 1.2 The successful Bidder will be expected to complete the performance of the Services by the Intended Completion Date **provided in the BDS**.
- 2. Source of Funds**
 - 2.1 The Employer, as **defined in the BDS**, intends to apply part of the funds received from National Mission for Clean Ganga (NMCG) towards the cost of the Project, **as defined in the BDS**, to cover eligible payments under the Contract for the Services to be performed as per MoU signed between Survey of India (SoI) and NMCG.
- 3. Corrupt or Fraudulent Practices**
 - 3.1 It is the Government of India's (GoI) policy to require that the highest standard of ethics are observed during the procurement and execution of contracts. In pursuance of this policy, the officials of Procuring Entities and the bidders / suppliers/ contractors/ sub-contractors/consultants/ service-providers involved in procurement process must abide by the Code of Integrity for Public Procurement (CIPP).
 - 3.2 Code of Integrity for Public Procurement: Procuring authorities as well as bidders, suppliers, contractors and consultants/service providers should observe the highest standard of ethics and should not indulge in the following prohibited practices, either directly or indirectly, at any stage during the procurement process or during execution of resultant contracts:
 - i) "Corrupt practice": making offers, solicitation or acceptance of bribe, rewards or gifts or any material benefit, in exchange for an unfair advantage in the procurement process or to otherwise influence the procurement process or contract execution;
 - ii) "Fraudulent practice": any omission or misrepresentation that may mislead or attempt to mislead so that financial or other benefits may be obtained or an obligation avoided. This includes making false declaration or providing false information for participation in a tender process or to secure a contract or in execution of the contract;
 - iii) "Anti-competitive practice": any collusion, bid rigging or anti-competitive arrangement, or any other practice coming under

the purview of The Competition Act,2002, between two or more bidders, with or without the knowledge of the Procuring Entity, that may impair the transparency, fairness and the progress of the procurement process or to establish bid prices at artificial, non-competitive levels;

- iv) “Coercive practice”: harming or threatening to harm, persons or their property to influence their participation in the procurement process or affect the execution of a contract;
- v) “Conflict of interest”: participation by a bidding firm or any of its affiliates that are either involved in the consultancy contract to which this procurement is linked; or if they are part of more than one bid in the procurement; or if the bidding firm or their personnel have relationships or financial or business transactions with any official of Procuring Entity who are directly or indirectly related to tender or execution process of contract; or improper use of information obtained by the (prospective) bidder from the Procuring Entity with an intent to gain unfair advantage in the procurement process or for personal gain; and
- vi) “Obstructive practice”: materially impede the Procuring Entity’s investigation into allegations of one or more of the above mentioned prohibited practices either by deliberately destroying, falsifying, altering; or by concealing of evidence material to the investigation; or by making false statements to investigators and/or by threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or by impeding the Procuring Entity’s rights of audit or access to information;

3.3 The bidders shall submit, as part of Bidding Document, a signed declaration to the effect that they shall abide by the Code of Integrity for Public Procurement in Letter of Bid-Technical Part at Section III(Bidding Forms/Technical Part).

3.4 Without prejudice to and in addition to the rights of the Employer to other penal provisions as per the bid documents or contract, if the Employer comes to a conclusion that a (prospective) bidder (including members of Joint Venture/ Sub-Contractor)/contractor/supplier/consultant/service-provider, directly or through an agent, has violated this Code of Integrity in competing for the contract or in executing a contract, the Employer may take appropriate measures including one or more of the following:

- i) If his bids are under consideration in any procurement,

- a) forfeiture or encashment of bid security;
- b) calling off of any pre-contract negotiations; and
- c) rejection and exclusion of the bidder from the procurement process.

ii) If a contract has already been awarded,

- a) cancellation of the relevant contract and recovery of compensation for loss incurred by the Employer;
- b) forfeiture or encashment of any other security or bond relating to the procurement;
- c) recovery of payments made by the Procuring Entity along with interest thereon at the prevailing rate;

iii) Provisions in addition to above,

- a) removal from the list of registered suppliers and banning/debarment of the bidder from participation in future procurements of the Procuring Entity for a period not less than one year;
- b) in case of anti-competitive practices, information for further processing may be filed by the Employer, with the Competition Commission of India;
- c) initiation of suitable disciplinary or criminal proceedings against any individual or staff found responsible.

3.5 Furthermore, Bidders shall be aware of the provision stated in Sub-Clause 2.6.1 of the General Conditions of Contract.

4. Eligible Bidders

4.1 All bidders shall provide in Section III, Bidding Forms, a statement that the Bidder (including all members of a joint venture and subcontractors) is not associated, nor has been associated in the past, directly or indirectly, with the consultant or any other entity that has prepared the design, specifications, and other documents for the Project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Employer to provide Consultant Services for the preparation or supervision of the Services, and any of its affiliates, shall not be eligible to bid.

4.2 Bidders shall not be under Ban/Blacklisting/Debarment for corrupt and fraudulent practices or for lack in performance by any Government/Semi-Government entity.

5. Qualification of the Bidder

- 5.1 All bidders shall provide in Section III, Bidding Forms, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.
- 5.2 In the event that prequalification of potential bidders has been undertaken **as stated in the BDS**, only bids from prequalified bidders shall be considered for award of Contract, in which case the provisions of sub-clauses 5.3 to 5.6 hereafter shall not apply. These qualified bidders should submit with their bids any information updating their original prequalification applications or, alternatively, confirm in their bids that the originally submitted prequalification information remains essentially correct as of the date of bid submission. The update or confirmation should be provided in Section III.
- 5.3 If the Employer has not undertaken prequalification of potential bidders, all bidders shall include the following information and documents with their bids in Section III, unless otherwise **stated in the BDS**:
- (a) copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the Bid to commit the Bidder;
 - (b) total monetary value of Services performed for each of the last five years;
 - (c) experience in Services of a similar nature and size for each of the last five years, and details of Services under way or contractually committed; and names and address of clients who may be contacted for further information on those contracts;
 - (d) list of major items of equipment proposed to carry out the Contract;
 - (e) qualifications and experience of key site management and technical personnel proposed for the Contract;
 - (f) reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past five years;
 - (g) evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources);
 - (h) authority to the Employer to seek references from the Bidder's bankers;

- (i) information regarding any litigation, current or during the last five years, in which the Bidder is involved, the parties concerned, and disputed amount; and
 - (j) proposals for subcontracting components of the Services amounting to more than 10 percent of the Contract Price.
 - (k) information regarding ban/debarment/black-listing of the bidder at present or in past
- 5.4 Bids submitted by a joint venture of two or more firms as partners shall comply with the following requirements, unless otherwise stated in the **BDS**:
- (a) the Bid shall include all the information listed in ITB Sub-Clause 5.3 above for each joint venture partner;
 - (b) the Bid shall be signed so as to be legally binding on all partners;
 - (c) the Bid shall include a copy of the agreement entered into by the joint venture partners defining the division of assignments to each partner and establishing that all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms; alternatively, a Letter of Intent to execute a joint venture agreement in the event of a successful bid shall be signed by all partners and submitted with the bid, together with a copy of the proposed agreement;
 - (d) one of the partners shall be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and
 - (e) the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.
- 5.5 To qualify for award of the Contract, bidders shall meet the following minimum qualifying criteria:
- (a) annual volume of Services of at least the amount **specified in the BDS**;
 - (b) As service provider, minimum experience over the last 5 years (to comply with this requirement, Services contracts cited should be at least 70 percent complete) in the provision of service contracts of a nature and complexity equivalent to the Services **as specified in the BDS**;

- (c) proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment **listed in the BDS**;
- (d) Key Personnel with minimum qualification and number as specified in BDS;
- (e) liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than the amount specified in the **BDS**.

A consistent history of litigation or arbitration awards against the Applicant or any partner of a Joint Venture may result in disqualification.

- 5.6 The figures for each of the partners of a joint venture shall be added together to determine the Bidder's compliance with the minimum qualifying criteria of ITB, **stated in the BDS**. Failure to comply with this requirement will result in rejection of the joint venture's Bid. Subcontractors' experience and resources will not be taken into account in determining the Bidder's compliance with the qualifying criteria, unless otherwise **stated in the BDS**.

- 6. **One Bid per Bidder** 6.1 Each Bidder shall submit only one Bid, either individually or as a partner in a joint venture. A Bidder who submits or participates in more than one Bid (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Bidder's participation to be disqualified.
- 7. **Cost of Bidding** 7.1 The Bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible or liable for those costs.
- 8. **Site Visit** 8.1 The Bidder, at the Bidder's own responsibility and risk, is encouraged to visit and examine the Site of required Services and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for the Services. The costs of visiting the Site shall be at the Bidder's own expense.

B. Bidding Documents

- 9. **Content of Bidding Documents** 9.1 The set of bidding documents comprises the documents listed in the table below and addenda issued in accordance with ITB Clause 11:

Section I	Instructions to Bidders
Section II	Bidding Data Sheet
Section III	Bidding Forms
Section IV	Eligible Countries
Section V	Activity Schedule
Section VI	General Conditions of Contract
Section VII	Special Conditions of Contract
Section VIII	Appendices to Contract
Section IX	Contract Forms
- 9.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or to submit a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in the rejection of its bid. Sections III, should be completed and submitted with the e-Bid.

9.3 Electronic –Procurement System

The Employer shall use the electronic-procurement system to manage this Bidding process: Government of India e-procurement system as specified **in BDS**

- 10. Clarification of Bidding Documents**
- 10.1 The electronic bidding system **specified in the BDS 9.3** provides for online clarifications. A prospective Bidder requiring any clarification on the Bidding Documents may notify the Employer online. Clarifications requested through any other mode shall not be considered by the Employer. The Employer will respond to any request for clarification, provided that such request is received no later than fifteen (15) days prior to the deadline for submission of bids. Description of clarification sought and the response of the Employer shall be uploaded for information of all Bidders without identifying the source of request for clarification. Should the Employer deem it necessary to amend the Bidding Documents as a result of a clarification, it shall do so following the procedure under ITB Clause 11 and ITB Sub-Clause 21.2. It is the bidder's responsibility to check on the e-procurement system, for any addendum/ amendment/ corrigendum to the bidding document.

- 11. Amendment of Bidding Documents**
- 11.1 Before the deadline for submission of bids, the Employer may modify the bidding documents by issuing addenda.
- 11.2 Any addendum thus issued shall be part of the bidding documents and shall be uploaded by the Employer for information to the bidder using the e-procurement system.
- 11.3 To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer shall extend, as necessary, the deadline for submission of bids, in accordance with ITB Sub-Clause 21.2 below.

C. Preparation of Bids

- 12. Language of Bid**
- 12.1 The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Employer shall be written in the language **specified in the BDS**. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the Bidding Data Sheet, in which case, for purposes of interpretation of the Bid, the translation shall govern.

13. Documents Comprising the Bid

13.1 The Bid shall be in two parts.

Techno Commercial Unpriced Bid (Part I) submitted by the Bidder shall comprise the following:

- (a) The letter of Bid-Technical Part (in the format indicated in Section III); [Form 1/III]
- (b) Bid Security; [Form 9/III]
- (c) Qualification Information Form and Documents; [Form4/III]
- (d) Forms 2,3,5,6/ Section III

The Bidder shall submit the following additional documents in its Bid as part of Techno Commercial Unpriced Bid:

1. *Information on all past similar Projects and satisfactory performance*
2. *Payment certificate in support of 5.5(b)/ Section II(BDS)*
3. *JV Agreement/ Letter of Intent stipulated in ITB 5.4(c)*
4. *Demand Draft of INR 5000/ US\$77 towards cost of Bid document.*
5. *Original Affidavit regarding correctness of information furnished with bid document (Refer BDS 20.3)by bidder & JV Partners*
6. *Power of Attorney (Refer 5.3(a) of ITB) of bidder & JV Partners*
7. *Brochures and documents in support of goods to be supplied & equipments to be used and in support of method statement– as necessary*
8. *Any other relevant document.*

13.2 The Techno Commercial Unpriced Bid shall not include any financial information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part, the Bid shall be declared non-responsive.

13.3 The Financial Bid (Part II) shall contain the following:

- (a) Letter of Bid – Financial Part: prepared in accordance with ITB 14 and ITB 20 containing Financial Information; [Form 10]
- (b) Price Schedules: completed prepared in accordance with ITB 14 and ITB 20 containing Financial Information; [Form11-14]

14. Bid Prices

14.1 The Contract shall be for the Services, as described in Appendix A to the contract and in activity schedule, Section VIII, based on the priced Activity Schedule, Section III, (Form11-14) submitted by the Bidder.

14.2 The Bidder shall fill in rates and prices for all items of the Services described in Priced Activity Schedules at Section III.

Items for which no rate or price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Activity Schedule.

14.3 All duties, taxes, and other levies payable by the Service Provider under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of bids, shall be included in the total Bid price submitted by the Bidder.

14.4 If **provided for in the BDS**, the rates and prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract in accordance with and the provisions of Clause 6.6 of the General Conditions of Contract and/or Special Conditions of Contract. The Bidder shall submit with the Bid all the information required under the Special Conditions of Contract and of the General Conditions of Contract.

14.5 For the purpose of determining the remuneration due for additional Services, a breakdown of the lump-sum price shall be provided by the Bidder in the form of Appendices D and E to the Contract

The prices and discounts (including any price reduction) quoted by the Bidder in the Letter of Bid and in the Activity Schedule(s) shall conform to the requirements specified below.

All lots (contracts) and items must be listed and priced separately in the Activity Schedule(s).

The Bidder shall quote any discounts and indicate the methodology for their application in the Letter of Bid-Financial Part.

15. Currencies of Bid and Payment The price shall be quoted by the Bidder in INDIAN RUPEES/US Dollar/Japanese Yen/Euro only.

16. Bid Validity 16.1 Bids shall remain valid for the period **specified in the BDS**.
16.2 In exceptional circumstances, the Employer may request that the bidders extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable ("cable" includes e-mail, telex and facsimile). A Bidder may refuse the request without forfeiting the Bid Security. A Bidder agreeing to the request will not be required or permitted to otherwise modify the Bid, but will be required to extend the validity of Bid Security for the period of the extension,

and in compliance with ITB Clause 17 in all respects.

17. Bid Security

Pursuant to Rule 170 of GFR 2017

17.1 The Bidder shall furnish, as part of the Bid, a Bid Security or a Bid-Securing Declaration, if required, as **specified in the BDS**.

17.2 The Bid Security shall be in the amount **specified in the BDS** and denominated in the currency of the Employer's Country or a freely convertible currency, and shall:

- (a) at the bidder's option, be in the form of either Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the Commercial Banks in India, safeguarding the Employer's interest in all respects.
- (b) be substantially in accordance with one of the forms of Bid Security included in Section III, Bidding Forms, or other form approved by the Employer prior to bid submission;
- (c) be payable promptly upon written demand by the Employer in case the conditions listed in ITB Sub-Clause 17.5 are invoked;
- (d) While submitting electronic bids, the bidder shall upload the scanned copy of Bid Security in form of Account Payee Demand Draft/Fixed Deposit Receipt, Banker's Cheque/ Bank Guarantee and shall also send the Bid Security in original by post/courier/in person so as to reach before opening of Techno-Commercial unpriced bids to the Project Director at the address mentioned above in **BDS clause 9.2**. The details of the Bid Security, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission otherwise the uploaded bid shall be rejected.
- (e) remain valid upto 13-March-19, as extended, if applicable, in accordance with ITB Sub-Clause **16.2**;

17.3 Any bid not accompanied by a substantially responsive Bid Security in accordance with ITB Sub-Clause **17.2**, shall be rejected by the Employer as non-responsive.

17.4 Bid securities of the unsuccessful bidders shall be returned to them at the earliest after expiry of the final bid validity and latest on or before the 30th day after the award of the contract.

17.5 The Bid Security may be forfeited:

- (a) if a Bidder withdraws or modifies its bid within the

validity of the bid specified in the bid document , after the deadline for submission of such documents, except as provided in ITB Sub-Clause 16.2; or

- (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB Clause 36;
 - (ii) furnish a Performance Security in accordance with ITB Clause 37.
 - (iii) comply with any other condition precedent to signing the contract specified in the bid document

17.6 The Bid Security of a JV must be in the name of the JV that submits the bid. If the JV has not been legally constituted at the time of bidding, the Bid Security or Bid-Securing Declaration shall be in the names of all future partners as named in the letter of intent to constitute the JV.

18. Alternative Proposals by Bidders

18.1 **Unless otherwise indicated in the BDS**, alternative bids shall not be considered.

18.2 When alternative times for completion are explicitly invited, a statement to that effect will be **included in the BDS**, as will the method of evaluating different times for completion.

18.3 Except as provided under ITB Sub-Clause 18.4 below, bidders wishing to offer technical alternatives to the requirements of the bidding documents must first submit a Bid that complies with the requirements of the bidding documents, including the scope, basic technical data, graphical documents and specifications. In addition to submitting the basic Bid, the Bidder shall provide all information necessary for a complete evaluation of the alternative by the Employer, including calculations, technical specifications, breakdown of prices, proposed work methods and other relevant details. Only the technical alternatives, if any, of the lowest evaluated Bidder conforming to the basic technical requirements shall be considered by the Employer. Alternatives to the specified performance levels shall not be accepted.

18.4 When bidders are **permitted in the BDS** to submit alternative technical solutions for specified parts of the Services, such parts shall be described in the Specifications (or Terms of Reference) and Drawings, Section VIII. In such case, the method for

evaluating such alternatives will be as **indicated in the BDS.**

**19. Format and
Signing of Bid**

- 19.1 The Bidder shall prepare bid comprising all documents as described in ITB Clause 11 of these Instructions to Bidders. Scanned copy of all the documents shall be uploaded in the e-procurement system described in **BDS 9.3**
- 19.2 The bid shall be signed by a person or persons duly authorized to sign on behalf of the Bidder, pursuant to Sub-Clauses 5.3(a) or 5.4(b), as the case may be. The authorization shall be uploaded along with the bid. All pages of the Bid where entries or amendments have been made shall be initialed by the person or persons signing the Bid.
- 19.3 Corrections if any in the bid can be carried out by editing the information before electronic submission on e-procurement portal.

D. Submission of Bids

**20. Sealing and
Marking of
Bids**

- 20.1 The Letter of Bid – Technical Part, Letter of Bid – Financial Part, and Price Schedules shall be prepared using the relevant forms furnished in Section III, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 19.2. All blank spaces shall be filled in with the information requested.
- 20.2 Entire Bid including the Letter of Bid and filled-up Price Schedules shall be submitted online on e-procurement system specified in ITB 9.3. Details and process of online submission of the tender and relevant documents are given in the website mentioned above. Scanned copies of documents listed in clauses 13 and 20.3 should also be uploaded on this website.
- 20.3 The bidders are required to separately submit (i) original demand drafts towards the cost of bid document and registration on e-procurement website (if not previously registered) (as per RFB); (ii) original bid security in approved form; and (iii) original affidavit regarding correctness of information furnished with bid document, with the office, before the opening of the technical part of the Bid, either by registered/speed post/courier or by hand, failing which the bids will be declared non-responsive and will not be opened. Hard copy of rest of the bid is not to be submitted.
- 20.4 Bids, both Techno-Commercial Unpriced Bid (Part I) and Financial Bid (Part II), shall be submitted online on the e-procurement

system specified in BDS 9.3. Physical, Email, Telex, Cable or Facsimile bids will be rejected as non-responsive Detailed guidelines for viewing bids and submission of online bids are given on the website. The Invitation for Bids under this Project is published on this website. Any citizen or prospective bidder can logon to this website and view the Invitation for Bids and can view the details of Services for which bids are invited. A prospective bidder can submit its bid online; however, the bidder is required to have enrolment/registration in the website and should have valid Digital Signature Certificate (DSC) in the form of smart card/e-token obtained from any authorized certifying agency of Government of India. The bidder should register in the website using the relevant option available.

20.4 The completed bid comprising of documents indicated in ITB 13, should be uploaded on the e-procurement portal along with scanned copies of requisite certificates as are mentioned in different sections in the bidding document and scanned copy of the bid security. Two envelope system shall be followed in e-bidding process. Part I comprising Techno-Commercial Unpriced Bid, as described in ITB Clause 13, shall be submitted/uploaded in Envelope 1 Cover 2.

Part II comprising Financial Bid, as described in ITB Clause 13, shall be submitted/uploaded in Envelope 2 Cover 2.

21. Deadline for Submission of Bids

21.1 Bids shall be submitted to the Employer at the e-procurement system specified in BDS 9.3. Start and Closing time and date for submission of e-bids are as **specified in the BDS.**

21.2 The Employer may extend the deadline for submission of bids by issuing an amendment in accordance with ITB Clause 11, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

21.3 All the documents are required to be signed digitally by the bidder. After electronic on line bid submission, the system generates a unique bid identification number which is time stamped as per server time. This shall be treated as acknowledgement of bid submission.

22. Late Bids

22.1 The electronic bidding system would not allow any late submission of bids after due date & time as per server time.

23. Modification and

23.1 Bidders may modify their bids by using appropriate option for bid modification on the e-procurement portal, before the

Withdrawal of Bids

deadline for submission of bids. For this the bidder need not make any additional payment towards the cost of bid document. For bid modification and consequential re-submission, the bidder is not required to withdraw his bid submitted earlier. The last modified bid submitted by the bidder within the bid submission time shall be considered as the bid. For this purpose, modification/withdrawal by other means will not be accepted. In online system of bid submission, the modification and consequential re-submission of bids is allowed any number of times. A bidder may withdraw his bid by using appropriate option for bid withdrawal, before the deadline for submission of bids, however, if the bid is withdrawn, re-submission of the bid is not allowed.

23.2 Bids requested to be withdrawn in accordance with ITB Sub-Clause 23.1 shall not be considered.

23.3 Withdrawal, substitution, or modification of bid in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Bid (Techno-Commercial Unpriced Bid Part and/or Financial Bid Part) or any extension thereof pursuant to ITB Sub-Clause 16.2 shall not be permitted. Any such action by bidder shall result in the forfeiture of the Bid Security pursuant to ITB Clause 17.

E. Bid Opening and Evaluation

24. Bid Opening

24.1 The Employer shall publicly open Technical Parts of all bids received by the deadline, at the date, time and place specified **in the BDS**, presence of Bidder's designated representatives and anyone who chooses to attend, and this could also be viewed by the bidders online. Authorized Bid openers of Employer shall download the bids and the system generated technical & commercial scrutiny reports/statements and sign them for further processing.

The Financial Parts of the bids shall remain unopened in the e-procurement system, until the subsequent public opening, following the evaluation of the Technical Parts of the Bids. Thereafter, bidder's names, and such other details as the Purchaser may consider appropriate will be notified online as Technical Part bid opening summary.

In the event of the specified date of bid opening being declared a holiday for the Purchaser, the bids will be opened at the appointed time and location on the next working day.

Only Techno-Commercial Unpriced Parts of Bids, that are opened at Bid opening shall be considered further for evaluation.

- 24.2 The bidders' names, the Bid prices, the total amount of each Bid, any discounts, the presence or absence of Bid Security, and such other details as the Employer may consider appropriate, will be announced by the Employer at the opening. No bid shall be rejected at bid opening .
- 24.3 The electronic summary of the bid opening will be generated and uploaded online. The Purchaser will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. The Employer will prepare minutes of the Bid opening, including the information disclosed to those present in accordance with ITB Sub-Clause 24.2.

25. Process to Be Confidential

- 25.1 Information relating to the examination, clarification, evaluation, and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful Bidder is notified of the award. Any effort by a Bidder to influence the Employer's processing of bids or award decisions may result in the rejection of his Bid.
- 25.2 If, after notification of award, a bidder wishes to ascertain the grounds on which its bid was not selected, it should address its request to the Employer, who will provide written explanation. Any request for explanation from one bidder should relate only to its own bid; information about the bid of competitors will not be addressed.

26. Clarification of Bids during Technical

- 26.1 To assist in the examination, evaluation, and comparison of bids, the Employer may, at the Employer's discretion, ask any Bidder for clarification of the Bidder's Bid and other information that the Employer may require. The request for clarification and the response shall be in writing or by cable (telex, facsimile, e-mail) . Any document not enclosed by the bidder can be asked for, as in case of the traditional tender, by the purchaser and submitted by the bidder online, However, no change in substance/responsiveness of the Bid shall be sought, offered, or permitted except as required to confirm/clarify the information submitted by the bidder in Techno-commercial bid (Part I).
- 26.2 Subject to ITB Sub-Clause 26.1, no Bidder shall contact the Employer on any matter relating to its bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Employer, he should do so in writing.
- 26.3 Any effort by the Bidder to influence the Employer in the Employer's bid evaluation or contract award decisions may

result in the rejection of the Bidder's bid.

27. Examination of Bids and Determination of Responsiveness

- 27.1 Prior to the detailed evaluation of bids, the Employer will determine whether each Bid (a) meets the eligibility criteria defined in ITB Clause 4; (b) has been properly signed; (c) is accompanied by the required securities; and (d) is substantially responsive to the requirements of the bidding documents.
- 27.2 A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Services; (b) which limits in any substantial way, inconsistent with the bidding documents, the Employer's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.
- 27.3 If a Bid is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

28. Technical Evaluation of Bids

Only Techno-Commercial unpriced bids , which are found substantially responsive shall be taken up for Technical Evaluation. Technical evaluation shall be carried out offline. Bidders who meet the minimum criteria specified in accordance with provisions of ITB Clause 5 shall stand technically qualified for consideration of their financial bids . List of firms found to be responsive and technically qualified and such other details that the Employer may consider appropriate shall be published on the e-Procurement System. During bid-evaluation, selling rates established for similar transactions by the authority **specified in the BDS** on the date **stipulated in the BDS** shall be used by the Employer for determining the qualification as per ITB Clause 5

29. Opening of Financial Bid

The date and time of public opening of Financial Bid shall be notified on the e-procurement System and also communicated to bidders, found successful after Technical evaluation, by e-mail. Designated representatives of such successful bidders may choose to attend the public opening of Financial Bid at the venue given in BDS. Financial Bids and system generated

price comparative statement shall be downloaded and signed by the bidder for further processing.

- 30. Correction of Errors**
- 30.1 Financial Bids opened/downloaded by authorized Openers of Employer will be checked by the Employer for any arithmetic errors. Arithmetical errors will be rectified by the Employer on the following basis: if there is a discrepancy between unit prices and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected; if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; if there is a discrepancy between the amounts in figures and in words, the amount in words will prevail.
- 30.2 The amount stated in the Bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, the Bid will be rejected, and the Bid Security may be forfeited in accordance with ITB Sub-Clause 17.5(b).
- 31. Currency for Bid Evaluation**
- 31.1 All Prices should be quoted in Indian RUPEES/US Dollar/Euro/Japanese Yen only.
- 32. Evaluation and Comparison of Financial Bids**
- 32.1 The Employer will evaluate and compare only the bids determined to be substantially responsive and technically qualified in accordance with ITB Clauses 27 and 28.
- 32.2 In evaluating the bids, the Employer will determine for each Bid the evaluated Bid price by adjusting the Bid price as follows:
- (a) making any correction for errors pursuant to ITB Clause 30;
 - (b) excluding provisional sums and the provision, if any, for contingencies in the Activity Schedule, Section V, but including Day work, when requested in the Specifications Section V;
 - (c) making an appropriate adjustment for any other acceptable variations, deviations, or alternative offers submitted in accordance with ITB Clause 18; and
 - (d) making appropriate adjustments to reflect discounts or other price modifications offered in accordance with ITB

Sub-Clause 14.5.

32.3 The Employer reserves the right to accept or reject any variation, deviation, or alternative offer. Variations, deviations, and alternative offers and other factors, which are in excess of the requirements of the bidding documents or otherwise result in unsolicited benefits for the Employer will not be taken into account in Bid evaluation.

32.4 The estimated effect of any price adjustment conditions under Sub-Clause 7.6 of the General Conditions of Contract, during the period of implementation of the Contract, will not be taken into account in Bid evaluation.

33. Preference for Domestic Bidders

33.1 Domestic bidders shall not be eligible for any margin of preference in Bid evaluation.

F. Award of Contract

34. Award Criteria

34.1 Subject to ITB Clause 33, the Employer will award the Contract to the Bidder whose Bid has been determined to be substantially responsive to the bidding documents and who has offered the lowest evaluated Bid price, provided that such Bidder has been determined to be (a) eligible in accordance with the provisions of ITB Clause 4, and (b) qualified in accordance with the provisions of ITB Clause 5.

34.2 Pursuant to ITB Sub-Clause 1.1 & 14.5, this contract is being let on a “slice and package” basis. Therefore the lowest evaluated Bid Price will be determined when evaluating this contract in conjunction with other contracts to be awarded concurrently, taking into account any discounts offered by the bidders for the award of more than one contract.

35. Employer’s Right to Accept any Bid and to Reject any or all Bids

35.1 Notwithstanding ITB Clause 32, the Employer reserves the right to accept or reject any Bid, and to cancel the bidding process and reject all bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Employer’s action.

36. Notification of Award and

36.1 The Bidder whose Bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity

Signing of Agreement

period by cable, telex, or facsimile confirmed by registered letter from the Employer. This letter (hereinafter and in the Conditions of Contract called the “Letter of Acceptance”) will state the sum that the Employer will pay the Service provider in consideration of the execution, completion, and maintenance of the Services by the Service provider as prescribed by the Contract (hereinafter and in the Contract called the “Contract Price”).

- 36.2 The notification of award will constitute the formation of the Contract.
- 36.3 The Contract, in the form provided in the bidding documents, will incorporate all agreements between the Employer and the successful Bidder. It will be signed by the Employer and sent to the successful Bidder along with the Letter of Acceptance. Within 21 days of receipt of the Contract, the successful bidder shall sign the Contract and return it to the Employer, together with the required performance security pursuant to Clause 35.
- 36.4 Upon fulfillment of ITB Sub-Clause 36.3, the Employer will promptly notify the unsuccessful Bidders the name of the winning Bidder and that their bid security will be returned as promptly as possible.
- 36.5 If, after notification of award, a bidder wishes to ascertain the grounds on which its bid was not selected, it should address its request to the Employer. The Employer will promptly respond in writing to the unsuccessful Bidder.

37. Performance Security

- 37.1 Within 21 days after receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Employer a Performance Security in the amount and in the form **stipulated in the BDS**, denominated in the type and proportions of currencies in the Letter of Acceptance and in accordance with the General Conditions of Contract.
- 37.2 Failure of the successful Bidder to comply with the requirements of ITB Sub-Clause 37.1 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security.
- 37.3 Performance Security should remain valid for a period of sixty days beyond the date of completion of all contractual obligations of the supplier including warranty obligations.

**38. Advance
Payment and
Security**

38.1 The Employer will provide an Advance Payment on the Contract Price as stipulated in the Conditions of Contract, subject to the amount **stated in the BDS.**

39. Adjudicator

39.1 The person **named in the BDS** will be appointed as Adjudicator under the Contract, at an hourly fee **specified in the BDS**, plus reimbursable expenses.

Section II. Bidding Data Sheet

Instructions to Bidders Clause Reference

A. General					
1.1	<p>The Employer is <i>Surveyor General of India, Survey of India, Dehra Dun</i></p> <p>The name of the Contract is <i>Provision of services for Acquisition, Processing and Delivery of DTM and Digital Ortho-Image.</i></p> <p>The identification number of the Contract is:</p>				
	Lot	Description	Approx Area (in sq Km)	Bid Security (EMD)	Period of completion
	*I	<u>From Rishikesh to Allahabad</u> covering 5-10 km corridor from the banks of the River Ganga	5940	INR 2.5 Million	12 months
	II	<u>From Allahabad to Patna</u> covering 5-10 km corridor from the banks of the River Ganga	3160	INR 1.3 Million	12 months
	*III	<u>From Patna to Farakka</u> Major Area covering the river bed (with or without water) upto its bank and a buffer zone of 10(ten) km on either side of the river banks. Some area covering 5-10 km corridor from the banks of the River Ganga	6260	INR 2.6 Million	12 months
	*IV	<u>From Farakka to Haldiya</u> covering the river bed (with or without water) upto its bank and a buffer zone of 10(ten) km on either side of the river Ganga	7370	INR 3.0 Million	12 months
		Total	22,730		

	The number and identification of lots comprising this RFB is: Four (04)										
1.2	The Intended Completion Date is <i>Twelve (12) months from the date of 'Commencement of Services' for each Lot/Package.</i>										
2.1	The Employer is Surveyor General of India The Project is National Mission for Clean Ganga										
5.1	<ul style="list-style-type: none"> The information related to Method proposed by the Bidder shall be provided as per Form 5 (Method Statement)/ Section III (Bidding Forms). The information related to Work Plan & Schedule proposed by the Bidder shall be provided as per Form 6 (Work Plan & Schedule)/ Section III (Bidding Forms). 										
5.2	Prequalification not been undertaken.										
5.3(j)	Sub-Contracting is permitted only for activities mentioned at Section V/Para 3 (i)										
5.4	The information needed for Bids submitted by joint ventures is as follows: The bidders are allowed to form Joint ventures for submission of the bid. The maximum number of Partners in the J.V. can be two.										
5.5	The qualification criteria are modified as follows:										
5.5(a)	<p>The bidder must have achieved in its name in at least 2 (two) out of last 5 (five) financial years i.e. 2013-14, 2014-15, 2015-16, 2016-17 and 2017-18, a minimum annual volume of Geospatial Services of at least the amount specified below;</p> <table border="1" data-bbox="527 1312 1068 1633"> <thead> <tr> <th>Lot#</th> <th>In Million*</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>INR 125</td> </tr> <tr> <td>2</td> <td>INR 65</td> </tr> <tr> <td>3</td> <td>INR 130</td> </tr> <tr> <td>4</td> <td>INR 155</td> </tr> </tbody> </table> <p><i>*at 2018-2019 price level. Financial turnover and cost of completed works of previous years shall be given weightage of 5% per year based on rupee value to bring them to 2018-2019 price level.</i></p>	Lot#	In Million*	1	INR 125	2	INR 65	3	INR 130	4	INR 155
Lot#	In Million*										
1	INR 125										
2	INR 65										
3	INR 130										
4	INR 155										

5.5(b)

The experience required to be demonstrated by the Bidder should include as a minimum that he has executed during the last 5 years the following:

Bidder must have experience as service provider in the provision of at least one service contract of similar nature and complexity and having a minimum value given in column 2 of Table-1 below/, over the last 5 years. To comply with this requirement, Services contracts cited should be at least 70 percent complete **and must have made use of the same Technology that has been proposed in Method statement (Form 2/section IV) . The Service Contract cited must necessarily include all activities viz. acquisition of raw data by aerial platform, pre-processing of raw data and post-processing of pre-processed data for acquisition of DEM accuracy 0.5 metres or better and Digital Ortho-Image of resolution 25 cm GSD or better .**

Table-1

Lot#	(In Million)*
1	INR 70
2	INR 35
3	INR 75
4	INR 85

OR

Bidder must have experience as service provider in the provision of at least two service contracts of similar nature and complexity and having a minimum value given in column 2 of Table below, over the last 5 years. To comply with this requirement, Services contracts cited should be at least 70 percent complete **and must have made use of the same Technology that has been proposed in Method statement (Form 2/section IV) for acquisition of DEM accuracy 0.5 metres or better and Digital Ortho-Image of resolution 25 cm GSD or better . The two Service Contracts taken together must necessarily include all activities viz. acquisition of raw data by aerial platform, pre-processing of raw data and post-processing of pre-processed data for DEM & Ortho-imagery.**

Lot#	(Rs. In Million)*
1	INR 35^

	<table border="1" data-bbox="526 155 1070 348"> <tr> <td data-bbox="526 155 675 218">2</td> <td data-bbox="675 155 1070 218">INR 17.5[^]</td> </tr> <tr> <td data-bbox="526 218 675 281">3</td> <td data-bbox="675 218 1070 281">INR 37.5[^]</td> </tr> <tr> <td data-bbox="526 281 675 348">4</td> <td data-bbox="675 281 1070 348">INR 42.5[^]</td> </tr> </table> <p data-bbox="451 384 1377 470"><i>*at 2018-2019 price level. Financial turnover and cost of completed works of previous years shall be given weightage of 5% per year based on rupee value to bring them to 2018-2019 price level.</i></p> <p data-bbox="467 506 1398 592"><i>[^] In case of JV members, experience and value of service to be furnished shall only be for the activity that is to be performed by the JV member as per distribution of responsibility furnished by the bidder in Work Plan/Section III and JV Agreement</i></p>	2	INR 17.5 [^]	3	INR 37.5 [^]	4	INR 42.5 [^]
2	INR 17.5 [^]						
3	INR 37.5 [^]						
4	INR 42.5 [^]						
5.5(c)	<p data-bbox="391 709 1398 810">Each bidder should further demonstrate minimum availability (owned or leased or by procurement) of the following key and critical equipment by the bidder:</p> <ul style="list-style-type: none"> <li data-bbox="443 856 1398 919">(i) Aircraft fitted with GNSS, IMU,camera/ sensors : 1(one) no. for package of 1 to 4 lots. <li data-bbox="443 930 1398 993">(ii) Workstation, s/w for Flight planning, monitoring, Pre-processing of raw data : 1 (one)no. for package of 1 to 4 lots. <li data-bbox="443 1003 1398 1066">(iii)Network Storage system : 1(one) no. of Minimum 30 TB for each lot <li data-bbox="443 1108 1398 1171">(iv)Backup Device : 1(one) no. of Minimum 30 TB for each lot <li data-bbox="443 1224 1398 1255">(v) Servers: 3 nos. for each lot <li data-bbox="443 1266 1398 1402">(vi)Workstations: 12(twelve) nos. for lots 1,3 8(eight) nos. for lot 2 14 (fourteen) nos. for lot 4 <li data-bbox="443 1413 1398 1549">(vii) Post processing software for DEM: 10 (ten) nos for lots 1,3 5 nos for lot 2 12 nos for lot 4 <li data-bbox="443 1591 1398 1654">(viii) Post processing software for Ortho-Imagery: 1(one) no. for each lot <li data-bbox="443 1665 1398 1696">(ix)Dual Frequecy GNSS instruments : 5 (five) nos. for each lot 						
5.5 (d)	<p data-bbox="435 1728 1398 1898">The minimum Qualification and number of key- personnel proposed to be deployed in the Project should be as follows. The numbers stated are the minimum required for qualification. Bidder/Service provider shall deploy sufficient additional resources as required to meet the timelines during actual execution</p>						

For the purpose of this Bid Document, Key Personnel shall include,

- (i) Project Manager: At least 1 (one) Project Manager for package comprising 1 to 4 lots with minimum 10 years general experience and minimum 5 years experience in proposed position - in projects of similar nature & complexity.*
- (ii) Pilot: Minimum 1 (one) Pilot for package comprising 1 to 4 lots having flying experience of at least 300 hours in projects of similar nature & complexity with use of same technology proposed by bidder in method statement.*
- (iii) Operator - Pre-processing of raw data: Minimum 2 (two) Technical Persons for package comprising 1 to 4 lots with minimum three years experience in pre-processing raw data & on-board GNSS/IMU data in projects of similar nature & complexity with use of same technology proposed by bidder in method statement.*
- (iv) Supervisor: At least 2 (two) supervisors for each lot with minimum 5 years general experience and minimum three years experience in proposed position - in projects of similar nature & complexity with use of same technology proposed by bidder in method statement.*
- (v) Operator- Post-processing for DEM :
For lots 1,3 at least 16 (sixteen) technical persons having minimum two years experience in DEM post-processing in projects of similar nature & complexity with use of same technology proposed by bidder in method statement.
For lots 2 at least 8 (eight) technical persons having minimum two years experience in DEM post-processing in projects of similar nature & complexity with use of same technology proposed by bidder in method statement.
For lots 4 at least 20 (twenty) technical persons having minimum two years experience in DEM post-processing in projects of similar nature & complexity with use of same technology proposed by bidder in method statement.*
- (vi) Operator--Post-Processing for Digital Ortho- Imagery: For every lot, at least 2(two) technical persons having minimum two years experience in post-processing Ortho-imagery in projects of similar nature & complexity with use of same technology proposed by bidder in method statement .*
- (vii)Ground Controller: For every lot, at least 5(five) technical persons having minimum two years experience in GNSS observations and computation/processing*
- (viii) System Manager cum Data Manager: For every lot, at least 2 (two) technical persons having minimum 3 years of experience in system management & Data Management in Data Production Centre*
- (ix) QA/QC Expert: For every lot, minimum 2 (two) persons having at least three years experience in post-processing of data in projects of similar*

	<i>nature & complexity with use of same technology proposed by bidder in method statement - as part of independent QA/QC team</i>										
5.5(e)	<p>The minimum amount of liquid assets and/or credit facilities net of other contractual commitments of the successful Bidder shall be :</p> <p>Bidder shall demonstrate to possess liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than the amount specified below.</p> <table border="1"> <thead> <tr> <th>Lot#</th> <th>(In Million)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>INR 30</td> </tr> <tr> <td>2</td> <td>INR 15</td> </tr> <tr> <td>3</td> <td>INR 30</td> </tr> <tr> <td>4</td> <td>INR 35</td> </tr> </tbody> </table>	Lot#	(In Million)	1	INR 30	2	INR 15	3	INR 30	4	INR 35
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5.5 (f)	<p>Add as 5.5(f)</p> <p>Subcontractors’ experience and resources will be taken into account in determining the Bidder’s compliance with the qualifying criteria only for activities that are permitted for sub-contracting as per viz. activities at SNo.3(i) /Section V, provided such activities are proposed for sub-contracting in the Work Plan/Section IV submitted as part of bid.</p>										
5.5(g)	<p>Add as 5.5(g)</p> <p>A consistent history of litigation or arbitration awards against the Applicant or any member of a Joint Venture may result in disqualification.</p>										
5.6	<p>The figures for each of the partners of a joint venture shall be added together to determine the Bidder’s compliance with the minimum qualifying criteria of ITB Sub-Clause 5.5(a), (b),(c) (iii) to (ix), (d)(iv) to (ix) and (e); however, for a joint venture to qualify the partner in charge must meet at least 70 percent of those minimum criteria for an individual Bidder and other partner at least 40% of the criteria. Failure to comply with this requirement will result in rejection of the joint venture’s Bid.</p> <p>Subcontractors’ experience and resources will be taken into account in determining the Bidder’s compliance with the qualifying criteria only for activities that are permitted for sub-contracting as per viz. activities at SNo.3(i)/Section V, provided such activities are proposed for sub-contracting in the Work Plan & Schedule /Section III submitted as part of bid.</p>										

B. Bidding Data	
C. Preparation of Bids	
9.2	<p>The Employer address is Project Director, NMCG <i>Geodetic & Research Branch</i> <i>Survey Of India</i> 17 EC Road Dehra Dun- 248001 Uttarakhand (India) Telephone: +91-135-2654528 Facsimile number: +91-135-2656759 grb.soi@gov.in</p>
9.3	<p>URL of e-Procurement System: https://eprocure.gov.in/eprocure/app</p> <p>The electronic-procurement system shall be used to manage the following aspects of the Bidding process: Bid creation/ publishing and addenda/ corrigendum if any thereon; Issuing/Downloading bid documents; Submission of bids; Opening of bids.</p>
10.2 Additional Clause	<p>Bidders designated representatives are invited to attend a pre-bid meeting. The purpose of the meeting will be clarify issues and to answer questions on any matter that may be raised at that stage. A Pre-Bid meeting will take place at the following date, time and at the address below: Date 01.10.2018 Time: 10:00 hours.</p> <p>Place: Conference Hall at Office of Director, Western Printing Group, Survey of India, Palam Village Road, Near Railway Crossing Delhi Cantt-110010</p> <p><i>Information shall be also available on www.surveyofindia.gov.in</i></p>
12.1	Language of the bid: English
14.4	The Contract is not subject to price adjustment in accordance with Clause 6.6 of the General Conditions of Contract.
16.1	The period of Bid validity shall be 120 days after the deadline for Bid submission specified in the BDS.
17.1	Bid Security shall be required. The Bidder shall provide: Bid security shall be in the form of Fixed deposit/bank guarantee from Scheduled Bank in favour of Senior Accounts Officer, CPAO, Dehra Dun payable at Dehra Dun . While submitting electronic bids, the bidder shall upload the scanned copy of bank

	Fixed deposit/bank guarantee and shall also send the original bank Fixed deposit/bank guarantee by post/courier/in person so as to reach latest by the last date of submission of bids to the Project Director at the address mentioned above in BDS clause 9.2 . The details of the bank Fixed deposit/bank guarantee, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission otherwise the uploaded bid shall be rejected. Bid Security should be in favour of <i>Senior Accounts Officer, CPAO, Dehra Dun payable at Dehra Dun</i> .
17.2	The amount of Bid Security shall be as follows in Indian National Rupee . The amount and currency of the Bid Security shall be <i>Lot I – INR 2.5 Million</i> <i>Lot II – INR 1.3 Million</i> <i>Lot III – INR 2.6 Million</i> <i>Lot IV- INR3.0 Million</i>
18.1	Alternative bids are not permitted.
18.2	Alternative times for completion are not permitted.
18.4	Alternative technical solutions are not permitted.
19.1	Replace Clause No. 19.1 with the following: The Bidder shall prepare the Bid as per details given in ITB 19.2.
19.2	Replace Clause No. 19.2 with the following: The bid shall be signed by a person duly authorized to sign on behalf of the Bidder. The authorization shall consist of a written confirmation and shall be uploaded along with the bid.
19.3	Not used
	Add Clause No. 19.4 as below: Corrections if any in the bid can be carried out by editing the information before electronic submission on e-procurement portal.
D. Submission of Bids	
20.2a	For <u>Bid submission purposes</u> only, the Employer’s address is: The bids should be submitted on the government of India e-procurement portal https://eprocure.gov.in/eprocure/app

21.1	<p>The Start & Closing Date for submission of bids shall be</p> <p><u>Start Date:</u> Date: 14-October-2018 Time: <i>10:00 hours Server Time</i></p> <p><u>Closing Date:</u> Date: 29-October-2018 Time: 17:00 hours Server Time</p>
ITB 22.1	<p>Replace ITB Clause 22.1 with the following: The electronic bidding system would not allow any late submission of bids after due date & time as per server time.</p>
ITB 23.1	<p>Replace ITB Clause 23.1 with the following: Bidders may modify their bids by using appropriate option for bid modification on the e-procurement portal, before the deadline for submission of bids. For this the bidder need not make any additional payment towards the cost of bid document. For bid modification and consequential re-submission, the bidder is not required to withdraw his bid submitted earlier. The last modified bid submitted by the bidder within the bid submission time shall be considered as the bid. For this purpose, modification/withdrawal by other means will not be accepted. In online system of bid submission, the modification and consequential re-submission of bids is allowed any number of times. A bidder may withdraw his bid by using appropriate option for bid withdrawal, before the deadline for submission of bids, however, if the bid is withdrawn, re-submission of the bid is not allowed.</p>
ITB 23.2	<p>Replace ITB Clause 23.2 with the following: Bids requested to be withdrawn in accordance with ITB Sub-Clause 23.1 shall not be opened. No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Bid (Technical Part and/or Financial Part) or any extension thereof.</p>
<p>E. Bid Opening and Evaluation</p>	
24.1	<p>The online opening of Technical Part of Bids shall take place at: <i>Geodetic & Research Branch</i> <i>Survey Of India</i> <i>17 EC Road</i> <i>Dehra Dun- 248001</i> <i>Uttarakhand (India)</i></p> <p>Date: 01-November-2018 Time: 14:30 hrs (Server Time)</p>
27.2	<p>Bid shall be treated as non-responsive if the technology proposed in Method Statement/Section III is not capable of meeting the technical specifications stipulated in Table-2/Section V</p>
29	<p><i>The date, time and venue of Public opening of Financial Bid will be intimated on</i></p>

	<i>e-procurement system after completion of Technical Evaluation. The financial bid will be opened only for those bidders whose bids are found responsive and meeting the minimum technical qualification specified in the bid document.</i>
31	Currency chosen for the purpose of converting to a common currency. Indian National Rupee Source of exchange rate: BC Selling rate of State Bank of India Exchange rate date. Date of Opening of Financial Bid.
F. Award of Contract	
32.2	No day's work is requested in Specifications, Section V. No variation acceptable. Bidders have the option to Bid for any one or more lots. Bids will be evaluated lot-wise, taking into account discounts offered, if any, after considering all possible combination of lots. The contract(s) will be awarded to the Bidder or Bidders offering the lowest evaluated cost to the Employer for combined lots, subject to the selected Bidder(s) meeting the required qualification criteria for lot or combination of lots as the case may be.
35.1	The Performance Security acceptable to the Employer shall be as per successful Bidder's option in the form of an Account Payee Demand Draft, Fixed Deposit Receipt from a Commercial bank in India or Bank Guarantee from a Commercial bank in India in favour of Senior Accounts Officer, CPAO, Dehra Dun payable at Dehra Dun The Performance Security shall be 10% of the Contract price.
37.1	10% of Contract Amount
38.1	Advance payment shall be made as model rate stipulated in SCC 6.4
39	The Final Adjudicator shall be Director General, NMCG who shall be paid TA/DR at a rate <i>admissible to Additional Secretary level officer in Government of India and a fees of INR 5000/= per day.</i>

Section III. Bidding Forms

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FORMS FOR TECHNICAL BID

1. Letter of Bid– Technical Part

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.

Note: All italicized text is for use in preparing these forms and shall be deleted from the final products.

No alterations to the text, shall be permitted and no substitutions shall be accepted except as provided in ITB 12.]

Date: *[insert date (as day, month and year) of Bid Submission]*

ATE No.: *[insert number of bidding process]*

Invitation for Bid No.: *[insert No of IFB]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda No. issued in accordance with ITB 11: *[insert the number and issuing date of each Addenda]*;
- (b) We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) We have not been suspended nor declared ineligible by the Purchaser based on execution of a Bid Securing Declaration in the Purchaser's country in accordance with ITB 4;
- (d) We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods and Related Services *[insert a brief description of the Goods and Related Services]*;
- (e) Our bid shall be valid for the period of time specified in ITB Sub-Clause 16, from the date fixed for the bid submission deadline in accordance with ITB Sub-Clause 21, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (f) If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;
- (g) We are not participating, as a Bidder, in more than one bid in this bidding process in accordance with ITB 6, other than alternative bids submitted in accordance with ITB 18;

- (h) We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or Ban or or Blacklisting or Debarment for corrupt and fraudulent practices or for lack in performance by any Government/Semi-Government entity of India.
- (i) We, along with all our sub-contractors and JV Partners, undertake to abide by the Code of Integrity in public Procurement of Government of India,
- (j) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- (k) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive;
- (l) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption; and
- (m) We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely, "Prevention of Corruption Act 1988."

Name of the Bidder *[insert complete name of person signing the Bid]*

Name of the person duly authorized to sign the Bid on behalf of the Bidder** *[insert complete name of person duly authorized to sign the Bid]*

Title of the person signing the Bid *[insert complete title of the person signing the Bid]*

Signature of the person named above *[insert signature of person whose name and capacity are shown above]*

Date signed *[insert date of signing]* day of *[insert month]*, *[insert year]*

** : Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

2. Bidder Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date: *[insert date (as day, month and year) of Bid submission]*

ATE No.: *[insert number of Bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

Page _____ of _____ pages

1. Bidder's Name *[insert Bidder's legal name]*
2. In case of JV, legal name of each member : *[insert legal name of each member in JV]*
3. Bidder's actual or intended country of registration: *[insert actual or intended country of registration]*
4. Bidder's year of registration: *[insert Bidder's year of registration]*
5. Bidder's Address in country of registration: *[insert Bidder's legal address in country of registration]*
6. Bidder's Authorized Representative Information
 - Name: *[insert Authorized Representative's name]*
 - Address: *[insert Authorized Representative's Address]*
 - Telephone/Fax numbers: *[insert Authorized Representative's telephone/fax numbers]*
 - Email Address: *[insert Authorized Representative's email address]*
7. Attached are copies of original documents of *[check the box(es) of the attached original documents]*
 - Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 5.3
 - In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 5.5(c).
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

3. Bidder's JV Members Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. The following table shall be filled in for the Bidder and for each member of a Joint Venture]].

Date: *[insert date (as day, month and year) of Bid submission]*

ATE No.: *[insert number of Bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

Page _____ of _____ pages

1. Bidder's Name: *[insert Bidder's legal name]*
 2. Bidder's JV Member's name: *[insert JV's Member legal name]*
 3. Bidder's JV Member's country of registration: *[insert JV's Member country of registration]*
 4. Bidder's JV Member's year of registration: *[insert JV's Member year of registration]*
 5. Bidder's JV Member's legal address in country of registration: *[insert JV's Member legal address in country of registration]*
 6. Bidder's JV Member's authorized representative information
Name: *[insert name of JV's Member authorized representative]*
Address: *[insert address of JV's Member authorized representative]*
Telephone/Fax numbers: *[insert telephone/fax numbers of JV's Member authorized representative]*
Email Address: *[insert email address of JV's Member authorized representative]*
 7. Attached are copies of original documents of *[check the box(es) of the attached original documents]*
 Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 5.3.
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

4. Qualification Information

1. Individual Bidders or Individual Members of Joint Ventures
- 1.1 Constitution or legal status of Bidder: *[attach copy]*
 Place of registration: *[insert]*
 Principal place of business: *[insert]*
 Power of attorney of signatory of Bid: *[attach]*
 - 1.2 Total annual volume of Services performed in five years, in the internationally traded currency specified in the BDS: *[insert]*
 - 1.3 Services performed as prime Service Provider on the provision of Services of a similar nature and volume over the last five years. The values should be indicated in the same currency used for Item 1.2 above. Also list details of work under way or committed, including expected completion date.

Project name and country	Name of employer and contact person	Type of Services provided and year of	Value of contract	% Completed (in terms of payment received)	Payment received^ (Payment Certificate to be submitted in support)				
					Provision of GCP	Raw Data Acquisition using aerial platform	Preprocessing	Post processing for DEM	Post processing for ortho- image

1.4 Major items of Service Provider's Equipment proposed for carrying out the Services. List all information requested below. Refer also to ITB Sub-Clause 5.5(c).

Item or Equipment	Availability Proposal				Remarks (From whom to be leased/ purchased)
	Make & Model of Equipment/ Name of software	Owned/ Leased/ To be Procured	Nos.	Age/ Condition	
(i) Aircraft fitted with GNSS, IMU, camera/ sensors : (PI refer 5.5(c) for minimum requirement)					

(ii) Workstation, s/w for Flight planning, monitoring, Pre-processing of raw data: (PI refer 5.5(c) for minimum requirement)					
(iii) Network Storage system 1 no. for each lot (PI refer 5.5(c) for minimum requirement)					
(iv) Backup Device (Minimum 30 TB): (PI refer 5.5(c) for minimum requirement)					

(v) Servers: 3(three) nos. (PI refer 5.5(c) for minimum requirement)					
(vi) Workstations: 12 (twelve) nos. (PI refer 5.5(c) for minimum requirement)					
(vii) Post processing software for DEM: 10 (ten) nos (PI refer 5.5(c) for minimum requirement)					
(viii) Post processing software for Ortho-Imagery: 1 (one) no. (PI refer 5.5(c) for minimum requirement)					
(ix) Dual Frequency GNSS receivers: 5 (five) nos. (PI refer 5.5(c) for minimum requirement)					

1.5 Qualifications and experience of key personnel proposed for administration and execution of the Contract. Attach biographical data. Refer also to ITB Sub-Clause 5.4(e) and GCC Clause 9.1.

Table 1.5(a)

(For Positions that do not have to meet aggregate requirement as per Section II (BDS)/Clause5.6)

Sl. No.	Title of position	Minimum required (for package of 1 to 4 lots)	No of persons proposed
1	Project Manager	1	
2	Pilot	1	
3	Operator – Pre-processing of raw data & trajectory data	2	

Table 1.5(b)

(For Positions that have to meet aggregate requirement as per Section II (BDS)/Clause5.6)

Sl. No.	Title of position	Minimum required (for each lot)	No of persons proposed
1	Supervisor	2	
2	Operator – Post-processing of DEM	(PI refer 5.5(d) for minimum requirement)	
3	Operator – Post-processing of Ortho-Imagery	2	
4	GNSS Controller	5	

6	System Manager	2	
7	Expert QA/QC	2	

b) Details of Proposed Positions (Names):
Table 1.5(c)

1	Title of Position : Project Manager	
	Name:	
2	Title of Position : Pilot	
	Name :	
3	Title of Position : Operator- Preprocessing of Raw –Data & Trajectory Data	
	Name of 1 st Person :	
	Name of 2 nd Person :	
4	Title of Position : Supervisor	
	Lot 1 : (i)	(ii)
	Lot 2 : (i)	(ii)
	Lot 3 : (i)	(ii)
	Lot 4 : (i)	(ii)
5	Title of Position : Operator (Post-Processing DEM)	

Names (Lot 1) :	
(i)	(ii)
(iii)	(iv)
(v)	(vi)
(vii)	(viii)
(ix)	(x)
(xi)	(xii)
(xiii)	(xiv)
(xv)	(xvi)
Names (Lot 2) :	
(i)	(ii)
(iii)	(iv)
(v)	(vi)
(vii)	(viii)
Names (Lot 3) :	
(i)	(ii)
(iii)	(iv)
(v)	(vi)
(vii)	(viii)
(ix)	(x)
(xi)	(xii)
(xiii)	(xiv)
(xv)	(xvi)
Names (Lot 4) :	
(i)	(ii)
(iii)	(iv)
(v)	(vi)
(vii)	(viii)
(ix)	(x)
(xi)	(xii)
(xiii)	(xiv)
(xv)	(xvi)
(xvii)	(xviii)
(xix)	(xx)

6	Title of Position: Operator (Post-Processing Ortho-Imagery)	
	Lot 1 : (i)	(ii)
	Lot 2 : (i)	(ii)
	Lot 3 : (i)	(ii)
	Lot 4 : (i)	(ii)
7	Title of Position: GNSS Controller	
	Name (Lot 1) : <i>i</i>	<i>ii</i>
	<i>iii</i>	<i>iv</i>
	<i>v</i>	
	Name (Lot 2) : <i>i</i>	<i>ii</i>
	<i>iii</i>	<i>iv</i>
	<i>v</i>	
	Name (Lot 3) : <i>i</i>	<i>ii</i>
	<i>iii</i>	<i>iv</i>
	<i>v</i>	
	Name (Lot 4) : <i>i</i>	<i>ii</i>
	<i>iii</i>	<i>iv</i>
	<i>v</i>	
8	Title of Position: System Manager	
	Name (Lot 1) : <i>i</i>	<i>ii</i>
	Name (Lot2) : <i>i</i>	<i>ii</i>
	Name (Lot3) : <i>i</i>	<i>ii</i>
	Name (Lot4) : <i>i</i>	<i>ii</i>
9	Title of Position: QA/QC Expert	
	Name (Lot 1) : <i>i</i>	<i>ii</i>
	Name (Lot 2) : <i>i</i>	<i>ii</i>
	Name (Lot 3) : <i>i</i>	<i>ii</i>
	Name (Lot 4) : <i>i</i>	<i>ii</i>
	Name (Lot 5) : <i>i</i>	<i>ii</i>
	Name (Lot 6) : <i>i</i>	<i>ii</i>

(c) **Resume of every Proposed Personnel should be enclosed as per format given below:**

Table 1.5(d)

Reference No. as per Table 1.5 (c) : _____

[e.g. for QA/QC Expert for Lot 6 at Sno. Ii reference number will be 9 (LOT 6(ii))]

Name of Bidder:		
Position:		
Personnel Information	Name :	Date of Birth :
	Professional Qualification :	
	General Experience :	
	Experience in Proposed Position :	
Present	Name of Employer :	

Address of Employer :	
Telephone :	Contact (Manager/ Personnel officer) :
FAX :	e-mail :
Job Title :	Years with present employer:

Summarize professional experience over the last 10 years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

Sl.No.	Period (From – to)	Details of experience in specified work as per BDS 5.5(d)
1.		Company : Project Name : Brief description of project : Position (in which worked) : Details of work handled :
2.		Company : Project Name : Brief description of project : Position (in which worked) : Details of work handled :
3.		Company : Project Name : Brief description of project : Position (in which worked) : Details of work handled :

1.6 Proposed subcontracts and firms involved. 3.5

Sections of the Services	Value of subcontract	Subcontractor (name and address)	Experience in providing similar Services
(a)			
(b)			

- 1.7 Financial reports for the last five years: balance sheets, profit and loss statements, auditors' reports, etc. List below and attach copies.
- 1.8 Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List below and attach copies of support documents. Refer 5.5(e).
- 1.9 Name, address, and telephone, telex, and facsimile numbers of banks that may provide references if contacted by the Employer.
- 1.10 Information regarding any litigation, current or within the last five years, in which the Bidder is or has been involved.

Other party(ies)	Cause of dispute	Details of litigation award	Amount involved
(a)			
(b)			

- 2. Joint Ventures**
- 2.1 The information listed in 1.1 - 1.11 above shall be provided for each partner of the joint venture.
 - 2.2 The information in 1.12 above shall be provided for the joint venture.
 - 2.3 Attach the power of attorney of the signatory(ies) of the Bid authorizing signature of the Bid on behalf of the joint venture.
 - 2.4 Attach the Agreement among all partners of the joint venture (and which is legally binding on all partners), which shows that
 - (a) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
 - (b) one of the partners will be nominated as being in charge,

authorized to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and

- (c) the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

3. Additional Requirements

- 3.1 Bidders should provide any additional information required in the BDS and to fulfill the requirements of ITB Sub-Clause 5, if applicable.

5.Method Statement

[Bidder shall provide information and write-up as per points listed below. The bidder should bring out the justification for the Technology & Methods proposed by him from the Method Statement. Sufficient details and documentary evidences should be given to bring out the justification for proposing the technology The information & details must be provided by the bidder as per format given below . The information shall be provided in sufficient detail in respect of all headings/sub-headings.]

1. RAW DATA ACQUISITION & PREPROCESSING

A) Technology & its Justification:

- (i) Details of Technology for :*
 - *Aerial Data Acquisition*
 - *Advantages & limitations of above Technologies*
- (ii) References to be cited of Indian & International Projects (from bidder's own experience or information available in open domain) in which proposed Technology has been applied for similar task.*
- (iii) Brief write up based on information provided on above points justifying the adequacy of proposed Technology to meet the technical specifications stipulated in bid document for DEM (fundamental & supplementary accuracy) & Ortho Imagery (accuracy & resolution).*

B) Equipment & their Justification

- (i) Make, model of key equipment viz. Aircraft, On-boards GNSS, On-board IMU, Camera/Sensors for raw data acquisition, hardware & software to be used for flight planning, flight monitoring, pre-processing of raw data*
- (ii) Key specifications of above equipments*
- (iii) Brief write up based on information provided on above points justifying the adequacy of equipment to meet the technical specifications stipulated in bid document*

C) Processes for &their Justification

- (i) Workflow showing various stages of work and their inter-dependencies*
- (ii) Details of Processes at every stage viz. planning, mission/flight planning, actual execution, pre-processing*
- (iii) Best Practices that will be adopted at each stage*
- (iv) Details of manual/semi-automatic/automatic QA/QC measures to be taken during/at end of each stage.*
- (v) Brief write-up based on information provided above justifying the adequacy of methods & processes proposed to meet the specifications stipulated in the bid-document*

D) Details of Previous Work &Justification from previous Experience

- (i) Listing of similar work carried out by bidder (as quoted by them in 1.3/ Section III) and attachment of satisfactory completion certificate*
- (ii) Key Specifications of similar work executed by the bidder*

(iii) Brief write-up based on information provided above clearly bringing out how by suitable modifications(if any) to the Flying/Acquisition parameters the specifications stipulated in this bid document shall be met requirements of this Project

1. PROVISION OF GROUND CONTROL POINTS

- (i) Density & distribution of Ground Stations to be established for correction to on-board GNSS*
- (ii) Equipment to be used for Observations*
- (iii) Hardware & Software to be used for computation*
- (iv) Description of observation methods*
- (v) Description of computation method*
- (vi) Density and distribution of check-points for Internal QA/QC, in order to meet the Fundamental & Supplemental accuracy stipulated in Section V*
- (vii) Brief write-up based on information provided above justifying the use of equipment & methodology proposed to meet the specifications laid down in bid-document.*

2. POST PROCESSING

- (i) Details of Hardware & IT Infrastructure to be set up in Production Centre justifying its adequacy to handle and store raw Data, key intermediate data, data under process and Processed Data/deliverables.*
- (ii) Software to be used for Post-Processing for generating DEM*
- (iii) Software to be used for Post-Processing for generating Ortho-Image*
- (iv) Workflow showing various stages of Post-Processing and their inter-dependencies*
- (v) Details of Processes for DEM & Ortho-Imagery*
- (vi) Details of manual/semi-automatic/automatic processes involved for vegetation correction, built-up area correction, large water-bodies etc for meeting supplemental accuracy stipulated in the bid-document*
- (vii) Best Practices that will be adopted at each stage*
- (viii) Details of manual/semi-automatic/automatic QA/QC measures to be taken for DEM*
- (ix) Details of manual/semi-automatic/automatic QA/QC measures to be taken for Ortho-Imagery*
- (x) Brief write-up based on information provided above justifying the adequacy of hardware, software, methods & processes proposed to meet the specifications stipulated in the bid-document*

6. Work Plan & Schedule

[Bidder shall provide following information/details for their Work-Plan/Schedule. The information & details must be provided by the bidder as per format given below . The information shall be provided in sufficient detail in respect of all headings/sub-headings.]

1. Resource Deployment

- (i) Activity wise Effort Estimate viz. Raw Data Acquisition & Pre-processing, Provision of Ground Control, Post-Processing*
- (ii) Activity wise expected out-turns*
- (iii) Manpower resources proposed based on effort estimate calculation & expected out-turns for all the activities*
- (iv) Details of resource deployment for Internal QA/QC by the bidder shall also be provided.*
- (v) Number of shifts proposed*
- (vi) Quantity of equipments (aircrafts fitted with on-board GNSS & IMU, sensors), instruments, hardware and software for every activity*

2. Time Schedule

Outline the time-schedule of activities, their phasing and interrelations, milestones and delivery plan .

3. In case of JV and sub-contracting for permitted activities, the division of responsibility to each member should be clearly spelt out.

- 3.** *Bidder shall provide details of resource deployment in similar services performed by them in previous projects to justify that the proposed work plan from their previous experience*
- 4.** *If the bidder has quoted for multiple lots (say 4 lots), the work-plan & schedule has to be submitted separately for package containing 1 lot, 2 lots,.....4 lots (say). The resource deployment of such proposals of the package shall clearly bring out the details of resources that are clubbed (if any).*

7. Letter of Acceptance
[letterhead paper of the Employer]

[date]

To: *[name and address of the Service provider]*

This is to notify you that your Bid dated *[date]* for execution of the *[name of the Contract and identification number, as given in the Special Conditions of Contract]* for the Contract Price of the equivalent of *[amount in numbers and words] [name of currency]*, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

We confirm that *[insert name proposed by Employer in the Bidding Data]*,

You are hereby instructed to proceed with the execution of the said contract for the provision of Services in accordance with the Contract documents.

Please return the attached Contract dully signed

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

Attachment: Contract

8. Form of Contract

[letterhead paper of the Employer]

LUMP-SUM REMUNERATION

This CONTRACT (hereinafter called the “Contract”) is made the *[day]* day of the month of *[month]*, *[year]*, between, on the one hand, *[name of Employer]* (hereinafter called the “Employer”) and, on the other hand, *[name of Service Provider]* (hereinafter called the “Service Provider”).

*[Note: In the text below text in brackets is optional; all notes should be deleted in final text. If the Service Provider consist of more than one entity, the above should be partially amended to read as follows: “...(hereinafter called the “Employer”) and, on the other hand, a joint venture consisting of the following entities, each of which will be jointly and severally liable to the Employer for all the Service Provider’s obligations under this Contract, namely, *[name of Service Provider]* and *[name of Service Provider]* (hereinafter called the “Service Provider”).]*

WHEREAS

- (a) the Employer has requested the Service Provider to provide certain Services as defined in the General Conditions of Contract attached to this Contract (hereinafter called the “Services”);
- (b) the Service Provider, having represented to the Employer that they have the required professional skills, and personnel and technical resources, have agreed to provide the Services on the terms and conditions set forth in this Contract at a contract price of.....;
- (c) the Employer has received intends to apply part of the funds received from National Mission for Clean Ganga (NMCG) towards the cost of the Services and intends to apply a portion of the proceeds of this fund to eligible payments under this Contract, it being understood (i) that such payments will be subject, in all respects, to the relevant Government of India rules in GFR 2017;

NOW THEREFORE the parties hereto hereby agree as follows:

1. The following documents shall be deemed to form and be read and construed as part of this Agreement, and the priority of the documents shall be as follows:

- (a) the Letter of Acceptance;
- (b) the Service Provider’s Bid
- (c) the Special Conditions of Contract;
- (d) the General Conditions of Contract;
- (e) the Specifications;
- (f) the Priced Activity Schedule; and
- (g) The following Appendices: *[Note: If any of these Appendices are not used, the words “Not Used” should be inserted below next to the title of the Appendix and on the sheet attached hereto carrying the title of that Appendix.]*
 - Appendix A: Description of the Services
 - Appendix B: Schedule of Payments
 - Appendix C: Key Personnel and Subcontractors
 - Appendix D: Breakdown of Contract Price in Foreign Currency
 - Appendix E: Breakdown of Contract Price in Local Currency
 - Appendix F: Services and Facilities Provided by the Employer
 - Appendix G: Performance Incentive Compensation

2. The mutual rights and obligations of the Employer and the Service Provider shall be as set forth in the Contract, in particular:
- (a) the Service Provider shall carry out the Services in accordance with the provisions of the Contract; and
 - (b) the Employer shall make payments to the Service Provider in accordance with the provisions of the Contract.

IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be signed in their respective names as of the day and year first above written.

For and on behalf of *[name of Employer]*

[Authorized Representative]

For and on behalf of *[name of Service Provider]*

[Authorized Representative]

[Note: If the Service Provider consists of more than one entity, all these entities should appear as signatories, e.g., in the following manner:]

For and on behalf of each of the Members of the Service Provider

[name of member]

[Authorized Representative]

[name of member]

[Authorized Representative]

9. Bid Security (Bank Guarantee)

[The Bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated.]

Beneficiary: _____

Date: _____

BID GUARANTEE No.: _____

We have been informed that _____ (hereinafter called "the Bidder") has submitted to you its bid dated (hereinafter called "the Bid") for the execution of _____ under Invitation for Bids No. _____ ("the IFB").

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee.

At the request of the Bidder, we _____ hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of _____ (_____) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Form of Bid; or
- (b) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails or refuses to execute the Contract Form; or (ii) fails or refuses to furnish the performance security, if required, in accordance with the Instructions to Bidders.

This guarantee will expire: (a) if the Bidder is the successful bidder, upon our receipt of copies of the contract signed by the Bidder and the performance security issued to you upon the instruction of the Bidder; or (b) if the Bidder is not the successful bidder, upon the earlier of (i) our receipt of a copy of your notification to the Bidder of the name of the successful bidder; or (ii) twenty-eight days after the expiration of the Bidder's Bid.

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458.

[signature(s)]

FORMS FOR FINANCIAL BID

10. Letter of Bid- Financial Part

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.

Note: All italicized text is for use in preparing these forms and shall be deleted from the final products.

No alterations to the text shall be permitted and no substitutions shall be accepted except as provided in ITB 12.]

Date: *[insert date (as day, month and year) of Bid Submission]*

ATE No.: *[insert number of bidding process]*

Invitation for Bid No.: *[insert No of IFB]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

We, the undersigned Bidder, hereby submit the second part of our Bid, the Financial Part. In submitting our Financial Part we make the following additional declarations:

- (a) Our bid shall be valid for the period of time specified in ITB Sub-Clause 16, from the date fixed for the bid submission deadline in accordance with ITB Sub-Clause 21, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (b) The total price of our Bid, excluding any discounts offered in item (c) below, is:

In case of only one lot, total price of the Bid ***[insert the total price of the bid in words and figures]***;

In case of multiple lots, total price of each lot ***[insert the total price of each lot in words and figures]***;

In case of multiple lots, total price of all lots (sum of all lots) ***[insert the total price of all lots in words and figures]***;

- (c) The discounts offered and the methodology for their application are:
 - (i) The discounts offered are: ***[Specify in detail each discount offered.]***
 - (ii) The exact method of calculations to determine the net price after application of discounts is shown below: ***[Specify in detail the method that shall be used to apply the discounts]; Discounts.***

- (d) The following commissions, gratuities, or fees have been paid or are to be paid with respect to the bidding process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]*

Name of Recipient	Address	Reason	Amount
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(If none has been paid or is to be paid, indicate “none.”)

- (e) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.

Name of the Bidder *[insert complete name of person signing the Bid]*

Name of the person duly authorized to sign the Bid on behalf of the Bidder** *[insert complete name of person duly authorized to sign the Bid]*

Title of the person signing the Bid *[insert complete title of the person signing the Bid]*

Signature of the person named above *[insert signature of person whose name and capacity are shown above]*

Date signed *[insert date of signing]* day of *[insert month]*, *[insert year]*

** : Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

11.Priced Activity Schedule for Lot 1

Service No.	Description of Services	Unit	Delivery Date	Quantity & Physical Unit	Unit Price in INR	GST	Total Price per lot
1	Provision of Ground controls	100% of lot area	As per Progress Milestone given in Section VIII/Appendix B	(Sq km)			
2	Raw Data Acquisition	100% of lot area		(Sq km)			
3	Pre-processing of Raw Data	100% of lot area		(Sq km)			
4	Post Processing for generation of DSM, DTM, DEM and Contours	100% of lot area		(Sq km)			
5	Post Processing for generation of Digital Ortho-Image	100% of lot area		(Sq km)			

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]*
 Date *[insert date]*

NB:

(i) The cost of setting up Production Centre and mobilization, deployment and use-rate of equipments, h/w, s/w, other costs associated with Preparation of site wages/salary of manpower deployed and all other expenses incurred on items 1 to 5 shall be deemed to be included under respective items

(ii) Storage disks of network storage, servers, workstations etc used at production centre shall be taken out of Production Centre only after low-level formatting. Failed disks will have to be recovered in the production centre itself else handed over to SoI, who may destroy it for security reasons – if required. Service Provider will be allowed to take back all critical equipment including h/w, s/w, peripherals etc. set up in Production Hall. This aspect must be kept in mind by the bidders while quoting in the Priced Activity Schedule.

12.Priced Activity Schedule for Lot 2

Service No.	Description of Services	Unit	Delivery Date	Quantity & Physical Unit	Unit Price in INR	GST	Total Price per lot
1	Provision of Ground controls	100% of lot area	As per Progress Milestone given in Section VIII/A Appendix B	(Sq km)			
2	Raw Data Acquisition	100% of lot area		(Sq km)			
3	Pre-processing of Raw Data	100% of lot area		(Sq km)			
4	Post Processing for generation of DSM, DTM, DEM and Contours	100% of lot area		(Sq km)			
5	Post Processing for generation of Digital Ortho-Image	100% of lot area		(Sq km)			

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]*

Date *[insert date]*

NB:

(i) The cost of setting up Production Centre and mobilization, deployment and use-rate of equipments, h/w, s/w, other costs associated with Preparation of site wages/salary of manpower deployed and all other expenses incurred on items 1 to 5 shall be deemed to be included under respective items

(ii) Storage disks of network storage, servers, workstations etc used at production centre shall be taken out of Production Centre only after low-level formatting. Failed disks will have to be recovered in the production centre itself else handed over to Sol, who may destroy it for security reasons – if required. Service Provider will be allowed to take back all critical equipment including h/w, s/w, peripherals etc. set up in Production Hall. This aspect must be kept in mind by the bidders while quoting in the Priced Activity Schedule.

13.Priced Activity Schedule for Lot 3

Service No.	Description of Services	Unit	Delivery Date	Quantity & Physical Unit	Unit Price in INR	GST	Total Price per lot
1	Provision of Ground controls	100% of lot area	As per Progress Milestone given in Section VIII/A Appendix B	(Sq km)			
2	Raw Data Acquisition	100% of lot area		(Sq km)			
3	Pre-processing of Raw Data	100% of lot area		(Sq km)			
4	Post Processing for generation of DSM, DTM, DEM and Contours	100% of lot area		(Sq km)			
5	Post Processing for generation of Digital Ortho-Image	100% of lot area		(Sq km)			

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]*

Date *[insert date]*

NB:

(i) The cost of setting up Production Centre and mobilization, deployment and use-rate of equipments, h/w, s/w, other costs associated with Preparation of site wages/salary of manpower deployed and all other expenses incurred on items 1 to 5 shall be deemed to be included under respective items

(ii) Storage disks of network storage, servers, workstations etc used at production centre shall be taken out of Production Centre only after low-level formatting. Failed disks will have to be recovered in the production centre itself else handed over to SoI, who may destroy it for security reasons – if required. Service Provider will be allowed to take back all critical equipment including h/w, s/w, peripherals etc. set up in Production Hall. This aspect must be kept in mind by the bidders while quoting in the Priced Activity Schedule.

14.Priced Activity Schedule for Lot 4

Service No.	Description of Services	Unit	Delivery Date	Quantity & Physical Unit	Unit Price in INR	GST	Total Price per lot
1	Provision of Ground controls	100% of lot area	As per Progress Milestone given in Section VIII/A Appendix B	(Sq km)			
2	Raw Data Acquisition	100% of lot area		(Sq km)			
3	Pre-processing of Raw Data	100% of lot area		(Sq km)			
4	Post Processing for generation of DSM, DTM, DEM and Contours	100% of lot area		(Sq km)			
5	Post Processing for generation of Digital Ortho-Image	100% of lot area		(Sq km)			

Name of Bidder [*insert complete name of Bidder*] Signature of Bidder [*signature of person signing the Bid*]
Date [*insert date*]

NB: (i) The cost of setting up Production Centre and mobilization, deployment and use-rate of equipments, h/w, s/w, other costs **associated with Preparation of site** wages/salary of manpower deployed and all other expenses incurred on items 1 to 5 shall be deemed to be included under respective items

(ii) Storage disks of network storage, servers, workstations etc used at production centre shall be taken out of Production Centre only after low-level formatting. Failed disks will have to be recovered in the production centre itself else handed over to SoI, who may destroy it for security reasons – if required. Service Provider will be allowed to take back all critical equipment including h/w, s/w, peripherals etc. set up in Production Hall. This aspect must be kept in mind by the bidders while quoting in the Priced Activity Schedule.

Section IV. Eligible Countries

Eligibility for the Provision of Goods, Works and Services in GoI Procurement

All Countries that have Diplomatic Relation with India

Section V - Activity Schedule

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1. INTRODUCTION:

Survey of India [*has received*] financing from NMCG toward the cost of providing Geo-Spatial Services, and intends to apply part of the proceeds toward payments under the contract for Provision of services for under the contract for ‘Provision of services for Acquisition , Processing and Delivery of DEM and Digital Orthoimagery data’ in the flood plains of Ganga River. are to be provided for approx area of 22,800 sq km

For the purpose of this ATE the area of flood plains have been divided into 4(four) Lots as given below:

Lot	Description	Approx Area (in sq Km)	Bid Security (EMD)	Period of completion
*I	<u>From Rishikesh to Allahabad</u> covering 5-10 km corridor from the banks of the River Ganga	5940	INR 2.5 Million	12 months
II	<u>From Allahabad to Patna</u> covering 5-10 km corridor from the banks of the River Ganga	3160	INR 1.3 Million	12 months
*III	<u>From Patna to Farakka</u> Major Area covering the river bed (with or without water) upto its bank and a buffer zone of 10(ten) km on either side of the river banks. Some area covering 5-10 km corridor from the banks of the River Ganga	6260	INR 2.6 Million	12 months
*IV	<u>From Farakka to Haldiya</u> covering the river bed (with or without water) upto its bank and a buffer zone of 10(ten) km on either side of the river Ganga	7370	INR 3.0 Million	12 months
	Total	22,730		

** Refer Drawing at Section VIII for Index to Lots. Incidence and extent of 4(four) lots can also be downloaded as .shp file along with this RFB.*

*** The incidence, extent and area of lots are limited by scale and accuracy (spatial & temporal) of existing maps on 1:50K scale. This aspect should be factored during flight planning & actual performance of services.*

(2) KEY DELIVERABLES:

Services are to be provided for generation and delivery of following key-deliverables.

- (i) Processed bare earth ground elevation data of 0.4 m accuracy (on ellipsoidal heights) at regular spacing of 1(one) metre – called DEM in GEOTIFF and ASCII format.
- (ii) DEM (on MSL heights) after integration with SOI developed Geoid model.
- (iii) Digital Orthoimagery of 25 cm GSD or better in .GEOTIFF format.

In addition following raw/intermediate products/reports shall also be delivered:

- (iv) Raw data captured by various sensors and instruments.
- (v) All Ground control points (GCPs) provided/used for Data Acquisition & Processing.
- (vi) Processed Digital Surface Model (DSM).
- (vii) Processed bare earth ground elevation data of 0.4 m accuracy (on ellipsoidal heights) at irregular spacing with mass points and breaklines – called DTM.
- (viii) Contours at 1 metre vertical interval.
- (ix) Combined hard copy plot of orthoimagery with contours at 1 metre vertical interval on 1:10000 scale.-(2 copies)
- (x) All salient reports generated as part of processing, QA/QC .

3..SCOPE OF ACTIVITIES:

Brief Scope of Activities for this contract shall include

- (i) Provision of **Ground controls** as per requirements of project. This shall include planning, observations, computation, monumentation and signaling as necessary. Sub-contracting shall be permitted for this activity.
- (ii) **Raw Data Acquisition & Pre-processing** : Acquisition of Raw Digital Data by Aerial Platform for generating Digital Elevation Model(DEM) of 0.4 m accuracy (on ellipsoidal heights) and Digital Orthoimagery of 25 cm GSD.

This shall also include Flight Planning, Sensor Calibration, Flight Execution as per plan, QA/QC for review of flight line alignment, raw data validation for completeness, no data voids, strip matching, pre-processing of onboard GNSS/IMU data for trajectory file and other pre-processing steps needed for point cloud extraction/preparing data for post-processing stage.

Scope of this activity shall also include performing responsibilities of Non-Scheduled Operator for performing Aerial Work as required for performing the services. Valid Non-Scheduled Operator's Permit (NSOP) should be held by the firm (as single entity or JV) or its subcontractor, granted by the Central Government under sub-rule (2) of rule 134A of Aircraft (2nd Amendment) Rules, 2010, published in the Gazette of India vide Ministry of Civil Aviation Notification No. 423 dated 29th July 2010. The bidder may

perform the duties of NSOP by itself or may sub-contract it to firm which is NSOP holder.

The Contractor shall also obtain necessary clearances from Ministry of Defence, Government of India, and other agencies as needed, for flying over the survey area and to acquire and deliver raw data and processed products.

Contractor shall mobilize all necessary equipment, software and hardware at Survey of India Camp/Office required for carrying out this activity.

(iii) **Post Processing for generation of DSM, DTM ,DEM & Digital Ortho-Imagery:**

This activity shall include :-

- Planning
- Setting up of Production Centre at GBO Complex of Survey of India (SOI) at Dehra Dun. This would include setting up LAN and mobilization of adequate storage systems, servers, workstations, software, peripherals etc to handle/store raw data, intermediate data, data under process and processed data/deliverables. The use-rate of equipment and other costs associated with Preparation of site at the Production Centre shall be deemed to be included as part of post-processing cost. Pl. refer footnote at Form-1(Priced Activity Schedule).
- Generation of Digital Surface Model (DSM) from raw/pre-processed data.
- Necessary editing/filtering of non-ground points (vegetation, built-up areas, bridges, elevated structures etc) to generate bare-earth DEM of 0.4 m accuracy (on ellipsoidal heights)
- QA /QC at various stages of Project including validating horizontal and vertical accuracy as per specifications laid down in RFB. Proper versioning and management of data in various Production Cycles. This shall include carrying out corrections as per Quality Audit Report and security vetting report provided by SOI
- Facilitating quality audit, stage approvals , security vetting and final acceptance tests by SOI
- Integration of Geoid model supplied by SOI with the DEM on ellipsoidal heights, generated by contractor, to yield DEM on MSL heights
- Generation of Digital Ortho-Imagery
- Carrying out corrections after security vetting as pointed out by concerned agencies

4. SPECIFICATIONS:

Specifications of deliverables are given below:

4.1 Digital Elevation Model (DEM)

SNo	Description	Specification
1	Fundamental Spatial Accuracy Requirements	<p>Fundamental spatial accuracy of the survey must conform to the following:</p> <p>a. Fundamental Vertical Accuracy (FVA)* i. $\leq \pm 40$ cm. 95% confidence interval ($1.96 \times \text{RMSE}$) for terrain with open vegetation, sparse or dense man-made structures.</p> <p>b. Fundamental Horizontal Accuracy (FHA) i. $\leq \pm 50$ cm. 95% confidence interval ($1.96 \times \text{RMSE}$)</p>
2	Supplemental Spatial Accuracy Requirements	<p>Supplemental spatial accuracy of the survey must conform to the following:</p> <p>(a) Supplemental Vertical Accuracy (SVA)* i. $\leq \pm 50$ cm at 95% percentile for terrain with low crop/low weeds ii. $\leq \pm 60$ cm at 95% percentile for terrain with tall crop/tall weeds/tall scrub/ dense forest/thick vegetation</p> <p>b. Supplemental Horizontal Accuracy (FHA) i. $\leq \pm 50$ cm at 95% percentile for terrain with low crop/low weeds ii. $\leq \pm 60$ cm at 95% percentile for terrain with tall crop/tall weeds/tall scrub/ dense forest/thick vegetation</p>
3	Density of directly measured points on bare-earth Digital Terrain Model**	<p>On average</p> <ul style="list-style-type: none"> • there shall be 4(four) or more directly*** measured points per sq. m in open area • there shall be 1 (one) or more directly*** measured points per sq. m in forest area.
4	Data Void in Shadow Areas**	<p>The point density specified at SI#3/Table 2/Section V(Activity Schedule) shall be complied with 90% confidence interval. However for very dense vegetation (in which sunlight cannot pass through gaps in foliage) or water-bodies , the above specification will be suitably relaxed by SOI at implementation</p>

		stage.
5	Projection	UTM
6	Datum	Vertical: (i)WGS-84 (before integration with Geoid Model) (ii) MSL (after integration with Geoid Model) Horizontal: WGS-84

*The Vertical Accuracies mentioned above ie. FVA & SVA refer to Ellipsoidal Heights

** Should the deliverable fail this test, multiple passes with airborne sensor and/or Ground Measurements shall be done by the Service Provider

*** A directly measured point for the purpose of above specifications would mean a point whose co-ordinates are determined by electromagnetic ray directly reaching to the point. This would not include measurements generated through any estimation approach, viz., through interpolation, through manual estimates, through subtraction of height of tree in forest area etc.

4.2 Specifications of DSM

1. Accuracy:

(a) Vertical Accuracy

i. $\leq \pm 50$ cm at 95% percentile for terrain with low crop/low weeds

ii. $\leq \pm 60$ cm at 95% percentile for terrain with tall crop/tall weeds/tall scrub/ dense forest/thick vegetation

b. Horizontal Accuracy (FHA)

i. $\leq \pm 50$ cm at 95% percentile for terrain with low crop/low weeds

ii. $\leq \pm 60$ cm at 95% percentile for terrain with tall crop/tall weeds/tall scrub/ dense forest/thick vegetation

2. Point Density & Data-Void:

Point density should be sufficient to comply with point density and data void requirement of bare earth DTM.

3. Classification of Point Cloud:

DSM should be classified into (i)Ground Points and (ii)Non-Ground Points.

4.3 DIGITAL ORTHO- IMAGERY:

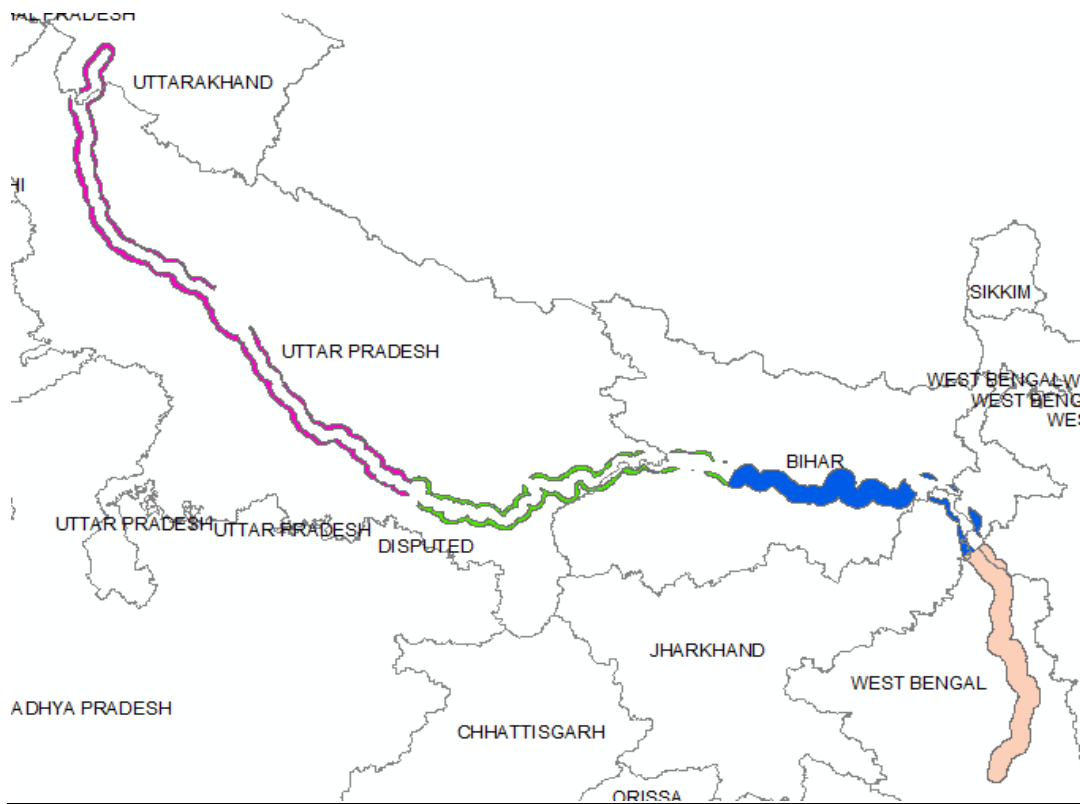
- Ortho Imagery of Pan- sharpened, R, G, B
- Spatial Accuracy: 25 cm in Plain Area
- Spatial Resolution : 25 cm GSD .
- Projection : UTM

- Datum : WGS 84
- A Gaussian-like histogram with grey levels spreading at least 85% of (0, 255)
- Seam lines should not run along linear features and should be edited in a manner so as not to introduce visible flaws
- No visible geometric flaws, graphic imperfections and colour unbalancing at viewing scale of 1:2,000
- The imagery closest to the nadir view should be used for ortho mosaic to minimize the effects of relief displacement
- Ortho-image format : GeoTIFF.

4.5 Specifications of Paper for Hard-Copy Deliverables





A3 size, matte finish photo-paper of 150 gsm thickness

5.0 INDEX TO LOTS



Legend

Area Lotwise

	1 - 5932.76 sq km
	2 - 3153.26 sq km
	3 - 6302.82 sq km
	4 - 7315.78 sq km

Part III – Conditions of Contract and Contract Forms

Section VI. General Conditions of Contract

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Section VI. General Conditions of Contract

A. General Provisions

1. Definitions

Unless the context otherwise requires, the following terms whenever used in this Contract have the following meanings:

- (a) The Adjudicator is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in Sub-Clause 8.2 hereunder.
- (b) “Activity Schedule” is the priced and completed list of items of Services to be performed by the Service Provider forming part of his Bid;
- (c) “Completion Date” means the date of completion of the Services by the Service Provider as certified by the Employer
- (d) “Contract” means the Contract signed by the Parties, to which these General Conditions of Contract (GCC) are attached,

together with all the documents listed in Clause 1 of such signed Contract;

- (e) “Contract Price” means the price to be paid for the performance of the Services, in accordance with Clause 6;
- (f) “Dayworks” means varied work inputs subject to payment on a time basis for the Service Provider’s employees and equipment, in addition to payments for associated materials and administration.
- (g) “Employer” means the party who employs the Service Provider
- (h) “Foreign Currency” means any currency other than the currency of the country of the Employer;
- (i) “GCC” means these General Conditions of Contract;
- (j) “Government” means the Government of the India;
- (l) “Local Currency” means the currency of India;
- (m) “Member,” in case the Service Provider consist of a joint venture of more than one entity, means any of these entities; “Members” means all these entities, and “Member in Charge” means the entity specified in the SC to act on their behalf in exercising all the Service Provider’ rights and obligations towards the Employer under this Contract;
- (n) “Party” means the Employer or the Service Provider, as the case may be, and “Parties” means both of them;
- (o) “Personnel” means persons hired by the Service Provider or by any Subcontractor as employees and assigned to the performance of the Services or any part thereof;
- (p) “Service Provider” is a person or corporate body whose Bid to provide the Services has been accepted by the Employer;
- (q) “Service Provider’s Bid” means the completed bidding document submitted by the Service Provider to the Employer
- (r) “SCC” means the Special Conditions of Contract by which the GCC may be amended or supplemented;
- (s) “Specifications” means the specifications of the service included in the bidding document submitted by the Service Provider to the Employer
- (t) “Services” means the work to be performed by the Service Provider pursuant to this Contract, as described in Appendix A; and in the Specifications and Schedule of Activities included in

the Service Provider's Bid.

- (u) "Subcontractor" means any entity to which the Service Provider subcontracts any part of the Services in accordance with the provisions of Sub-Clauses 3.5 and 4.

1.2 Applicable Law The Contract shall be interpreted in accordance with the laws of the Employer's country, unless otherwise **specified in the Special Conditions of Contract (SCC)**.

1.3 Language This Contract has been executed in the language **specified in the SCC**, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract.

1.4 Notices Any notice, request, or consent made pursuant to this Contract shall be in writing and shall be deemed to have been made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, telegram, or facsimile or e-mail to such Party at the address **specified in the SCC**.

1.5 Location The Services shall be performed at such locations as are specified in Appendix A, in the specifications and, where the location of a particular task is not so specified, at such locations, whether in the Government's country or elsewhere, as the Employer may approve.

1.6 Authorized Representatives Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Employer or the Service Provider may be taken or executed by the officials **specified in the SCC**.

1.7 Inspection and Audit Inspection and Audit shall be carried out as per provisions of GFR 2017.

1.8 Taxes and Duties The Service Provider, Subcontractors, and their Personnel shall pay such taxes, duties, fees, and other impositions as may be levied under the Applicable Law, the amount of which is deemed to have been included in the Contract Price.

2. Commencement, Completion, Modification, and Termination of Contract

2.1 Effectiveness of Contract This Contract shall come into effect on the date the Contract is signed by both parties or such other later date as may be **stated in the SCC**.

2.2 Commencement of Services

- 2.2.1 Program** Before commencement of the Services, the Service Provider shall submit to the Employer for approval a Program showing the general methods, arrangements, order and timing for all activities. The Services shall be carried out in accordance with the approved Program as updated.
- 2.2.2 Starting Date** The Service Provider shall start carrying out the Services thirty (30) days after the date the Contract becomes effective, or at such other date as may be **specified in the SCC**.
- 2.3 Intended Completion Date** Unless terminated earlier pursuant to Sub-Clause 2.6, the Service Provider shall complete the activities by the Intended Completion Date, as is **specified in the SCC**. If the Service Provider does not complete the activities by the Intended Completion Date, it shall be liable to pay liquidated damage as per Sub-Clause 3.8. In this case, the Completion Date will be the date of completion of all activities.
- 2.4 Modification** Modification of the terms and conditions of this Contract, including any modification of the scope of the Services or of the Contract Price, may only be made by written agreement between the Parties and shall not be effective until the consent of competent authority in Government of India, has been obtained.
- 2.5 Force Majeure**
- 2.5.1 Definition** For the purposes of this Contract, “Force Majeure” (FM) means extraordinary events or circumstance beyond human control such as an event described as an Act of God (like a natural calamity) or events such as war, strike, riots, crimes (but not including negligence or wrong-doing, predictable/seasonal rain and any other events specifically excluded in the clause). An FM clause in the contract frees both parties from contractual liability or obligation when prevented by such events from fulfilling their obligations under the contract. An FM clause does not excuse a party’s non-performance entirely, but only suspends it for the duration of the FM. The firm has to give notice of FM as soon as it occurs and it cannot be claimed ex-post facto. There may be a FM situation affecting the purchase organisation only. In such a situation, the purchase organisation is to communicate with the supplier along similar lines as above for further necessary action. If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of FM for a period exceeding 90 (Ninety) days, either party may at its option terminate the contract without any financial repercussion on either side.
- 2.5.2 No Breach of Contract** The failure of a Party to fulfill any of its obligations under the contract shall not be considered to be a breach of, or default under, this Contract insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event (a) has

taken all reasonable precautions, due care and reasonable alternative measures in order to carry out the terms and conditions of this Contract, and (b) has informed the other Party as soon as possible about the occurrence of such an event.

2.5.3 Extension of Time

Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.

2.5.4 Payments

During the period of their inability to perform the Services as a result of an event of Force Majeure, the Service Provider shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Service after the end of such period.

2.6 Termination

2.6.1 By the Employer

The Employer may terminate this Contract, by not less than thirty (30) days' written notice of termination to the Service Provider, to be given after the occurrence of any of the events specified in paragraphs (a) through (d) of this Sub-Clause 2.6.1:

- (a) if the Service Provider does not remedy a failure in the performance of its obligations under the Contract, within thirty (30) days after being notified or within any further period as the Employer may have subsequently approved in writing;
- (b) if the Service Provider become insolvent or bankrupt;
- (c) if, as the result of Force Majeure, the Service Provider is unable to perform a material portion of the Services for a period of not less than ninety (90) days; or
- (d) if the Service Provider, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

2.6.2 By the Service Provider

The Service Provider may terminate this Contract, by not less than thirty (30) days' written notice to the Employer, such notice to be given after the occurrence of any of the events specified in paragraphs (a) of this Sub-Clause 2.6.2:

- (a) if, as the result of Force Majeure, the Service Provider is unable to perform a material portion of the Services for a

period of not less than ninety (90) days.

2.6.3 Shortage of Budget In the event the budget is curtailed by GoI and it would not be possible to make future payments to Service provider due to shortage of budget, the Contract may be terminated with approval of competent authority of GoI.

2.6.4 Payment upon Termination Upon termination of this Contract pursuant to Sub-Clauses 2.6.1 or 2.6.2, the Employer shall make the following payments to the Service Provider:

- (a) remuneration pursuant to Clause 6 for Services satisfactorily performed prior to the effective date of termination;
- (b) except in the case of termination pursuant to paragraphs (a), (b), (d) of Sub-Clause 2.6.1, reimbursement of any reasonable cost incident to the prompt and orderly termination of the Contract, including the cost of the return travel of the Personnel.

3. Obligations of the Service Provider

3.1 General

The Service Provider shall perform the Services in accordance with the Specifications and the Activity Schedule, and carry out its obligations with all due diligence, efficiency, and economy, in accordance with generally accepted professional techniques and practices, and shall observe sound management practices, and employ appropriate advanced technology and safe methods. The Service Provider shall always act, in respect of any matter relating to this Contract or to the Services, as faithful adviser to the Employer, and shall at all times support and safeguard the Employer's legitimate interests in any dealings with Subcontractors or third parties.

3.2 Conflict of Interests

3.2.1 Service Provider Not to Benefit from Commissions and Discounts.

The remuneration of the Service Provider pursuant to Clause 6 shall constitute the Service Provider's sole remuneration in connection with this Contract or the Services, and the Service Provider shall not accept for their own benefit any trade commission, discount, or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations under the Contract, and the Service Provider shall use their best efforts to ensure that the Personnel, any Subcontractors, and agents of either of them similarly shall not receive any such additional remuneration.

3.2.2 Service Provider and Affiliates Not to be Otherwise Interested in Project

The Service Provider agree that, during the term of this Contract and after its termination, the Service Provider and its affiliates, as well as any Subcontractor and any of its affiliates, shall be disqualified from providing goods, works, or Services (other than the Services and any continuation thereof) for any project resulting from or closely related to the Services.

3.2.3 Prohibition of Conflicting Activities

Neither the Service Provider nor its Subcontractors nor the Personnel shall engage, either directly or indirectly, in any of the following activities:

- (a) during the term of this Contract, any business or professional activities in the Government's country which would conflict with the activities assigned to them under this Contract;
- (b) during the term of this Contract, neither the Service Provider nor their Subcontractors shall hire public employees in active duty or on any type of leave, to perform any activity under this Contract;
- (c) after the termination of this Contract, such other activities as may be **specified in the SCC**.

3.3 Confidentiality

The Service Provider, its Subcontractors, and the Personnel of either of them shall not, either during the term or within two (2) years after the expiration of this Contract, disclose any proprietary or confidential information relating to the Project, the Services, this Contract, or the Employer's business or operations without the prior written consent of the Employer.

3.4 Insurance to be Taken Out by the Service Provider

The Service Provider (a) shall take out and maintain, and shall cause any Subcontractors to take out and maintain, at its (or the Subcontractors', as the case may be) own cost but on terms and conditions approved by the Employer, insurance against the risks, and for the coverage, as shall be **specified in the SCC**; and (b) at the Employer's request, shall provide evidence to the Employer showing that such insurance has been taken out and maintained and that the current premiums have been paid.

3.5 Service Provider's Actions Requiring Employer's Prior Approval

The Service Provider shall obtain the Employer's prior approval in writing before taking any of the following actions:

- (a) entering into a subcontract for the performance of any part of the Services,
- (b) appointing such members of the Personnel not listed by name in Appendix C ("Key Personnel and Subcontractors"),

- (c) changing the Program of activities; and
- (d) any other action that may be **specified in the SCC**.

3.6 Reporting Obligations

The Service Provider shall submit to the Employer the reports and documents specified in Appendix B in the form, in the numbers, and within the periods set forth in the said Appendix.

3.7 Documents Prepared by the Service Provider to Be the Property of the Employer

All plans, drawings, specifications, designs, reports, and other documents and software submitted by the Service Provider in accordance with Sub-Clause 3.6 shall become and remain the property of the Employer, and the Service Provider shall, not later than upon termination or expiration of this Contract, deliver all such documents and software to the Employer, together with a detailed inventory thereof. The Service Provider may retain a copy of such documents and software. Restrictions about the future use of these documents, if any, shall be **specified in the SCC**.

3.8 Liquidated Damages

3.8.1 Payments of Liquidated Damages

The Service Provider shall pay liquidated damages to the Employer at the rate per day **stated in the SCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount **defined in the SCC**. The Employer may deduct liquidated damages from payments due to the Service Provider. Payment of liquidated damages shall not affect the Service Provider's liabilities.

3.8.2 Correction for Over-payment

If the Intended Completion Date is extended after liquidated damages have been paid, the Employer shall correct any overpayment of liquidated damages by the Service Provider by adjusting the next payment certificate. The Service Provider shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in Sub-Clause 6.5.

3.8.3 Lack of performance penalty

If the Service Provider has not corrected a Defect within the time specified in the Employer's notice, a penalty for Lack of performance will be paid by the Service Provider. The amount to be paid will be calculated as a percentage of the cost of having the Defect corrected, assessed as described in Sub-Clause 7.2 and **specified in the SCC**.

3.9 Performance Security

The Service Provider shall provide the Performance Security to the Employer no later than the date specified in the Letter of acceptance. The Performance Security shall be issued in an amount and form and by a

bank or surety acceptable to the Employer, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The performance Security shall be valid until a date 28 days from the Completion Date of the Contract in case of a bank guarantee, and until one year from the Completion Date of the Contract in the case of a Performance Bond.

4. Service Provider's Personnel

- 4.1 Description of Personnel** The titles, agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the Service Provider's Key Personnel are described in Appendix C. The Key Personnel and Subcontractors listed by title as well as by name in Appendix C are hereby approved by the Employer.
- 4.2 Removal and/or Replacement of Personnel**
- (a) Except as the Employer may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Service Provider, it becomes necessary to replace any of the Key Personnel, the Service Provider shall provide as a replacement a person of equivalent or better qualifications.
 - (b) If the Employer finds that any of the Personnel have (i) committed serious misconduct or have been charged with having committed a criminal action, or (ii) have reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Service Provider shall, at the Employer's written request specifying the grounds thereof, provide as a replacement a person with qualifications and experience acceptable to the Employer.
 - (c) The Service Provider shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.

5. Obligations of the Employer

- 5.1 Assistance and Exemptions** The Employer shall use its best efforts to ensure that the Government shall provide the Service Provider such assistance and exemptions as **specified in the SCC.**
- 5.2 Change in the Applicable Law** If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost of the Services rendered by the Service Provider, then the remuneration and reimbursable expenses otherwise payable to the Service Provider under this Contract shall be increased or decreased accordingly by agreement between the Parties, and corresponding adjustments shall be made to the amounts referred to in Sub-Clauses 6.2 (a) or (b), as the case may be.

5.3 Services and Facilities

The Employer shall make available to the Service Provider the Services and Facilities listed under Appendix F.

6. Payments to the Service Provider

6.1 Lump-Sum Remuneration

The Service Provider's remuneration shall not exceed the Contract Price and shall be a fixed lump-sum including all Subcontractors' costs, and all other costs incurred by the Service Provider in carrying out the Services described in Appendix A. Except as provided in Sub-Clause 5.2, the Contract Price may only be increased above the amounts stated in Sub-Clause 6.2 if the Parties have agreed to additional payments in accordance with Sub-Clauses 2.4 and 6.3.

6.2 Contract Price

- (a) The price payable in local currency is **set forth in the SCC**.
- (b) The price payable in foreign currency is **set forth in the SCC**.

6.3 Payment for Additional Services, and Performance Incentive Compensation

- 6.3.1 For the purpose of determining the remuneration due for additional Services as may be agreed under Sub-Clause 2.4, a breakdown of the lump-sum price is provided in Appendices D and E.
- 6.3.2 **If the SCC so specify**, the service provider shall be paid performance incentive compensation as set out in the Performance Incentive Compensation appendix.

6.4 Terms and Conditions of Payment

Payments will be made to the Service Provider according to the payment schedule **stated in the SCC**. **Unless otherwise stated in the SCC**, the advance payment (Advance for Mobilization, Materials and Supplies) shall be made against the provision by the Service Provider of a bank guarantee for the same amount, and shall be valid for the period **stated in the SCC**. Any other payment shall be made after the conditions **listed in the SCC** for such payment have been met, and the Service Provider have submitted an invoice to the Employer specifying the amount due.

6.5 Interest on Delayed Payments

If the Employer has delayed payments beyond fifteen (15) days after the due date stated in the SCC, interest shall be paid to the Service Provider for each day of delay at the rate stated in the SCC.

6.6 Price Adjustment

6.6.1 Prices shall be adjusted for fluctuations in the cost of inputs only if **provided for in the SCC**. If so provided, the amounts certified in each payment certificate, after deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type indicated below applies to each Contract currency:

$$P_c = A_c + B_c \text{ Lmc/Loc} + C_c \text{ Imc/Ioc}$$

Where:

P_c is the adjustment factor for the portion of the Contract Price payable in a specific currency “c”.

A_c , B_c and C_c are coefficients specified in the SCC, representing: A_c the nonadjustable portion; B_c the adjustable portion relative to labor costs and C_c the adjustable portion for other inputs, of the Contract Price payable in that specific currency “c”; and

L_{mc} is the index prevailing at the first day of the month of the corresponding invoice date and L_{oc} is the index prevailing 28 days before Bid opening for labor; both in the specific currency “c”.

I_{mc} is the index prevailing at the first day of the month of the corresponding invoice date and I_{oc} is the index prevailing 28 days before Bid opening for other inputs payable; both in the specific currency “c”.

If a price adjustment factor is applied to payments made in a currency other than the currency of the source of the index for a particular indexed input, a correction factor Z_o/Z_n will be applied to the respective component factor of p_n for the formula of the relevant currency. Z_o is the number of units of currency of the country of the index, equivalent to one unit of the currency payment on the date of the base index, and Z_n is the corresponding number of such currency units on the date of the current index.

6.6.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

6.7 Dayworks

6.7.1 If applicable, the Daywork rates in the Service Provider’s Bid shall be used for small additional amounts of Services only when the Employer has given written instructions in advance for additional services to be paid in that way.

6.7.2 All work to be paid for as Dayworks shall be recorded by the Service Provider on forms approved by the Employer. Each completed form shall be verified and signed by the Employer representative as indicated in Sub-Clause 1.6 within two days of the Services being performed.

6.7.3 The Service Provider shall be paid for Dayworks subject to obtaining signed Dayworks forms as indicated in Sub-Clause

7. Quality Control

7.1 Identifying Defects

The principle and modalities of Inspection of the Services by the Employer shall be as **indicated in the SCC**. The Employer shall check the Service Provider's performance and notify him of any Defects that are found. Such checking shall not affect the Service Provider's responsibilities. The Employer may instruct the Service Provider to search for a Defect and to uncover and test any service that the Employer considers may have a Defect. Defect Liability Period is as **defined in the SCC**.

7.2 Correction of Defects, and Lack of Performance Penalty

- (a) The Employer shall give notice to the Service Provider of any Defects before the end of the Contract. The Defects liability period shall be extended for as long as Defects remain to be corrected.
- (b) Every time notice a Defect is given, the Service Provider shall correct the notified Defect within the length of time specified by the Employer's notice.
- (c) If the Service Provider has not corrected a Defect within the time specified in the Employer's notice, the Employer will assess the cost of having the Defect corrected, the Service Provider will pay this amount, and a Penalty for Lack of Performance calculated as described in Sub-Clause 3.8.

8. Settlement of Disputes

8.1 Amicable Settlement

The Parties shall use their best efforts to settle amicably all disputes arising out of or in connection with this Contract or its interpretation.

8.2 Dispute Settlement

- 8.2.1 If any dispute arises between the Employer and the Service Provider in connection with, or arising out of, the Contract or the provision of the Services, whether during carrying out the Services or after their completion, the matter shall be referred to the Adjudicator within 14 days of the notification of disagreement of one party to the other.
- 8.2.2 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute.
- 8.2.3 The Adjudicator shall be paid by the hour at the rate **specified in the BDS and SCC**, together with reimbursable expenses of the types **specified in the SCC**, and the cost shall be divided equally between the Employer and the Service Provider, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute

to arbitration within the above 28 days, the Adjudicator's decision will be final and binding.

8.2.4 The arbitration shall be conducted in accordance with the arbitration procedure published by the institution named and in the place **shown in the SCC**.

8.2.5 Should the Adjudicator resign or die, or should the Employer and the Service Provider agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator will be jointly appointed by the Employer and the Service Provider. In case of disagreement between the Employer and the Service Provider, within 30 days, the Adjudicator shall be designated by the Appointing Authority **designated in the SCC** at the request of either party, within 14 days of receipt of such request.

Section VII

SPECIAL CONDITIONS OF CONTRACT

Section VII. Special Conditions of Contract

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
1.1	The words “in the Government’s country” are amended to read “in – Government of India.
1.1(a)	The Adjudicator is Director General, <i>NMCG</i>
1.1(e)	The contract name is Provision of services for Acquisition , Processing and Delivery of DEM and Digital Ortho-image. Lot no.....Name of the Lot/package.....Approx Area
1.1(h)	The Employer is Surveyor General of India, Survey of India, Dehra Dun.
1.1(m)	The Member in Charge is <i>not applicable.</i>
1.1(p)	The Service Provider is _____
1.2	The Applicable Law is: Laws of Union of India.
1.3	The language is English
1.4	<p>The addresses are:</p> <p>Employer: Surveyor General of India(SGI), Survey of India, Hathibarkala Estate, Dehradun, Uttarakhand, India, PIN: 248001</p> <p>Attention: Project Director, NMCG, Survey of India</p> <p>e-Mail: pd.nmcg.soi@gov.in</p> <p>Facsimile: +91-135-2747623</p> <p>Service Provider: _____</p> <p>Attention: _____</p> <p>e-Mail: _____</p> <p>Facsimile: _____</p>
1.6	<p>The Authorized Representatives are:</p> <p>For the Employer: Project Director, NMCG, Survey of India</p> <p>For the Service Provider:</p> <p>_____</p>

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
2.1	The date on which this Contract shall come into effect is date of signing of Contract by both the parties.
2.2.1	<p>The Service Provider shall divide each of the lots awarded to them into multiple sub-lots . These sub-lots shall be the units of processing & delivery. Program submitted should contain Implementation Level Details showing timelines, resource deployment (backed by out-turn calculations) and delivery dates for each of the sub-lots .</p> <p>It should update the Program for the actual ‘Start Date’ . The updated Program should be consistent with the Method Statement, Work Plan, & Time Schedule submitted in Section IV as part of this RFB. However, if the bidder is awarded multiple lots, he may be permitted to re-deploy his resources and re-schedule the delivery plans during program update as per SCC 2.2.1, to prioritize submission of sub-lots from different lots as per implementation convenience, but without changing the final completion</p>
2.2.2	The Starting Date for the commencement of Services is Ten days from signing of Contract.
2.3	The Intended Completion Date is 12 months from date of commencement of services. If the ‘actual area’ of a Lot/package increases beyond that specified in Table 1/Section V(Activity Schedule), the Project duration shall be extended beyond 12 months on pro rata basis by an explicit communication by SOI.
3.2.3	Activities prohibited after termination of this Contract are: Use or transmit in any form of maps/data supplied by employer or data/services generated by the contractor/service provider during the Project. The Service Provider will not use, transfer, propagate any of the deliverables, information etc.
3.4	<p>The risks and coverage by insurance shall be:</p> <p>(i) Aviation insurance to protect against Third Party property and bodily damage claims during Aerial Work (In accordance with the statutory requirements applicable to India)</p> <p>(ii) Personal injury or death insurance for Contractor’s Employees (In accordance with the statutory requirements applicable to India)</p> <p>(iii) Loss or damage to equipment and data till project completion (Minimum Cover Contract Price)</p>
3.5(a)	Sub-Contracting is permitted only for activities mentioned at Section V/Para 3 (i) viz. Provision of Ground Controls
3.5(d)	The other actions are: None
3.7	Restrictions on the use of documents prepared by the Service Provider are: All data, documents, reports generated during the Contract shall be

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract																													
	exclusive property of Employer and the Service Provider shall have no claims over it. The Service Provider shall be bound by restrictions imposed by Security Classification of such data, documents and reports.																													
3.8.1	<p>LD per day in Indian Rupees for different lots for various milestones is given below. The maximum amount of liquidated damages for the whole contract is Ten percent of the final Contract Price.</p> <p>Persuant to SCC 2.3, if the project duration is extended, LD clause shall not apply in the extended period. However, LD clause shall resume for delay beyond the extended period</p> <table border="1" data-bbox="467 758 1230 1035"> <thead> <tr> <th rowspan="2">Lot</th> <th colspan="4">Liquidated damage per day</th> </tr> <tr> <th>Whole work (Rs)</th> <th>Milestone 1 (Rs)</th> <th>Milestone 2 (Rs)</th> <th>Milestone 3 (Rs)</th> </tr> </thead> <tbody> <tr> <td>#1</td> <td>65000</td> <td>6500</td> <td>32500</td> <td>26000</td> </tr> <tr> <td>#2</td> <td>34000</td> <td>3400</td> <td>17000</td> <td>13600</td> </tr> <tr> <td>#3</td> <td>65000</td> <td>6500</td> <td>32500</td> <td>26000</td> </tr> <tr> <td>#4</td> <td>65000</td> <td>6500</td> <td>32500</td> <td>26000</td> </tr> </tbody> </table>	Lot	Liquidated damage per day				Whole work (Rs)	Milestone 1 (Rs)	Milestone 2 (Rs)	Milestone 3 (Rs)	#1	65000	6500	32500	26000	#2	34000	3400	17000	13600	#3	65000	6500	32500	26000	#4	65000	6500	32500	26000
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3.8.3	<p>The delivery pertaining to the sub-lot in which defects have been detected and/or which have failed the Acceptance Test sa per SCC Clause 7.2, shall be returned to the Service Provider for further QA. In effect, Employer will pass responsibility to the service provider to provide adequate and clear internal Quality Audits to identify the extent and cause of the problems so established. The service provider will be expected to rectify these problems, and (where necessary to comply with the specification) make new products at his own cost. Redelivery of products will be followed by a further independent check on a new sample of the products. This procedure will continue until the products become finally acceptable under the terms above. The acceptance report (Pass /Fail) shall be given by the Employer within 12 weeks of each delivery/re-delivery of the data made by the contractor.</p> <p>If delivery of a sub-lot fails the acceptance test of the Employer, it shall be construed as ‘Lack of Performance’ and the 100% of cost towards Acceptance Test by the Employer @ INR 1,00,000 for each subsequent delivery shall be imposed on Service Provider towards penalty for ‘Lack of performance’.</p>																													
5.1	<p>Following data will be provided to the Service Provider after award of Contract:</p> <p>(i) Maps/proofs of the area on 1:50,000 scale or 1:25,000 scale (as available)</p>																													

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>(ii) Description and co-ordinates of planimetric ground control points in and around the Project area on WGS 84 datum (as available)</p> <p>(iii) Geoid Model</p> <p><u>Production Site:</u></p> <p>Production Hall inside G&RB, GBO complex of Survey of India, Dehradun. The Production site will be handed over to the Service Provider on as-is-where-is basis and shall contain only basic electric fittings and fixtures. The bidder is advised to visit the site for estimating the cost for site preparation before submission of bid.</p> <p>The Contractor will be responsible for setting up secure and high performance Production Centre at GBO Complex of Survey of India (SoI) at Dehra Dun. The production centre should be adequate to handle and store raw Data, key intermediate data, data under process and Processed Data/deliverables.</p>
6.2	All payments shall be made in Indian Rupees
6.1	<p><i>The incidence, extent and area of lots provided in IFB & Section V of this RFB are limited by scale and accuracy (spatial & temporal) of existing maps on 1:50K scale. Considering this aspect, the payments made to the Service Provider shall be on the basis of ‘actual area of the lots/sub-lots’.</i></p> <p><i>The Ortho-imagery (UTM Projection), generated by the Contractor shall be used to measure and ascertain the actual area of sub-lot/lot completed by the Service Provider.</i></p> <p><i>All submissions of deliverables shall be accompanied by ‘area polygons’ in .shp format, prepared with the help of above mentioned ortho-photo imagery. The ‘area polygons’ shall include:</i></p> <p>(i) <i>‘actual’ river bed (with or without water) upto its bank</i></p> <p>(ii) <i>‘actual’ buffer zone of 5(five) km on either side of the river banks.</i></p> <p><i>Area beyond 5km from river bank shall not count towards ‘area measurement’. At places, where the bank of river is not clearly defined due to broken ground or any other reason, the decision of Employer shall be final for the purpose of measurement.</i></p> <p><i>However, if the ‘actual area’ comes out to be more than that mentioned in IFB & Section V of this RFB, approval of Bank shall be taken before making payment beyond the ‘Contract Price’ mentioned at 6.2(a) and 6.2(b).</i></p>

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
6.3.2	The performance incentive paid to the Service Provider shall be: Not Applicable.
6.4	<p>Payments shall be made according to the following schedule:</p> <ul style="list-style-type: none"> • Advance for Mobilization: 5% percent of the Contract Price shall be paid against the submission of unconditional bank guarantee for the same. To be drawn before end of 20% of Contract period. • Payment Milestones: Each lot shall be divided into multiple sub-lots in the Program update submitted by the Service Provider as per SCC Clause 2.2.1/Section VII. <p>These sub-lots shall be the units of processing and submission of deliverables listed at Section V. Sub-lots shall also be units of payment. Submission of ‘all the deliverables’ pertaining to the sub-lot shall be the ‘payment milestone’ for concerned sub-lot. Progress payment shall be released according to above milestone, subject to certification by the Employer that services have been rendered satisfactorily.</p> <p>Only 75% of payment’ due for the sub-lot shall be released on delivery. Rest 25% final payment will be released after acceptance of final deliverables of the complete lot and after incorporations of corrections pointed out by authorized vetting agencies.</p> <p>Acceptance test shall be carried out by Employer according to principle, modalities laid down in SCC Clause 7.1/ Section VII of this RFB – which shall form the basis of certification mentioned above.</p> <p>Should the certification (satisfactory or unsatisfactory) not be provided, by the employer within ‘two’ months of the date of the milestone, or of the date of receipt of the corresponding invoice(whichever is later), the certification will be deemed to have been provided, and the progress payment will be released at such date.</p> <ul style="list-style-type: none"> • The amortization of the Advance mentioned above shall commence when the progress payments have reached 25% of the contract price and be completed when the progress payments have reached 75% as per schedule below: <ul style="list-style-type: none"> a. On 2nd payment Stage: 25% of the Advance payment b. On 3rd payment Stage: 25% of the Advance payment

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>c. On 4th payment Stage: 25% of the Advance payment</p> <p>d. On 5th payment Stage: 25% of the Advance payment</p> <p>The bank guarantee for the advance payment shall be released when the advance payment has been fully amortized.</p> <ul style="list-style-type: none"> • “Payment of Local Taxes such as GST will be against valid Invoice as per GST ACT & Rules and submission of GST Registration Certificate along with declaration that GST Registration is valid and all liabilities towards GST have been discharged by the vendor. GST amount will be paid after 30 days of submission of valid Invoice and all required documents and declaration by vendor”. <p>Sub-lots shall be so planned that they adhere to the progress milestones given below.</p> <ul style="list-style-type: none"> ➤ 1st Progress Milestone – Delivery of 10% of services listed under para3/Section V (Activity Schedule) within 2 months from date of commencement of services ➤ 2nd Progress Milestone - Delivery of 50% of services listed under para3/Section V (Activity Schedule) within 5 months from date of commencement of services ➤ 3rd Progress Milestone - Delivery of 100% of services listed under para3/Section V (Activity Schedule) within 10 months from date of commencement of services
6.5	<p>Payment shall be made within 45 days of receipt of the invoice and the relevant documents specified in Sub-Clause 6.4, and within 60 days in the case of the final payment.</p> <p>No Interest shall be payable</p>
6.6.1	<p>Price adjustment is <i>not to be applied</i> in accordance with Sub-Clause 6.6.</p>
7.1	<p>The principle and modalities of inspection of the Services by the Employer are as follows:</p> <p>The responsibility of Quality assurance that would include adoption of best practices, processes and sets of approaches leading to outcomes of quality specified in this Contract shall rest with the Service Provider.</p> <p>As part of Quality Assurance, the Service Provider shall submit quality control (or check) measures detailing clearly specified tasks that scrutinizes all, or a sample, of the items issuing during and/or at the end of various stages of processing in order to ensure that the final product is of</p>

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>satisfactory quality. The scrutiny involves review, inspection or quantitative measurement, against well defined pass/fail criteria.</p> <p>The Service Provider shall systematically lodge Quality Control Records (QCRs) which may take various forms like Computer Generated Reports, Inspection notes, Stage Approvals etc. Service Provider shall ensure that every such QCR :</p> <ul style="list-style-type: none"> • marked with a date • uniquely identifies the item, operation or product to which it relates • identifies the operator who generated the QCR • Is countersigned by a supervisor or other independent inspector (for important records) • is stored in a well defined and predictable location so that it can be found easily by others. <p>The responsibility for maintaining necessary versions of data during the QA/QC cycle till its final acceptance by Employer shall also rest with Service Provider.</p> <p>Employer will carry out Quality Audit to ensure that the QA/QC measures, plan/methodology/arrangements etc. detailed by the Service provider in Section III of their Bid are being properly followed. Employer shall also audit to ensure that the QCRs are being properly maintained.</p> <p>In addition following ‘Final Acceptance’ tests shall be carried out by the Employer on the delivery made by Service Provider.</p> <p><u>DEM</u></p> <p>(i)The point cloud obtained after pre-processing of raw data shall be classified into (i)Ground Points (ii) Non-ground Points. A grid of size 2mx2m will be superimposed on ‘directly measured points in bare-earth DTM’ ie. the points classified as ‘Ground Points’ . 90% of the superimposed grids should meet the point-density and maximum void size the specifications stipulated in SNo. 3 & 4/Table-2 (Specifications of DEM) /Section V (Activity Schedule). It is expected that the Service Provider has necessary automatic/semi automatic modules for above checks in their internal QA&QC.</p> <p>(ii) DEM shall be checked for Fundamental and Supplemental Spatial Accuracies mentioned in Section V.</p> <p>Checking will be done on every sub-lot submitted by the contractor. Minimum 20 points shall be checked for each of land cover categories representative of geographical area under check. When 20 points are tested, the 95 percent confidence level allows one point to fail the threshold given in product specifications. The category of landcover will be decided by</p>

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>employer.</p> <p>The check-points will be well distributed across the dataset. However, checkpoints may be distributed more densely in the vicinity of important features and more sparsely in areas that are of little or no interest.</p> <p>Datasets failing the ‘Acceptance Test’ mentioned in SCC 7.1 shall be returned to the Service Provider for further action in accordance with procedures mentioned at SCC 3.8.3.</p> <p>The checkpoints will be selected preferably on flat terrain, or on uniformly sloping terrain for x-meters in all directions from each checkpoint, where "x" is the nominal spacing of the DEM or mass points evaluated. Whereas flat terrain is preferable, this is not always possible. Whenever possible, terrain slope steeper than a 20 percent grade will not be selected because horizontal errors will unduly influence the vertical RMSE calculations. Furthermore, checkpoints will not be selected near severe breaks in slope, such as bridge abutments or edges of roads, where subsequent interpolation might be performed with inappropriate TIN or DEM points on the wrong sides of the break lines.</p> <p>It is to be noted that SOI will conduct GNSS Observations in above test areas in offset/radial mode with respect to known stable GCP of SOI on bare earth. Processed ellipsoidal heights of bare earth in test areas will be compared with that of corresponding points in DEM (on ellipsoidal heights).</p> <p>The Defects Liability Period is <i>co-terminus with completion of Contract</i></p>
8.2.3	The Adjudicator is Director General, NMCG who will be paid TA/DR at a rate <i>admissible to Addl. Secretary level officer in Government of India and a fees of INR 5000/= per day.</i>
8.2.4	Provisions of Arbitration and Conciliation Act 2015 will apply.
8.2.5	The Adjudicator is Director General, NMCG who will be paid TA/DR at a rate <i>admissible to Addl. Secretary level officer in Government of India and a fees of INR 5000/= per day.</i>
Additional Clause 9.0	Add the following as GCC clause 9.0 : 9. Security Security instructions for raw data acquisition and pre-processing shall be as follows: (a) Aerial data- acquisition/photography/survey is to be strictly confined to the exact area for which permission obtained. Moreover, the undertakings given in the application shall be strictly adhered to.

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>(b) No sensor, other than those mentioned in the application should be used.</p> <p>(c) The date of survey is to be intimated to Air HQrs. (Directorate of Intelligence) to detail the security officer from IAF sufficiently in advance indicating specific date and time to enable them to detail a Security Officer</p> <p>(d) The Contractor should be ready to offer his aircraft for joint inspection by the service agencies of MoD, MHA, DGCA to check survey equipment /sensor before undertaking aerial surveys.</p> <p>(e) The data should not be taken out of the aircraft to any place other than directed by Employer.</p> <p>(f) After completion of survey, no data should be in the equipment fitted in the aircraft.</p> <p>(g) At the end of each day operation, the data discs should be removed and handed over to designated officer of Employer or the security officer, as directed by the Employer.</p> <p>(h) ‘Top Secret’ security classification will be given to the data products/discs before security vetting. The data will be suitably classified to appropriate security classification after security vetting. The data is to be handled by the Contractor accordingly.</p> <p>(i) The data should be processed by Indian experts in India at the designated places within SoI complex. In case a foreign expert is required for processing the data, the Contractor shall be responsible for obtaining necessary clearances/permissions from Ministry of Defence well in advance, to handle classified data.</p> <p>(j) Whenever Security Officer is placed on board the aircraft, it will be mandatory on the part of Operator to provide the following documents for his perusal;-</p> <p>(i) Copy of valid DGCA permit and ATC clearance.</p> <p>(ii) Copy of valid MOD clearance.</p> <p>(iii) Proof of Insurance cover.</p> <p>(k) Only personnel, for whom clearance is given by MoD are allowed to undertake the survey work.</p> <p>(l) Any change/addition and equipment/sensors at any stage of work, can be made only after obtaining prior MoD clearance.</p> <p>(m) Fortnightly progress report is to be submitted to the Employer.</p> <p>(n) All aircraft permits and clearances (DGCA permit, ATC clearance, valid MoD clearance) will be the responsibility of the Contractor and all operations will be undertaken in accordance with Indian Air Safety Regulations.</p> <p>(o) Pre-Processing of data acquired by aerial survey will be carried out inside the secure premises of nearest Survey of India office/camp. Necessary equipments/infrastructure should be installed at the premises by the successful bidder. The aerial images/ products will not be permitted to be taken elsewhere. Proper account of daily production and distribution should be maintained.</p>

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>(p) Post Processing of data acquired by aerial survey will be carried out inside the secure premises of G&RB, GBO Complex, Survey of India, Dehradun. Necessary equipments/infrastructure should be installed at the premises by the successful bidder. The aerial images/ products will not be permitted to be taken elsewhere. Proper account of daily production and distribution should be maintained.</p> <p>The Security instructions to be followed by the Contractor during the Post Processing of Data at the Production Centre shall be as follows:</p> <ul style="list-style-type: none"> (a) Production centre at GBO complex, Survey of India should have provision for security 24 by 7. (b) No Data storage devices or electronic devices including mobile phones , laptops , CD , pendrives etc should be allowed inside the Production Centre except for specific clearances to be taken from Security Officer of Survey of India in exceptional circumstances arising out of any requirements. (c) No data should be allowed to be taken outside the Production Centre by the Contractor (d) Systems and storage in Production Centre should not be connected to internet. (e) All the personnel working inside the Production Centre should have valid Identity card of the company. Any foreign national working inside the Production centre should have valid visa and other documents verified by Ministry of External Affairs and permission from Ministry of Defence. Identity card of the company will be checked by the Security staff every day before the employee enters the Production Centre. Surprise checks for the same will also be carried out by the Security Officer of Survey of India, National Mission for Clean Ganga during the working hours. (f) Work should only be executed inside Production Centre only in the Presence of SOI officials. (g) All the hardcopy plots and printouts , other Project related materials are to be kept in Almirahs whose key will be with SOI officials. (o) “Top Secret “ security classification will be given to the data products / discs before Security vetting. The data will be suitably classified to appropriate Security Classification after security vetting. The data should be handled by the contractor accordingly. (p) Any foreign national will not be allowed access to any SOI map/data without clearance from MOD. (q) The Survey of India Security Officer reserves the right to frisk the working personnel every day / during surprise check.

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>(r) There should be two separate segments in the Production centre, one for administrative and other for the production / processing.</p> <p>(s) The Production centre should strictly adhere to the security measures in terms of entry and exit to Production centre (preferably <u>Biometric methods</u> etc), accessing data (Administrator /user passwords , Networking etc) , disabling USB ports for theft of data , authorising persons to handle the data , log books , <u>CCTV cameras</u> , <u>fire and smoke protection</u> , lock and key system etc.</p>
<p>Additional Clause 10.0</p>	<p>Add the following as GCC clause 10.0 :</p> <p>Salient Features of Major Labour Laws in India applicable to Establishments is given below. The law as current on the date of bid opening will apply</p> <p>a) Workmen Compensation Act 1923: The Act provides for compensation in case of injury by accident arising out of and during the course of employment.</p> <p>b) Payment of Gratuity Act 1972: Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years service or more or on death the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.</p> <p>c) Employees P.F. and Miscellaneous Provision Act 1952 (<i>since amended</i>): The Act Provides for monthly contributions by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are :</p> <p>(i) Pension or family pension on retirement or death, as the case may be. (ii) Deposit linked insurance on the death in harness of the worker. (iii) payment of P.F. accumulation on retirement/death etc. d) Maternity Benefit Act 1951: The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.</p> <p>e) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.</p> <p>f) Minimum Wages Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employments.</p> <p>g) Payment of Wages Act 1936: It lays down as to by what date the wages</p>

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>are to be paid, when it will be paid and what deductions can be made from the wages of the workers.</p> <p>h) Equal Remuneration Act 1979: The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.</p> <p>i) Payment of Bonus Act 1965: The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs.3500/-per month or less. The bonus to be paid to employees getting Rs.2500/- per month or above upto Rs.3500/- per month shall be worked out by taking wages as Rs.2500/-per month only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.</p> <p>j) Industrial Disputes Act 1947: The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.</p> <p>k) Industrial Employment (Standing Orders) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.</p> <p>l) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.</p> <p>m) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.</p> <p>n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home upto the establishment</p>

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>and back, etc.</p> <p>o) The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996: All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the Building or construction work and other welfare measures, such as Canteens, First-Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.</p> <p>p) Factories Act 1948: The Act lays down the procedure for approval at plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.</p>

Section VIII
Appendices

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Appendix A – Description of the Services

(1) Survey of India [*has received*] financing from NMCG toward the cost of providing Geo-Spatial Services, and intends to apply part of the proceeds toward payments under the contract for Provision of services for under the contract for ‘Provision of services for Acquisition , Processing and Delivery of DEM and Digital Orthoimagery data’ in the flood plains of Ganga River. are to be provided for approx area of 22,800 sq km

For the purpose of this ATE the area of flood plains have been divided into 4(four) Lots as given below:

Lot	Description	Approx Area (in sq Km)	Bid Security (EMD)	Period of completion
*I	<u>From Rishikesh to Allahabad</u> covering 5-10 km corridor from the banks of the River Ganga	5940	INR 2.5 Million	12 months
II	<u>From Allahabad to Patna</u> covering 5-10 km corridor from the banks of the River Ganga	3160	INR 1.3 Million	12 months
*III	<u>From Patna to Farakka</u> Major Area covering the river bed (with or without water) upto its bank and a buffer zone of 10(ten) km on either side of the river banks. Some area covering 5-10 km corridor from the banks of the River Ganga	6260	INR 2.6 Million	12 months
*IV	<u>From Farakka to Haldiya</u> covering the river bed (with or without water) upto its bank and a buffer zone of 10(ten) km on either side of the river Ganga	7370	INR 3.0 Million	12 months
	Total	22,730		

** Refer Drawing at Section VIII for Index to Lots. Incidence and extent of 4(four) lots can also be downloaded as .shp file along with this RFB.*

*** The incidence, extent and area of lots are limited by scale and accuracy (spatial & temporal) of existing maps on 1:50K scale. This aspect should be factored during flight planning & actual performance of services.*

(2) Services are to be provided for generation and delivery of following key-deliverables.

(xi) Processed bare earth ground elevation data of 0.4 m accuracy (on ellipsoidal heights) at regular spacing of 1(one) metre – called DEM in GEOTIFF and ASCII format.

(xii) DEM (on MSL heights) after integration with SOI developed Geoid model.

(xiii) Digital Orthoimagery of 25 cm GSD or better in .GEOTIFF format.

In addition following raw/intermediate products/reports shall also be delivered:

(xiv) Raw data captured by various sensors and instruments.

(xv) All Ground control points (GCPs) provided/used for Data Acquisition & Processing.

(xvi) Processed Digital Surface Model (DSM).

(xvii) Processed bare earth ground elevation data of 0.4 m accuracy (on ellipsoidal heights) at irregular spacing with mass points and breaklines – called DTM.

(xviii) Contours at 1 metre vertical interval.

(xix) Combined hard copy plot of orthoimagery with contours at 1 metre vertical interval on 1:10000 scale.-(2 copies)

(xx) All salient reports generated as part of processing, QA/QC .

3..Brief Scope of Activities for this contract shall include

(iv)Provision **of Ground controls** as per requirements of project. This shall include planning, observations, computation, monumentation and signaling as necessary. Sub-contracting shall be permitted for this activity.

(v) **Raw Data Acquisition & Pre-processing** : Acquisition of Raw Digital Data by Aerial Platform for generating Digital Elevation Model(DEM) of 0.4 m accuracy (on ellipsoidal heights) and Digital Orthoimagery of 25 cm GSD.

This shall also include Flight Planning, Sensor Calibration, Flight Execution as per plan, QA/QC for review of flight line alignment, raw data validation for completeness , no data voids, strip matching, pre-processing of onboard GNSS/IMU data for trajectory file and other pre-processing steps needed for point cloud extraction/preparing data for post-processing stage.

Scope of this activity shall also include performing responsibilities of Non-Scheduled Operator for performing Aerial Work as required for performing the services. Valid Non-Scheduled Operator's Permit (NSOP) should be held by the firm (as single entity or JV) or its subcontractor, granted by the Central Government under sub-rule (2) of rule 134A of Aircraft (2nd Amendment) Rules, 2010, published in the Gazette of India vide Ministry of Civil Aviation Notification No. 423 dated 29th July 2010. The bidder may perform the duties of NSOP by itself or may sub-contract it to firm which is NSOP holder.

The Contractor shall also obtain necessary clearances from Ministry of Defence, Government of India, and other agencies as needed, for flying over the survey area and to acquire and deliver raw data and processed products.

Contractor shall mobilize all necessary equipment, software and hardware at Survey of India Camp/Office required for carrying out this activity.

(vi) Post Processing for generation of DSM, DTM ,DEM & Digital Ortho-Imagery:

This activity shall include :-

- Planning
- Setting up of Production Centre at GBO Complex of Survey of India (SoI) at Dehra Dun. This would include setting up LAN and mobilization of adequate storage systems, servers, workstations, software, peripherals etc to handle/store raw data, intermediate data, data under process and processed data/deliverables. The use-rate of equipment and other costs associated with Preparation of site at the Production Centre shall be deemed to be included as part of post-processing cost. Pl. refer footnote at Form-1(Priced Activity Schedule).
- Generation of Digital Surface Model (DSM) from raw/pre-processed data.
- Necessary editing/filtering of non-ground points (vegetation, built-up areas, bridges, elevated structures etc) to generate bare-earth DEM of 0.4 m accuracy (on ellipsoidal heights)
- QA /QC at various stages of Project including validating horizontal and vertical accuracy as per specifications laid down in RFB. Proper versioning and management of data in various Production Cycles. This shall include carrying out corrections as per Quality Audit Report and security vetting report provided by SOI
- Facilitating quality audit, stage approvals , security vetting and final acceptance tests by SOI
- Integration of Geoid model supplied by SOI with the DEM on ellipsoidal heights, generated by contractor, to yield DEM on MSL heights
- Generation of Digital Ortho-Imagery
- Carrying out corrections after security vetting as pointed out by concerned agencies

Appendix B - Schedule of Payments and Reporting Requirements

Payments shall be made according to the following schedule:

- Advance for Mobilization: 5% percent of the Contract Price shall be paid against the submission of unconditional bank guarantee for the same. To be drawn before end of 20% of Contract period.
- Payment Milestones: Each lot shall be divided into multiple sub-lots in the Program update submitted by the Service Provider as per SCC Clause 2.2.1/Section VII.

These sub-lots shall be the units of processing and submission of deliverables listed at Section V. Sub-lots shall also be units of payment. Submission of ‘all the deliverables’ pertaining to the sub-lot shall be the ‘payment milestone’ for concerned sub-lot. Progress payment shall be released according to above milestone, subject to certification by the Employer that services have been rendered satisfactorily.

Only 75% of payment’ due for the sub-lot shall be released on delivery. Rest 25% final payment will be released after acceptance of final deliverables of the complete lot and after incorporations of corrections pointed out by authorized vetting agencies.

Acceptance test shall be carried out by Employer according to principle, modalities laid down in SCC Clause 7.1/ Section VII of this RFB – which shall form the basis of certification mentioned above.

Should the certification (satisfactory or unsatisfactory) not be provided, by the employer within ‘**two**’ months of the date of the milestone, or of the date of receipt of the corresponding invoice(**whichever is later**), the certification will be deemed to have been provided, and the progress payment will be released at such date.

- The amortization of the Advance mentioned above shall commence when the progress payments have reached 25% of the contract price and be completed when the progress payments have reached 75% as per schedule below:
 - e. On 2nd payment Stage: 25% of the Advance payment
 - f. On 3rd payment Stage: 25% of the Advance payment
 - g. On 4th payment Stage: 25% of the Advance payment
 - h. On 5th payment Stage: 25% of the Advance payment

The bank guarantee for the advance payment shall be released when the advance payment has been fully amortized.

- “Payment of Local Taxes such as GST will be against valid Invoice as per GST ACT & Rules and submission of GST Registration Certificate along with declaration that GST Registration is valid and all liabilities towards GST have been discharged by the vendor. GST amount will be paid after 30 days of submission of valid Invoice and all required documents and declaration by vendor”.

Sub-lots shall be so planned that they adhere to the progress milestones given below.

➤ **1st Progress Milestone** – Delivery of 10% of services listed under para3/Section V (Activity Schedule) within 2 months from date of commencement of services

➤ **2nd Progress Milestone** - Delivery of 50% of services listed under para3/Section V (Activity Schedule) within 5 months from date of commencement of services

3rd Progress Milestone - Delivery of 100% of services listed under para3/Section V (Activity Schedule) within 10 months from date of commencement of services

Progress Reports

The Service Provider shall submit monthly progress report indicating sub-lotwise progress of various activities/sub-activities as Horizontal-Bar chart. Status of submission of various deliverables shall also be submitted sub-lotwise every month.

Any delay in activity / submission of deliverables from approved Program shall be clearly flagged in the progress reports.

Appendix C—Key Personnel

Refer Section III(Bidding Forms)/1.5

1	<p>Title of Position : Project Manager</p> <p>Name:</p>
2	<p>Title of Position : Pilot</p> <p>Name :</p>
3	<p>Title of Position : Operator- Preprocessing of Raw –Data & Trajectory Data</p> <p>Name of 1st Person :</p> <p>Name of 2nd Person :</p>
4	<p>Title of Position : Supervisor</p> <p>Lot 1 : (i) (ii)</p> <p>Lot 2 : (i) (ii)</p> <p>Lot 3 : (i) (ii)</p> <p>Lot 4 : (i) (ii)</p>
5	<p>Title of Position : Operator (Post-Processing DEM)</p> <p>Names (Lot 1) :</p> <p>(i) (ii)</p> <p>(iii) (iv)</p> <p>(v) (vi)</p> <p>(vii) (viii)</p> <p>(ix) (x)</p> <p>(xi) (xii)</p> <p>(xiii) (xiv)</p> <p>(xv) (xvi)</p> <p>Names (Lot 2) :</p> <p>(i) (ii)</p> <p>(iii) (iv)</p> <p>(v) (vi)</p> <p>(vii) (viii)</p> <p>Names (Lot 3) :</p> <p>(i) (ii)</p> <p>(iii) (iv)</p> <p>(v) (vi)</p> <p>(vii) (viii)</p> <p>(ix) (x)</p> <p>(xi) (xii)</p> <p>(xiii) (xiv)</p>

	(xv)	(xvi)
	Names (Lot 4) :	
	(i)	(ii)
	(iii)	(iv)
	(v)	(vi)
	(vii)	(viii)
	(ix)	(x)
	(xi)	(xii)
	(xiii)	(xiv)
	(xv)	(xvi)
	(xvii)	(xviii)
	(xix)	(xx)
6	Title of Position: Operator (Post-Processing Ortho-Imagery)	
	Lot 1 : (i)	(ii)
	Lot 2 : (i)	(ii)
	Lot 3 : (i)	(ii)
	Lot 4 : (i)	(ii)
7	Title of Position: GNSS Controller	
	Name (Lot 1) : <i>i</i>	<i>ii</i>
	<i>iii</i>	<i>iv</i>
	<i>v</i>	
	Name (Lot 2) : <i>i</i>	<i>ii</i>
<i>iii</i>	<i>iv</i>	
<i>v</i>		
Name (Lot 3) : <i>i</i>	<i>ii</i>	
<i>iii</i>	<i>iv</i>	
<i>v</i>		
Name (Lot 4) : <i>i</i>	<i>ii</i>	
<i>iii</i>	<i>iv</i>	
<i>v</i>		
8	Title of Position: System Manager	
	Name (Lot I) : <i>i</i>	<i>ii</i>
	Name (Lot II) : <i>i</i>	<i>ii</i>
	Name (Lot III) : <i>i</i>	<i>ii</i>
	Name (Lot IV) : <i>i</i>	<i>ii</i>
9	Title of Position: QA/QC Expert	
	Name (Lot 1) : <i>i</i>	<i>ii</i>
	Name (Lot 2) : <i>i</i>	<i>ii</i>
	Name (Lot 3) : <i>i</i>	<i>ii</i>
	Name (Lot 4) : <i>i</i>	<i>ii</i>

**Appendix D—Breakdown of Contract Price in Foreign
Currency(ies) –**

Not Applicable as all payments shall be made in Indian Rupees

Appendix E—Breakdown of Contract Price in Indian Rupees.

Not Applicable as all payments shall be made in Indian Rupees

Appendix F—Services and Facilities Provided by the Employer

Following data will provided to the Service Provider after award of Contract:

- (i) Maps/proofs of the area on 1:50,000 scale or 1:25,000 scale (as available)
- (ii) Description and co-ordinates of planimetric ground control points in and around the Project area on WGS 84 datum
- (iii) Geoid Model

Production Site:

Production Hall inside **G&RB, GBO complex of Survey of India, Dehradun**. The Production site will be handed over to the Service Provider on as-is-where-is basis and shall contain only basic electric fittings and fixtures . The bidder is advised to visit the site for estimating the cost for site preparation before submission of bid.

Sketch showing the size and lay-out of Production hall is given below:

The Contractor will be responsible for Setting up of Production Centre at GBO Complex of Survey of India (SoI) at Dehra Dun. This would include setting up LAN and mobilization of adequate storage systems, servers, workstations, software, peripherals etc to handle/store raw data, intermediate data, data under process and processed data/deliverables. The use-rate of equipment and other costs associated with Preparation of site at the Production Centre shall be deemed to be included as part of post-processing cost. Pl. refer footnote at Form-1(Priced Activity Schedule).

Appendix G—Performance Incentive Compensation Appendix

Not Applicable

APPENDIX H-Salient Features of Labour & Environment Laws

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS

APPLICABLE (The law as current on the date of bid opening will apply)

Labour Laws

- (a) Workman Compensation Act 1923: The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- (b) Payment of Gratuity Act 1972: gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more or on death the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- (c) Employees P.F. and Miscellaneous Provision Act 1952 (since amended): The act Provides for monthly contribution by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:
 - (i) Pension or family pension on retirement or death, as the case may be.
 - (ii) Deposit linked insurance on the death in harness of the worker.
 - (iii) Payment of P.F. accumulation on retirement/death etc.
- (d) Maternity Benefit Act 1951: The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- (e) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the Service Provider to contract labour and in case the Service Provider fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Service Provider is required to take license from the designated Officer. The Act is applicable to the establishments or Service Provider of Principal Employer if they employ 20 or more contract labour.
- (f) Minimum Wage Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a schedule employment. Construction of Buildings, Roads, Runways are schedule employments.

- (g) Payment of Wages Act 1936: It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- (h) Equal Remuneration Act 1979: The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
- (i) Payment of Bonus Act 1965: The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs.3500/- per month or less. The bonus to be paid to employees getting Rs.2500/- per month or above upto Rs.3500/- per month shall be worked out by taking wages as Rs.2500/- per month only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
- (j) Industrial Disputes act 1947: the Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations, a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- (k) Industrial Employment (Standing Order) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.
- (l) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
- (m) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for

regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.

- (n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home upto the establishment and bank etc.
- (o) The Building and Other Construction works (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996: All the establishments who carry on any building or other construction work and employs 10 or more workers and covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the Building or construction work and other welfare measures, such as Canteens, First –Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.
- (p) Factories Act 1948: the Act lays down the procedure for approval at plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process
- (q) Weekly Holidays Act -1942

SALIENT FEATURES OF SOME OF THE MAJOR LAWS THAT ARE APPLICABLE FOR PROTECTION OF ENVIRONMENT

Laws on

1. The Water(Prevention and Control of Pollution) Act, 1974, This

protection of Environment

provides for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. 'Pollution' means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms.

2. The Air (Prevention and Control of Pollution) Act, 1981, This provides for prevention, control and abatement of air pollution. 'Air Pollution' means the presence in the atmosphere of any 'air pollutant', which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment.
3. The Environment (Protection) Act, 1986, This provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property.
4. The Public Liability Insurance Act, 1991, This provides for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for matters connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.

Appendix I-Appointment of Adjudicator/Dispute Review Expert

Suggested Draft of Letter of Appointment of Adjudicators in contracts

Sub: _____(Name of the Contract)

To

Name and address of the Adjudicator

We hereby confirm your appointment as adjudicator for the above contract to carry out the assignment specified in this Letter of Appointment.

For administrative purpose _____(*name of the officer representing the employer*) has been assigned to administer the assignment and to provide the Adjudicator with all relevant information needed to carry out the assignment on behalf of both the employer and the Service Provider. The services will be required during the period of contract for the Services (Name of the Contract)_____.

The Adjudicator shall visit the site once in 3 (three) months till the completion of the Services indicated above or as specifically requested by employer/service provider for the period upto the end of defects liability period with prior intimation to the employer and the service provider. The duration of each visit shall ordinarily be for one day only. These durations are approximate and (*Name of the employer and Name of the Service Provider*) may find it necessary to postpone or cancel the assignment and/or shorten or extend the duration.

The appointment will become effective upon confirmation of letter by you. The appointment of Adjudicator shall be liable for termination under a 30 (thirty) days written notice from the date of issue of the notice, if both Employer and the Service Provider so desire. Also the appointment shall automatically stand terminated 14 days after the defect notice / correction period as stated in Clauses 7.1 of GCC/PCC is over.

The Adjudicator will be paid a fee of Rs. _____(Rupees _____only) per each day of visit at the worksite. The actual expenses for boarding and traveling in connection with the assignment will be reimbursed to the Adjudicator. The Adjudicator will submit a pre-receipted bill in triplicate to the employer indicating the date of the visit, fees for the visit and a proof in support of the actual expenditure[only for items valued above Rs200 each) incurred by him against boarding, lodging and traveling expenses after performing the visit on each occasion. The Employer will make the admissible payment (both the Employer's and the Service Provider's share) to the Adjudicator within 30 days of the receipt of the bill. The Service Provider's share on this account (half the paid amount) will be recovered by the Employer from the Service Provider's bills for the Services.

In accepting this assignment, the Adjudicator should understand and agree that he is responsible for any liabilities and costs arising out of risks associated with travel to and from the place of emergency repatriation, loss or damage to personal/professional effects and property. The Adjudicator is advised to effect personal insurance cover in respect of such risks if he does not already have such cover in place. In this regard, the Adjudicator shall maintain appropriate medical, travel, accident and third-party liability insurance. The obligation under this paragraph will survive till termination of this appointment.

Procedures for resolution of disputes by the Adjudicator is described in the contract of _____(name of the contract) between the employer and the Service Provider vide clause 8 of GCC/PCC. Your recommendation should be given in the format attached, within 28 days of receipt of a notification of dispute.

The Adjudicator will carry out the assignment in accordance with the highest standard of professional and ethical competence and integrity, having due regard to the nature and purpose of the assignment, and will conduct himself in a manner consistent herewith. After visiting the site, the Adjudicator will discuss the matter with the Employer and if necessary with the Service Provider before arriving at any decision.

The Adjudicator will agree that all knowledge and information not within the public domain, which may be acquired while carrying out this service shall be all time and for all purpose, regarded as strictly confidential and held in confidence, and shall not be directly or indirectly disclosed to any party whatsoever, except with the permission of the employer and the Service Provider. The Adjudicator's decision should be communicated in the form of a speaking order specifying the reasons.

The Adjudicator will agree that any manufacturing or construction or consulting firm with which he might be associated with, will not be eligible to participate in bidding for any goods or works or consultant services resulting from or associated with the project of which this consulting assignment forms a part

Read and Agreed

Name of Adjudicator
Signature

Place:

Date:

Name of Employer
Signature of authorized representative of Employer

Name of the Service Provider
Signature of authorized representative of Service Provider

Attachment: Copy of contract document between the employer and Service Provider and format for recommendation.

SUMMARY OF ADJUDICATOR'S RESPONSIBILITIES

The Adjudicator has the following principal responsibilities:

1. Visit the site periodically.
2. Keep abreast of job activities and developments.
3. Encourage the resolution of disputes by the parties.
4. When a dispute is referred to it, conduct a hearing (no legal presentation), complete its deliberations, and prepare a recommendations in a professional and timely manner(as per sample format)

Sample Format of Adjudicator’s Recommendation

[Project Name]
Recommendation of Adjudicator

Dispute No. XX [NAME OF DISPUTE]

Hearing Date: _____

Dispute

Description of dispute. A one or two sentence summation of the dispute.

Service Provider’s Position

A short summation of the Service Provider’s position as understood by the Adjudicator.

Employer’s Position

A short summation of the Employer’s position as understood by the Adjudicator.

Recommendation

The Adjudicator’s specific recommendation for settlement of the dispute. *(The recommended course is consistent with the explanation).*

Explanation

(This section could also be called Considerations, Rationale, Findings, Discussion, and so on.)

The Adjudicator’s description of how each recommendation was reached.

Respectfully submitted,

Date : _____

Date : _____

Date : _____

APPENDIX J: SPECIFICATIONS & DRAWINGS

Specifications of deliverables are given below:

4.1 Digital Elevation Model (DEM)

SNo	Description	Specification
1	Fundamental Spatial Accuracy Requirements	<p>Fundamental spatial accuracy of the survey must conform to the following:</p> <p>a. Fundamental Vertical Accuracy (FVA)* i. $\leq \pm 40$ cm. 95% confidence interval (1.96 x RMSE) for terrain with open vegetation, sparse or dense man-made structures.</p> <p>b. Fundamental Horizontal Accuracy (FHA) i. $\leq \pm 50$ cm. 95% confidence interval (1.96 x RMSE)</p>
2	Supplemental Spatial Accuracy Requirements	<p>Supplemental spatial accuracy of the survey must conform to the following:</p> <p>(a) Supplemental Vertical Accuracy (SVA)* i. $\leq \pm 50$ cm at 95% percentile for terrain with low crop/low weeds ii. $\leq \pm 60$ cm at 95% percentile for terrain with tall crop/tall weeds/tall scrub/ dense forest/thick vegetation</p> <p>b. Supplemental Horizontal Accuracy (FHA) i. $\leq \pm 50$ cm at 95% percentile for terrain with low crop/low weeds ii. $\leq \pm 60$ cm at 95% percentile for terrain with tall crop/tall weeds/tall scrub/ dense forest/thick vegetation</p>
3	Density of directly measured points on bare-earth Digital Terrain Model**	<p>On average</p> <ul style="list-style-type: none"> • there shall be 4(four) or more directly measured points per sq. m in open area • there shall be 1 (one) or more directly measured points per sq. m in forest area.
4	Data Void in Shadow Areas**	<p>The point density specified at S1#3/Table 2/Section V(Activity Schedule) shall be complied with 90% confidence interval. However for very dense vegetation (in which</p>

		sunlight cannot pass through gaps in foliage) or water-bodies , the above specification will be suitably relaxed by SOI at implementation stage.
5	Projection	UTM
6	Datum	Vertical: (i)WGS-84 (before integration with Geoid Model) (ii) MSL (after integration with Geoid Model) Horizontal: WGS-84

*The Vertical Accuracies mentioned above ie. FVA & SVA refer to Ellipsoidal Heights

** Should the deliverable fail this test, multiple passes with airborne sensor and/or Ground Measurements shall be done by the Service Provider

*** A directly measured point for the purpose of above specifications would mean a point whose co-ordinates are determined by electromagnetic ray directly reaching to the point. This would not include measurements generated through any estimation approach, viz., through interpolation, through manual estimates, through subtraction of height of tree in forest area etc.

4.2 Specifications of DSM

1. Accuracy:

(a) Vertical Accuracy

i. $\leq \pm 50$ cm at 95% percentile for terrain with low crop/low weeds

ii. $\leq \pm 60$ cm at 95% percentile for terrain with tall crop/tall weeds/tall scrub/dense forest/thick vegetation

b. Horizontal Accuracy (FHA)

i. $\leq \pm 50$ cm at 95% percentile for terrain with low crop/low weeds

ii. $\leq \pm 60$ cm at 95% percentile for terrain with tall crop/tall weeds/tall scrub/dense forest/thick vegetation

2. Point Density & Data-Void:

Point density should be sufficient to comply with point density and data void requirement of bare earth DTM.

3. Classification of Point Cloud:

DSM should be classified into (i)Ground Points and (ii)Non-Ground Points.

4.3 DIGITAL ORTHO- IMAGERY:

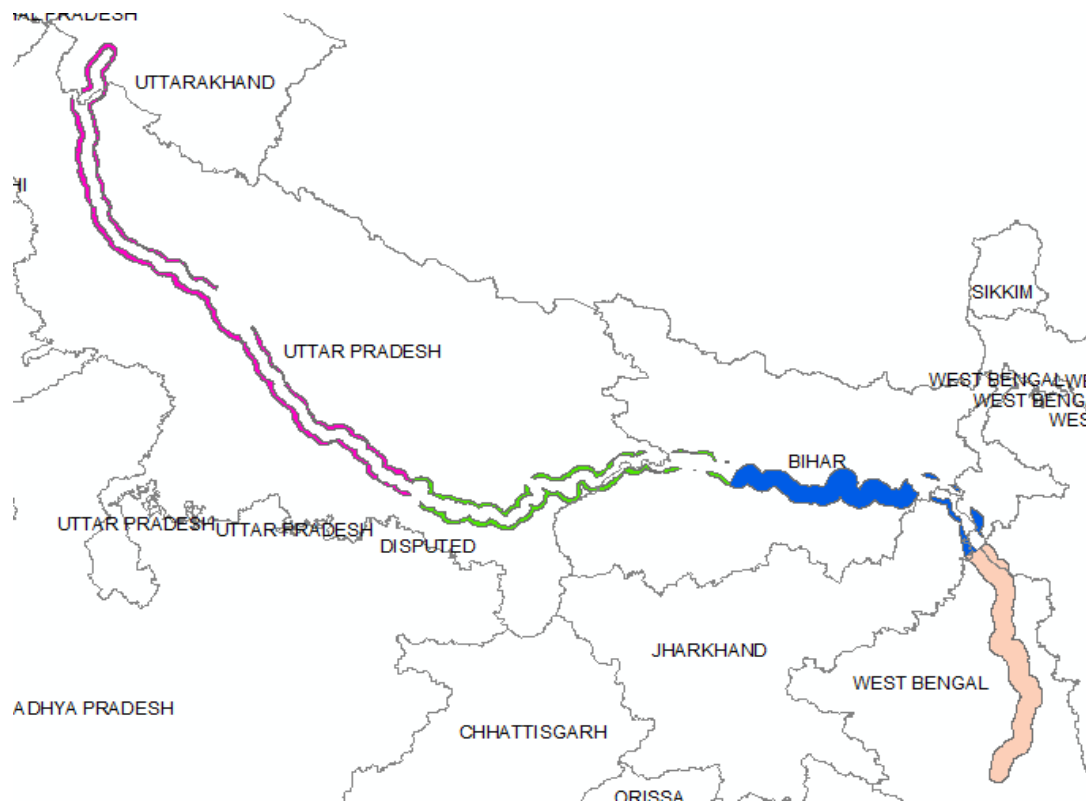
- Ortho Imagery of Pan- sharpened, R, G, B

- Spatial Accuracy: 25 cm in Plain Area
- Spatial Resolution : 25 cm GSD .
- Projection : UTM
- Datum : WGS 84
- A Gaussian-like histogram with grey levels spreading at least 85% of (0, 255)
- Seam lines should not run along linear features and should be edited in a manner so as not to introduce visible flaws
- No visible geometric flaws, graphic imperfections and colour unbalancing at viewing scale of 1:2,000
- The imagery closest to the nadir view should be used for ortho mosaic to minimize the effects of relief displacement
- Ortho-image format : GeoTIFF.

4.5 Specifications of Paper for Hard-Copy Deliverables





A3 size, matte finish photo-paper of 150 gsm thickness

5.0 INDEX TO LOTS



Legend

Area Lotwise

-  1 - 5932.76 sq km
 -  2 - 3153.26 sq km
 -  3 - 6302.82 sq km
 -  4 - 7315.78 sq km
-

Section IX. Contract Forms

Table of Forms

Performance Bank Guarantee (Unconditional).....	1307
Bank Guarantee for Advance Payment.....	1328

Performance Bank Guarantee (Unconditional)

To: _____

Whereas _____ (hereinafter called “the Service Provider”) has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ (hereinafter called “the Contract”);

And whereas it has been stipulated by you in the said Contract that the Service Provider shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

And whereas we have agreed to give the Service Provider such a Bank Guarantee;

Now therefore we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Service Provider, up to a total of _____, _____, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____/ as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Service Provider before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Services to be performed there under or of any of the Contract documents which may be made between you and the Service Provider shall in any way release us from

any liability under this Guarantee, and we hereby waive notice of any such change, addition, or modification.

This Guarantee shall be valid until a date 28 days from the date of issue of the Certificate of Completion.

Signature and seal of the Guarantor _____

Name of Bank _____

Address _____

Date _____

Bank Guarantee for Advance Payment

To: _____

Gentlemen:

In accordance with the provisions of the Conditions of Contract, Sub-Clause 6.4 (“Terms and Conditions of Payment”) of the above-mentioned Contract, _____ (hereinafter called “the Service Provider”) shall deposit with _____ a Bank Guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of _____

We, the _____, as instructed by the Service Provider, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to _____ on his first demand without whatsoever right of objection on our part and without his first claim to the Service Provider, in the amount not exceeding _____

We further agree that no change or addition to or other modification of the terms of the Contract or of Services to be performed there under or of any of the Contract documents which may be made between _____ and the Service Provider, shall in any way release us from any liability under this Guarantee, and we hereby waive notice of any such change, addition, or modification.

This Guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until _____ receives full repayment of the same amount from the Service Provider.

Yours truly,

Signature and seal: _____

Name of Bank/Financial Institution: _____

Address: _____

Date: _____