

DMIC IITGNL

DMIC Integrated Industrial Township Greater Noida Limited

International Competitive Bidding (ICB)

**SELECTION OF
INFORMATION & COMMUNICATION TECHNOLOGY CONSULTANT
FOR
INTEGRATED INDUSTRIAL TOWNSHIP PROJECT AT GREATER NOIDA,
UTTAR PRADESH**

Request for Qualification (RfQ)

Cum

Request for Proposal (RfP)

2018

**DMIC Integrated Industrial Township
Greater Noida Limited (DMIC IITGNL)**

H-169, Chitvan Estate, Sector Gamma – II, Greater Noida,
Gautam Budh Nagar, Uttar Pradesh 201308

www.iitgnl.com

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NOTICE INVITING REQUEST FOR PROPOSAL

DMIC IITGNL

**DMIC INTEGRATED INDUSTRIAL TOWNSHIP GREATER NOIDA LIMITED
INTERNATIONAL COMPETITIVE BIDDING (ICB)**

**REQUEST FOR QUALIFICATION CUM REQUEST FOR PROPOSAL FOR SELECTION OF
INFORMATION & COMMUNICATION TECHNOLOGY CONSULTANT FOR INTEGRATED
INDUSTRIAL TOWNSHIP PROJECT AT GREATER NOIDA, UP**

The Government of India has envisaged the development of Delhi Mumbai Industrial Corridor (DMIC) along the alignment of proposed Multi-modal High Axle Load Dedicated Freight Corridor (DFC) between Delhi and Mumbai, covering an overall length of 1,483 km. A special purpose company in the name of DMIC Integrated Industrial Township Greater Noida Limited (DMIC IITGNL) has been incorporated between DMIC Trust, and Greater Noida Industrial Development Authority (GNIDA) to implement, promote and facilitate the development of Integrated Industrial Township project

DMIC IITGNL invites "Request for Qualification (RFQ) cum (RFP) Proposal from interested bidders for Selection of Information & Communication Technology Consultant for IIT Project at Greater Noida, UP.

RFQ cum RFP shall be available on <https://etender.up.in> & link at www.dmicdc.com from 05.03.2018. RFQ cum RFP Processing fee of Rs. 1,18,000/- (Rupees One Lakh Eighteen Thousand only inclusive of Goods & Services Tax @ 18%) and bid security of Rs. 10,00,000 (Rupees Ten Lakh only) will be paid by the bidders through RTGS to DMIC IITGNL. There will be no physical/hard bound submission and the documents shall be submitted online only on <https://etender.up.nic.in>. NIC/UPLC (UP Electronics Corporation Ltd) registration is compulsory to submit RFQ cum RFP documents on above mentioned website. Bid submission will start from 06.03.2018 at 10:00 AM & last date for bid submission is 26.03.2018 at 5:00 PM. For any modification & notification please follow the e-portal regularly

Any queries must be addressed to:

**The CEO & Managing Director
DMIC Integrated Industrial Township Greater Noida Limited
H-169 Chitvan Estate, Sector Gamma – II, Greater Noida,
Gautam Budh Nagar, Uttar Pradesh 201308
Phone: +91 120 4256300
Email: gmpingnida@gmail.com, pnd.iitgnl@gmail.com,
tenders@dmicdc.com
CIN No: U74900UP2014PLC063430; website :www.iitgnl.com**

Instructions to Bidder for e-Tendering

1. Accessing/Purchasing of BID documents

- (i) It is mandatory for all the bidders to have class-II/III Digital Signature Certificate (DSC) which will be compatible with e-procurement website <https://etender.up.nic.in> (with both DSC components, i.e. signing and encryption in the name of authorized signatory who will sign the BID) from any of the licensed Certifying Agency (Bidders can see the list of licensed CAs from the link www.cca.gov.in) to participate in e-tendering of DMIC IITGNL.

DSC should be in the name of the authorized signatory as authorized in Appendix II or Appendix III of the submitted Bid. It should be in corporate capacity (that is in Bidder capacity / in case of JV in the Lead Member capacity, as applicable). Please ensure the submission of document certifying the class II/ III DSC.

- (ii) To participate in the Bidding, it is mandatory for the applicants to get registered their firm / Joint Venture with e-tendering portal of the Client, to have user ID & password which has to be obtained by submitting the applicable fee & necessary documents. Validity of online registration is one year. Following may kindly be noted:
 - (a) Registration should be valid at least up to the date of submission of bid.
 - (b) Proposals can be submitted only during the validity of their registration.
 - (c) The amendments / clarifications to the BID document, if any, will be hosted on the website www.etender.up.nic.in and will be part of bid document. Addendum to Bid document will also be available on websites of DMICDC www.dmicdc.com for access and download. No further advertisement will be issued by DMIC IITGNL regarding any addendum or instructions to bidders. Bidders are advised to visit DMIC IITGNL's website and get themselves updated about any corrigendum or addendum to the bid document.
 - (d) If the firm / Joint Venture is already registered with e-tendering portal of Client and validity of registration is not expired the firm / Joint Venture is not required a fresh registration.
- (iii) The complete BID document can be viewed / downloaded from e-tender portal of DMIC IITGNL from the date & time mentioned in the "Important Information" section under Clause 2.16.
- (iv) To participate in Bidding, applicants have to pay through online mode a bid processing fee of Rs.1,18,000 (Rupees One Lakh Eighteen Thousand only Including applicable Goods & Services Tax) towards processing fee for BID (non- refundable) and BID Security is also to be furnished by the Bidder for the amount of Rs.10,00,000 (Rupees Ten Lakh only). Bid Processing fee and Bid Security to be paid by the bidder through RTGS to IITGN (Bank- Bank of Baroda, Sector- Gamma – II, Greater Noida branch, IFSC- BARB0GAMNOI, Account No. - 98250200000388).

2. Preparation & Submission of BIDs:

The Bidder may submit his BID online following the instruction appearing on the screen. A buyer manual containing the detailed guidelines for e-procurement is available on e-procurement portal.

- (i) The documents shall be prepared and scanned in different files (in PDF or JPEG format such that file size is not more than 10 MB) and uploaded during the on-line submission of BID.
- (ii) BID must be submitted online only through e-procurement portal of the Client, using the digital signature of authorized representative of the Bidder on or before 26/03/2018 (up to 1700 Hours IST).

3. Modification / Substitution / Withdrawal of BIDs:

- (i) The Bidder may modify, substitute or withdraw its e- BID after submission prior the BID Due Date. No BID shall be modified, substituted or withdrawn by the Bidder on or after the BID Due Date & Time.
- (ii) Any alteration / modification in the BID or additional information supplied subsequent to the BID Due Date, unless the same has been expressly sought for by the Client, shall be disregarded.
- (iii) For modification of e-BID, Bidder has to detach its old BID from e-tendering portal and upload / resubmit digitally signed modified BID.
- (iv) For withdrawal of BID, Bidder has to click on withdrawal icon at e-tendering portal and can withdraw its e-BID.
- (v) It may specifically be noted that once a bid is withdrawn for any reason, a Bidder cannot re-submit the e-BID.

4. Opening & Evaluation of BIDs.

- (i) Opening and evaluation of BIDs will be done through online process.
- (ii) DMIC IITGNL shall open on-line received Technical BIDs at 16:00 hours IST on the BID Due Date 27/03/2018, in the presence of the Bidders, who choose to attend. DMIC IITGNL will subsequently examine and evaluate the BIDs in accordance with the provisions of the RFQ cum RFP.
- (iii) Prior to evaluation of BIDs, the DMIC IITGNL shall determine whether each BID is responsive as per Instruction to Bidders as per e-tendering process.
- (iv) The online payment facility for the submission of registration Fee and Tender Processing Fee, which is payable to e-tender [service provider, has been enabled on e - Tender Portal <https://etender.up.nic.in>. The bidders can pay registration Charges as applicable and Tender Processing Fees.

Disclaimer

- (i) This RFQ cum RFP is not an agreement and is neither an offer nor invitation by DMIC IITGNL to the prospective Bidders or any other person. The information contained in this Request for Qualification cum Request for Proposal document (the "RFQ cum RFP") or subsequently provided to Bidder(s), whether verbally or in documentary or any other form by or on behalf of DMIC IITGNL or any of its employees or advisors, is provided to Bidder(s) on the terms and conditions set out in this RFQ cum RFP and such other terms and conditions subject to which such information is provided.
- (ii) The purpose of this RFQ cum RFP is to provide interested parties with information that may be useful to them in making their financial offers (BIDs) pursuant to this RFQ cum RFP. This RFQ cum RFP includes statements, which reflect various assumptions and assessments arrived at by DMIC IITGNL in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This RFQ cum RFP may not be appropriate for all persons, and it is not possible for DMIC IITGNL, its employees or advisors to consider the objectives, financial situation and particular needs of each party who reads or uses this RFQ cum RFP. The assumptions, assessments, statements and information contained in the Bidding Documents, especially the Preliminary Design details/information, may not be complete, accurate, adequate or correct. Each Bidder should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this RFQ cum RFP and obtain independent advice from appropriate sources.
- (iii) Information provided in this RFQ cum RFP to the Bidder(s) is on a wide range of matters, some of which may depend upon interpretation of law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. DMIC IITGNL accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.
- (iv) DMIC IITGNL, its employees and advisors make no representation or warranty and shall have no liability to any person, including any Applicant or Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFQ cum RFP or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the RFQ cum RFP and any assessment, assumption, statement or information contained therein or

deemed to form part of this RFQ cum RFP or arising in any way for participation in this Bidding Process.

- (v) DMIC IITGNL also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Bidder upon the statements contained in this RFQ cum RFP.
- (vi) DMIC IITGNL may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this RFQ cum RFP. The issue of this RFQ cum RFP does not imply that DMIC IITGNL is bound to select a Bidder or to appoint the Selected Bidder JV or Contractor, as the case may be, for the Project and DMIC IITGNL reserves the right to reject all or any of the Bidders or BIDs without assigning any reason whatsoever.
- (vii) The Bidder shall bear all its costs associated with or relating to the preparation and submission of its BID including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by DMIC IITGNL or any other costs incurred in connection with or relating to its BID. All such costs and expenses shall remain with the Bidder and DMIC IITGNL shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or submission of the BID, regardless of the conduct or outcome of the Bidding Process.
- (viii) Nothing in this RFQ cum RFP shall constitute the basis of a contract which may be concluded in relation to the Project nor shall such documentation/information be used in construing any such contract. Each Bidder must rely on the terms and conditions contained in any contract, when, and if, finally executed, subject to such limitations and restrictions which may be specified in such contract.
- (ix) The Bidders are prohibited from any form of collusion or arrangement in an attempt to influence the selection and award process of the Bid. Giving or offering of any gift, bribe or inducement or any attempt to any such act on behalf of the Bidder towards any officer/employee of DMIC IITGNL or to any other person in a position to influence the decision of DMIC IITGNL for showing any favour in relation to this RFQ cum RFP or any other contract, shall render the Bidder to such liability/penalty as DMIC IITGNL may deem proper, including but not limited to rejection of the Bid of the Bidder and forfeiture of its Bid Security.
- (x) Laws of the Republic of India are applicable to this RFQ cum RFP.

- (xi) Each Bidder's procurement of this RFQ cum RFP constitutes its agreement to, and acceptance of, the terms set forth in this Disclaimer. By acceptance of this RFQ cum RFP, the recipient agrees that this RFQ cum RFP and any information herewith supersedes documents(s) or earlier information, if any, in relation to the subject matter hereto.
- (xii) DMIC IITGNL reserves the right to change/ modify/ amend any or all provisions of this RFQ cum RFP document. Such revisions to the RFQ cum RFP / amended RFQ cum RFP will be made available on the website www.etender.up.nic.in and will be part of bid document. Such modification/amendment to Bid document will also be available on websites of DMICDC www.dmicdc.com for access and download.

Section 1 - Letter of Invitation

Greater Noida

Date: 05th March, 2018

1. Introduction

The Government of India has envisaged the development of Delhi Mumbai Industrial Corridor (DMIC) along the alignment of proposed Multi-modal High Axle Load Dedicated Freight Corridor between Delhi and Mumbai, covering an overall length of 1,483 km. Further, Delhi Mumbai Industrial Corridor Development Corporation Limited (DMICDC), a special purpose company, was incorporated to establish, promote and facilitate development of the DMIC Project.

The development of 'Integrated Industrial Township at Greater Noida' has been selected as one of the 'Early Bird Projects' under the development plan for the Dadri – Noida – Ghaziabad Investment Region located in the sub-region of DMIC falling in the State of Uttar Pradesh (UP).

The Integrated Industrial Township development is expected to create a skilled and employable workforce, essential for the industrial & commercial development envisaged in the DMIC region and which offers a sustainable environment that promotes the highest standard of live-work-play-learn (work-life balance).

The DMIC Integrated Industrial Township Greater Noida Limited (DMIC IITGNL), a special purpose company, was incorporated to implement, promote and facilitate the development of Integrated Industrial Township project. For the project, M/s Shapoorji Pallonji has been appointed as the EPC contractor for implementation of various trunk infrastructure components.

Therefore, DMIC Integrated Industrial Township Greater Noida Limited (DMIC IITGNL) invites proposals to undertake following assignment ("The Assignment"): "Consultancy services for Information & Communication Technology (ICT) for Integrated Industrial Township Project at Greater Noida in Uttar Pradesh".

The detailed scope of services is provided in the Terms of Reference.

2. Objectives

The objective of the ICT infrastructure is to build a smart, socially attractive modern Industrial Area with integrated city in Greater Noida that will boost the economic development of the region. ICT infrastructure is envisaged to catalyse sustainable economic development and a high quality of life, with efficient management of city wide infrastructure. The smart city concept essentially will increase all around efficiency supported by ICT and active citizen participation. IIT will be characterized by economy, e-Governance, high quality of infrastructure, living, environment etc.

To carryout end to end ICT detailed design and other activities (as explained in this RFQ cum RFP and as otherwise needed), for all the components (as required for a world class smart city) by following a disciplined approach for achieving end to end successful implementation, integration, transition etc. of full spectrum of ICT infrastructure and services that will constitute diverse HW and SW technologies for creating a comprehensive information and communication technology infrastructure for IIT Greater Noida. It shall include but not limited to, developing ICT Master Plan and Detailed Project Report, validation with stakeholders, followed by

developing specs and BoQ for customized architecture of Information and Communication Technology, systems, subs systems, components, elements etc., developing RFPs for selection of implementation partner(s) of the ICT systems and sub-systems for IIT.

3. A Consultant will be selected under Combined Quality cum Cost - Based Selection (CQCCBS) and procedures described in this RFQ cum RFP.

4. The RFQ CUM RFP includes the following documents:

SECTION 1: Letter of Invitation

SECTION 2: Instructions to Consultants

SECTION 3: Pre-qualification and Technical Proposal - Standard Forms

SECTION 4: Financial Proposal - Standard forms

SECTION 5: Terms of Reference

SECTION 6: Standard forms of Contract (General Conditions of contract)

All clarifications/ corrigendum will be published on website www.etender.up.nic.in and will be part of bid document. Such document shall also be available on DMICDC website www.dmidc.com for access and download.

Yours sincerely

CEO & MD
DMIC IITGNL

Section 2 Instructions to Consultants

2.1 Introduction

- 2.1.1 The Client named in the data sheet will select a consulting firm/ organization (the “Consultant”), in accordance with the method of selection specified in the data sheet. Applicants are advised that the selection of Consultant shall be on the basis of an evaluation by the Client through the selection process specified in this RFQ cum RFP (the “Selection Process”). Applicants shall be deemed to have understood and agreed that no explanation or justification for any aspect of the Selection Process will be given and that DMIC IITGNL’s decisions are without any right of appeal whatsoever.
- 2.1.2 The Applicants are invited to submit Pre-qualification, Technical, and Financial Proposals (collectively called as “the Proposal”), as specified in the data sheet, for the services required for the Assignment. The term “Applicant” refers to a single entity or the group of entities coming together to execute the assignment. The Proposal will form the basis for contract signing with the selected Consultant. The Consultant shall carry out the Engineering, detailed design and provide technical assistance in preparing tender documents for procurement of construction contract in accordance with the Terms of Reference of this RFQ cum RFP (the “TOR”).
- 2.1.3 The Applicant shall submit his Proposal in the form and manner specified in this RFQ cum RFP. The Proposal shall be submitted as per the forms given in relevant sections herewith. Upon selection, the Applicant shall be required to enter into a contract with the Client in the form specified in this RFQ cum RFP (the “Contract”).
- 2.1.4 Applicants shall familiarize themselves with local conditions and take them into account in preparing their Proposals.
- 2.1.5 The Client will timely provide, at no cost to the Consultants, the project data and reports related to the Assignment available with the Client. However, for avoidance of doubt, it is hereby clarified that the aforesaid data/ information provided under the RFQ cum RFP or to be provided later, is only indicative and solely for the purposes of rendering assistance to the Applicants towards preparation of their Proposals. The Applicants are hereby advised to undertake their own due diligence (to their complete satisfaction) before placing reliance on any such data/information furnished or to be provided later by the Client and/ or any of his consultants.
- 2.1.6 Applicants shall bear all costs associated with the preparation and submission of their proposals, and their participation in the Selection process, and presentation including but not limited to postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by Client or any other costs incurred in connection with or relating to its Proposal. The Client is not bound to accept any Proposal, and reserves the right to annul the selection process at any time prior to Contract award, without thereby incurring any liability.
- 2.1.7 The Client requires that the Consultant provides professional, objective, and impartial advice and at all times hold Client’s interests’ paramount, avoid conflicts with other assignments or its own interests, and act without any consideration for future work. The Consultant shall not accept or engage in any assignment that may place it in a position of not being able to carry out the assignment in the best interests of the Client and the Project.
- 2.1.8 It is the Client’s policy to require that the Consultants observe the highest standard of ethics during the Selection Process and execution of such contracts. In pursuance of this policy, the Client:
- 2.1.9 Defines, for the purposes of this provision, the terms set forth below as follows:

- a) "Corrupt practice" means the offering, giving, receiving, or soliciting anything of value to influence the action of officials in the Selection Process or in contract execution; and
 - b) "Fraudulent practice" means a misrepresentation of facts in order to influence the selection process or the execution of a contract in a way which is detrimental to the Client, and includes collusive practices among consultants (prior to or after submission of proposals) detailed designed to establish prices at artificial, non-competitive levels and to deprive the Client of the benefits of free and open competition.
- i. will reject a proposal for award if it determines that the Applicant has engaged in corrupt or fraudulent activities in competing for the contract in question;
 - ii. will declare an Applicant ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the Applicant has engaged in corrupt or fraudulent practices in competing for and in executing the contract.
- 2.1.10 All members of the consortium are required to follow the highest level of work ethics, if any member of the consortium has a Conflict of Interest or indulge in "Prohibited Practices"; the whole Consortium is liable to be disqualified. Further, in the event any entity has been barred by the Central Government, any State Government, a statutory authority or a public sector undertaking, as the case may be, from participating in any project or bid, and the bar subsists as on the date of Proposal Due Date (the "PDD"), it would not be eligible to submit a Proposal either by itself or as part of a Consortium.
- 2.1.11 Arbitration: If any dispute or difference of any kind whatsoever arises between the parties in connection with or arising out of or relating to or under this Contract, the parties shall promptly and in good faith negotiate with a view to its amicable resolution and settlement. In the event no amicable resolution or settlement is reached within a period of thirty (30) days from the date on which the abovementioned dispute or difference arose, such dispute or difference shall be finally settled by arbitration. The arbitral tribunal shall consist of a sole arbitrator appointed by mutual agreement of the parties. In case of failure of the parties to mutually agree on the name of a sole arbitrator, the arbitral tribunal shall consist of three arbitrators. Each party shall appoint one arbitrator and the two arbitrators so appointed shall jointly appoint the third arbitrator. The seat of arbitration shall be Gautam Budh Nagar and the arbitration shall be conducted in the English language. The Arbitration and Conciliation Act, 1996 shall govern the arbitral proceedings. The award rendered by the arbitral tribunal shall be final and binding on the parties.
- 2.1.12 Termination of Contract: DMIC IITGNL will have the right to terminate the contract by giving 30 (thirty) days written notice. In the event of termination for no fault of Consultant, the Client shall reimburse all the expenses incurred by the Consultant (upon submission of proof) including closing-up of the project. If the contract is terminated due to the fault of the Consultant or in case of termination of the contract by the Consultant for reasons not attributable to the Client, the Client will forfeit the performance security of the Consultant.
- 2.1.13 Details related to timelines and submission of deliverables at each stage is given in the TOR.
- 2.1.14 The Proposal shall be valid for a period of not less than 180 (one hundred and eighty) days from the PDD.
- 2.1.15 Brief Description of the Selection Process: The Client has adopted a three stage selection process (collectively the "Selection Process") for evaluating the Proposals comprising the Pre-Qualification, Technical and Financial Proposals to be submitted

separately. The Bids shall comprise of three parts namely the Pre-Qualification, Technical and Financial. The submissions for Pre-Qualification shall be evaluated first as specified in this RFQ cum RFP. Subsequently the technical evaluation as specified in this RFQ cum RFP will be carried out only for those Applicants who meet the Pre- Qualification criteria. Based on this technical evaluation, a list of technically qualified Applicants shall be prepared. The Financial Proposals of only technically qualified Applicants will be opened. Proposals will finally be ranked according to their combined technical and financial scores as specified in this RFQ cum RFP. The first ranked Applicant (the "Selected Applicant") shall be issued the letter of Award (the "LOA") while the second ranked Applicant will be kept in reserve till the Selected Applicant provides written acceptance of the LOA.

2.1.16 Number of Proposals: No Applicant or its Associate shall submit more than one Application for the Consultancy. An Applicant applying individually or as a member of a consortium shall not be entitled to submit another application either individually or as a member of any consortium, as the case may be.

2.1.17 Visit to the Client and Verification of Information: Applicants are encouraged to submit their respective Proposals after visiting the office of the Client or its delegates as the case may be, and ascertaining for themselves the availability of documents and other data with the Client, Applicable Laws and regulations or any other matter considered relevant by them.

2.1.18 Right to reject any or all Proposals:

- i. Notwithstanding anything contained in this RFQ cum RFP, the Client reserves the right to accept or reject any Proposal and to annul the Selection Process and reject all Proposals, at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons thereof.
- ii. Without prejudice to the generality of above, the Client reserves the right to reject any Proposal if:
 - a) at any time, a material misrepresentation is made or discovered,or
 - b) the Applicant does not provide, within the time specified by the Client, the supplemental information sought by the Client for evaluation of the Proposal.
- iii. Such misrepresentation/ improper response by the Applicant may lead to the disqualification of the Applicant. If such disqualification/ rejection occurs after the Proposals have been opened and the highest ranking Applicant gets disqualified/ rejected, then the Client reserves the right to consider the next best Applicant, or take any other measure as may be deemed fit in the sole discretion of the Client, including annulment of the Selection Process.

2.1.19 Acknowledgement by Applicant

- i. It shall be deemed that by submitting the Proposal, the Applicant has:
 - a) made a complete and careful examination of the RFQ cum RFP;
 - b) received all relevant information requested from the Client;
 - c) accepted the risk of inadequacy, error or mistake in the information provided in the RFQ cum RFP or furnished by or on behalf of the Client;
 - d) satisfied itself about all matters, things and information, including matters herein above, necessary and required for submitting an informed Application and performance of all of its obligations there under;
 - e) Acknowledged that it does not have a Conflict of Interest; and

- f) Agreed to be bound by the undertaking provided by it under and in term hereof.
ii. The Client and/ or its advisors/ consultants shall not be liable for any omission, mistake or error on the part of the Applicant in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to RFQ cum RFP or the Selection Process, including any error or mistake therein or in any information or data given by the Client and/ or its consultant.

2.1.20 RFQ cum RFP Processing Fee: The RFQ cum RFP submissions shall be accompanied by a Bank Draft of INR 1,18,000.00 (INR One Lakh Eighteen Thousand Only) inclusive of Goods & Services Tax @18% in favour of "DMIC IITGNL", payable at Gautam Budh Nagar, India, as a non-refundable RFQ cum RFP processing fee (the "RFQ cum RFP Processing Fee"). Proposals unaccompanied with the aforesaid RFQ cum RFP Processing Fee shall be liable to be rejected by the Client.

2.2 Clarification and amendment of RFQ cum RFP documents

2.2.1 Consultants may seek clarification on this RFQ cum RFP document no later than the date specified in the Data sheet. The Client reserves the right to not entertain any queries post that date. The Applicants are requested to submit a MS Word file of the queries. Any request for clarification must be sent by standard electronic means (PDF and word file)/ fax to the Client's office addressed to:

Managing Director

DMIC Integrated Industrial Township Greater Noida Limited

H-169 Chitvan Estate, Sector Gamma - II, Greater Noida,

Gautam Budh Nagar, Uttar Pradesh 201308

Phone: +91 120 4256 300

Email: gmpinggnida@gmail.com, pnd.iitgnl@gmail.com, tenders@dmicdc.com

The Client will endeavour to respond to the queries not later than 10 (ten) days prior to the PDD. The responses will be sent by fax or e-mail. The Client will post the reply to all such queries on its official website.

2.2.2 At any time before the submission of Proposals, the Client may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Applicant, modify the RFQ cum RFP documents by an amendment. All amendments/ corrigenda will be posted only on the Client's Official Website. In order to afford the Applicants a reasonable time for taking an amendment into account, or for any other reason, the Client may at its discretion extend the PDD.

2.2.3 Date of pre-bid meeting and venue is mentioned in data sheet. Applicants willing to attend the pre-bid should inform Client beforehand in writing and email. The maximum number of participants from an applicant, who chose to attend the pre-bid meeting, shall not be more than two per applicant. The representatives attending the pre-bid meeting shall accompany with an authority letter duly signed by the authorised signatory of his/her organisation.

2.3 Clarification and / or interpretation of Reports

2.3.1 After submission of the final reports of each phase by the Consultant, to the satisfaction of the Client, if clarifications are required or doubt arises as to the interpretation of anything included in the reports, consultant shall, on receipt of written request form the Client, furnish such clarification to the satisfaction of Client within five (05) working days without any extra charge.

2.4 Ownership of document and copyright

2.4.1 All the study outputs including primary data shall be compiled, classified and submitted by the Consultants to the Client in soft copies in addition to the requirements for the reports and deliverables indicated in the TOR. The study outputs shall remain the property of the Client and shall not be used for any purpose other than that intended under these terms of reference without the permission of the Client.

2.5 Bid security

2.5.1 A bid security for the sum of Rs.10,00,000/- (Rupees Ten Lakh Only) shall be required to be submitted by each Applicant ("Bid Security") through RTGS.

2.5.2 Bids received without the specified Bid Security will be summarily rejected.

2.5.3 The Client will not be liable to pay any interest on bid security deposits. Bid security of pre-qualified but unsuccessful Applicants shall be returned, without any interest, within two month after acceptance of LOA by selected Applicant or when the selection process is cancelled by the Client. The Selected Applicant's Bid Security shall be returned, without any interest upon the Applicant signing the contract and furnishing the Performance Security in accordance with provision of the RFQ cum RFP and contract.

2.5.4 The Client will be entitled to forfeit and appropriate the bid security as mutually agreed loss and damage payable to the Client in regard to the RFQ cum RFP without prejudice to the Client's any other right or remedy under the following conditions:

- i. If an Applicant engages in a corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice as envisaged under this RFQ cum RFP (including the Standard Form of Contract);
- ii. If any Applicant withdraws its Proposal during the period of its validity as specified in this RFQ cum RFP and as extended by the Applicant from time to time,
- iii. In the case of the Selected Applicant, if the Selected Applicant fails to sign the contract or provide the Performance Security within the specified time limit, or
- iv. If the Applicant commits any breach of terms of this RFQ cum RFP or is found to have made a false representation to the Client.

2.5.5 Performance Security equivalent to the amount indicated in this RFQ cum RFP shall be furnished before signing of the contract in form of a Bank Guarantee substantially in the form specified in the RFQ cum RFP/ contract. For the successful bidder, the Performance Security shall be retained by Client until the completion of the assignment by the Consultant and be released 180 (one hundred and eighty) days after the completion of the assignment. In the event the Consultant is a joint venture consortium, the Performance Security may be provided by any Member; provided that such Performance Security shall mention the details of this Contract and the other Members.

2.6 Eligibility of applicants

2.6.1 The Applicant for participation in the Selection Process, may be a single entity or a group of entities (the "Consortium"), coming together to execute the Assignment. However, no applicant applying individually or as a member of a Consortium, as the case may be, can be member of another consortia bidding for the Assignment.

2.6.2 An Applicant or a member of Consortium may either be a sole proprietorship firm/ a partnership firm/ a limited liability partnership/ a company incorporated under the Companies Act 1956 / 2013 or a body corporate incorporated under the applicable laws of its origin.

- 2.6.3 An Applicant shall not have a conflict of interest that may affect the Selection Process or the Consultancy (the “Conflict of Interest”). Any Applicant found to have a Conflict of Interest shall be disqualified. In the event of disqualification, the Client will forfeit and appropriate the Bid Security as mutually agreed genuine pre-estimated compensation and damages payable to the Client for, inter alia, the time, cost and effort of the Client including consideration of such Applicant’s Proposal, without prejudice to any other right or remedy that may be available to the Client hereunder or otherwise.
- 2.6.4 An Applicant shall be deemed to have a Conflict of Interest affecting the Selection Process, if:
- i. the Applicant, its consortium member (the “Member”) or Associate (or any constituent thereof) and any other Applicant, its consortium member or Associate (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding or ownership interest of an Applicant, its Member or Associate (or any shareholder thereof having a shareholding of more than 5 percent of the paid up and subscribed share capital of such Applicant, Member or Associate, as the case may be) in the other Applicant, its consortium member or Associate is less than 5 percent of the subscribed and paid up equity share capital thereof; provided further that this disqualification shall not apply to any ownership by a bank, insurance company, pension fund or a public financial institution referred to in section 2(72) of the Companies Act, 2013. For the purposes of this clause, indirect shareholding held through one or more intermediate persons shall be computed as follows: (aa) where any intermediary is controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the “Subject Person”) shall be taken into account for computing the shareholding of such controlling person in the Subject Person; and (bb) subject always to sub-clause (aa) above, where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of indirect shareholding of such person in the Subject Person shall be undertaken on a proportionate basis; provided, however, that no such shareholding shall be reckoned under this sub-clause (bb) if the shareholding of such person in the intermediary is less than 26 percent of the subscribed and paid up equity shareholding of such intermediary; or
 - ii. a constituent of such Applicant is also a constituent of another Applicant; or
 - iii. such Applicant or its Associate receives or has received any direct or indirect subsidy or grant from any other Applicant or its Associate; or
 - iv. such applicant has the same legal representative for purposes of this Application as any other applicant; or
 - v. such applicant has a relationship with another applicant, directly or through common third parties, that puts them in a position to have access to each other’s’ information about, or to influence the application of either or each of the other applicant; or
 - vi. There is a conflict among this and other consulting assignments of the Applicant (including its personnel and sub-consultants) and any subsidiaries or entities controlled by such Applicant or having common controlling shareholders. The duties of the Consultant will depend on the circumstances of each case. While providing consultancy services to the Client for this particular assignment, the Consultant shall not take up any assignment that by its nature will result in conflict with the present assignment; or
 - vii. a firm which has been engaged by the Client to provide goods or works or services for a project, and its Associates, will be disqualified from providing consulting services for the same project save and except as per provisions of this RFQ CUM RFP, conversely, a firm hired to provide consulting services for the preparation or implementation of a

- project, and its Members or Associates, will be disqualified from subsequently providing goods or works or services related to the same project; or
- viii. the Applicant, its Member or Associate (or any constituent thereof), and the bidder or Concessionaire, if any, for the Project, its contractor(s) or sub-contractor(s) (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding or ownership interest of an Applicant, its Member or Associate (or any shareholder thereof having a shareholding of more than 5 percent of the paid up and subscribed share capital of such Applicant, Member or Associate, as the case may be,) in the bidder or Concessionaire, if any, or its contractor(s) or sub-contractor(s) is less than 5 percent of the paid up and subscribed share capital of such Concessionaire or its contractor(s) or subcontractor(s); provided further that this disqualification shall not apply to ownership by a bank, insurance company, pension fund or a Public Financial Institution referred to in section 4A of the Companies Act, 1956. For the purposes of this sub-clause (h), indirect shareholding shall be computed in accordance with the provisions of sub-clause (a) above.
- ix. For purposes of this RFQ CUM RFP, Associate means, in relation to the Applicant, a person who controls, is controlled by, or is under the common control with such Applicant (the "Associate"). As used in this definition, the expression "control" means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50 percent of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person by operation of law or by contract.

- 2.6.5 An Applicant eventually appointed to provide Consultancy for this Assignment/ Project, and its Associates, shall be disqualified from directly participating in the construction / implementation and operation phases (SI) of this assignment /project. However, the selected SI would be allowed to source materials manufactured by any member of ICT Consultant's consortium, provided all such materials to be procured have open standards specifications and essentially no vendor specific criterion should be followed by ICT Consultant in preparing the specifications of materials and services as part of the RFQ cum RFP for engagement of SI. Any breach of this obligation shall be construed as Conflict of Interest; provided that the restriction herein shall not apply after a period of 2 (two) years from the completion of this Assignment or to consulting assignments granted by banks/ lenders at any time; provided further that this restriction shall not apply to consultancy/ advisory services performed for the Client in continuation of this Consultancy or to any subsequent consultancy/ advisory services performed for the Client in accordance with the rules of the Client. For the avoidance of doubt, an entity affiliated with the Consultant shall include a partner in the Consultant's firm or a person who holds more than 5 percent of the subscribed and paid up share capital of the Consultant, as the case may be, and any Associate thereof. The ICT Consultant shall indemnify and submit an undertaking that all the design components and deliverables are based on open standards and are not any vendor specific.
- 2.6.6 Any entity which has been barred by the Central Government, any State Government, a statutory authority or a public sector undertaking, as the case may be, from participating in any project, and the bar subsists as on the date of the Proposal, would not be eligible to submit a Proposal either by itself or through its Associate.
- 2.6.7 An Applicant or its Associate should have, during the last 3 (three) years, neither failed to perform on any agreement, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Applicant or its Associate, nor been expelled from any project or agreement nor have had any agreement terminated for breach by such Applicant or its Associate.

2.6.8 In case the Applicant is a Consortium, it shall, comply with the following additional requirements:

- i. Number of members in a consortium shall not exceed (Three);
- ii. Subject to the provisions of sub-clause (1) above, the Application should contain the information required for each member of the Consortium;
- iii. Members of the Consortium shall nominate one member as the lead member (the "Lead Firm"). The nomination(s) shall be supported by a Power of Attorney, as per the format in this RFQ CUM RFP, signed by all the other members of the Consortium. The duties, responsibilities and powers of such Lead firm shall be specifically included in the joint Bidding Agreement. It is expected that the Lead Firm would be authorized to incur liabilities and to receive instructions and payments for and on behalf of the Consortium. The Client expects that Lead Firm should have maximum responsibility pertaining to execution of Assignment;
- iv. The Application should include a brief description of the roles and responsibilities of individual members;
- v. An individual Applicant cannot at the same time be a member of a Consortium applying for the Assignment. Further, a member of a particular Applicant Consortium cannot be member of any other Applicant Consortium applying for the assignment;
- vi. No Change in the composition of the Consortium will be permitted by the Client during the Selection Process and during the subsistence of the contract (in case the successful applicant/ consultant is a consortium).
- vii. Members of the Consortium shall enter into a binding Joint Bidding Agreement (the "Jt. Bidding Agreement"), for the purpose of submitting a Proposal. The Jt. Bidding Agreement, to be submitted along with the Application, shall, inter alia:
 - a) clearly outline the proposed roles and responsibilities, if any, of each member;
 - b) include a statement to the effect that all members of the Consortium shall be liable jointly and severally for all obligations of the Consultant in relation to the Assignment until the completion of the Assignment in accordance with the contract and the TOR;
 - c) clearly define the proposed administrative arrangements (organisation chart) for the management and execution of the Assignment, if awarded to the Consortium;
 - d) except as provided under this RFQ CUM RFP, there shall not be any amendment to the Jt. Bidding Agreement without the prior written consent of the Client.

2.7 Preparation of proposal

- 2.7.1 Consultants are requested to submit their Proposal in English language and strictly in the formats provided in this RFQ cum RFP. The Client will evaluate only those proposals that are received in the specified forms and complete in all respects.
- 2.7.2 In preparing their Proposal, Consultants are expected to thoroughly examine the RFQ cum RFP Document. Material deficiencies in providing the information requested may result in rejection of a Proposal.
- 2.7.3 Technical Proposal: While preparing the Technical Proposal, Consultants must give particular attention to the following:
- i. All key personnel to be full time employees of the firm;
 - ii. Consultant is to ensure that the time allocated for the proposed key staff does not conflict with the time allocated or proposed for any other

- assignment. The Client reserves the right to request a workload projection (including time spent on other projects/clients) for the key staff.
- iii. The composition of the proposed team and task assignment to individual personnel shall be clearly stated.
 - iv. No such key personnel shall be proposed for any position if the CV of the personnel does not meet the requirements of the TOR.
 - v. The key personnel shall remain available for the period as indicated in the RFQ cum RFP.
 - vi. No alternative proposal for any key personnel shall be made and only one CV for each position shall be furnished.
 - vii. Each CV needs to have been recently signed by the key personnel and / or countersigned by the authorized official of the Firm. At the time of submission of bid proposal, the scanned copies of the signature of the key personnel will be allowed but at the time of signing of contract, the original signature will be required. However, in both the cases, original counter signature of Authorized signatory shall be required in original.
 - viii. A CV shall be summarily rejected if the educational qualification of the key personnel proposed does not match with the requirement of the RFQ cum RFP document.
 - ix. Client certifications for the projects listed under the experience section. The certifications must confirm the project attributes (size, fee, duration etc.) and the scope of work on the projects. The self-certification of the applicant is also permitted accompanied by certified copy of work order/document certifying release of performance bank guarantee/ certified copy of payment received or any other document certifying the completion/part completion of the project as the case may be.
 - x. The applicant should form a Joint Venture/ Consortium in case he wants to submit the proposal using the experience/ strength of his associate partner.
 - xi. If the Applicant being a Consortium is qualified on the strength of the experience of a member which is a foreign company/ entity, requisite key personnel from that foreign company/ entity shall be fielded.
 - xii. The personnel proposed should possess good working knowledge of English Language.
 - xiii. No key personnel involved should have attained the age of 70 (seventy) years at the time of submitting the proposal. The Client reserves the right to ask for proof of age, qualification and experience at any stage of the project.
 - xiv. The technical proposal must not include any financial information.

2.7.4 Failure to comply with the requirements spelt out above shall lead to the deduction of marks during the evaluation. Further, in such a case, Client will be entitled to reject the Proposal.

Proposals shall be typed or written in indelible ink and signed by the authorised representative of the Applicant who shall initial each page, in blue ink. In case of printed and published documents, only the cover shall be initialled. All the alterations, omissions, additions, or any other amendments made to the Proposal shall be initialled by the person(s) signing the Proposal. The Proposals must be properly signed by the authorized representative (the "Authorised Representative") as detailed below:

- i. by the proprietor in case of a proprietary firm;

- ii. by a partner, in case of a partnership firm and/or a limited liability partnership; or
- iii. by a duly authorized person holding the Power of Attorney, in case of a Limited Company or a corporation; or
- iv. by the Authorized Representative of the Lead Firm, in case of consortium; and,
- v. Power of Attorney, for the Authorized Representative and or the Lead Firm of the Consortium, if applicable, is executed as per Applicable Laws.

2.7.5 Applicants should note the Proposal Due Date, as specified in Data Sheet, for submission of Proposals. Except as specifically provided in this RFQ cum RFP, no supplementary material will be entertained by the Client, and that evaluation will be carried out only on the basis of Documents received by the closing time of Proposal Due Date as specified in Data Sheet. Applicants will ordinarily not be asked to provide additional material information or documents subsequent to the date of submission, and unsolicited material if submitted will be summarily rejected. For the avoidance of doubt, the Client reserves the right to seek clarifications in case the proposal is non-responsive on any aspects.

2.7.6 The Proposal shall be accompanied by a certified copy of legally binding Joint Bidding Agreement in case of JV/Consortium, in the format provided in this RFQ cum RFP, signed by all firms/entities confirming the following therein:

- i. Date and place of signing
- ii. Purpose of JV/Consortium (must include the details of the Services hereunder for which the JV/Consortium has been invited to bid)
- iii. A clear and definite description of the proposed administrative arrangements (Organisation chart) for the management and execution of the assignment
- iv. Delineation of duties/ responsibilities and scope of work to be undertaken by each member along with resources committed by each member of the JV/Consortium for the proposed services
- v. An undertaking that the members of the JV/Consortium are jointly and severally liable to the Client for the performance of the services and
- vi. The authorized representative of the JV/Consortium (as approved by a Board resolution of Member-in-Charge).

The furnishing of this Joint Bidding Agreement to the Client shall not in any manner prejudice the provisions in the contract relating to joint and severe liability of the Members.

2.7.7 Similarly, Power of Attorney for both authorised representative and lead member of the JV/Consortium shall also be furnished as per the formats available in the RFQ cum RFP.

2.7.8 A firm can bid for a project either as a sole consultant or in the form of joint venture with other consultant. Experience of sub-consultant will not be considered while evaluating the bid.

2.7.9 The Pre-Qualification Proposal should provide the following information using the attached Standard Forms.

- i. Details of eligible projects as per the Standard Forms so as to meet the Minimum Qualification Criteria prescribed in this RFQ cum RFP.

2.7.10 The Technical Proposal should provide the following information using the attached Standard Forms.

- I. For recent assignments of similar nature, the outline should indicate, inter alia, the profiles and names of the staff provided, duration of the assignment, contract amount, and firm's involvement.
- II. The comments and suggestions provided by the Applicant on the RFQ cum RFP/ contract/ TOR are not binding and shall not affect the financial proposal.
- III. Detailed Approach and Methodology for undertaking the current assignment.
- IV. Against the list of proposed staff, details of tasks assigned to each staff as per his/ her experience shall influence the evaluation.
- V. Each page of the CV must be signed in original by the Authorised representative together with original or electronic signature of the key team member at the proposal stage. However, at the time of contract signing, original signatures of both authorised representative and the key staffs shall be required.
- VI. The consultant shall make the assessment of support staff both technical and administrative to undertake the Assignment. Additional support and administrative staff shall be provided as needed for the timely completion of the Assignment within the total estimated cost. Consultant should provide time estimates of key staff as well as support staff in the staffing schedule. It is stressed that the time period for the Assignment indicated in the TOR should be strictly adhered to.
- VII. Ongoing projects can be submitted with detail of progress supported by suitable documents. Projects/ assignments completed up to 70 percent or more shall only be considered for evaluation but marks awarded for such projects shall only be up to 70 percent of maximum marks. The completion of the project shall be taken in account with respect to the certification from client based on the payment released by the client against the total project value. The Applicant shall provide the proof that the project is completed up to 70 percent through copy of invoice or payment received till date or through certificate from the respective Client. In case of composite contracts the limit of 70% of the completion can be established for implementation phase only and not for O&M phase. The Consultant should divide his project cost proportionately in implementation and O&M phase in accordance with the work order.

2.7.11 Financial proposal: While preparing the Financial Proposal, Consultants are expected to take into account the various requirements and conditions stipulated in this RFQ cum RFP document. The Financial Proposal should be a lump sum Proposal inclusive of all the costs including but not limited to all taxes associated with the Assignment. While submitting the Financial Proposal, the Consultant shall ensure the following:

- i. All the costs associated with the Assignment shall be included in the Financial Proposal. These shall normally cover remuneration for all the personnel (Expatriate and Resident, in the field, office, etc.), accommodation, air fare, transportation, equipment, printing of documents, secondary and primary data collection, etc. The total amount indicated in the Financial Proposal shall be without any condition attached or subject to any assumption, and shall be final and binding. In case any assumption or condition is indicated in the Financial Proposal, it shall be considered non-responsive and liable to be rejected.

- ii. The Financial Proposal shall take into account all the expenses and tax liabilities and cost of insurance specified in the draft contract, levies and other impositions applicable under the prevailing law on the Consultants, sub-consultants and their staff. For the avoidance of doubt, it is clarified that all taxes, excluding Goods & Services Tax, shall be deemed to be included in the cost shown under different items of Financial Proposal. The Consultant shall be paid only Goods & Services Tax over and above the cost of Financial Proposal. Further, all payments shall be subjected to deduction of taxes at source as per Applicable Laws.

2.7.12 The proposal should be submitted as per the standard Financial Proposal submission forms prescribed in this RFQ cum RFP.

2.7.13 The financial Proposal shall be divided into professional fee and out of pocket expenses as per forms prescribed in this RFQ cum RFP document. The break-up of remuneration and out-of-pocket expenses should match the total cost of the financial proposal.

2.7.14 Consultants shall express the price of their services (including break down of their costs) in Indian Rupees.

2.7.15 The Consultants may be subjected to local taxes (such as Goods & Services Tax, social charges or income taxes on non-resident foreign personnel, duties, fees, levies etc.) on amounts payable by the Client under the Contract. Consultants must do their due diligence about the tax implications and Client will not be liable for any incident.

2.7.16 The Proposals must remain valid for a period as specified in the Data Sheet. During this period, the consultant is expected to keep available the professional staff proposed for the assignment. The Client will make its best effort to complete contract signing within this period. If the Client wishes to extend the validity period of the proposals, it may ask the consultants to extend the validity of their proposals for a stated period. Consultants, who do not agree, have the right not to extend the validity of their proposals.

2.8 Submission, receipt and opening of proposals

2.8.1 The Proposal shall be prepared in indelible ink. It shall contain no inter-lineation or overwriting, except as necessary to correct errors made by the firm itself. Any such corrections must be initialed by the person or persons who sign(s) the Proposal.

2.8.2 An Authorized Representative of the Applicant should initial all pages of the Pre-Qualification, Technical and Financial Proposals. The Authorized Representative's authorization should be confirmed by a written power of attorney by the competent authority accompanying the Proposal.

2.8.3 The Applicant shall submit the Pre-Qualification, Technical and Financial Proposals on line through e-procurement portal as per format given in section 3 along with supporting documents as appropriate.

2.8.4 The documents supporting the BID shall be submitted in an electronic format as per the instruction of the e-procurement portal.

The documents shall include:

- a) Original Power of Attorney for signing the Proposal as per given format

- b) If applicable, original Power of Attorney for Lead Member of Joint Venture as per given format.
 - c) If applicable, original Joint Bidding Agreement for Joint Venture as per the given format.
 - d) Bid Security of Rs.10,00,000 (Rupees Ten Lakh only).
 - e) Bid Processing Fees of Rs. 1,18,000 (Rupees One Lakh Eighteen Thousand only Inclusive of Goods & Service Tax @ 18%).
- 2.8.5 Proposals submitted in physical / hard bound copies, fax, telex, telegram or e-mail shall not be entertained and shall be rejected.
- 2.8.6 No proposal shall be accepted after the closing time for submission of Proposals.
- 2.8.7 After the Proposal submission until the contract is awarded, if any Consultant wishes to contact the Client on any matter related to its proposal, it should do so in writing at the Proposal submission address. Any effort by the firm to influence the Client during the Proposal evaluation, Proposal comparison or contract award decisions may result in the rejection of the consultant's proposal.

2.9 Proposal evaluation

- 2.9.1 As part of the evaluation, the Pre-Qualification Proposal submission shall be checked to evaluate whether the Applicant meets the prescribed Minimum Qualification Criteria. Subsequently the Technical Proposal submission, for Applicants who meet the Minimum Qualification Criteria (the "Shortlisted Applicants"), shall be checked for responsiveness in accordance with the requirements of the RFQ cum RFP and only those Proposals which are found to be responsive would be further evaluated in accordance with the criteria set out in this RFQ cum RFP document.
- 2.9.2 Prior to evaluation of Proposals, the Client will determine whether each Proposal is responsive to the requirements of the RFQ cum RFP at each evaluation stage as indicated below. The Client may, in its sole discretion, reject any Proposal that is not responsive hereunder. A Proposal will be considered responsive only if:

RFQ Stage

- I. The Pre-Qualification Proposal is received in the forms 3A to 3F of section-3 of this RFQ cum RFP;
- II. it is received by the Proposal Due Date including any extension thereof in terms hereof;
- III. it is accompanied by the Processing Fee as specified in this RFQ cum RFP;
- IV. it is accompanied by Joint Bidding Agreement, the Power of Attorney, for the Authorised Representative and the Lead Firm of the Consortium, if applicable;
- V. it is signed, and marked as stipulated in this RFQ cum RFP;
- VI. it does not contain any condition or qualification; and,
- VII. it is not non-responsive in terms hereof

RFP Stage

Technical Proposal

- I. the Technical Proposal is received in the forms specified of this RFQ cum RFP;

- II. it is received by the Proposal Due Date including any extension thereof in terms hereof;
- III. it is accompanied by the Bid Security as specified in this RFQ cum RFP;
- IV. it is signed and marked as stipulated in this RFQ cum RFP;
- V. it does not contain any condition or qualification; and
- VI. It is not non-responsive in terms hereof.

Financial Proposal:

- I. The Financial Proposal is received in the forms as specified in this RFQ cum RFP;
- II. it is signed and marked as stipulated in this RFQ cum RFP;
- III. it does not contain any condition or qualification; and
- IV. It is not non-responsive in terms hereof.

The Client reserves the right to reject any Proposal which is non-responsive and no request for alteration, modification, substitution or withdrawal will be entertained by the Client in respect of such Proposals. However, Client reserves the right to seek clarifications or additional information from the applicant during the evaluation process. The Client will subsequently examine and evaluate Proposals in accordance with the Selection Process detailed out below.

2.9.3 As part of the evaluation, the Pre-Qualification Proposals submitted should fulfill the Minimum Qualification Criteria. In case an Applicant does not fulfill the Minimum Qualification Criteria, the Technical Proposal of such an Applicant will not be opened and evaluated further.

2.9.4 Minimum Qualification Criteria

Sr. No	Prequalification Requirement	Supporting Documents to be attached
A	Applicant shall be national /international level company(ies) in existence for last 5 years (as on 28 th February 2018) and has been ICT Consultant / master systems integrator / systems integrator and has successfully developed, customized and implemented globally large scale Information and Communication Technology systems / major ICT components viz. OFC based communication system, Command Control Center for Surveillance and City Operations (both or either), IoT system for city civic service management e.g. Solid Waste Management / Water Distribution Management / Electricity Distribution Management / Traffic Management along with related ICT components e.g. Data Center, Network Operation Center, Operations Management for city/ campus (other than tolling, home / building automation) for at least two projects in last 5 years, each with minimum area of 2 Sq KM and each having ICT capital investment of minimum of INR 400 million.	<ul style="list-style-type: none"> • Applicant shall submit certificate of incorporation • Completion certificates (as per 2.7.3)

Sr. No	Prequalification Requirement	Supporting Documents to be attached
B	<p>Applicant shall have an average annual turnover of at least INR 500 million or equivalent for last three financial years (2016-17, 2015-16 & 2014-15).</p>	<p>Applicant shall submit copies of audited sector wise Balance Sheets for last three years. In case applicant's FY does not coincide with FY mentioned in previous column, applicant can submit copies of balance sheets applicable to their latest three financial years.</p>
C	<p>In respect of each of the following disciplines, the applicant should have minimum two projects to its / their credit as execution partner as prime or consortium partner and must have completed at least one project in last five years. Applicant must hold / had held primary responsibility in the below mentioned disciplines. The responsibility should be documented in customer contract or customer approved work distribution data sheet of contract.</p> <p>a) Applicant should have been ICT Consultant / MSI / SI / Implementer for implementation of e-Governance city applications (G2C / G2B / G2G categories) including at least three of Education, Health Care, Local Administration, Public Facilitation, etc. using global best practices for project implementation value no less than INR 50 million for each of two projects (three citations should be in distinct applications from above mentioned domains)</p> <p>b) Applicant should have been ICT Consultant MSI / SI / Implementer of multi element City's Integrated Operations Centre (such as for city wide video surveillance with associated analytics, traffic management, emergency response etc., including integration for the purposes of police (dial 100/ CCNS), fire, ambulance, , etc., with project implementation value no less than INR 50 million for each of two projects.</p> <p>c) Applicant should have been ICT Consultant / MSI / SI / Implementer for service layer components (including their integration) such as ICT for city utilities and infrastructures for automation (building management system), operational optimisation, monitoring, control, display, different SCADA, Customer Complaint Management Units, city wide sensors (other</p>	<p>Applicant must submit</p> <ul style="list-style-type: none"> • Copies of respective work orders confirming month + year and area of activity to be attested by authorised signatory • Signed confirmation that applicant held the responsibility of prime contractor. • Completion certificates along with certified documents as per the requirements. (Items of PO and completion certificates must match) • If any discipline(s) stated against C (a) to C (f) are part of an umbrella / consolidated project / work order, individual certificate(s) (pertaining to qualification criteria) be issued and signed. Documents must clearly spell out relevant scope and values for respective qualifying discipline(s). Clubbed / consolidated values of assignment in such case won't be considered.

Sr. No	Prequalification Requirement	Supporting Documents to be attached
	<p>than cameras), smart power / water / gas grids (ICT portion implementation excluding C & I part), waste management etc. – with project implementation value no less than INR 20 Million for each of two projects (The emphasis will be on relevance of the projects to the assignment, in terms of size, complexity and technical features).</p> <p>d) Applicant should have been ICT Consultant / MSI / SI / Implementer for minimum type Tier III(certified) Data Centre for value no less than INR 50 million for at least one project (consisting Data Centre with all the IT and Non-IT components).</p> <p>e) Applicant should have been large scale ICT Consultant / MSI / SI / implementer for implementation of city / campus wide network infrastructure for fibre, Wi-Fi and Video Surveillance (Fibre and / or Wi-Fi), etc. for value no less than INR 20 million for each of two projects.</p> <p>f) Applicant as ICT Consultant / MSI / Systems Integrators should have implemented ERP, CRM, BI, SRM, Industry Specific Solutions, (including for Power, Water, Gas etc. –minimum one out of three utilities.) and preferably with City Portal for public and inter-department interface etc., other city applications for smart cities with project value more than INR 50 million for each of two projects for modern city / large campus</p>	
	Qualifying C (a) and C (b) requirement is essential. Applicant needs to qualify for minimum 2 disciplines from C (c) to C (f).	
	The lead bidder should have held for at least last two year a valid ISO 9001:2008 certificate reckoned from date of bidding.	

2.9.5 Technical Evaluation Criteria: The evaluation committee (“Evaluation Committee”) appointed by the Client will carry out the technical evaluation of Proposals on the basis of the following evaluation criteria and points system. Each evaluated Proposal will be given a technical score (St) as detailed below. The maximum points/ marks to be given under each of the evaluation criteria are:

Sr. No.	Evaluation Criteria	Points
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Sr. No.	Evaluation Criteria	Points
A	<p>Specific experience related to the assignment</p> <p>(i) The emphasis will be on relevance of the projects to the assignment, discipline, size and nature of the projects i.e. of comparable size, complexity and technical specialty.</p> <p>(ii) Along with bid must submit samples documents (as templates) in respect of documents to be delivered by ICT Consultant for all the stages of ICT Consultant's project life cycle as described at ToR (Section 5) of this RFQ cum RFP and documents that are otherwise needed during various stages of execution of various towers of project in reference.</p> <p>(iii) Describe in details applicant's contribution to past projects referred in pre-qualification criteria C) a to C) f. The details to cover requirements, inception, methodology, technology deployed, constraints, and sustainability model deployed, and benefit achieved etc. as minimum.</p>	25
B	<p>Approach and Methodology:</p> <p>1) Applicant</p> <p>(i) Must state in details the ICT components / services (with functionality) in its scope that are required for a world class smart city and are supplementary to those stated in this RFQ cum RFP and Master ICT Plan.</p> <p>(ii) Must submit, an approach and methodology for benchmarking of global cities w.r.t. the interventions proposed in VUIA along with their localization approach for adoption in VIUA.</p> <p>(iii) Applicant shall submit proposed draft implementation, integration and other plans requested in RFQ cum RFP as part of appreciation of project.</p> <p>(iv) Must submit project management and technical approach, work plan and methodology in response to the TOR.</p> <p>(v) A presentation (if desired by evaluation committee) will be required to describe the contents of proposal that may include:</p> <ul style="list-style-type: none"> • Project appreciation and understanding of assignment • Work plan and manning schedule (backed up by detailed weekly proposed work packages of staffing schedule (aligned with phases) of section 3 be submitted. The schedule should be from start to end of assignment. • Approach and Methodology to include (in depth) self-sustainability model for entire ICT infrastructure for IIT Greater Noida (will have 3 points exclusive for sustainability approach). <p><i>Proposals must be direct and concise. All information not directly relevant to</i></p>	25

Sr. No.	Evaluation Criteria	Points
	<i>this RFQ cum RFP should be omitted. Client will evaluate applicant response based on focus towards requirements, directness, clarity etc.</i>	
C	<p>Qualification and relevant competence of all the staff to be positioned for ICT Consultant's job in reference may be submitted in detail (emphasis should be on detailing in depth tasks and activities performed around requested expertise for each of the roles in respect of all executed projects, instead of defining at high level or providing superficial level experience) in accordance with section 3 and stated elsewhere in this document.</p> <p>Applicant should also submit detailed CVs of staff positioned other than Key Personnel mentioning the respective role(s) envisaged. Applicant will ensure that each resource to be assigned should have essentially been through complete life cycles as specified elsewhere for each of the disciplines.</p> <p>Resources be preferably positioned from references used in PQ.</p> <p>Details of formats are stated in section 3.</p>	50
	Total Points	100

The minimum technical score required to qualify technical evaluation is 70 Points out of 100. A proposal will be considered unsuitable and will be rejected at this stage if it does not respond to important aspects of RFQ cum RFP Document and the Terms of Reference or if it fails to achieve the minimum technical score. The Client will notify Applicants who fail to score the minimum technical score about the same and return their Financial Proposals unopened after completing the selection process.

- 2.9.6 The Client will notify the Applicants who secure the minimum qualifying technical score, indicating the date and time set for opening the Financial Proposals. The notification may be sent by registered letter, facsimile, or electronic mail.
- 2.9.7 The Financial Proposals will be opened publicly in the presence of Applicants' representatives who choose to attend. The name of the Applicants, their technical

scores and the proposed prices will be read aloud and recorded when the Financial Proposals are opened.

2.9.8 Evaluation Committee will determine whether the Financial Proposals are complete in all respects, unqualified and unconditional, and submitted in accordance with the terms hereof.

2.9.9 The cost indicated in the Financial Proposal shall be deemed as final and reflecting the total cost of services and should be stated in INR only. The man-months considered for calculation of costs for the personnel in the Financial Proposal should match the man-months for the corresponding personnel given in the Technical Proposal. In case, the man-months considered for calculation of costs for the personnel in the Financial Proposal are more than the corresponding man-months given in the Technical Proposal, the man-months considered in the Financial Proposal shall be reduced to match the man-months given in the Technical Proposal with a corresponding reduction in the cost indicated in the Financial Proposal. In case the man-months considered for calculation of costs for the personnel in the Financial Proposal are less than the corresponding man months given in the Technical Proposal, the Consultant has to deploy the personnel for the man-months given in the Technical Proposal, without any claim or increase of the Financial Proposal. Omissions, if any, in costing of any item shall not entitle the Applicant to be compensated and the liability to fulfill its obligations as per the Terms of Reference within the total quoted price shall be that of the Applicant. The evaluation shall exclude those taxes, duties, fees, levies and other charges imposed under the Applicable Law as applicable on foreign and domestic inputs. The lowest Financial Proposal (Fm) will be given a financial score (Sf) of 100 points. The financial scores (Sf) of the other Financial Proposals will be determined using the following formula: $Sf = 100 \times Fm / F$;

in which Sf is the financial score, Fm is the lowest Financial Proposal, and F is the Financial Proposal (in INR) under consideration.

Proposals will finally be ranked in accordance with their combined technical (St) and financial (Sf) scores:

$$S = St \times Tw + Sf \times Fw;$$

where S is the combined score, and Tw and Fw are weights assigned to Technical Proposal and Financial Proposal that will be 0.80:0.20.

The Applicant achieving the highest combined technical and financial score will be considered to be the successful Applicant and will be invited for contract signing (the "Successful Applicant").

2.9.10 The Financial Bids of Technically Qualified Applicants will be checked by the Client for any arithmetic errors. Errors will be corrected by the Client as follows:

- a) Where there is a discrepancy between the rates in figures and in words, the rate in words will govern; and
- b) Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

2.10 Negotiation

- 2.10.1 The selected applicant may, if necessary, be invited for negotiations. The negotiations shall not be for reducing the price of proposal, but will be for reconfirming the obligations of the consultant under this RFQ cum RFP. Issues such as deployment of key personnel, scope of work, methodology and quality of work plan shall be discussed during negotiations. In case the selected applicant fails to reconfirm its commitment, the Client reserves the right to designate the next ranked Applicant as the Selected Applicant and invite for negotiations.
- 2.10.2 The Client will examine the CVs of all other key personnel and those not found suitable shall be replaced by the Applicant to the satisfaction of the Client.
- 2.10.3 The Client will not normally consider substitutions except in cases of incapacity of Key Personnel for reasons of health. Similarly, after award of contract the Client expects all of the proposed Key Personnel to be available during implementation of the contract. The Client will not consider substitutions during contract implementation except under exceptional circumstances. In case of a critical vacancy, if the Consultant is unable to provide a permanent replacement within the aforementioned period, the Consultant shall, subject to approval by the Client, provide a temporary resource for no more than six (6) months. The temporary resource shall be of equivalent or better qualifications and the Consultant shall be paid no more than eighty percent (80%) of the agreed rate of the personnel being replaced. During the course of providing services, substitution of Key Personnel would call for reduction of remuneration, which will not exceed 80 (eighty) percent of the remuneration agreed for the Original Key Personnel. Thereafter reduction at the rate of 10% of the original quoted rates in respect of each subsequent replacement i.e. 70%, 60% and so on will be applicable.

2.11 Award of contract

- 2.11.1 After selection, a Letter of Award (the "LOA") will be issued, in duplicate, by the Client to the Successful Applicant and the Successful Applicant shall, within 7 (seven) days of the receipt of the LOA, sign and return the duplicate copy of the LOA in acknowledgement thereof. In the event the duplicate copy of the LOA duly signed by the Successful Applicant is not received by the stipulated date, the Client may, unless it consents to extension of time for submission thereof, appropriate the Bid Security of such Applicant as mutually agreed genuine pre-estimated loss and damage suffered by the Client on account of failure of the Successful Applicant to acknowledge the LOA, and the next highest ranking applicant may be considered.
- 2.11.2 Performance Security: Performance Security equivalent to 5 (five) percent of the total cost of Financial Proposal shall be furnished from a Nationalized/ Scheduled Bank, before signing of the contract, in form of a Bank Guarantee substantially in the form specified at Annexure of the contract. For the successful bidder, the Performance Security will be retained by Client until the completion of the assignment by the Consultant and be released 180 (One hundred eighty) days after the completion of the assignment.

2.11.3 Execution of contract: After acknowledgement of the LOA and furnishing of Performance Security as aforesaid by the Successful Applicant, it shall execute the Agreement within 30 (thirty) days from the date of issue of LOA. The Successful Applicant shall not be entitled to seek any deviation in the Agreement

2.11.4 Commencement of Assignment: The Successful Applicant/ Consultant is expected to commence the Assignment on the date of commencement of services as prescribed in the General Conditions of Contract. If the Successful Applicant fails to either sign the Agreement or commence the assignment as specified herein, the Client may invite the second ranked Applicant for contract signing. In such an event, the Bid Security/ Performance Security, as the case may be, of the first ranked Applicant shall be liable to be forfeited by the Client.

2.12 Confidentiality

Information relating to evaluation of proposals and recommendations concerning awards of contract shall not be disclosed to the consultants who submitted the proposals or to other persons not officially concerned with the process, until the winning firm has been notified that it has been awarded the contract.

2.13 Fraud and corrupt practices

2.13.1 The Applicants and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Selection Process. Notwithstanding anything to the contrary contained in this RFQ cum RFP, the Client will reject a Proposal without being liable in any manner whatsoever to the Applicant, if it determines that the Applicant has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the "Prohibited Practices") in the Selection Process. In such an event, the Client will, without prejudice to its any other rights or remedies, forfeit and appropriate the Bid Security, as mutually agreed genuine pre-estimated compensation and damages payable to the Client for, inter alia, time, cost and effort of the Client, in regard to the RFQ cum RFP, including consideration and evaluation of such Applicant's Proposal.

2.13.2 Without prejudice to the rights of the Client under this Clause, hereinabove and the rights and remedies which the Client may have under the LOA or the Agreement, if an Applicant or Consultant, as the case may be, is found by the Client to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Selection Process, or after the issue of the LOA or the execution of the Agreement, such Applicant or Consultant shall not be eligible to participate in any tender or RFQ cum RFP issued by the Client during a period of 2 (two) years from the date such Applicant or Consultant, as the case may be, is found by the Client to have directly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.

2.13.3 For the purposes of this Clause, the following terms shall have the meaning hereinafter respectively assigned to them:

- (i) “corrupt practice” means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Selection Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Client who is or has been associated in any manner, directly or indirectly with the Selection Process or the LOA or has dealt with matters concerning the Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Client, shall be deemed to constitute influencing the actions of a person connected with the Selection Process; or (ii) save as provided herein, engaging in any manner whatsoever, whether during the Selection Process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Agreement, who at any time has been or is a legal, financial or technical consultant/ adviser of the Client in relation to any matter concerning the Project;
- (ii) “fraudulent practice” means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection Process; “coercive practice” means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person’s participation or action in the Selection Process;
- (iii) “undesirable practice” means (i) establishing contact with any person connected with or employed or engaged by the Client with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Selection Process; or (ii) having a Conflict of Interest; and
- (iv) “Restrictive practice” means forming a cartel or arriving at any understanding or arrangement among Applicants with the objective of restricting or manipulating a full and fair competition in the Selection Process.

2.14 Pre-Bid meeting

2.14.1 Pre-Bid Meeting of the Applicants will not be convened.

2.15 Miscellaneous

2.15.1 The Selection Process shall be governed by, and construed in accordance with, the laws of India and the Courts at Gautam Budh Nagar and High Court of Allahabad, Uttar Pradesh, shall have exclusive jurisdiction over all disputes arising under, pursuant to and/or in connection with the Selection Process.

2.15.2 The Client, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to:

- i. suspend and/or cancel the Selection Process and/or amend and/or supplement the Selection Process or modify the dates or other terms and conditions relating thereto;
- ii. consult with any Applicant in order to receive clarification or further information;
- iii. retain any information and/or evidence submitted to the Client by, on behalf of and/or in relation to any Applicant; and/or
- iv. Independently verify, disqualify, reject and/or accept any and all submissions or other information and/or evidence submitted by or on behalf of any Applicant.

2.15.3 It shall be deemed that by submitting the Proposal, the Applicant agrees and releases the Client, its employees, agents and advisers, irrevocably, unconditionally, fully and finally from any and all liability for claims, losses, damages, costs, expenses or liabilities

in any way related to or arising from the exercise of any rights and/or performance of any obligations hereunder, pursuant hereto and/or in connection herewith and waives any and all rights and/ or claims it may have in this respect, whether actual or contingent, whether present or future.

- 2.15.4 All documents and other information provided by the Client or submitted by an Applicant to the Client shall remain or become the property of the Client. Applicants and the Consultant, as the case may be, are to treat all information as strictly confidential. The Client will not return any Proposal or any information related thereto. All information collected, analysed, processed or in whatever manner provided by the Consultant to Client in relation to the consultancy shall be the property of the Client.
- 2.15.5 The Client reserves the right to make inquiries with any of the Clients listed by the Applicants in their previous experience record.

2.16 Tentative schedule for selection process

The Client will endeavour to follow the following schedule:

Date of issue of RFQ cum RFP	05 th March 2018
Bid Start Date	06 th March 2018, 10:00 AM
Last date to submit clarifications on RfQ cum RfP	10 th March, 2018 at 5:00 PM
Last date for Client's response to queries/requests for clarifications	16 th March 2018
Proposal Due Date	26 th March 2018 at 5:00 PM
Technical Bid opening date	27 th March 2018 at 4:00 PM

2.17 Data sheet

Reference	Description
2.1.1	The name of Client is: "Integrated Industrial Township Greater Noida Limited". The method of selection is Combined Quality cum Cost - Based Selection (CQCCBS). The weights given to technical and financial proposals are: <ul style="list-style-type: none"> • Technical = 0.8 • Financial = 0.2
2.1.2	The objective of the ICT infrastructure is to build a smart, socially attractive modern city of Integrated Industrial Township, Greater Noida that will boost the economic development of the region. The descriptions of services are mentioned in the scope of services under section-5 Terms of Reference. The scope of ICT systems and components will be comparable to any smart city in a developed country.

2.2	<p>Applicants may seek clarification(s) on this RFQ – cum - RFP document until pre-bid meeting is held. Any request for clarification must be sent vide standard electronic means (word file)/ fax (followed by hard copy) to the Client’s office addressed to:</p> <p>Managing Director DMIC Integrated Industrial Township Greater Noida Limited H-169 Chitvan Estate, Sector Gamma – II, Greater Noida, Gautam Budh Nagar, Uttar Pradesh 201308 Phone: +91 120 4256 300 Email: gmpinggnida@gmail.com, pnd.iitgnl@gmail.com, tenders@dmicdc.com</p>
2.7.16	<ul style="list-style-type: none"> • The proposal of the consultant shall be valid for 180 (one hundred and eighty) days from the Proposal Due Date. • Expected date for commencement of assignment is 30th April 2018. • The extent of sub-contracting would be restricted to 30 (Thirty) percent of the contract price. The Client will be provided by the consultant with particulars (name, financial and technical background, excluding prices) of sub-consultants.
2.8.5	<p>The last date of submission of Proposal is 26th March 2018 before 5:00 pm (IST).</p>

2.18 Required experience and expertise of Key personnel / staff

List of minimum key personnel / staff is as below. Support staff will be as required and over and above key personnel.

S. No	Expert / Key personnel	Minimum No. of Personnel	Min. Qualification
1.	Chief Specialist and Project Lead	1	Should be Graduate preferably with B.E. / B. Tech. in Computer Science /IT/ Electronics / Electronics & Telecommunications / Electrical or Master of Computer Applications (MCA) or equivalent having minimum and exclusive ICT experience of 10 years and should have headed / lead complete end to end life cycle implementation of at least two major (covering the most of the technology areas mentioned in pre-qualification criteria) in at least 3 relevant ICT projects satisfactorily.

S. No	Expert / Key personnel	Minimum No. of Personnel	Min. Qualification
2.	Senior Specialist -1	1	Should be Graduate preferably with B.E. / B. Tech. in Computer Science/IT / Electronics / Electronics & Telecommunications / Electrical or Master of Computer Applications (MCA) or equivalent having minimum and exclusive ICT experience of 7 years. The experience should cover at least 2 complete life cycle implementations of City's Integrated Operations Centers in cities / large campuses. The CCC / CIOC should include Surveillance System / Traffic Management System / City Services Management. The person should also have experience in integration with Data Center, OFC Networking and WiFi.
3.	Senior Specialist -2	1	Should be Graduate preferably with B.E. / B. Tech. in Computer Science/IT / Electronics / Electronics & Telecommunications / Electrical or Master of Computer Applications (MCA) or equivalent having minimum and exclusive ICT experience of 7 years. The experience should cover at least 2 complete life cycle implementations of e-Governance / Service Delivery applications in G2C, G2G, G2B domains.

S. No	Expert / Key personnel	Minimum No. of Personnel	Min. Qualification
4.	Architect Integrator for city wide utilities / infrastructure (including various SCADAs, AMRs, city wide sensors and actuators, traffic signals) integration for operational optimisation. Must be well versed with a) most of integration technologies as applicable to open systems b) city wide sensors (other than cameras) and actuators (in terms of purposes, optimum locations, technologies etc.) to be deployed all over smart city c) Data Security framework d) Communication system for IoTs	1	Should be graduate preferably with Master of Computer Applications (MCA) or equivalent having ICT experience of 7 years encompassing at least 2 complete life cycle implementations accomplished in cities / large modern campuses (preferably in developed countries)
5.	Architect cum process specialist for ICT applications for integrated city service delivery with backend computerization, integration with legacy applications like ERP or similar business process automation systems.	1	Should be Graduate preferably with Master of Computer Applications (MCA) or equivalent having ICT experience of 7 years encompassing at least 2 complete life cycle implementations accomplished in service delivery in G2C, G2B, G2G domains.
6.	City wide surveillance cum Intelligent Traffic Management System Specialist for City Traffic	1	Should be graduate preferably with Master of Computer Applications (MCA) or equivalent having minimum and exclusive ICT experience of 7 years encompassing at least 2 complete life cycle implementations accomplished in smart cities (preferably in developed countries) in respect of disciplines as stated in column 2 on LHS of this table.

S. No	Expert / Key personnel	Minimum No. of Personnel	Min. Qualification
7.	GIS specialist	1	Should be Graduate in civil engineering / planning / geography / architecture or any relevant discipline with minimum and exclusive GIS experience of 7 years. Should have designed large GIS based solution for land management, infrastructure management. Should possess extensive knowledge of state-of-the-art GIS platforms..
8.	Building Management System Specialist	1	Should be a Graduate in Civil Engineering / Electronics / Electrical or equivalent having minimum 5 years' experience with implementations comprising designing, detailing for construction of all the requisites for BMS for critical buildings .

- Support staff will be in addition to above.
- Consultants, who are executing on-going mandates from DMIC IITGNL, must propose a separate team of key staff while bidding for this project.
- A summary of experience (in one page) is to be provided by the consultant for each of the key staff.
- Age of the key staff proposed should not be more than 70 years on the last day of submission of proposal.
- The Client reserves the right to ask for details regarding the proof of age, qualification and association of the key staff with the firm.

Qualification and competence of key staff

The total number of marks allocated for qualification and competence of the proposed Key Staff is 50 marks, distributed among 10 key personnel, as detailed further:

S. No.	Key staff	Marks
1.	Chief Specialist and Project Lead	10
2.	Senior Specialist -1	7
3.	Senior Specialist -2	7
4.	Architect cum Integrator for city wide utilities / infrastructure (including various SCADAs, city wide sensors, actuators and traffic signals) integration for operational optimisation. Must be well versed with a) most of integration technologies as applicable to open systems b) city wide sensors (other than cameras) and actuators (in terms of purposes, optimum locations, technologies etc.) to be	6

	deployed all over smart city	
5.	Architect cum process specialist for ICT applications for integrated city service delivery	5
6.	City wide surveillance cum Intelligent Traffic Management System Specialist for City Traffic	5
7.	GIS specialist	5
8.	Building Management System	5
	Total marks	50

Evaluation criteria for Key personnel/ staff

A.	GENERAL QUALIFICATIONS	20%
A1.	Technical Qualifications (emphasis will be on Professional Certifications possessed for role in reference)	10%
A2.	Professional experience (specific to Smart Cities ICT infrastructure)	8%
A3.	Training and publications (specific to smart cities)	2%
B.	ADEQUACY FOR THE ASSIGNMENT	75%
B1.	Experience in similar capacity/ broad sector (resource having worked for reference(s) used for pre-qualification)	15%
B2.	Experience relevant to ToR and assignment as detailed above	45%
B3.	Overseas/ International experience in smart cities in developed countries (experience specific to ToR)	15%
C.	ASSOCIATION WITH THE FIRM	5%
C1.	Full Time permanent staff	2.5%
C2.	Years of association	2.5%

Detailed evaluation criteria will be prepared by the evaluation committee for evaluation of the qualification and competence of the key staff for the assignment. Detailed presentation(s) when asked, will be made by applicant.

Section 3 Technical Proposal – Standard Forms

Form 3A:	Pre-qualification Proposal Submission Form
Form 3B:	Format for pre-qualification proposal (eligible projects)
Form 3C:	Format for pre-qualification proposal (Average Annual Turnover from Consulting Business of the Applicant)
Form 3D:	Format for Joint Bidding Agreement (in case of JV/ consortium)
Form 3E:	Format for Power of Attorney for Authorized Representative
Form 3F:	Format for Power of Attorney for Lead Member of JV/ consortium
Form 3G:	Technical Proposal Submission Form
Form 3H:	Applicant's Experience
Form 3I:	Comments and Suggestions on the Terms of Reference and on Counterpart Staff and Facilities to be provided by the Client
Form 3J:	Description of Approach, Methodology and Work Plan for Performing the Assignment
Form 3K:	Team composition and Task Assignments
Form 3L:	Curriculum Vitae (CV) for Proposed Professional Staff (with one page of summary of experience)
Form 3M:	Staffing Schedule
Form 3N:	Work Schedule

Form 3A: Pre-Qualification Proposal Submission Form

[Location, Date]

To
Managing Director
DMIC Integrated Industrial Township Greater Noida Limited
H-169 Chitvan Estate, Sector Gamma – II, Greater Noida,
Gautam Budh Nagar, Uttar Pradesh 201308
Phone: +91 120 4256 300
Email: gmplnggnida@gmail.com, pnd.iitgnl@gmail.com, tenders@dmicdc.com

RFQ cum RFP dated [date] for selection of consultant for [name of assignment]

Dear Sir,

With reference to your RFQ cum RFP Document dated [date], we, having examined all relevant documents and understood their contents, hereby submit our Pre-qualification Proposal for selection as [name of assignment]. The Proposal is unconditional and unqualified.

We are submitting our Proposal as [sole applicant/ JV] [with] [insert a list with full name and address of each Joint Venture/ consortium Consultant].

We understand you are not bound to accept any Proposal you receive.

Further:

1. We acknowledge that DMIC IITGNL will be relying on the information provided in the Proposal and the documents accompanying the Proposal for selection of the Consultant, and we certify that all information provided in the Proposal and in the supporting documents is true and correct, nothing has been omitted which renders such information misleading; and all documents accompanying such Proposal are true copies of their respective originals.
2. This statement is made for the express purpose of appointment as the Consultant for the aforesaid Project.
3. We shall make available to DMIC IITGNL any additional information it may deem necessary or require for supplementing or authenticating the Proposal.
4. We acknowledge the right of DMIC IITGNL to reject our application without assigning any reason or otherwise and hereby waive our right to challenge the same on any account whatsoever.
5. We certify that in the last 3 (three) years, we have neither failed to perform on any contract, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Applicant, nor been expelled from any project or contract by any public authority nor have had any contract terminated by any public authority for breach on our part.
6. We declare that:
 - a) We have examined and have no reservations to the RFQ cum RFP, including any Addendum issued by the Authority;

- b) We do not have any conflict of interest in accordance with the terms of the RFQ cum RFP;
 - c) We have not directly or indirectly or through an agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as defined in the RFQ cum RFP document, in respect of any tender or request for proposal issued by or any agreement entered into with DMIC IITGNL or any other public sector enterprise or any government, Central or State; and
 - d) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.
7. We understand that you may cancel the selection process at any time and that you are neither bound to accept any Proposal that you may receive nor to select the Consultant, without incurring any liability to the Applicants.
 8. We declare that we are not a member of any other Consortium/JV applying for selection as a Consultant.
 9. We certify that in regard to matters other than security and integrity of the country, we or any of our affiliates have not been convicted by a court of law or indicted or adverse orders passed by a regulatory authority which would cast a doubt on our ability to undertake the Consultancy for the Project or which relates to a grave offence that outrages the moral sense of the community.
 10. We further certify that in regard to matters relating to security and integrity of the country, we have not been charge-sheeted by any agency of the Government or convicted by a court of law for any offence committed by us or by any of our affiliates. We further certify that neither we nor any of our consortium members have been barred by the central government, any state government, a statutory body or any public sector undertaking, as the case may be, from participating in any project or bid, and that any such bar, if any, does not subsist as on the date of this RFQ cum RFP.
 11. We further certify that no investigation by a regulatory authority is pending either against us or against our affiliates or against our CEO or any of our Directors/ /Authorized Signatory.
 12. We hereby irrevocably waive any right or remedy which we may have at any stage at law or howsoever otherwise arising to challenge or question any decision taken by DMIC IITGNL in connection with the selection of Consultant or in connection with the selection process itself in respect of the above-mentioned Project.
 13. We agree and understand that the proposal is subject to the provisions of the RFQ cum RFP document. In no case, shall we have any claim or right of whatsoever nature if the consultancy for the Project is not awarded to us or our proposal is not opened or rejected.
 14. We agree to keep this offer valid for one hundred eighty (180) days from the PDD specified in the RFQ cum RFP.
 15. A Power of Attorney in favour of the authorised signatory to sign and submit this Proposal and documents is attached herewith.
 16. In the event of our being selected as the Consultant, we agree to enter into a Contract in accordance with the contract prescribed in the RFQ cum RFP. We agree not to seek any changes in the aforesaid form and agree to abide by the same.

17. We have studied RFQ cum RFP and all other documents carefully. We understand that except to the extent as expressly set forth in the Contract, we shall have no claim, right or title arising out of any documents or information provided to us by DMIC IITGNL or in respect of any matter arising out of or concerning or relating to the selection process including the award of consultancy.
18. The Technical and Financial Proposal is being submitted in a separate cover. This Prequalification Proposal read with the Technical and Financial Proposal shall constitute the application which shall be binding on us.
19. We agree and undertake to abide by all the terms and conditions of the RFQ cum RFP Document.
20. We have few suggestions about conditions of the RFQ cum RFP and the same have been enclosed as annexure to this form. Client may consider the same at its discretion.

We remain,

Yours sincerely,

Authorized Signature [In full and initials]:

Name and Title of Signatory:

Name of Firm:

Address:

(Name and seal of the Applicant/Member in Charge)

Form 3B: Format for Pre-qualification Proposal (eligible projects)

Project Specific Experience

[Using the format below, provide information on each assignment for which your firm, and each associate for this assignment, was legally contracted either individually as a corporate entity or as one of the major companies within a JV/ consortium for carrying out consulting services similar to the ones requested under this assignment.]

- USE PROJECTS WITH COPY OF PROOF OF EXPERIENCE AS REQUIRED FOR MEETING THE MINIMUM QUALIFICATION CRITERIA PRESCRIBED.
- PROJECTS WITHOUT THE PROOF OF EXPERIENCE FROM RESPECTIVE CLIENT WILL NOT BE CONSIDERED. ALSO REFER 2.7.3.

Assignment Name and project cost:	Approx. value of the contract (in INR in Crore):
Country: Location within country:	Duration of assignment (months):
Name of Client:	Total No. of staff-months of the assignment:
Address:	Approx. value of the services provided by your firm under the contract (in INR in Crore):
Start Date (Month/Year): Completion Date (Month/Year):	No. of professional staff – months provided by associated Consultants:
Name of Lead Partner:	Name of senior professional staff of your firm involved and functions performed (indicate most significant profiles such as Project Director/Coordinator, Team Leader):
Name of Associated Consultants, If any:	
Narrative Description of Project: (highlight project cost in the narration)	
Description of actual services provided by your staff within the assignment:	

Firm's Name:

Authorized Signature:

Note:

In case fee was paid in currency other than Indian Rupees, the exchange rate should be considered based on TT buying rates of SBI as of 5 working days before submission closing date for the purpose of conversion.

Please limit the description of the project in two A4 size single-sided sheets of paper (one A4 size sheet of paper if printed on both sides). Descriptions exceeding two A4 size sheet of paper shall not be considered for evaluation.

Form 3C: Format for Pre-qualification Proposal (Average Annual turnover from consulting business of the applicant)

S. No.	Financial years	Average Annual turnover from consulting business of the applicant(INR)
1.	2014-2015	
2.	2015-2016	
3.	2016-2017	
	Average for three years	[indicate sum of above divided by 3]

Certificate from the Statutory Auditor

This is to certify that [name of company] [registered address] has received the payments shown above against the respective years.

Name of Authorized Signatory

Designation

Name of firm

Signature of Authorized Signatory

Seal of Audit firm

Note:

- i. In case of a consortium, above form has to be submitted for each consortium member and Minimum Eligibility Criteria for revenue should be satisfied by the Member-in-charge.
- ii. In case the Consultant does not have a statutory auditor, it may provide the certificate from its Chartered Accountant.

Form 3D: Format for Joint Bidding Agreement (in case of JV/ consortium)

(To be executed on stamp paper of appropriate value)

THIS JOINT BIDDING AGREEMENT is entered into on this the [date in words] day of [month in words] [year in 'yyyy' format].

AMONGST

1. [Name of company], a company incorporated under the Companies Act, 1956 and having its registered office at [registered address] (hereinafter referred to as the "First Part" which expression shall, unless repugnant to the context include its successors and permitted assigns); AND,

2. [Name of company], a company incorporated under the Companies Act, 1956 and having its registered office at [registered address] (hereinafter referred to as the "Second Part" which expression shall, unless repugnant to the context include its successors and permitted assigns); AND,

3. [Name of company], a company incorporated under the Companies Act, 1956 and having its registered office at [registered address] (hereinafter referred to as the "Third Part" which expression shall, unless repugnant to the context include its successors and permitted assigns);

The above-mentioned parties of the [FIRST, SECOND AND THIRD] PART are collectively referred to as the "Parties" and each is individually referred to as a "Party".

WHEREAS,

- a) DMIC Integrated Industrial Township Greater Noida Limited, a company incorporated under the Companies Act, 1956, having its registered office at H-169 Chitvan Estate, Sector Gamma – II, Greater Noida, Gautam Budh Nagar, Uttar Pradesh 201308, India (hereinafter referred to as the "Authority" which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) has invited proposals ("the Applications") by its Request for Qualification cum Request for Proposal No. [number] dated [date] (the "RFQ cum RFP") for appointment of consultant for [name of assignment] (the "Consultancy"). The Parties are interested in jointly bidding for the Consultancy as members of a Consortium and in accordance with the terms and conditions of the RFQ cum RFP document and other bid documents in respect of the Consultancy, and
- b) It is a necessary condition under the Consultancy document that the members of the Consortium shall enter into a Joint Bidding Agreement and furnish a copy thereof with the Application.

NOW IT IS HEREBY AGREED as follows:

1. Definitions and interpretations: In this Agreement, the capitalised terms shall, unless the context otherwise requires, have the meaning ascribed thereto under the RFQ cum RFP.
2. Consortium
 - a) The Parties do hereby irrevocably constitute a consortium (the "Consortium") for the purposes of jointly participating in the selection process for the Consultancy.

- b) The Parties hereby undertake to participate in the Bidding process only through this Consortium and not individually and/ or through any other consortium constituted for this Consultancy, either directly or indirectly or through any of their Affiliates.
3. Covenants: The Parties hereby undertake that in the event the Consortium is declared the selected Consultant and awarded the Consultancy, the Parties shall enter into a contract for consultancy services ("Contract") with the Authority and for performing all obligations as the Consultant in terms of the Contract for the Consultancy.
4. Role of the parties: The Parties hereby undertake to perform the roles and responsibilities as described below:
 - a) Party of the First Part shall be the Member in Charge of the Consortium and shall have the power of attorney from all Parties for conducting all business for and on behalf of the Consortium during the selection process for the Consultancy and until the Effective Date under the Contract;
 - b) Party of the Second Part shall be [role]; and
 - c) Party of the Third Part shall be [role]; and,
5. Joint and Several Liability: The Parties do hereby undertake to be jointly and severally responsible for all obligations and liabilities relating to the Consultancy and in accordance with the terms of the RFQ cum RFP and the Contract, for the performance of the Contract.
6. Member in-charge: Without prejudice to the joint and severe liability of all the Parties, each Party agrees that it shall exercise all rights and remedies under the Contract through the Member in Charge and the Authority shall be entitled to deal with such Member in Charge as the representative of all Members. Each Party agrees and acknowledges that:
 - a) any decision (including without limitation, any waiver or consent), action, omission, communication or notice of the Member in Charge on any matters related to the Contract shall be deemed to have been on its behalf and shall be binding on it. The Authority shall be entitled to rely upon any such action, decision or communication from the Member in Charge;
 - b) consolidated invoices for the services in relation to the Consultancy performed by all the Members shall be prepared and submitted by the Member in Charge and the Authority shall have the right to release payments solely to the Member in Charge and the Authority shall not in any manner be responsible or liable for the inter se allocation of payments, works etc. among the Parties;
 - c) any notice, communication, information or documents to be provided to the Consultant shall be delivered to the authorized representative of the Consultant (as designated pursuant to the Contract) and any such notice, communication, information or documents shall be deemed to have been delivered to all the Parties.
7. Representation of the Parties: Each Party represents to the other Parties as of the date of this Agreement that:
 - a) Such Party is duly organised, validly existing and in good standing under the laws of its incorporation and has all requisite power and authority to enter into this Agreement;

- b) The execution, delivery and performance by such Party of this Agreement has been authorised by all necessary and appropriate corporate or governmental action and a copy of the extract of the charter documents and board resolution/ power of attorney in favour of the person executing this Agreement for the delegation of power and authority to execute this Agreement on behalf of the Party is annexed to this Agreement, and will not, to the best of its knowledge:
- (i) require any consent or approval not already obtained;
 - (ii) violate any Applicable Law presently in effect and having applicability to it;
 - (iii) violate the memorandum and articles of association, by-laws or other applicable organisational documents thereof;
 - (iv) violate any clearance, permit, concession, grant, license or other governmental authorisation, approval, judgment, order or decree or any mortgage agreement, indenture or any other instrument to which such Party is a party or by which such Party or any of its properties or assets are bound or that is otherwise applicable to such Party; or
 - (v) create or impose any liens, mortgages, pledges, claims, security interests, charges or Encumbrances or obligations to create a lien, charge, pledge, security interest, encumbrances or mortgage in or on the property of such Party, except for encumbrances that would not, individually or in the aggregate, have a material adverse effect on the financial condition or prospects or business of such Party so as to prevent such Party from fulfilling its obligations under this Agreement;
- c) this Agreement is the legal and binding obligation of such Party, enforceable in accordance with its terms against it; and
- d) there is no litigation pending or, to the best of such Party's knowledge, threatened to which it or any of its Affiliates is a party that presently affects or which would have a material adverse effect on the financial condition or prospects or business of such Party in the fulfillment of its obligations under this Agreement.
8. Termination: This Agreement shall be effective from the date hereof and shall continue in full force and effect until the Effective Date under the Contract, in case the Consultancy is awarded to the Consortium. However, in case the Consortium is not selected for award of the Consultancy, the Agreement will stand terminated upon intimation by the Authority that it has not been selected and upon return of the Bid Security by the Authority.
9. Miscellaneous
- a) This Joint Bidding Agreement shall be governed by laws of India.
 - b) The Parties acknowledge and accept that this Agreement shall not be amended by the Parties without the prior written consent of the Authority.

IN WITNESS WHEREOF THE PARTIES ABOVE NAMED HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.

SIGNED, SEALED & DELIVERED

For and on behalf of

MEMBER IN-CHARGE by:

[Signature]

[Name]

[Designation]

[Address]

SIGNED, SEALED & DELIVERED

For and on behalf of SECOND

PART by:

[Signature]

[Name]

[Designation]

[Address]

SIGNED, SEALED & DELIVERED

For and on behalf of THIRD

by:

[Signature]

[Name]

[Designation]

[Address]

In presence of:

1. [Signature, name and address of witness]
2. [Signature, name and address of witness]

Notes:

1. The mode of the execution of the Joint Bidding Agreement should be in accordance with the procedure, if any, lay down by the Applicable Law and the charter documents of the executant(s) and when it is so required, the same should be under common seal or official seal of all members.
2. Each Joint Bidding Agreement should attach a copy of the extract of the charter documents and documents such as resolution / power of attorney in favour of the person executing this Agreement for the delegation of power and authority to execute this Agreement on behalf of the Consortium Member.
3. For a Joint Bidding Agreement executed and issued overseas, the document shall be legalised by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney has been executed.

Form 3E: Format for Power of Attorney for Authorized Representative

Know all men by these presents, We, [name of organization and address of the registered office] do hereby constitute, nominate, appoint and authorise Mr. / Ms. [name], son/ daughter/ wife of [name], and presently residing at [address], who is presently employed with/ retained by us and holding the position of [designation] as our true and lawful attorney (hereinafter referred to as the "Authorised Representative"), with power to sub- delegate to any person, to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our Proposal for and selection as consultant for [name of assignment], to be developed by DMIC IITGNL (the "Authority") including but not limited to signing and submission of all applications, proposals and other documents and writings, participating in pre-bid and other conferences and providing information/ responses to the Authority, representing us in all matters before the Authority, signing and execution of all contracts and undertakings consequent to acceptance of our proposal and generally dealing with the Authority in all matters in connection with or relating to or arising out of our Proposal for the said Project and/or upon award thereof to us until the entering into of the Contract with the Authority.

AND, we do hereby agree to ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Authorised Representative pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Authorised Representative in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE, [name of organization], THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS [date in words] DAY OF [month] [year in 'yyyy' format].

For [name and registered address of organization]

[Signature]

[Name] [Designation]

Witnesses:

1. [Signature, name and address of witness]

2. [Signature, name and address of witness]

Accepted

Signature]

[Name]

[Designation]

[Address] Notes:

1. The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the

executant(s) and when it is so required the same should be under seal affixed in accordance with the required procedure.

2. Wherever required, the Applicant should submit for verification the extract of the charter documents and other documents such as a resolution/power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Applicant.
3. For a Power of Attorney executed and issued overseas, the document will also have to be legalised by the Indian Embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Applicants from countries that have signed The Hague Legislation Convention, 1961 are not required to be legalised by the Indian Embassy if it carries a conforming apostolic certificate.

Form 3F: Format for Power of Attorney for Lead Member of JV / consortium

(To be executed by all members of the Consortium)

Whereas the DMIC Integrated Industrial Township Greater Noida Limited (the “Authority”) has invited proposals from empanelled applicants for selection of consultant for [name of assignment] being developed under Delhi-Mumbai Industrial Corridor (DMIC) Project, (the “Consultancy”).

Whereas, [name of Party], [name of Party] and [name of Party] (collectively the “Consortium”) being Members of the Consortium are interested in bidding for the Consultancy in accordance with the terms and conditions of the Request for Qualification and Request for Proposal and other connected documents in respect of the Consultancy, and

Whereas, it is necessary for the Members of the Consortium to designate one of them as the Member in-charge with all necessary power and authority to do for and on behalf of the Consortium, all acts, deeds and things as may be necessary in connection with the Consortium’s bid for the Consultancy and its execution.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS,

We, [name of Party] having our registered office at [registered address], M/s. [name of Party], having our registered office at [registered address], and M/s. [name of Party], having our registered office at [registered address], (hereinafter collectively referred to as the “Principals”) do hereby irrevocably designate, nominate, constitute, appoint and authorise M/s [name of Member In-charge], having its registered office at [registered address], being one of the Members of the Consortium, as the Member In-charge and true and lawful attorney of the Consortium (hereinafter referred to as the “Attorney”) and hereby irrevocably authorise the Attorney (with power to sub- delegate to any person) to conduct all business for and on behalf of the Consortium and any one of us during the bidding process and, in the event the Consortium is awarded the Contract, during the performance of the services related to the Consultancy, and in this regard, to do on our behalf and on behalf of the Consortium, all or any of such acts, deeds or things as are necessary or required or incidental to the submission of its bid for the Consultancy, including but not limited to signing and submission of all applications, bids and other documents and writings, accept the Letter of Acceptance, participate in bidders’ and other conferences, respond to queries, submit information/documents, sign and execute contracts and undertakings consequent to acceptance of the bid of the Consortium and generally to represent the Consortium in all its dealings with the Authority, and/ or any other government agency or any person, in all matters in connection with or relating to or arising out of the Consortium’s bid for the Consultancy and/ or upon award thereof until the Contract is entered into with the Authority.

AND hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us/ Consortium.

IN WITNESS WHEREOF WE THE PRINCIPALS ABOVE NAMED HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS [date in words] DAY OF [month] [year in ‘yyyy’ format].

SIGNED, SEALED & DELIVERED

For and on behalf of

MEMBER IN-CHARGE by:

[Signature]

[Name]

[Designation]

[Address]

SIGNED, SEALED & DELIVERED

For and on behalf of SECOND

PART by:

[Signature]

[Name]

[Designation]

[Address]

SIGNED, SEALED & DELIVERED

For and on behalf of THIRD

by:

[Signature]

[Name]

[Designation]

[Address]

In presence of:

1. [Signature, name and address of witness]
2. [Signature, name and address of witness]

Notes:

1. The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal or official seal of all members.
2. Wherever required, the Applicant should submit for verification the extract of the charter documents and other documents such as a resolution/power of attorney in

favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Applicant.

3. For a Power of Attorney executed and issued overseas, the document will also have to be legalised by the Indian Embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Applicants from countries that have signed The Hague Legislation Convention, 1961 are not required to be legalised by the Indian Embassy if it carries a conforming apostolic certificate.
4. In case of consortium, above Performa to be submitted for each consortium member and minimum eligibility criteria for revenue should be satisfied by the lead member.

Form 3G: Technical Proposal Submission Form

[Location, Date]

To
Managing Director
DMIC Integrated Industrial Township Greater Noida Limited
H-169 Chitvan Estate, Sector Gamma – II, Greater Noida,
Gautam Budh Nagar, Uttar Pradesh 201308
Phone: +91 120 4256 300
Email: gmplnggnida@gmail.com, pnd.iitgnl@gmail.com, tenders@dmicdc.com

RFQ cum RFP dated [date] for selection of consultant for [name of assignment]

Dear Sir,

With reference to your RFQ cum RFP Document dated [date], we, having examined all relevant documents and understood their contents, hereby submit our Technical Proposal for selection as [name of assignment]. The Proposal is unconditional and unqualified.

We are submitting our Proposal as [sole applicant/ JV] [with] [insert a list with full name and address of each Joint Venture/ consortium Consultant].

If negotiations are held during the period of validity of the Proposal, we undertake to negotiate in accordance with the RFQ cum RFP. Our Proposal is binding upon us, subject only to the modifications resulting from technical discussions in accordance with the RFQ cum RFP.

We understand you are not bound to accept any Proposal you receive.

Further:

1. We acknowledge that DMIC IITGNL will be relying on the information provided in the Proposal and the documents accompanying the Proposal for selection of the Consultant, and we certify that all information provided in the Proposal and in the supporting documents is true and correct, nothing has been omitted which renders such information misleading; and all documents accompanying such Proposal are true copies of their respective originals.
2. This statement is made for the express purpose of appointment as the Consultant for the aforesaid Project.
3. We shall make available to DMIC IITGNL any additional information it may deem necessary or require for supplementing or authenticating the Proposal.
4. We acknowledge the right of DMIC IITGNL to reject our application without assigning any reason or otherwise and hereby waive our right to challenge the same on any account whatsoever.
5. We certify that in the last 3 (three) years, we have neither failed to perform on any contract, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Applicant, nor been expelled from any project or contract by any public authority nor have had any contract terminated by any public authority for breach on our part.
6. We declare that:

- a) We have examined and have no reservations to the RFQ cum RFP, including any Addendum issued by the Authority;
 - b) We do not have any conflict of interest in accordance with the terms of the RFQ cum RFP;
 - c) We have not directly or indirectly or through an agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as defined in the RFQ cum RFP document, in respect of any tender or request for proposal issued by or any agreement entered into with DMIC IITGNL or any other public sector enterprise or any government, Central or State; and
 - d) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.
7. We understand that you may cancel the selection process at any time and that you are neither bound to accept any Proposal that you may receive nor to select the Consultant, without incurring any liability to the Applicants.
 8. We declare that we are not a member of any other Consortium/JV applying for selection as a Consultant.
 9. We certify that in regard to matters other than security and integrity of the country, we or any of our affiliates have not been convicted by a court of law or indicted or adverse orders passed by a regulatory authority which would cast a doubt on our ability to undertake the Consultancy for the Project or which relates to a grave offence that outrages the moral sense of the community.
 10. We further certify that in regard to matters relating to security and integrity of the country, we have not been charge-sheeted by any agency of the Government or convicted by a court of law for any offence committed by us or by any of our affiliates. We further certify that neither we nor any of our consortium members have been barred by the central government, any state government, a statutory body or any public-sector undertaking, as the case may be, from participating in any project or bid, and that any such bar, if any, does not subsist as on the date of this RFQ cum RFP.
 11. We further certify that no investigation by a regulatory authority is pending either against us or against our affiliates or against our CEO or any of our Directors/ / Authorised Signatory.
 12. We hereby irrevocably waive any right or remedy which we may have at any stage at law or howsoever otherwise arising to challenge or question any decision taken by DMIC IITGNL in connection with the selection of Consultant or in connection with the selection process itself in respect of the above-mentioned Project.
 13. We agree and understand that the proposal is subject to the provisions of the RFQ cum RFP document. In no case, shall we have any claim or right of whatsoever nature if the consultancy for the Project is not awarded to us or our proposal is not opened or rejected.
 14. In the event of our being selected as the Consultant, we agree to enter into a Contract in accordance with the contract prescribed in the RFQ cum RFP. We agree not to seek any changes in the aforesaid form and agree to abide by the same.
 15. We have studied RFQ cum RFP and all other documents carefully. We understand that except to the extent as expressly set forth in the Contract, we shall have no claim, right or

title arising out of any documents or information provided to us by DMIC IITGNL or in respect of any matter arising out of or concerning or relating to the selection process including the award of consultancy.

16. The Financial Proposal is being submitted in a separate cover. This Technical Proposal read with the Financial Proposal shall be binding on us.
17. We agree and undertake to abide by all the terms and conditions of the RFQ cum RFP Document.

We remain,

Yours sincerely,

Authorized Signature [In full and initials]:

Name and Title of Signatory:

Name of Firm:

Address:

(Name and seal of the Applicant/Member in Charge)

Form 3H: Applicant's Experience – Technical Proposal

[Using the format below, provide information on each assignment for which your firm, and each associate for this assignment, was legally contracted either individually as a corporate entity or as one of the major companies within a JV/ consortium for carrying out consulting services similar to the ones requested under this assignment.]

- USE PROJECTS WITH COPY OF PROOF OF EXPERIENCE
- PROJECTS WITHOUT THE PROOF OF EXPERIENCE FROM RESPECTIVE CLIENT WILL NOT BE CONSIDERED.

Assignment Name and project cost:	Approx. value of the contract (in INR in Crore):
Country: Location within country:	Duration of assignment (months):
Name of Client:	Total No. of staff-months of the assignment:
Address:	Approx. value of the services provided by your firm under the contract (in INR in Crore)
Start Date (Month/Year): Completion Date (Month/Year):	No. of professional staff – months provided by associated Consultants:
Name of Lead Partner:	Name of senior professional staff of your firm involved and functions performed (indicate most significant profiles such as Project Director/Coordinator, Team Leader):
Name of Associated Consultants, If any:	
Narrative Description of Project: (highlight project cost in the narration)	
Description of actual services provided by your staff within the assignment:	

Firm's Name:

Authorized Signature:

Note:

- In case fee was paid in currency other than Indian Rupees, the exchange rate should be considered based on TT buying rates of SBI as of 5 working days before submission closing date for the purpose of conversion.
- Please limit the description of the project in two A4 size single-sided sheets of paper (one A4 size sheet of paper if printed on both sides). Descriptions exceeding two A4 size sheet of paper shall not be considered for evaluation.

**Form 3I: Comments and Suggestions on the Terms of Reference and on Counterpart Staff
and Facilities to be provided by the Client**

A: On the Terms of Reference

- 1.
- 2.
- 3.
- 4.
- 5.

B: On the data, services and facilities to be provided by the Client

- 1.
- 2.
- 3.
- 4.
- 5.

C: On Technical Proposal

- 1.
- 2.
- 3.

D: General Comments

- 1.
- 2.

Form 3J: Description of Approach, Methodology and Work Plan for Performing the Assignment

Project Management and Technical approach with methodology and work plan are key components of the Technical Proposal. The consultant is suggested to present its Technical Proposal divided into the following chapters:

- A. Project Management Approach
- B. Technical Approach and Methodology,
- C. Work Plan, and
- D. Organisation and Staffing.

- **Project Management Approach:** In this section the consultant shall explain its overall philosophy with project management, the systems, tools and processes used to manage the cost and schedule. Specifically, the consultant must describe how it will organize and deliver the project management tasks/deliverables required in Terms of Reference. Please limit the discussion to four (04) single sided pages (two double sided pages). Discussions greater than this limit shall not be considered for evaluation.
- **Technical Approach and Methodology:** In this chapter the consultant should explain the understanding of the objectives of the assignment including project appreciation, approach to the services, methodology for carrying out the activities to obtain the expected output and the degree of detail of such output. The consultant should highlight the problems to be addressed along with their importance and explain the technical approach the consultant would adopt to address them. The consultant should also explain the proposed methodologies to adopt and highlight the compatibility of those methodologies with the proposed approach. Please limit the discussion to 20 single sided pages (10 double sided pages). Discussions greater than this limit shall not be considered for evaluation.
- **Work Plan:** In this chapter the consultant should propose the main activities of the assignment, their content and duration, phasing and interrelations, milestones (including interim approvals by the Client) and delivery dates of the reports. The proposed work plan should be consistent with the project management and technical approach and methodology, showing understanding of the TOR and ability to translate them into a feasible working plan. A list of the final documents, including reports, drawings, and tables to be delivered as final output, should be included here. The work plan should be consistent with the Proposal.
- **Organisation and Staffing.** In this chapter the consultant should propose the structure and composition of the proposed team. The consultant should list the main disciplines of the assignment, the key expert responsible, and proposed technical and support staff.

Form 3K: Team Composition and Task Assignments

1. Professional staff*				
Name of staff	Firm	Area of expertise	Position assigned	Tasks assigned

2. Support staff				
Name of staff	Firm	Area of expertise	Position assigned	Tasks assigned

*Consultants, who are executing ongoing mandates from DMIC IITGNL, must propose a separate team of key staff while bidding for this project. The key staff proposed above should be available for presentations/ discussions/ meetings with the DMIC IITGNL, State Government etc.

Form 3L: Curriculum Vitae for Proposed Professional Staff (with one page of summary of experience)

1.	Proposed position	
2.	Name of firm	
3.	Name of staff	[First] [Middle] [Surname]
4.	Date of birth	[March 20, 1979]
5.	Nationality	
6.	Education	[Indicate college/university and other specialized education of staff member, giving names of institutions, degrees obtained, and year of obtainment starting from the latest degree]
7.	Membership of Professional Organizations	
8.	Training & Publications	[Indicate significant training since education degrees (under 5) were obtained]
9.	Countries of Work Experience	[List countries where staff has worked in the last ten years]

10.	Languages	Language	Proficiency (good/ fair/ poor)		
			Speaking	Reading	Writing
		English			

11.	Employment record [Starting with present position, list in reverse order every employment held by staff member since graduation]	Name of Organization	Position held	Duration
				YYYY to present
12.	Details of tasks assigned			

13.	<u>Work Undertaken that Best Illustrates Capability to Assigned Handle the Tasks Assigned</u>	[Among the assignments in which the Staff has been involved, most importantly describe in depth explaining components handled / contribution made with specific reference to ToR for those assignments that best illustrate staff capability to handle the tasks assigned] Name of assignment or project: Year: Location: Client: Project Cost: Main project features: Positions held: Activities performed:
14.		Name of assignment or project: Year: Location: Client: Project Cost: Main project features: Positions held: Activities performed:
15.	Certification	I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.

Signature	Signature
Date: [dd/mm/yyyy]	Date: [dd/mm/yyyy]
Name of staff member:	Name of Authorized Signatory:

Note:

Please restrict the number of pages per CV to four (04) pages (two sheets if printed both sides). The one-page summary shall be over and above the four (04) page CV. Pages in the CV greater than these limits shall not be considered for evaluation.

Key staff may preferably be positioned from references qualified.

Form 3M: Staffing schedule (template)

2. Staff-Deployment Matrix														
Sr. No.	Name of Personnel	Position Assigned	Location	InceptionReport Mobilisation...				Work stage deliverables, D+1 months				Man-Weeks		
				W	W	W	W	W	W	W	W	Onsite	Offsite	Total
				1	2	3	...	1	2	3	...			
1			Onsite											
			Offsite											
2			Onsite											
			Offsite											
3			Onsite											
			Offsite											
4			Onsite											
			Offsite											
Totals														
Sr. No.	Name of Personnel	Position Assigned	Location	Work Stage Deliverable D+.. months				Work Stage Deliverable D+.. months				Man-Weeks		
				W	W	W	W	W	W	W	W	Onsite	Offsite	Total
				1	2	3	...	1	2	3	...			
1			Onsite											
			Offsite											
2			Onsite											
			Offsite											
3			Onsite											
			Offsite											
4			Onsite											
			Offsite											
Totals														
Staffing Sheet Grand Total												XX	XX	XX
1	Total engagement is expected to be 4.5 years long including 1 years of parallel operate period with SI.													
2	All staff members contained in the staffing schedule are expected to work for a minimum effective 8 hours (excluding lunch, tea breaks etc.) per day for the job in reference.													
3	Man weeks will be counted from the start of the assignment. For each resource assignment, state separately assignment hours for On-site and Off-site work. All key and support staff should be covered in above staffing schedule. Most key and support staff, obviously are needed on as required basis and not on continuous basis. The schedule of key and support staff requirements must match with schedule of deliverables stated elsewhere in the RFQ cum RFP. Please use													

	additional sheet to cover details until end of the project.
4	Offsite means resource stationed in the Consultant's own office premises. 'Onsite' means resource stationed at Project Office in Greater Noida or National Capital Region (or any place asked by Client from time to time).
5	<i>Manpower to be factored for complete scope of work. Though this is fixed price assignment, it is essential for the consultant to provide the above requested details. The above schedule will be monitored by client/PMNC for committed staffing; any short deployment on site and / or offsite will be subject to curtailment of payments due for the milestone to ICT Consultant. (Client reserves the right to solely decide the curtailment amount from dues of ICT Consultant).</i>
6	<i>All-inclusive charges to be quoted in financial bid which should cover all costs for the entire scope of the job in reference (manpower + all other expenses). Site office establishment and running expenses, per diem or any travelling or accommodation expenses or any type of out of pocket expenses will not be reimbursed by Client. Only payments as stated against milestone deliverables and as per percentage criteria stated elsewhere will be due after complete and successful achievement of milestones and no other payments, what so ever, will be made. Price bid should separately state all-inclusive daily rates (offsite and on site) of all the resources for the purpose, this is in Client wishes to retain for a short period few resources after completion of assignment or engage resources for an assignment different to IIT.</i>
7	As part of scope of work, the key and support staff proposed should be available in person for presentations, discussions, meetings or for any other official purposes to DMIC IITGNL, State Government and its agencies, City SPV, Central Govt. Departments / Agencies in Noida, etc. or elsewhere on as required basis and / or as asked by client from time to time. Scope of work requirements detailed elsewhere in this RFQ cum RFP also include key and support staff to visit regularly all involved agencies such as for, collecting inputs, holding regular discussions / meetings, apprising progress, holding discussions on approach / walk thru's on proposed solutions before delivery of each and every milestone (including sign offs from respective agencies before PMNC's approval for respective milestones) etc. and visits involved for any other purposes.

Form 3N: Work Schedule

A. Field investigations and study teams

S. No.	Activity	Months (in the form of a bar chart)							Total (months)
		M1	M2	M3	M4	M5	M6	n	
	Part A								
	Part B								
	Part B (1)								
	Part B (2)								
	Part B (3)								
	Part C								
	Total								

B. Completion and submission of reports

S. No.	Reports	Program (date)
	Part A	
	Part B	
	Part B (1)	
	Part B (2)	
	Part B (3)	
	Part C	

Section 4 Financial Proposal – Standard Forms

- Form 4A: Financial Proposal Submission Form
- Form 4B: Summary of Costs
- Form 4C: Breakdown of Costs
- Form 4D: Breakdown of Remuneration Of key staff
- Form 4E: Breakdown of Out of Pocket Expenses

Form 4A: Financial Proposal Submission Form

[Location]

[Date]

To

Managing Director

DMIC Integrated Industrial Township Greater Noida Limited

Greater Noida Industrial Development Authority.

H-169 Chitvan Estate, Sector Gamma – II, Greater Noida,

Gautam Budh Nagar, Uttar Pradesh 201308

Phone: +91 120 4256 300

Email: gmpinggnida@gmail.com, pnd.iitgnl@gmail.com, tenders@dmicdc.com

Dear Sir,

Subject: Consultancy Services for [name of assignment].

We, the undersigned, offer to provide the consulting services for [name of assignment] in accordance with your Request for Qualification cum Request for Proposal dated [date] and our Proposal. Our attached Financial Proposal is for the sum of [amount(s) in words and figures].

Our Financial Proposal shall be binding upon us subject to the modifications resulting from arithmetic corrections, if any, up to expiration of the validity period of the Proposal, i.e. [date].

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".

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature [In full and initials]:

Name and Title of Signatory:

Name of Firm:

Address:

Form 4B: Summary of Costs

Item	Cost (INR)	
	Amount in words	Amount in figures
Costs of Financial Proposal till SI Selection stage * (Except Goods & Services Tax but including all other taxes)- Form 4C – “X”		
Costs of Financial Proposal for Project Monitoring and Handholding * (Except Goods & Services Tax but including all other taxes) – “Y”		
Goods & Services Tax- (Y)		
Total cost of Financial Proposal – (X+Y)		

Goods & Services Tax would be payable at the applicable rates as may be in force from time to time.

* The cost of Financial Proposal should match with the break-up of the costs given as per the Form 4C, 4D and 4E.

Form 4C: Breakdown of Costs

Cost Component	Amount in words (INR)	Amount in figures (INR)
Remuneration (Form 4D)		
Out of pocket expenses (Form 4E)		
Cost of financial proposal		

Form 4D: Breakdown of Remuneration of key staff and Support Staff

Name of staff	Position	Staff month rate	Input (staff months)	Amount INR
a) Design Phase:				
b) Implementation and Operation Phase:				
Total				

Form 4E: Breakdown of Out of Pocket Expenses

S. No.	Description	Unit	Unit cost	Quantity	Amount (INR)
a) Design Phase:					
	Per diem allowances (including board and lodging)	Day			
	Air Travel	Trip			
	Local travel expenses	Day			
b) Implementation and Operation Phase:					
	Per diem allowances (including board and lodging)	Day			
	Air Travel	Trip			
	Local travel expenses	Day			
	Total				

Section 5 Terms of Reference

Terms of Reference

5.1 Broad Scope of work

The Information & Communication Technology (ICT) Consultant shall be end to end responsible, but not limited to the details contained in this RFQ cum RFP, for all the ICT activities for IIT Project at Greater Noida, such as developing the ICT master plan in line with the smart city vision set by DMICDC for the nodes under the corridor including consultation with stakeholders, detailing business / functional and technical specifications, working out best in class sustainable architectures / technologies, solutions and components (including providing of comparisons of different solutions with costs), detailed designing and evolving BOQs, working out budgets for all the ICT infrastructure items that are stated in this RFQ cum RFP. The Consultant will also be framing RFQ cum RFPs for engagement of System Integrator(s), defining transition and steady state operational requirements including KPIs and SLAs, working out various kinds of plans / schedules, integration requirements of city wide IT solutions and components. In operate phase, the Consultant co-owns the operations responsibility for initial one year.

In conjunction to above paragraph, the objective is to build ICT infrastructure for a world class, state of the art, but not limited to requirements, systems, solutions, components etc. that are contained this RFQ cum RFP. The Consultant is accordingly expected to develop ICT master plan and further design ICT solution that meet the objective of making Integrated Industrial Township Project, a new age / state of the art and world class smart city targeted to go live in 2019. Otherwise also any incidental activities needed for the completeness and / or successful implementation of smart city ICT infrastructure will be carried out by the Consultant as part of scope of this RFQ cum RFP.

The ICT initiative for IIT Project is to build a smart, socially and technologically attractive, sustainable world class city which will be one of the engines for economic growth of the region. ICT infrastructure is expected to add to the sustainable development / economic growth for the project inhabitants and create world class quality of life, along with a platform for efficient operations and administration for city's infrastructure. IIT is expected to be a city that would use Information and Communications Technology (ICT) as an underlying enabler pervasively, to integrate multiple essential disciplines of city such as governance, healthcare, safety and security, education, industrial growth, utilities, economy etc.

The Consultant shall create a level playing field for all ICT solutions, components, elements etc. for the SI applicants by evolving a common frame work containing detailed design, as much as creating a low level blue print of all the systems, subsystems, components etc. involved along with other details such as BoQ etc. The details must be worked out objectively to the last level with no room for any assumptions and / or subjectivity and / or qualifiers and / or caveat statements (All elements must be comfortably measurable and implementable). The level of details to be worked out should be to the satisfaction of client / PMNC. All the details along with other workings (as detailed elsewhere in the RFQ cum RFP) be stated in RFQ cum RFP for selection of SI. Client/ PMC reserve the right to ask additional details from Consultant, as felt appropriate and from time to time as part of scope of work in reference.

The Consultant will be responsible for end to end ICT solutions for all the components of ICT Infrastructure, will follow a disciplined approach for defining, implementation, integration and migration to operations of full spectrum of ICT infrastructure and services

that will constitute diverse hardware and software technologies for creating a comprehensive information and communication technology infrastructure. Needless to repeat the ICT infrastructure shall be built as applicable and matching to any world class smart city. It shall include but not limited to detailed designing of customized architecture of Information and Communication Technology diverse subs systems, integrating with hardware, packaged / specifically customised software / applications and communications equipment, city wide utilities/infrastructure, sensors etc.

In case Client /PMC or its nominee finds any work executed by the Consultant not being world class and / or not matching to smart city and / or not being state of the art, Client/PMC reserves the right to reject the same and ask for replacement and / or re-work as per the scope of this RFQ cum RFP.

ICT Towers in Scope for Smart City

The goal is to ensure best-in-class, state-of-the-art and sustainable ICT technologies and solutions are adopted, deployed and enabled in line with the world class smart cities (though such requirements have not been defined end to end in this document), but falls in the scope of the Consultant hence, scope is not limited to the following.

The Consultant is expected to recommend latest sustainable technologies that are relevant, futuristic and aligned to the actual deployment cycle without any risk of obsolesce as the go live is slated for 2019.

Tower -1 City's Integrated Operations Centre (CIOC): City's Integrated Operations Centre will preferably be one integrated multipurpose set of centres (under one roof in ICT building) for complete City Surveillance, Traffic Monitoring and Management, Emergency Response, Disaster Management and host of other functions of any world class smart city including for enabling city operations such as Police, Fire, Ambulance, Traffic, etc. to co-ordinate and respond to integrated and efficient manner to all routine operations and emergency events. CIOC will also include other facilities (under same roof) such as Network Operations Centre, respective Utilities Centres, One Window Service Desk, City Contact Centre(s) etc. IOC will also integrate necessary infrastructure of city utilities and infrastructure and / or SCADA and / or display SCADA replicas, applications and platforms (as required) by city utilities, civil infrastructure from the perspective of co-ordinated and / or island operations, monitoring, display, alerting, reporting etc.

It is expected that the City IOC should have the following but not limited to:

1. Command and Control Centre including City wide video surveillance package (to include all kinds of cameras for video surveillance, city wide network (active and passive), video wall etc. per requirements of a world class smart city. The apps have been stated separately.
2. Emergency Response Centre (for handling crisis situations, including riots /floods etc.)
3. Situation Room(s) (single integrated or multiple covering specific areas)
4. Intelligent Traffic Management for the City (end to end), including infrastructure for City wide signalling management, relaying traffic information over GSM for passengers (city wide variable message sign boards and by way of audio means at select places in the city). Means shall also be included for parking management and public transport management system.
5. RTO Operated – Traffic information / Rerouting in the city over city wide signage, traffic violation detection and automatic fine enforcement infrastructure (ANPR / RLVD etc.) (Functions such as ticket dispatching, reminder sending, revenue

- collection, etc. be covered as minimum.). It will also have infrastructure for identifying and alarming tagged / earmarked vehicles.
6. City Cockpit / Dash Board (overlapping with tower 6)
 7. Point of Presence (Active + Passive) Room + Main Receiving Room (Meet me room) etc.
 8. Network Operations Centre (with enterprise management system)
 9. Mini SCADAs (replica centres for utilities / individual or combined per common synergies) will be all located in individual rooms around Command and Control Centres. Mini / (replica) SCADA centres will be created for all the city utilities (including Smart Grid, water, potable, drainage, sewage, waste, gas, electricity, air quality monitoring, noise mapping, etc.) and other city infrastructure. This would serve the functions related to coordinated / island functions for operations, monitoring, displaying, eventing, alarming, operations (selected) etc. and for reporting for all the city utilities. Everything that is displayable in mini SCADA centres around CCC, would also be displayable in command and control centre too (the required arrangement for display in both / multiple places be designed).
 10. City Wide Variable Message System / display units (handled from CCC) for traffic and other purposes.
 11. Remote Doctor Centre.
 12. Digital Community Centre (ground / first floor of ICT building).
 13. Healthcare Interaction Centre, PACS Centre, Health Information Exchange System, Electronic Patient Record System, Health Providers Info Systems etc.
 14. E-GOV Up keep centre
 15. Other Applications up keep centre
 16. City portal upkeep centre
 17. Separate police control room (100, 1091) + (requirements details to be obtained / coordinated with Police department)
 18. Alarm Response Centre for city wide Intrusion / Burglar Alarm Systems (SMS) / City wide Help Points
 19. Fire Control Room (101) + Fire Alarms Monitoring Room (city wide)
 20. Call Centres for Ambulance (108)
 21. Call centres (common or individual) for utilities (the Consultant will present common or distributed call centres concept with merits and de-merits for Client / PMNC to decide the options)
 22. Central car parking management centre for smart (m) parking (all locations in the city)
 23. Common Service Desk for utilities
 24. Help Desk for e-Gov and other services
 25. Call centre for ICT
 26. Broadcast Centre for Educast
 27. Integration of CCC with / set up of Dial 100
 28. Integration of City wide help buttons (at select places all over the city)
 29. Integration of CCC with CCNS (per requirements of Police Department)
 30. Environment Sustainability Centre

The above is not a complete list of ingredients; City's Integrated Operations Centre must be designed and engineered in accordance with requirements of world class smart city and practices followed globally.

The layout of CIOC covering all the above requirements and requirements of a present day smart city will be worked out by Consultant. Likewise, the HVAC, power, roof and loading and all other required details in terms of civil, electrical, and mechanical disciplines will be worked out by Consultant.

Tower 2 – City Applications (including e-Governance) for Smart City that have been planned are

- Public Safety and Security
 - i. Citizen and authority interaction / one window interaction / fast and highly accurate single window resolution to citizens.
 - ii. Command and Control Centre (as described above and ideally to provide single view and point of control (as needed) over the entire city) for detection and prevention of crime and providing safe environment to establishments and residents, (application is part of tower 1), besides other things, application should be able to receive feeds from moving vehicles and inhabitants other command and control centres in future.
 - iii. City Surveillance System / Video Surveillance / with Analytics (app is part of tower 1) for real time detecting, logging information on accidents, fire, water clogging/leakage, traffic jam, vandalism, theft of open public property (street lights, traffic lights, power infrastructure, bill boards, variable message digital signage, equipment in bus shelters etc.), alerting about unauthorised / earmarked vehicle entry in the city. Should also cover alerting for activities such as tree chopping, putting unauthorised hoardings, encroachments, unauthorised excavation etc., besides should have:
 - 1. Features related to Information Discovery are considered.
 - 2. Should support GIS and commonly available packages such as Google maps etc.
 - 3. Event co-relations and integration for actionable intelligence to be considered.
 - 4. Combined structured and unstructured analytics to be considered
 - 5. Application / Video Analytics should also have facility to later plug in mega event planning facility that will cover at least, monitoring, risk mapping, repeatable models, simulation, protocols / rule engines, event management and control, planning based on similar past events, impact analysis, alarm and alert system, response mapping, managing eco system etc.
 - 6. Face recognitions facility for certain cases.
 - iv. Emergency Management
 - Prevention
 - Licensing and Compliance (e.g. building control, fire safety, HAZMAT etc.)Disaster Simulation and Forecast (usually with data from Sensors)
 - Trend & Impact Analysis, and
 - Threats Identification
 - Multi-mode mass alert system
 - Smart phone activated applications (SOS etc.)
 - Detection: Social medial feed receiving, processing, monitoring etc.
 - Response (Applications for emergency / crisis response systems)
 - Agency Level Computer Aided Dispatch (CAD),
 - Command & Control, Disaster Warning

- City Level Integrated Emergency Operations
 - Centre/Common Operating Picture (common with tower-1)
 - City Level Command & Control (e.g. rescue personnel, vehicles and logistics putting in action) (common with CCC)
 - Recovery
 - Disaster Victim Identification (DVI) & Registration etc.
 - Victims Assistance
 - Humanitarian Support and Logistics
 - Emergency Public Information & Interaction / Digital Public Safety Radio Communication
 - Cross-Agency Disaster Simulation, Exercise & Training application / facility
 - Resource Management System (for assets and personnel)
 - v. Details for HW / SW for Network Emergency Response Vehicle (with satellite communication / phone connectivity)
 - vi. Infrastructure for Mobile Resource Access over GSM network
 - vii. Smart Mobility – Details on smart phones / Other low bandwidth Cameras over GSM to feed the incidents to IOC.
 - viii. Asset Tracking (GPS / GSM etc.)
 - ix. CRM / EMS based ITIL compliant help desk / single point of contact for all the city services - other than emergency services (namely, police, fire, ambulance, 1091 etc.) (overlaps with CCC)
 - x. City wide Intelligent Street Lighting System (seamless integrating for operations, monitoring / dashboard display, reporting etc. with city ICT infrastructure to be scoped by Consultant, equipment will be supplied by roads and services contractor)
 - xi. Integration of City Wide Intrusion and Fire Alarm Systems for buildings other infrastructure
 - xii. Integration of building management systems for various types of selected establishments
- Education
- i. Unified Communication Services for Educational Facilities
 - ii. Content Broadcast
 - iii. Virtual Classroom / Education Video Conference
 - iv. Education Portal (in coordination with GoUP)
 - v. Campus wide wireless
- Transportation / Traffic
- i. Safety and Security (Video Surveillance)
 - ii. Video Analytics for Traffic and Auto Accident Detection
 - iii. Bollard Access Control (if applicable)
 - iv. Intelligent Transport System / Vehicle Management
 - 1. Dynamic Traffic Management
 - 2. Automatic / Integrated Signalling City wide with resiliency
 - 3. Cameras for enforcement of traffic rules (speed, jumping signal, bus lane violations, level crossing), with ANPR facility (where needed).
 - 4. RLVD and associated applications for RTO

5. Integration of ITMS with other systems
 6. Traffic rerouting / Vehicle Counting
 7. Traffic information display for commuters
 8. Charging stations for e-vehicles
 9. Terminal and transit digital Display
 10. Smart Car Parking (easy to find (over PDA / mobile phone etc., pay and use parking systems)
 11. Under vehicle scanning systems for select places
 12. Additionally, apps as described in Tower 1.
- Health Care
- i. Collaboration Platform (Intra / Inter Hospital)
 - ii. Desktop Collaboration Unified Communication (Voice / Video)
 - iii. Healthcare Interaction Centre / Health presence (Voice / Video)
 - iv. Healthcare – Automatic Vehicle Location
 - v. Remote Doctor (Videoconferencing + USB devices for patient's info)
 - vi. e-Health Repository / Medical Information Exchange (Health DB including use of Smart Card)
 - vii. Connected Imaging (PACS)
 - viii. Smart Health Card
 - ix. RFID based Asset Tracking
 - x. Electronic Prescription
 - xi. Environment / Pollution Monitoring System
 - xii. Additionally, apps as described in Tower 1
- Local Administration and Public Facilitation (including e -Governance) should cover but not limited to:
- i. Full blown Geo Spatial Information Management (combination of GIS (geographical information system) and SDI (spatial data infrastructure) with simulation and modelling facility). The system could be one single stack to include city essentials such as water, transport, waste, gas etc. The system would receive regular basic data from satellite (against subscription) and / or use Google maps. The system should be capable of displaying real time information of all the city utilities and infrastructure. The system will have to be integrated with respective SCADAs of utilities for data exchange/ monitoring, display, alerting, eventing, operations (select cases) etc.
 - ii. Urban Planning, Land use, Land and Estate Management / Records Management system (preferably to be part of (ii) above).
 - iii. Building permission, trade licencing etc.
 - iv. BIM cum City wide Infrastructure Management System (for collection and computation of city wide systems data based on SDI, GIS, SCADAS, ICT etc.) on preferably one single DB to be built for entire city. The system will also be used for various cockpits / dash boards across the city.
 - v. Resident Registration / Birth and death registration
 - vi. End to end utility monitoring and management systems with SCADA (Integrated remote monitoring, operations, control etc.) (as applicable), for Water, Electric Supply, Sewage, Drainage, Desalination, Gas Network, Waste Management, Flooding / Water

Logging, Smart Street Lighting etc. These applications will be from respective infrastructure owners, but they will have to be extended, integrated with city wide ICT and to be enabled for data acquisition for the purpose of providing monitoring, operations and control (selectively), display at required places in the city. The Consultant will own end to end responsibility for guiding and assisting infrastructure owners, for producing integrated detailed design (if needed integration of various infrastructure elements of different infrastructure / utilities will form part of Consultants integrated design) including for operational optimisation inputs and out puts, processes / parameters to be monitored, controlled (selectively) displayed, stored in databases, reported etc.). It may involve placing different SCADA and / or replicas or other display units at various places in the city. The concept about what needs to be controlled, monitored, displayed etc. from remote will be worked by Consultant along with utility discipline owner. Functions and responsibilities in this respect have been explained elsewhere too in this document. If the requirements of this point fit in the requirements specified above at i and iv, common package may be evolved by consultant. Though COTS applications are preferred, if needed full-fledged application may have to be designed in detail specifically for the purposes mentioned above. The detailed design will have to be carried out should be in accordance with ICT project life cycle described later in this RFQ cum RFP.

- vii. Single window clearance / facilitation for all the city services
- viii. Asset Management System for Public Infrastructure (including open public infra on the streets) with barcode / RFI technologies etc. (as contained in ERP tower also in GIS package).
- ix. Maintenance management system for public infrastructure (moveable / immovable public properties) (to be linked with ERP tower and GIS package)
- x. Public Grievances and Redressal
- xi. Digital Community Centre / Enquiry Management
- xii. Payment of different user charges over different modes
- xiii. Signage Network and for real time display including special announcements (display) across the city
- xiv. Resource Access for Mobile Employees of City Administration
- xv. Office Video Conference
- xvi. Touch screens around the city
- xvii. Smart Pole / Help Points
- xviii. Digital Island (Increasing / Extending Wi-Fi Coverage on Adhoc basis)
- xix. Location Based Services (Advertising Alerts Based on Area one is visiting - Digital Graffiti etc.)
- xx. Public Interactive Kiosks at select places
- xxi. Water Quality / Flood Monitoring, Air Quality Monitoring, Noise Level Mapping / Monitoring (including displays as needed)
- xxii. Applications for city (such as My Concern, Fix my Road or Fix my Streetlight/ or Fix my ... (any other city facilities), City programs etc.)
- xxiii. Open Government System, Citizen Services and Information Portal

xxiv. Other smart phone based applications for city.

- Common Applications
 - i. Workflows including Business Process Management for Interdepartmental / Governmental specific to Industrial Area Authority (overlapping with tower 3).
 - ii. Enterprise Content Management
 - iii. Applications supporting social feeds (where applicable)
 - iv. SMS Gateways
- Etc.

Tower 3- Enterprise Resource Planning and related applications (Customer Relationship Management, Business Intelligence / Data Warehouse etc.):

ERP should cover but not limited to all financial and logistics functions such as accounting budgeting, cost accounting, contracts management, P & L, treasury revenue management (property tax management etc.), project management, materials management (including inventories and ordering), city asset management for entire city's assets, asset maintenance (preventative and reactive), HCM, billing (for tax / revenue / other receivables), real estate Management, document management system, workflows (last three, if not covered in tower 2), plus applications / modules as required for other citizens services for a world class smart city etc. All the applications will cover city SPV and its sub SPVs for operations and reporting. Related applications should also be scoped for functionalities such as industry specific solutions for higher education, public works, public utilities (including billing and other functions for power, water, gas, waste management, other city utilities and city infrastructure) etc. Coverage of ERP and other associated applications shall encompass city functions and requirements for the same should be matching to a smart city be scoped by the Consultant for System Integrator's scope of work.

CRM is expected to be deployed but not limited to citizen's interaction centre as one of the functions. It will serve as citizens' interface for all the citizen requirements. Needless to repeat, among other applications, CRM will be omni channel enabled. CRM will be tightly linked with city portal. As a matter of fact, City Portal and / or CRM should act as single window for citizens for all of their requirements towards city administration and state government.

CRM will also be the tool for receiving service and other requests for city services over omni channel (or as applicable) including from applications such Fix my... (street light / water connection / power connection...etc.)... etc. as applicable to smart cities.

BI / DW shall provide comprehensive analytics for city authorities for various functions for operations, display, prognosis etc. BI will also send displays to cockpits etc.

SRM will handle suppliers/ contractors etc.

Utility packages as applicable for various city utilities must be scoped per requirements of world class smart cities.

Project shall have all eGov and ERP, IS-U, BI, CRM and other related applications of new age smart city (Application details contained in this document are not complete and the same shall be evolved and then detailed per scope to be described by the Consultant according to world class state of the art smart city). In this respect the Consultant has to suggest a comprehensive architecture of all to be applications for a world class and state

of the art smart city and essentially co-ordinate with GIL and Ministries or Departments concerned.

Though some of the applications have been mentioned in tower 2 for functional reasons, they may get bolted / form part of tower 3 for seamless functioning. Operational reporting will also be in graphs, charts, tables etc. as to be asked by Client / PMC, going forward.

Combined structured analytics are also to be considered for scoping.

Where needed, the applications will be omni channel enabled.

Comprehensive City Portal (from ERP family or island solution) as per requirements and practice of world class state of art smart cities to be scoped. In case client move with island solution, all interfaces will also have to be scoped.

Deployment of BIG DATA per practice of world class smart cities of west to be scoped.

Tower -4 – Data Centre and Disaster Recover Data Centre The Consultant should provide per its scope of activities including but not limited to end to end detailed design, engineering, specifications, BoQ and other workings etc. of IT infrastructure, (such as servers, storage devices, back up and retrieval devices, routing devices, active and passive devices, security devices, enterprise management system, cabling management and host of other required equipment), and non IT equipment details spanning, civil, mechanical, electrical disciplines (such as electrical switch boards, UPS, Diesel Generator, cabling, civil- flooring / roofing, layout details, mechanical- precision HVAC/ chillers, physical security devices, fire detection and protection, surveillance safety devices, integrated building management system and host of other equipment) for ordering and constructing data centre and disaster recovery data centre.

The Data Centre and DR site can be a purposeful built facility on-site or co-located with other established cloud service providers. It is the consultant's responsibility to work with the client to establish this requirement and make ready the detailed design accordingly. The proposed detailed design and associated workings of Data Centre and Data Recovery Centre and associated systems / components must match with world class smart city DC/ DRDC establishments. End to end DC related services to be catered to the citizens, tenants, government agencies and other stakeholders of the city must be state of the art. Aligned with cloud computing (where needed for tenants etc.) and consumption models (to be suggested by the Consultant), Data Centre should be planned with Modular Design, to host all the city applications listed in this RFQ cum RFP and ICT Master plan and as needed for city utilities, trunk and other infrastructure, etc. and matching to the requirements of a world class smart city. DR and DRDC facilities should be sized for at least Phase 1 end to end requirements and it should be scalable for future growth without shutdown. HW and other equipment to start with will be populated for scope stated above or as decided by client / PMC (after sufficient additional margin for expansion to be proposed by Consultant and decided / approved by Client / PMC). Sustainable business model and deployment options are to be proposed by the Consultant based on further diligence and understanding of precise business requirements. Disaster Recovery Center location is not yet decided, the same shall be worked out by Consultant keeping in view of all kinds of locational, business and other requirements in consultation with client side agencies. All expenses for work in scope of the Consultant for to be remotely located DRDC will be borne by the Consultant and no additional reimbursement of any kind will be payable by Client.

Requirements such as mains power, UPS, generators, earthing and host of other details along with their detailed design as required for constructing DC + DRDC will be worked out by ICT Consultant as part of end to end detailed design of DC + DRDC.

On-site Data Centre should be Uptime Institute's Tier III certified and must have all the end to end state of the art equipment. Certifications for all the applicable stages DC+DRDC will be obtained. The Consultant will obtain design stage certifications as applicable per Tier III specifications of Uptime Institute at its own cost for Data Centre and Disaster Recovery Data Centre. Consultant may factor in all such costs in its scope. Client /PMC reserves the right to ask for alternate and / or better and /or additional certifications at the time of go live, within Consultant's scope of work in reference.

SI will obtain certifications for stages other than design stage.

Enterprise management system (desirably having integrated ITIL modules for ITSM) will form part of Data Centre. Enterprise Management System is expected to be common thread for DC, DRDC, CIOC (and NOC in particular) etc.

Needless to state, Data Centre will also have regular systems such as DHCP, Federated Identity Management, / Single sign on/ AAA etc., security update servers for DC+DRDC and authorized user community, mail system, usage based internal billing system for user departments (for various services) etc.

The Consultant along with SI will demonstrate successful switching of DR to DRDC and back with full-fledged working features before go live. Vulnerability testing infra to also be considered for scoping.

Though for fall back purposes, DRDC has been specified as of now (as an interim alternative), consultant will assess other modes (including Active – Active Data Centres etc.) keeping in view of requirements of world class smart cities and specifics and Consultant should suggest the alternative that best fits from techno-economic stand point for the project. All the above-mentioned scope of work will be worked out by Consultant in accordance with the best fit alternative.

Client / PMC reserves the right to accept or reject the Consultant suggested alternative(s). In case client / PMC rejects consultant suggested alternative, PMC's suggested alternative be worked with for all the requested scope.

The above is not a complete list of ingredients; DC + DRDC must be designed and engineered in accordance with requirements of world class smart city and practices followed globally.

The layout of DC + DRDC covering all the above requirements and requirements of a present day smart city will be worked out by Consultant. Likewise, the layout, roof and loading details, HVAC, power requirement etc. along with all other details in respect of civil, mechanical and electrical disciplines will be worked out by Consultant per specifications / requirements of Tier III.

Tower 5- End to end City Wide Networks (Wi-Fi for general usage, Fiber based networks for Surveillance, Traffic Management, City wide Sensors and Actuators, utilities, city infra and other applications in the city) to meet comprehensive voice, video and data needs of remote operations, monitoring, control, display, security / law and order agencies, citizens, tenants, government agencies (including security) and other stakeholders of the project. The sensors and actuators will also need to provide required inputs to city infrastructure, utilities etc. for multiple purposes including for optimisation, monitoring, alerting display of city utilities / infrastructure etc.

One or multiple city wide networks shall be needed exclusively to connect city wide utilities, infrastructure components, sensors, actuators etc. for information communication for various purposes with in and out of city. No. of networks for captioned usages will be also be worked out in accordance with regulatory requirement and other factors specific to IIT Greater Noida. The networks for Activation Area and associated areas for captioned purposes are planned to be continuous adopting best-in-class, scalable architecture and technologies.

All types of networks (type Fibre, Wi-Fi etc. along with all the requisite active, passive and other components) to be implemented, should be fully regulatory compliant. All licences, permissions, permits, statutory / regulatory compliances, if needed must be obtained before execution. Consultant along with its end to end designs for various types of networks will outline regulatory requirements and will submit requisite applications and obtain necessary approvals /permissions/ licences etc. (as applicable). All fees in this respect will be paid by consultant and factored by Consultant in its price bid. All approvals, permissions, licences etc. should be in favour of city SPV or organisation to be specified by client.

Wi-Fi layer across the city shall be built as per practices followed for smart cities. City wide Wi-Fi must have regulator specified authentication, usage, charging and other means and controls implemented as needed for any smart city.

The Consultant will submit a cost benefit analysis (after due diligence) for Client to decide if it should own dark fibre all over the city and lease the same to TSP(s) or SI(s).

Entire Activation area will have a bank of 30 OFC ducts on each side of each and every road (except few smaller width roads). Consultant will decide the rationale / basis for leasing them to Telcos and others. Consultant will also devise a scheme and provide inputs to roads and services contractor for convenient usage of OFC ducts by Telcos, industries and residents. Consultant will review and provide inputs for ensuring that ducts envisaged are good enough for operations and maintenance on priority.

City Wide Sensors (other than Cameras) and Actuators: City wide sensors (other than various types of cameras) and actuators are expected to play a significant role in operations / monitoring / automation activities of smart city. The Consultant shall have to develop comprehensive sensors requirement list for all the city utilities, trunk and other infrastructure like traffic signals. To state a few usages examples, sensors shall be deployed in all spheres of smart city such as for measurement of road/ concrete health, water pressure measurement at important places in city, waste management / alarming waste collection and routing of waste collection vehicles, intelligent drainage system including alerting and opening parallel routes, measurement of environment quality etc. The list of sensors and actuators to be proposed should be in line with international practices for smart cities (where, sensors in the range from few thousands to millions are deployed). Wired (preferably) or Wireless sensors for monitoring / measurement / control technologies may be scoped for various smart city parameters for utilities, trunk infrastructure across the city.

As part of running city wide integrated operations, the Consultant will define requirements, locations and specifications of city wide sensors and actuators for different purposes as needed for a smart city. The length and breadth of city wide sensors and actuators to be suggested would cover city's infrastructure, utilities, facilities including for environment monitoring. The consultant shall be responsible for co-ordination for full and successful implementation of aforementioned requirements (including for automation, monitoring, control, display etc.) on city's trunk / civil infrastructure too.

City wide sensors (other than various types of cameras) and actuators are central to smart city, hence, would call for emphasis from Consultant.

The list of city wide sensors and actuators to be proposed by the Consultant should exclude all types of cameras as they shall form part of tower 1 The list of city wide sensors and actuators will be required expeditiously after engagement.

City Wide Integration for Operational Optimisation: In order to achieve operational optimisation across all the city disciplines such as utilities, infrastructure, packages, systems, subsystems, components, elements etc. being sourced by respective disciplines individually in smart city, the Consultant will study their entire automation, control, monitoring, display, alarming, reporting etc. processes, in order to suggest detailed framework for achieving high degree of automation, optimisation, monitoring, displaying, controlling, reporting etc., as also Consultant shall integrate them in to city ICT for optimal operations of city infrastructure in all spheres of. Additionally, the Consultant shall prepare and get successfully implemented its city's integration blue print for the aforementioned purposes that will include all the disciplines as stated above. The framework suggested by consultant must match to any world class smart city.

This would also entail the Consultant to organise, channelize, facilitate, co-ordinate and get successfully implemented all inputs / outputs, interfaces needed to be interconnected / integrated from all the smart city utilities / Infrastructure / packages, systems, subsystems, components, elements owners etc. including with existing applications and infrastructure of State authorities etc.

Forming SOA based enterprise service bus / equivalent across the city shall also be needed.

In regards to parameters / inputs the Consultant needs for its own purpose, it will also guide the utilities and trunk infrastructure responsible for establishing necessary ICT interfaces and providing the requisite.

The approach of the Consultant's plan will also ensure an integrated approach by working closely with various system vendors and sub-contractors, so that benefits such as mentioned below also are achieved

- i. Open Architecture and System Integration
- ii. Better cost control and flexibility for future upgrading and expansion
- iii. Simplified operating model, interface and procedures

City sensors and integration with utilities / trunk infrastructure will establish a city wide nervous system, enabling the citizens and the city to share responsibilities while expecting to offer maximum control at the lowest level in the community.

The Consultant's comprehensive city wide framework to integrate all sensors with multiple processes of different trunk infra, utilities, purposes etc., is not only to optimise / increase operational effectiveness, facilitate automation, alarm, control, display, reporting etc., but will also facilitate other usages as needed for different functions in smart city. Additionally, data collected over city wide sensors would need to be stored in data bases too, for analytics, historical display etc. Though COTS applications are preferred, if needed full-fledged application may have to be designed specifically as per ICT project life cycle explained later, for the purposes mentioned above. This implies that other than coding all activities are in scope of ICT Consultant per details given in project life cycle elsewhere in this document.

One of means to be mooted could be deployment of concepts such as Big Data for providing a sentient city infrastructure for intelligent operations and controls that senses and act on the big data along with connected city wide sensors. Scalable platform may be considered that can be reused, allowing future sources to be added and offer full independence towards additional solutions, processes, disciplines and appliances.

Video cameras for surveillance and traffic management are covered separately in tower 1 and / or 2 and the same are not in the scope of this tower, though data / videos may be needed for integration with big data.

Tower 6 - City's Cockpit / Dash Boards for City's CEO / Mayor and other important / select places in the city: Mayor's office located in admin building or elsewhere and other important places will be provided with visibility to all operating metrics of city through relevant dashboards that will provide real time and stored information in respect of operational and other parameters of the city. Requirements would span (but not limited to) treasury, e-Governance, various functions of utilities (Power T &D, Retailing, Gas, Water, Waste, Roads and entire set of city utilities and trunk infrastructure of city), environment and other solutions (to be decided going forward) to be displayed. Almost all applications have out puts to be displayed and the same will have to be interfaced with City's Cock pit and Dashboards. The display criterions to be built (including for displaying historical and projected information for comparison) will be as comparable to any world class smart city

Control (selectively), monitoring, eventing, alerting and display functions would be needed at multiple locations across the city (such as at IOC / CCC, multiple / distributed mini SCADA rooms in and around ICT building and a few other select places in the city, city's cock pit / dash board etc. All such functions, what, where, how etc. to be monitored, displayed, controlled (selectively), etc. across city wide multiple locations must be proposed by the Consultant in accordance with the requirements of a world class smart city.

Common Scope and Broad Responsibilities for ICT

Due to the enormity of activities and ICT systems and sub-systems involved in smart city, all the obligations of the Consultant cannot be listed, though the Consultant will own all and end to end obligations, including those not listed in this RFQ cum RFP and as asked by client / PMC for the purpose of providing all the design, engineering and other deliverables for world class state of the art ICT infrastructure, as required for world class smart city.

While reporting to PMC, the Consultant will have the complete responsibility of ICT project life cycle (from stage deliverable to transition to operate phase) as explained later in this RFQ cum RFP along with project management life cycle responsibilities for entire ICT implementation by SI (including first year of operations overlap).

The Consultant shall bring in world class / globally practiced and state-of-the-art / best practices, likewise suggest best of the technologies for all spheres of ICT implementation. The following responsibilities obviously have not been stated exhaustively, but the same will be covered end to end / comprehensively per requirements and practices of smart cities including all arising incidental tasks. The responsibilities are not limited to the following.

1. The Consultant shall ensure entire ICT project life cycle activities (explained later) are executed properly and successfully for all the elements in scope and shall manage entire project life cycle for implementation (both, its own contribution and

in respect of its responsibilities towards Client for SI's implementation). Onus and the responsibility for successful implementation per Client's and PMC's vision as well as being acting an assessor to Client / PMC for end to end implementation lies essentially with the Consultant.

2. The Consultant will be accountable to PMC for all its activities and will ensure conformance to best practices for execution of all the ICT activities, implementation schedule and timeliness, besides would ensure highest level of quality delivery coming from itself and SI.
3. The respective packages / disciplines will be delivered by the respective partners having qualified the required pre-qualification criteria.
4. All the major equipment proposed, designed for procurement and installation must have at least one existing references in world class smart cities of new age (around the time of Go Live).
5. As one of the first few deliverables, Consultant will submit base lining report (specific to ICT) for two world class smart cities operational for last three years (preferably ISO 37120 certified) whose benchmarks will be enhanced to create base lining for the entire envisioned ICT infrastructure for in scope. The base lining report, besides detailing scope, objectives, technology, processes, achievements, merits and demerits of ICT solutions / components deployed, will provide all the essential data of smart cities being compared for comparison with ICT infrastructure, the consultant proposes. Base lining report should also include global best practices for smart cities around inhabitants, governance, sustainability, technologies, city utilities and infrastructure etc. and describe how the existing benchmarks will be enhanced for each and every sphere for the ICT Scope of work. For the purpose of emulating two world class smart cities of developed countries, Consultant shall prepare fully objective baseline report around its own two references existing in developed countries or the references where it has full access (for all types of in depth information). Consultant shall provide all the information that PMC may ask in regard to existing ICT installations in smart cities referenced for base lining.

Consultant will in no case use vendor case studies and other similar collaterals including literature that is commonly available including over internet etc. for base lining report. Complete said report must be Consultant's original product (except for published reference that it will refer to) and consultant will confirm the content ownership in writing at the time of submission.

5. As one of the ingredients, the base lining report must have respective ICT benchmarks prevailing in two world class smart cities of developed countries (of size comparable). Most importantly, it must include each city's entire end to end ICT infrastructure (parallel to complete scope of this RFQ cum RFP), their respective broad specifications and details, processes, extent / degree of penetration, global best practices instituted, their functional and nonfunctional achievements for city Government/ administration and inhabitants, benefits being accrued in respect of all the spheres (including for city's economy) and referencing all of aforementioned, the ICT Consultant will create and provide enhanced benchmarks, specifications and other requisites for the targeted ICT infrastructure solutions, packages, components, services, proposed global processes and technologies (with local overlay), innovations including future technologies to be accounted, detailed recommendations, possible areas of improvements / localisation, all the requisite inputs for detailed design, etc. for all the spheres, as part of base line report for ICT. Needless to repeat, the ICT infrastructure in scope of base line report should cover this RFQ cum RFP, ICT Master plan and all other ICT infrastructure as needed for a world class and state of the art smart city.

6. Client / PMC reserves the right to ask for any additional information to substantiate the details contained in the base lining report and the Consultant will be obliged to submit the same per scope of work in reference. Baseline report will be as good as the detailed implemented blue print of entire ICT infrastructure covering two world class smart cities with enhanced benchmarks.
7. The architecture to be suggested by the Consultant must be scalable, open system architecture and all the equipment specifications must be vendor agnostic.
8. The Consultant shall ensure that all equipment must be designed (technically and aesthetically of highest standards), installed, commissioned considering the requirements of world class and state of the art smart city. The Consultant has to ensure project is technologically at forefront of smart cities in respect of ICT, upon going live in 2019.
9. The Consultant will ensure that entire ICT design and implementation qualifies successful assessment of ISO 37120.
10. Onus of provisioning right solutions at right cost, liaising with respective stakeholders, obtaining stage wise sign offs from city SPV and / or stake holders, obtaining all regulatory compliances, statutory approval (where applicable) for each discipline / ICT components on end to end basis lies with the Consultant.
11. It will be the Consultant's responsibility to capture and propose (but not limited to) the requisite ICT and Automation Infrastructure for all the city utilities, trunk infrastructure and other facilities for establishing ICT systems in their respective units for achieving high / optimal degree of automation (selectively), monitoring and control (local and remote), display, alarming / alerting (of various city functions/ parameters etc. at various places in the city). Early on, the Consultant would also define and capture in its scope, ICT requirements for entire city's trunk, civil infrastructure, utilities and other facilities for aforementioned purpose and including integration requirements with city wide ICT infrastructure.
12. The Consultant would also be responsible for creating detailed design and specifications of ICT overlays needed for smart grid and other technologies, including SCADAs of water, gas, power, waste, etc.
13. The Consultant will have to cater to all requirements related to design, detailed engineering etc. related to other disciplines such as civil, mechanical, electrical etc. for end to end ICT infrastructure and ICT units in scope as also for ICT and automation infrastructure for all the city utilities, (power substations, water, waste, gas etc.), trunk and other infrastructure etc. The catering of aforementioned requirements besides other things include preparing all the layouts, false flooring, roof designs, loading details, HVAC design, energy requirements and optimisation etc. for in scope ICT and Automation infrastructure. All the layouts and other civil, electrical, mechanical engineering details provided must have world class references and those references should be part of baselining report.
14. The Consultant will have to coordinate at its own initiative and as required with other design and construction professionals that are responsible for construction of the infrastructure/ buildings such as with MEP consultants or designers, electrical and mechanical engineers, so that civil and other construction takes place as envisioned / needed for ICT infrastructure implementation meeting the requirements of world class smart city. This may need regular travel of Consultant's key and support staff to construction site, various agencies etc. which needs to be factored in consultant's price (as mentioned elsewhere too).
15. In regards to ICT implementation, scaled architecture and MEP drawings (as needed from ICT Consultant by other agencies) detailing floor plans, weight and HVAC calculations, coverage areas, interior design (these are only few examples) and all other inputs are to be provided by ICT Consultant for full evaluation and final approval by others / client / PMC for construction and other purposes. The

Consultant would be responsible for designing, detailing for construction of all the requisites in terms civil, mechanical, electrical engineering requirements including of layout, ventilation, cooling, power, structural loading, interiors, furniture, fire protection, safety etc. for ICT infrastructure (such as for all the ICT units of City Integrated Operations Centre, Data Centre, various Utility Centres within ICT building, SCADA centres across the city and other units as needed). For building architects/ designers, besides, the Consultant would also be responsible for BMS and EMS subjects for aforementioned facilities as well as for buildings (explained elsewhere).

16. It is expected that city's operational parameters and other information shall be displayed at city managers (appropriate designation to be used) office, utilities / infra establishments and other offices of Industrial Area authority.
17. The Consultant is responsible for guiding for building and interfacing ICT systems in civil infrastructure, utilities, trunk infrastructure, other facilities including for exclusive ICT Buildings envisaged for housing City's Integrated Operations Center (approx. 30 elements), Data Centre, and other facilities as enumerated in this RFQ and RFP.
18. The Consultant would be responsible for providing all the construction inputs (including for civil, mechanical, electrical, interior work etc.) for all the Service Areas to the satisfaction of various Civil Engineering and other groups involved. Present quantity (30+) and locations of service areas have been identified which are tentative (both locations and number of SAs). There would be additional service areas needed in the Activation Area and one each in the proximity to 5 select buildings. No. of Service Area requirements for AA must be finalised and the locations of already earmarked + additional service areas must be validated with respect to cellular RF foot printing / mapping. Professional blue prints produced by cellular operator) for the entire area and the information about changes (for already earmarked) in respect of locations and additionally needed service areas shall be provided by Consultant on top priority to the Industrial Area authority etc., so that Client can initiate additional land acquisitions, if needed. The inputs will cover end to end design of entire building interiors and exteriors, false floorings, false roofing, loadings, power requirements, UPS ratings, DG set, furniture, external and internal layouts and host of other engineering details as needed to construct service areas will be worked out by Consultant,
19. Likewise, the Consultant will be responsible to guide and ensure systematic construction of to be finalised Service Area buildings (30+), provide end to end inputs in terms of engineered details as required by various discipline owners for design and construction including for safety and security infrastructure requirements, detailed layout for erecting all the elements of service area (as listed below) and other information as asked. Besides Consultant will support disciplines such as civil, electrical, mechanical, etc. on as required basis from ICT perspective for all the service areas.
20. Each service area building would house (but not limited to)
 - a) Cellular Towers (desirably monopole for use by 7-8 telcos per monopole)
 - b) RF boxes for towers
 - c) Compact distribution Transformers for power supply,
 - d) Electric distribution cabinets (for the vicinity),
 - e) FO Cabinets for city fibre and FTTP,
 - f) FO to RF Convertors for antennas,
 - g) Street light control and metering equipment
 - h) Control / monitoring equipment for Water, Gas etc.
 - i) Towers for radio taxi

- j) Cable TV equipment
 - k) Microwave towers
 - l) UPS and small DG.
 - m) Other smart city equipment etc.
21. The Consultant is expected to take care of all requirements related to design work including for civil, mechanical, electrical etc. for end to end ICT infrastructure, components, elements, units etc. in its scope for Activation Areas, Utilities.
 22. All the requisite infrastructure requirements end to end (IT and non-IT such as civil, mechanical, electrical etc.) in respect of above connectivity will be worked out by ICT Consultant and submitted to client PMC and to named civil / roads and services contactor, perhaps as, one of the first few deliverables.
 23. The Consultant will prepare and have the respective IT installations successfully assessed / certified for standards namely ISO 27K, ISO 38K and ISO 50K, uptime institute's Tier III (for DC tower) etc. during its tenure. In respect of Data Centre and Disaster Recovery Data Centre, the Design stage certification(s) should be obtained by the ICT Consultant and the certifications for following stages (such as Constructed Facility and Operational Sustainability etc. will be obtained by SI). The successful assessment and certifications will not only confine to aforementioned standards, but the Consultant will cover all those applicable and /or required standards at the time of go-live (including from the perspective of global practices). Needless to state applicability of all the standards will be in terms of latest / and as applicable at the time of go live (though not stated above). Consultant will incur all expenses related to aforementioned certifications (and certifications mentioned elsewhere), hence, all costs and fees associated with certifications (including official assessments / audits fees payable to certification authorities for issuance of certificates) be factored by the Consultants in its scope (and bid be priced accordingly).
 24. Consultant will ensure that PUE index for all the ICT facilities should be as low as possible and comparable to world class smart cities.
 25. In respect of ISO 50K certification in scope, the Consultant will cover ICT infrastructure such as entire ICT Building and in specific Data Centre, IOC, etc. and get these units certified as minimum.
 26. In respect of ISO 27K certification, the consultant should cover major ICT components including Data Centre, CIOC, NOC, various applications and up keep centres, contact centres, other required facilities in scope.
 27. In respect of ISO 20K, consultant should define all the support and other processes for SI to get ISO 20 K certification.
 28. Sufficiently in advance, the Consultant will prepare a detailed framework and will fully support implementation over a period of time to set up IT governance organisation with in city SPV and have it successfully certified for ISO38K (before go live milestone).
 29. Besides other things, the Consultant shall be responsible for carrying out the detailed ICT design, evolve specifications and BoQ, evolve merit and de-merits analysis of technologies and / or solutions and / or products of different makes along with total cost of ownership for client's / PMNC's approval of proposed system, subsystem, component, elements etc. and afterwards will use required details for framing RFQ cum RFP for engaging Systems Integrators (SIs) for implementation and operations.
 30. The Consultant would ensure quality assurance of the overall ICT implementation including for trunk infrastructure, utilities etc. per ICT Consultant's project life cycle defined elsewhere.
 31. Needless to mention that end to end requirements for various applications and / or systems and / or solutions must be collected and / or supplemented by Consultant

from respective discipline owners (as applicable to a smart city), for example Police Department for CCC /Video Surveillance for creating and / or integrating dial 100, CCNS, PCR, Intelligent Traffic Management System, and other required systems by police. Likewise, for health-related applications and systems, the owner will be Ministry of Health designated departments from whom the requirement shall be collected. For disaster management, States designated agency in this regard may be reached out to. There would be some overlapping applications too, involving multiple owners and / or Ministries and/ or departments, hence, requirements will be collected from all the stake holders. There are few specific requirements that may have to be gathered from specific departments of Govt. India and Govt. of Uttar Pradesh etc. which will also form part of requirement cataloguing by the Consultant.

32. Collection of requirements implies that local requirements will be essentially mapped and / or supplemented over best practiced global processes, practices, standards etc. All the necessary templates in terms of global process must be available with the Consultant. Presenting global processes with added client specific processes and requirements for installed references of Consultant to stakeholders for collecting and supplementing local requirements shall be Consultant's obligation for producing TO BE requirements catalogue for all end to end applications and components of ICT. Not only applications, but all ICT infrastructures will follow the aforementioned course of global practices, processes, standards plus overlay of local requirements (function and nonfunctional) for arriving at implementation design and specifications.
33. In terms of all applications of all types, the TO BE processes (global processes+ local content overlapped) must be represented by way of flow charts (and use cases etc.), besides PMC, documents may also be submitted to client / city SPV / applicable Ministry / Department other stake holder(s) for sign off.
34. All the stakeholders' requirements, functionalities, interfaces for interaction with other systems for the project (or e-Gov / application systems external to project) etc. will be defined and documented in the ICT integration plan and other interface documents. Once these plans and documents have been approved, they shall become the control documents for completion of the system design development.
35. Requirements, solution document, process maps, use cases, low level blue prints (where applicable) integration plans etc. must be signed off by designated authority of concerned GoUP department / city SPV before making it a milestone submission to Client / its representatives. Milestone approval will happen only after aforementioned sign offs from responsible discipline owner entities(s) of authority.
36. Sample documentation to be submitted along with bid must cover all stages of ICT project life cycle for all the applications, systems, sub systems, solutions, components, elements etc. (that also includes working out HW requirements to testing to commissioning to transition to operation and as required) .Range of documentation and templates will also include those needed for technical and functional specifications, implementation and integration plan, approval requests, sign off documents, etc. and the same must be submitted along with bid as part of sample documentation and the documentation will be finalised (with additional requirements specific to project in reference as part of scope of work) post award of ICT consultant contract.
37. All deliverables must be fully objective, detailed to the highest professional standards and fully technical meeting the purpose in reference. The subjective material including motherhood statements must not be included, in which case deliverable will be rejected without assigning any further reason and may result in milestone not achieved.

38. All deliverables must be sufficiently detailed (end to end), covering all facets, to the extent that they are fully comprehensive to last level and are ready for direct implementation by SI, without any further engineering / detailing by SI.
39. Though deliverables have been defined at very high level in ICT project life cycle explained in this RFQ cum RFP, but same shall be delivered by the Consultant in detail per requirements of smart cities globally and per ICT lifecycle defined separately. Along with each deliverable the Consultant will submit signed undertaking "That submission is complete in all respects for milestone in reference and all the contents are the product of Consultant's original work (except printed literature being submitted as annexure to main milestone submission, containing product catalogues etc.). The proposed specifications are state of the art and meet the baseline evolved in the base lining report (detailed elsewhere). Post approval, should any shortcomings be discovered or Client/ needs any minor changes resulting from other disciplines at any point of time the same shall be carried out expeditiously by the Consultant as part of scope of work".
40. All submissions must be made 100% complete in 10 sets of hard copies (with original literature - where applicable) and soft copies (per different formats to be informed later). All the hard copies to be submitted (including resubmissions / revisions) must be in colour and black and white copies of documents will NOT be accepted. All 10 sets of hard copies must be colour originals or colour print outs only. Minimum turnaround period to any submission by Client / PMC will be 45 working days. Any incomplete submissions will not be reckoned for milestone achievement purposes and the same shall happen only after 100% complete submission has been made. Such delays arising out of resubmissions will attract penalties towards missing of mile stone(s). Only 100% complete submissions will be considered as submissions for review. Incomplete submissions will be summarily rejected and submission dates will be reckoned only after 100% complete submissions have been received.
41. Unless and otherwise the material has been copy righted by the Consultant or genuinely it is the Consultant's property, the same should strictly not be copied and submitted as part of deliverables. Client/ PMC reserve the right to ask for specific signed confirmations (from Consultant's authorised signatories) in regard to materials submitted by Consultant. (Consultant is not allowed to use other's materials except for standard accompanying literature, if applicable).
42. Typical and / or generalised drawings / specifications sheets etc. will not be acceptable, instead only specific and detailed documentation must be submitted for review / approval of Client / PMC. Marketing collateral and product literature to be only used to support deliverables and they cannot form main part of any deliverables.
43. All submissions shall give clear, unambiguous and complete details of expected deliverables of the equipment proposed together with all supporting calculations where necessary. Clear catalogue identification cross references shall be provided. All documents must be in English.
44. Overriding the approval of Client's representative, Client or its nominee reserves the right to direct the Consultant to include equipment of a make and type and functionality that is different than suggested and / or found otherwise essential to achieve the contract specifications or needed to make it comparable to any other world class global smart city or will have the state of the art (higher) specifications existing at the time of delivery / installation and commissioning.
45. During implementation phase, the Consultant will ensure incorporation of global best practices, state-of-the-art technologies, scalable architecture and highest quality standards are also followed in the design and implementation approach proposed by the System Integrator.

46. All deliverables to be submitted by the Consultant must be vendor agnostic and compatible with "Internet of Things" concept.
47. The Consultant would also be responsible for facilitation of walkthroughs, demos, provide evaluation to RFP responses, provide clarifications to applicants, and submit recommendations etc. on as needed basis.
48. It is expected that there will be multiple implementation waves for ICT in the smart city. For each wave the Consultant will propose end Client/ stakeholders / PMC the optimal blend of ICT components / subsystems for implementation keeping in view of technological advancements in the intervening period, new requirements of Client / stakeholders, budget available etc. Accordingly, a staggered rollout approach may be foreseen for different waves. For instance, some waves may have only network, others may have e-Governance application+ Command and Control Centre etc.
49. Number of roll out waves / stages will be worked out by the Consultant for the project and accordingly, stage wise implementation and integration implementation plans shall be prepared by the Consultant.
50. The Consultant shall be responsible for implementation of entire ICT Consultant's project life cycle activities (explained later in this RFQ cum RFP) encompassing number of stages from initiation and conceptualization through planning, requirement cataloguing and feasibility analysis, systems design and development of system architecture, development, evaluation, implementation, through transfer to steady state operations. Client / PMC reserves the right to add sub stages and document requirements, as and when needed as per the scope of work. The Consultant shall design entire infrastructure (DC, DRDC, Systems, sub systems, all kinds of HW, Networks, Applications, Data Bases, OSs and Interfaces etc.) that will achieve minimum of 99.982% uptime (for each subsystem / element), measured on monthly basis. Uptime if specified better than aforementioned by Tier III specifications, the same will be applicable for DC/ DRDC. Detailed SLAs/KPIs for operations phase for entire in scope ICT infrastructure shall be evolved by Consultant and will be subject to approval by Client / PMC. The SLAs / KPIs evolved by ICT Consultant will form part of RFQ cum RFP for engaging SI. ICT consultant's evolved SLAs / KPIs upon approval by client / PMC will be fully established by SI. SLAs / KPIs proposed by Consultant for SI shall be comparable to any world class smart city for entire operations period including financial recoveries for non-compliances by SI. Improving and addition of SLAs/KPIs items and / or categories will be at Client's / PMC's and / or Client's nominees' discretion before approval of solution / equipment specifications. In case better SLAs / KPIs are suggested by Client/PMC and / or its nominees, the Consultant will re-visit solution specifications for ensuring achieving of proposed SLA's / KPI's.
51. All milestone submissions besides other things, must contain full set of ingredients including detailed design, engineering details, specifications BoQ etc. and ICT Consultant's assessment on the merits of solutions and / or technologies and / or products of different makes (with cost comparisons), components, services be covered etc. It will be consultant's responsibility to work out total capex (including refresh cost) and opex (per year up to seven years) for budgetary purposes for city SPV's approval. All costs are submitted in bottomed up manner so that analysis and regrouping by client / PMC if needed, be assessed.
52. The Consultant, post completion of detailed design, engineering, specifications BoQ etc., will frame RFQ cum RFPs (as needed by Client / PMC), render to float them, provide clarifications, evaluate proposals, support selection of System Integrator (SI) and would own end to end responsibility for successful implementation of its designs and vision of Client / PMC by Systems Integrator(s) to enable Smart City to achieve world class ICT Vision in the stipulated time frame. Additionally,

Client/PMC reserves the right to ask ICT Consultant to float multiple RFPs in place of only one, for engaging multiple Systems Integrators or ask the consultant to package RFQ cum RFP differently per its discretion / criteria to be decided later. The Consultant will have to adapt to aforementioned revised requirements for preparing RFPs, when asked. As part of scope of work, if for any reason the SI selection through RFQ cum RFP is retendered, consultant will be required to re-visit and re-package RFQ cum RFP(s) (one or multiple) as per client's / PMC's instructions and follow the entire cycle of selecting the SI(s), as part of scope of work.

53. During implementation, ICT Consultant oversees for systematic and successful implementations of respective ICT towers and / or packages and / or subsystems/ components etc. stated at different places in this RFQ cum RFP, as per end to end ICT project life cycle activities (explained in this RFQ cum RFP later) including carrying out requisite tests and / or assessments before commissioning and ensures the detailed design, specifications and other criteria set forth and as provided to SI (at the time of its selection) are fully and successfully met and the ICT Systems are state of the art / world class.
54. The Consultant will assist Client / PMC through entire ICT project life cycle with various activities assigned from time to time as per scope of work in reference, in addition to activities that have already been defined. The Consultant will provide strategic leadership on ICT technology front throughout its engagement.
55. The Consultant shall convene meetings on regular basis for coordination / info exchange etc. and as needed / as asked by PMC from time to time; will also organise on site meetings, workshops (including workshop documents / materials) as needed / as asked.
56. The Consultant shall provide comments and approvals via Client / PMC only for all the deliverables submitted by Systems Integrator. The Consultant shall provide any information, all policy level clarifications, when asked by any of the stake holders.
57. The Consultant will share with Client / PMC, all intermediate documents, drafts, reports, surveys and any other related items to this assignment. For this purpose, no work products, methodology or any other means used by consultant will be deemed as proprietary and the same shall be shareable with Client / PMC.
58. The Consultant will co-ordinate with all agencies on as required basis. The Consultant will certify completion at each phase / milestone as required for SI's scope of work.
59. Where needed or as asked, going forward, the applications will be enabled for Omni channel usage and social / live feeds.
60. The Consultant shall endeavour to get SI engaged as soon as possible after receipt of proposals but within one year of floating the RFQ cum RFP for SI.
61. Where needed evolving business and / or social cases mapped to requirement catalogue will be the consultant's responsibility.
62. As there will be multiple implementation waves / stages, the Consultant is expected to conduct workshops with stake holders for deciding on scope of work for each wave. The Consultant will propose end customer / PMC the optimal pie for implementation keeping in view of technological advancements in the intervening period, new requirements of Client / stakeholders, budget available etc. Accordingly, the Consultant should propose staggered wave wise rollout approach in its ICT implementation plan.
63. Life cycle risk assessment, tracking and management and life cycle cost estimation and developing/improving sustainability are also the responsibilities of the Consultant.
64. The Consultant's role will be designing seamless integration of all the applications and / or sub-systems involved (including existing systems at various

establishments in State). These systems may be overlapping other disciplines too (in terms of receiving / providing inputs and outputs). It is obvious that integration requirements cannot be detailed out until all applications and sub systems related to ICT infrastructure are finalized, processes are detailed out, solutions are aligned with “To-be-state”, but all such requirements, though not defined, remain in scope of the Consultant to successfully achieve integration as needed for smart city (including those received from time to time from other systems, utilities, infrastructure owners and Client or any its representatives / contractors).

65. Technological advancements would necessitate supplementing of ICT implementation and integration plans from time to time including ICT Design specifications from development to deployment (covering complete testing, including observing end to end documented world class QA practices) followed by evolving O & M manuals etc. and the same will be consultants responsibility. To keep track of technological advancements, it will be Consultants responsibility.
66. Before implementing / giving go ahead to SI about respective work products (which will be decided by end Client / PMC), the Consultant will also do the fit gap analysis (ICT Design specifications versus Technological Advances existing at that point in time) (will enhance specifications where needed) and obtain approvals from Clients /PMNC on TO BE products, solutions, architectures and processes etc. that consultant has evolved and had already taken approval from stakeholder during design / engineering stage. Staggered work products are needed to be implemented
67. Matching to any world class smart city, the Consultant shall evolve end to end requirements for e-Gov, governmental business and other applications for smart city and draw up a low level and directly implementable TO BE process maps (and use cases) / blue print specific which will be the combination of global best practices for smart cities and specific requirements. (Needless to repeat COTS and seamlessly integrate-able applications will be preferred). Selected COTS applications must have road map visibility.
68. The above will entail that the Consultant will have to study the existing processes, architecture, framework, and other relevant details of all the existing e-Gov and other applications in UP that project may be connected (or may have to be connected) and / or working and /or may have to be interfaced and / or already interfacing (one way or another) with aforementioned specific set of applications and /or ICT infrastructure for optimal inclusion and / or integration.
69. During study of existing e-Gov and other applications, the Consultant may have to figure out major functional gaps, if any, with respect to international best practices for applications that will be connected / interfacing with set of applications or to be used by inhabitants and propose the solution for overcoming gaps to the nodal agency/ city SPV, in order that specific applications are not affected in any respects. It may quite likely that nodal agency may not schedule the suggested changes for long term, hence, in parallel other means must be suggested and incorporated in the process maps (and use cases) / blue prints, scoping document etc. to be proposed, so that set of applications do not face any hiccups post going live.
70. The proposed blue print for applications will have to be comprehensively evolved for all applications that are specific (e-Gov and other applications) and otherwise existing with the state of UP (needing or not any modifications for usage for project) and all the applications must be comparable to any world class smart city.
71. The Consultant shall have to co-ordinate with existing e-Gov and other applications’ nodal agency(ies), other entities and city SPV for obtaining approval on the proposed exclusive process maps (and use cases) / blue print etc. for e- Gov and other applications.

72. Obtaining prior approval from respective stakeholders (before client / PMC's approval) for all the deliverables is consultant's responsibility.
73. The aforementioned proposed processes maps (and use cases) / blue prints for end to end applications must also be in accordance with NeGP and GoUP frameworks. It would not be out of place to mention that end to end applications framework evolved for the project must fit seamlessly in to overall framework of applications or roadmap of state of UP.
74. Devising all interfaces to existing applications and infrastructure in UP will also be responsibility of the consultant followed by implementation by selected SI.
75. It is expected that as part of submission, like for other ICT subsystems / components for applications, the Consultant where asked, would create a business model for set of TO BE process maps for evolved including a framework on value and investments parameters for user department's / stakeholder's acceptance and financial approval by authorities prior to implementation.
76. The Consultant may have to also involve with IT Department of State for due diligence on "AS IS" infrastructure and applications as they are presently responsible to provide infrastructure and e-Gov and other application services to various Government depts. of UP. It will be the Consultant's sole responsibility to liaise with these or other associated agencies.
77. Ensuring sustainability of proposed ICT infrastructure will be one of the prime responsibilities of the Consultant.
78. Regularly updating ICT implementation and integration plans for affected (revised) ICT sub systems will be done on ongoing basis by the Consultant.
79. The Consultant will develop, submit and obtain approval from stake holders for all the implementation and integration plans, schedules etc. such as for finalisation of specifications, procurement, installation, testing, commissioning, handholding, transition to operations etc. prior to taking approval from client/ PMC.
80. The Consultant shall also liaison with other bodies as required such as IANA / Indian agencies etc. for any ICT design related requirements such as for obtaining IP address ranges for the project.
81. The Consultant shall obtain approvals / permits / licences etc., as required on behalf of Client / operator from statutory authorities for installation, commissioning and operation of ICT equipment for the project sufficiently in advance.
82. The consultant will help end Client select telecom services providers as needed according to financial assumptions of ICT Master Plan. This may also involve techno eco modelling for founding the proposal for selection of service provider.
83. Consultant will support and guide BOO / BOOT /SPV /PPP model / consortium partners etc. models (if such a route is fully or partially decided for SI's RFQ cum RFP) by client / PMC.
84. End to end set of e-Governance, ERP, other applications in scope must fit seamlessly in to overall framework and roadmap of UP entities. All approval from respective stake holders in this respect are in scope of Consultant.
85. Test plans (factory and on site) and commissioning plans, supervision and approvals for all the subsystems are in Consultant's scope.
86. Consultant will work out tailored training needs, prepare training modules for operations, network upkeep, systems admin, ERP, CRM/ SRM / BI/ Big Data... handbooks and impart training to user community (multiple batches).
87. Consultant will review, advice and resolve integration and all technical issues and disputes (between SIs and other Utility vendors or other stake holders) on continuous basis.
88. Consultant will review, must value add and approve when complete, all the submission of SI.

89. Though following the entire ICT project cycle activities including all specified stage deliverables (as explained later in this RFQ cum RFP) is essential, Consultant will also conduct / prepare system integration test plans that would exercise testing interaction of components (hardware and software) within the defined set of system(s), influenced by architecture including integration strategy and requirements catalogue. It may sometimes include stress testing and joint mission thread testing as called for by the requirements.
90. Accept fully tested, compliant, commissioned sub systems and systems on behalf of Client.
91. Submit detailed monthly progress report as per requirements of end Client / PMC and other stake holders.
92. Prepare presentations, concept notes, justification documents, awareness programs etc. as desired from time to time by end Client / PMC.
93. Work out its own exit management sub system / system / tower wise. Besides, other things work out post hand over operational standards for service, cost of service, tariffs, structuring, periodicity / need for refreshes etc.
94. Any incidental ICT tasks assigned by end Client / PMC from time to time will be part of the scope of this RFQ cum RFP The Consultant will act as an ICT technology consultant every time there is a need for the implementation of any new system, related to smart services.
95. The Consultant at its own cost shall establish and run project office in Greater Noida or National Capital Region (NCR). This is essential for facilitating coordination with various agencies and future SI, reporting on a day-to-day basis to Client /city SPV / PMC for the entire duration of the assignment. In its office, Consultant shall have facility for holding meetings / presentations. It may be ensured that on site staff is available onsite per committed schedule (section 3) and submitted by the Consultant as part of bid documents. The Consultant shall be responsible to factor in its pricing all types of direct and indirect costs to be incurred for the entire life of this project. As this will be a fixed price job, all the "to be incurred" costs must be factored in the price bid by Consultant and no costs of any type are separately reimbursable by client beyond the accepted stage payments (that are successful milestone achievement payments only). Needless to state that it is ICT Consultant's full responsibility to estimate the required no. of support personnel needed with different skill sets (on site and off site) for the job in reference and for entire duration of assignment. Should client/PMC find at any point during entire duration of engagement that the resource(s) deployed by ICT Consultant are not adequate (in regards to skills and /or numbers), upon intimation by PMC, ICT Consultant will be obliged (as part of its scope) to provide replacements and / or additional resources within two weeks. Replacements will be asked as many times as client / PMC feel the need during entire duration of consultant's engagement. This will be part of Consultant's scope of work in reference.
96. It may be noted that there are several studies available at this juncture which are based on primary and secondary data for the entire area. These studies have covered broad scientific details with reference to the ground level consideration. Apart from that, key aspects such as passive ICT Infrastructure, physiochemical, marine, socio economic and bio diversities have been studied in detail and are available in soft and hard format, which shall be examined while incorporating inputs in the preliminary design or prior to the detailed design specifications. However, project specific activities may be required based on the detailed specifications designated herewith.
97. The Consultant shall integrate specific measures for the implementation of a sustainable development apart from those stipulated by government regulations.

- The measures shall be informed in accordance with Client instructions and Smart Services as planned for the project.
98. The Consultant shall assess the existing planning regulations for ease in design and downstream implementation of the project. The Consultant shall ensure that the project is designed within the overall planning regulations applicable for the site such as approved town planning scheme, and any other Client specified documentation, report etc. will be applicable, ICT Consultant must make recommendations as necessary from the perspective of smart city.
 99. From the perspective of consistency and comprehensiveness, if feasible from functionality and regulatory points of view, one common data base only (across all or most requirements) shall be considered for all the city purposes and all (or most of) the applications must converge on the said data base.
 100. Single window concept for all public services should be implemented by the consultant.
 101. All-important parameters of city (collected from various sources such as from sensors to SCADA units to actuators to as generated from computing applications, etc. should be web enabled and be ready for use in any form such as control (selectively), display, monitoring, alerting, reporting etc. on web or otherwise be useable in any of the applications (including dash boards) in any of the required form (including after required factoring etc.).
 102. Templates of all applicable operational, control and performance reports, (standard and custom) must be submitted by Consultant along much in advance. Consultant shall submit templates/ samples / formats of all operational, control and performance reports (expected from SI), including those that are to be generated as standard and non-standard. The content and formats will be subject to client's and /or discipline owner's and / or state agency's and / or PMC's approval. Approved sample reports / formats will form part of RFQ cum RFP to be released for engaging SI.
 103. Standard operating procedures and training material for all the applicable components will be prepared by Consultant. Both standard operating procedures and training materials are subject to client's and / or city SPV and /or respective stakeholders and / or other designated agencies and PMC's approval. Client / PMC/ city SPV reserves the right to ask consultant (pre and post approval stages) to increase the no. of Standard Operating Procedures and Training Manuals as well as enhance the content in both aforementioned type of documents as part of Consultant's scope of work.
 104. It is the responsibility of Consultant that all milestone submissions must have prior sign off from respective GoUP departments and / or nodal agency and / or city SPV and / or concerned authorities or discipline owner, on the inputs it collected from respective department / agency, before processing and creating deliverables and formally submitting them to Client /PMC. Likewise, a milestone submission will be deemed approved and complete only upon sign off by respective GoUP departments and / or nodal agency and / or city SPV or and / or concerned authorities or and / or discipline owner (as the case may be).
 105. ICT Consultant will hold workshops (sufficiently in advance) with discipline owners / GoUP entities for walk thru's of deliverable for obtaining sign off as part of milestone approval.
 106. For the completeness of ICT works, at times ICT Consultant will have to provide non IT details / drawings etc. on as required basis as part of scope of work in reference.
 107. Tasks specified against key staff's required profiles are also part of scope of work.
 108. All the works to be carried should be compliant to Digital India Roadmap of Central Government.

5.2 ICT Consultant's Project Life Cycle

The Consultant is expected to own all the project life cycle responsibilities for the entire ICT infrastructure from stage evolution to transition to production of all ICT System of smart city that may include following stages but not limited to

ICT Consultant's Project Life Cycle - High Level Stages

Requirement Cataloguing

- Requirement cataloguing phase shall cover collection of requirements that starts from requirements baseline of a new age smart city (and will take cognisance of ICT Master Plan, RFQ cum RFP), will add Stakeholders, requirements such as DMIC, GNIDA, concerned Ministries or GoUP departments, such as Police, Education, Healthcare etc.)

A catalogue of performance / non-functional requirements shall be created by way of documenting:

- Functional requirements catalogue and requirement traceability matrix: business requirements are to be mapped as functional requirements in respect of what the system is supposed to do. Functional requirement catalogue would be a formal statement of system's functional requirements which will include but not limited to functional process requirements of end users, system interface requirements, data requirements, use cases, etc.
- Non-functional or technical requirements may be catalogued that would address system operations and/or technical characteristics such as accessibility, response time, security, hosting, environment, disaster recovery, business continuity, performance, compliance, supportability, etc.
- Reviewing and validating the design for release on SI(s) to ensure all designs meet and comply with the Services Integration Framework
- Validating and ensuring all designs meet user requirements and exceed minimum performance level
- Verifying that the chosen platforms, features and functionality will meet and exceed design objectives and comply with local and international regulations and standards
- Providing best and industry leading practices where appropriate
- Working closely with the various system contractors to ensure that all systems design will integrate with network infrastructure and each other on network seamlessly
- Reviewing network loading of planned systems to ensure that sub-systems conform with network specifications
- Consultant would need to evolve e-Governance requirements and draw the road map (from As-Is-State to To-be-State) based on global best practices for smart city. The Consultant will have to engage smart city applications / eGovernance specialists, who are champions of e/m-Governance best practices being followed globally and who have good understanding (in all respects) of processes and applications abroad and in India for the purpose of evolving and implementing state-of-the-art e/m-Gov infrastructure. IT Consultant have to carry "AS IS" study for infrastructure / ICT

applications. Corresponding “TO-BE” concept need to be approved from ICT stakeholders from client side.

Requirement cataloguing would also include inclusion of requirements of utilities (power T&D including smart grid, power retailing, gas, water, sewage, roads, etc.). As stated before, the ICT Content for utilities and trunk infrastructure has to be generated by the Consultant only from the perspective of any world class smart city.

Requirement Traceability Matrix would be a table that would be evolved by the Consultant which would be on top up the baseline of new age smart city and link other gathered requirements to their origins and trace them throughout the wave / project lifecycle. Developing the traceability matrix will help ensure that each requirement adds value and that only approved requirements are delivered.

All the requirement signoffs from respective agencies / user communities is the Consultant’s responsibility. If the Consultant has missed / left out any requirements from the perspective of world class smart city, same will be the responsibility of the Consultant to have them implemented at his cost, else Client reserve the right to deduct an amount that it feels appropriate from accounts payable to the Consultant.

5.2.1 Inception Report

The Inception Report

- Summary
- Report Objectives
- Scope
- Site Appreciation
- Mobilisation of staff
- Establishment of office
- Approach and Methodology
- Specific Methodologies by Tasks
- Work Program
- Work plan, schedule, deliverables for each package / tower
- Staffing structure, distribution of responsibilities and reporting protocols
- comparison of international practices
- Analysis and synthesis
- Risks and mitigation measures

5.2.2 Feasibility Analysis

Assessment of likelihood of successful development and deployment for all aspects of usage; identification of gaps and improvement suggestions, examination of deployment of new technologies; assessment of risk and development of risk strategies, etc., would be taken care by the Consultant which will precede procurement, design and development. This process shall include the collection and comparison of data from other case studies and Industry Consultation.

5.2.3 Systems Design

The Consultant would involve interpretation of systems requirements identified in the preceding phase into a unified /integrated system design that would describe the characteristics of the ICT system to be built. System design document will specify build details of sub systems, each sub-systems’ component’s interaction with other components, including internal and external sub-systems. This would also encompass

system requirements, system and sub-system architecture, human machine interface, detailed design, processing logic, external interfaces, etc. Besides, it will cover:

- System overview (mapping of functional requirements in to design document)
- Design constraints (productivity constraints / conflicts with other systems)
- Future contingencies (possibilities that may necessitate change in design)
- Complete Bill of Quantities for procurement, installation, commissioning and operations

Where applicable, the Consultant would also cover design and oversight of construction of facilities namely IOC, Data Centre, all the service areas and other infrastructure on as required basis by civil contractors / independent engineer / as per practices for any new age smart city in a comprehensive manner.

5.2.4 Development of System Architecture

The Consultant would cover describing functional systems' architecture and specifying technical capabilities, especially keeping in view functional and nonfunctional requirements defined before. A conceptualised model will be developed that defines the structure and covers all ICT aspects of Smart City.

System architecture and design would include-

- Hardware architecture with specification of all HW components for different environments / stages for the purpose of data centre /cloud computing (if applicable) / application service vendor etc.
- Software architecture: specification of common off-the-shelf packages and / or custom software for implementing requirements of a new age smart city. ICT Consultant will map processes with descriptions and reference to traceability matrix for meeting functional requirements / features to modules and components and specifically for custom software; documents such as class and behavioural diagrams, persistence models, concurrency strategies, interfaces and outputs, details of protocols involved with data transfer syntax and semantics for all internal and external interfaces, etc., shall be developed.
- Configuration and customisation details for hardware and software infrastructure (as applicable)
- Database design, instances, number of Clients, access methods (indexed / sequential / random), high level normalised table layouts, definitions in respect of update frequency, views, entity relationship diagrams, extents, areas, record sets, estimated number of transactions per second and other logical design information, to be stated
- Schematics such as for network, data model, data flow, deployment diagram, context diagram for each component
- Explanatory notes on supporting technologies for meeting technical / nonfunctional requirements
- Interface detailed design for external and internal interfaces
- Mapping of documentation for user (Client/ GoUP/ Ministries and respective departments) acceptance criteria
- Outlining means for system integrity controls (audit trails / procedures, internal security / authorisations, etc.)

5.2.5 System Integrator Selection Phase: The consultant would be responsible for

- Firming up the RFQ cum RFP for hiring Systems Integrator (Client may decide BO/BOO/BOOT or any other option)
- Reviewing the list of suppliers and vendors and pre-qualifying potential suppliers and vendors for the supply, installation and deployment of the materials specified
- Preparation, review and validation of the eligibility criteria, tender evaluation criteria and weights for evaluating the tenders during the finalisation of RFQ cum RFP for System Integrator
- Participating in the pre-bid clarification session with all selected and participating vendors, to discuss and clarify the RFQ cum RFP document and to assist in answering any question the vendor(s) may have.
- Participating in the evaluation of the tender responses
- Help Client / PMC in all respects to select one or more System Integrators / vendors (as needed)

5.2.6 Build and Integration

Within the framework of detailed implementation and integration plans, the ICT Consultant would oversee development / realisation of its design specifications that would be transformed into a complete and integrated set of systems for a new age smart city. It would be realisation phase for a system / sub-system or successful development of an application, or execution of a network plan / model, or any other design, specification, standards, algorithm, or policies, that includes defining implementation configuration and customisation of ICT equipment. Organising procurement and deployment of sub-systems, performing / supervising unit, integration, systems test, etc., are also expected to be taken care in this stage. As needed for iterative development, continuous integration cadence would be defined that may include regular system builds and regression testing thereof (as required).

At the end of development, it may have to be ascertained / ensured by the Consultant if:

- all the requirements in the functional requirements document allocated have been identified and configured / customised using the trace ability matrix
- Intervening period requirements found during the development / technological advancement have been identified, justified, are also implemented and are put in the functional requirements catalogue.

5.2.7 Test and Evaluation of Systems for Commissioning Phase

The consultant would engage with systematic ascertaining of an implementation's merits and significance, using criteria set forth by way of requirement catalogue (mapped to requirement traceability matrix) / systems specifications / as also governed by a set of standards and pre-defined tests be carried out; some of these are as listed below.

Automated test methods shall be deployed in order to cost-effectively conduct tests including frequent "regression testing" be subjected after every fresh customisation / configuration / build.

Tests to include (as selected in the approved Test and QA Plan):

- (i) **Physical Test:** Qualitative procedures shall be deployed that may help determining characteristics of a given product, process or service according to a set of specified procedures.
- (ii) **Unit Test:** the Consultant may want to verify white box testing.
- (iii) **Component Test:** May be needed to test the behaviour of individual product / system or module, including analysing unit's interfaces. Component checkout using a written procedure may be performed for each component prior to subsystem integration. Component checkout would verify component interfaces (possibly using simulators) and compliances to derived requirements; it would also verify good practices such as boundary checks, error handling, etc. For Sub-system integration, the Consultant would verify each major internal interface to ensure that end-to-end, system-level capabilities are in place before moving to integration.
- (iv) **Smoke Tests:** Optionally may be considered by the Consultant for hardware / software testing.

Following tests are must to be carried out

- (i) **Function Test:** ICT Consultant shall focus on the output to be compliant as per requirements / traceability matrix. Type testing shall be geared to functional requirements of an application / system / subsystem / hardware unit.
- (ii) **Interface Test:** To be conducted by ICT Consultant for ensuring achieving desired results on both / multiple sides of interfaces involved individually and as a set of applications for ensuring desired results are achieved.
- (iii) **Integrity Test:** May be conducted by the Consultant for subjecting to determine data and other inconsistencies in the end to end productive system.
- (iv) **Integration Test:** After system integration, the Consultant would exercise testing interaction of components (hardware and software) within the defined set of system(s), influenced by architecture including integration strategy and requirement catalogue. It may sometimes include stress testing and long mission thread testing as called for by the requirements.
- (v) **System Test:** Entire system may be tested by the Consultant as per the requirements catalogue. Black-box type testing that is based on overall requirements specifications may cover end to end all sub systems fully integrated / combined to form a system as envisaged for the productive use.
- (vi) **Performance Measurement / Load Test / Stress Test:** May be deployed by the Consultant to check if final system meets performance requirements including full capacity operations (inclusive of specified over load conditions).
- (vii) **Safety Test:** Where applicable, may be envisaged by the Consultant for ensuring regulatory and other safety requirements being met as part of nonfunctional specifications of requirement catalogue.
- (viii) **Compatibility Test:** Where applicable, may be considered by the Consultant to be conducted on the system / sub-system / individual applications to evaluate the compatibility as needed by non-functional requirements of requirement catalogue (for requirements other than safety). The example in this regards may be ambient temperature for HW, different types of OS / RDBMs, browsers, etc.
- (ix) **Acceptance Testing:** Set of acceptance tests must be defined as per part of Test Plan, it may be considered to focus on functionality thereby validating the fitness-for-use of the ICT deliverables for community. The acceptance test is envisaged to be performed by the Consultant and/or end customer's representatives. Besides

some of the major tests mentioned above (including system testing), acceptance testing may also cover:

- a. Operational Acceptance Test - as production acceptance test in order to validate whether the deliverables meet the requirements for operations. The operational acceptance test may also include activities such as testing of backup/restore, disaster recovery data centre in full, maintenance tasks and periodic check of security vulnerabilities etc.
 - b. Contract Acceptance the Consultant may test may be performed against the contract's acceptance criteria for producing custom developed ICT infrastructure
 - c. Compliance Acceptance Testing (for the purpose of regulation acceptance testing) may be performed by the Consultant against the regulations which must be adhered to, such as governmental, legal or safety regulations.
- (x) Any other tests as found deemed by end Client / PMC would also be conducted by the Consultant.

Tests as described above would also assist in any other intervention or initiative to assess any aim, realisable concept / proposal, or any alternative, to help in decision making; or to ascertain the degree of achievement or value in regard to the envisaged result of any such action that has been completed. The primary purpose of testing and evaluation, in addition to gaining insight into the smart city initiative, would be to enable to validate if end product meets the criterion and standards so that by collaborative discussions (the Consultant, SI, Client / PMC) a decision to arrive at GO / NO GO is made.

5.2.8 Implementation

In Implementation Phase, fully tested and accepted prototypes / systems (hardware and software) would be installed by the Consultant (per specifications / procedures established in the design and development phases) in the test, quality, production or other target environments and will continue through the life as envisaged in the requirement definition phase.

The Consultants' Implementation plan would state how the information and communication systems will be deployed, installed and transitioned into the target system. The plan would also contain a brief description of systems, description on major tasks involved in the implementation, the overall resources needed to support the implementation effort (namely hardware, software, facilities, materials, etc.), and any site-specific requirements. The plan would be developed during the design phase and be updated during the development phase; the final version would evolve in the integration and test phases and is used for guidance during the implementation phase.

Following preparatory activities of the Consultant would precede physical installation of systems:

- pre-planning
- preliminary site visits
- site preparation specification
- site readiness verification
- procurement of equipment
- supplies needed.

The Consultant shall have to describe the approach to implement network and hardware:

- rolling over configurations and customisations
- software installation
- documentation needed for implementation
- information security
- training / hand holding
- master data preparation for operations.

All the sign-offs in terms of system compliances (in respect of requirement catalogue / traceability matrix and readiness to move operations) will be the responsibility of the Consultant. This phase would include preparation of system documentation by the Consultant / System Integrator such as:

- Training Manual (for user community)
- Operations Handbook / Standard Operations Procedures
- Systems Administration Manual (network maintenance, security procedures, system upkeep procedures, system backup procedures, server administration, DB upkeep and procedures, applications upkeep).

5.2.9 Transition to Steady State / Operation and Maintenance Phase

In this phase, the Consultant encompasses the procedure on how the ownership and responsibility of the all the ICT deliverables shall be formally transferred to the operations agency (Systems Integrator), as part of closing the contract engagement by the Consultant.

The knowledge transfer activities will be undertaken by the Consultant in order to transfer system knowledge to the Industrial Area authority-appointed agency's technical staff for understanding, in operating, and in maintaining the new systems. It may also cover procedures as to how equipment, configurations, software, and data stores will be transitioned into the production environment.

The Consultant will work out of process for an orderly closeout of the contract to include at a minimum the following areas:

- Transfer of information on business and technical processes and procedures
- Educate Industrial Area authority or its designated agency on operational, disaster recovery and business continuity procedures (by conducting change overs)
- Reconciliation of all hardware, software, etc., purchased for the project
- Handover of wave wise systems and supporting documentation, including but not limited to all deliverables specified in the contract
- Reviewing and validating appointed SI's detailed plans
- Ensuring that construction schedule and system implementation schedule match to ensure that pre-requisite systems are available for configuration and testing
- Technical risk and issue logs
- Technical integration progress reporting
- Technical Project governance (escalation path)
- Review and validate appointed vendors' QA methodology and plan
- Review and validate appointed vendors' test plan

- Review and validate appointed vendors' training plan
- Review and validate appointed vendors' handover plan
- Operational readiness checklist
- All the know-how (for all the ICT deliverables involved) to Industrial Authority or its designee(s), this may include specific preparation of manuals, training the requisite staff, providing hand holding etc. Handover of application operations and maintenance (knowhow and manuals) to Authority or its designee
- Handover and archiving of project materials
- Handover of final report that may include lessons learned and analysis of project objectives achieved with suggestions on how to bring greater value for subsequent wave implementations
- Handover of all implementation tools and licenses and /or related data needed to maintain the ICT Infrastructure
- Handover of supporting project data to Authority, including change requests, pending Help Desk requests, awareness on issues / residual risks
- Provide Authority or its designee the post “go live” evaluation report.

Stake holder would be involved throughout the project life cycle of Implementation Plan. Regular meetings with stakeholders (including periodic steering committee reviews are envisaged).

5.2.10 Schedules

The Consultant shall submit within 30 (thirty) days of Award of work, a detailed schedule of all the works along with Implementation and Integration Plan. The schedule should include all the deliverables and key milestones at the top of the schedule. The schedule must align with all other schedules of trunk infrastructure, civil, utilities, Administrative and ICT Buildings, Service Areas etc. Besides,

- a) All schedules shall be created, maintained and submitted to PMC in the latest version of Oracle Primavera P6 in an electronic format.
- b) The Consultant shall create and submit an initial baseline schedule that will be reviewed and approved by PMC. Upon approval, the copy of the Baseline will become the first Current Schedule.
- c) The present schedule shall be actively updated and maintained by the Consultant every month.
- d) All schedules shall follow the Critical Path Method (CPM) of scheduling and shall have meaningful and realistic logical ties and relationships between activities.
- e) The Primavera P6 schedule file should be updated and submitted at least once a month (preferably first working day of the month).
- f) Activity durations should be reasonable (typically not more than 15 days' duration except for project management tasks, procurement activities for long lead items or any other activity that obviously needs to be of longer duration).
- g) The Consultant shall use only zero or positive total float and lags on all activities in the baseline and all other versions of the schedule.
- h) A schedule narrative document shall accompany the electronic schedule describing work performed in the past month.
- i) List the major tasks completed to date and the planned work that will be performed in the upcoming month.

- j) Prepare and submit a Monthly Progress Report (standard format and template will be provided by PMC at a later date).
- k) Payment application shall be accompanied by monthly progress reports, detailed description of the work performed by the ICT Consultant, monthly progress schedule and any other required proof or documentation that clearly validates the payment request for the work performed.
- l) All payments are subject to timely submission of monthly progress report and the monthly updated electronic schedule file in the required and acceptable format.
- m) Quality Assurance Plan: The ICT Consultant should have a Quality Assurance Plan (QAP) for all design and documentation activities. The QAP should be presented as a separate section in the final report. Information shall be furnished regarding the details of personnel who shall be responsible for carrying out/ preparing and checking/ verifying various activities forming part of this assignment since inception to completion of work. The draft QAP must be discussed and finalized with the PMNC.

5.3 Documentation deliverables

- 5.3.1 All the deliverables mentioned in this terms of reference but not limited to the following shall be in the form of 10 (ten) hard copies + softcopies in MS Word and PDF format (or any other format asked by Client or its nominees for direct uploading in to Management Information System) for Reports and GIS, AUTOCAD, DWG and PDF formats for drawings and plans be submitted.
- 5.3.2 The list of deliverables are contained in sections 5.16 and 6 of this RFQ cum RFP.
- 5.3.3 Important note - Notwithstanding contrary to any of the specification clauses where multiple clauses for same subject/ requirement describe the specification intent, the sum of all or best of multiple clauses would be deemed to be applicable. The right to decide about sum of all or best of multiple will rest with Client / PMC.

5.4 Additional Details (5.6 to 5.15):

Following are partial details for select infrastructure / services and are for guiding / illustrative purposes to help include in TO BE specifications and may not be construed to be final specifications to be accepted by Client / PMC. All the respective details must be captured by the Consultant.

Further the details are as of 2014 and much advanced specifications are expected in 2019 upon go live.

Part: A Infrastructure Services

5.4.1 Data Centre

The Consultant should be responsible for the design, validation, and preparation of schedule of tender documents and oversee construction, integration, installation and testing of the Data Centre. The DC shall serve the communications and services needs of the area as designated by the Client.

The Consultant shall provide necessary inputs to Client on designated design, build agencies and PMC for building the IOC/ Data Centre in accordance to the design as approved and provided by the Client /PMC. The current OSP design recommends having two (2) redundant data centres (DCs) – DC1 and DC2. Both DCs are expected to be designed and built at least to ‘Tier-III’ DC specifications, in accordance with the relevant Uptime Institute classification; the MEP infrastructure of both DCs should be completely independent of each other.

The ICT Consultant shall provide the design, functional and technical specification inputs and oversee building the IOC, Data Centres area by strictly following TIA-942 & BICSI design guidelines. The Consultant shall be responsible for all the data centre facilities, taking into consideration:

5.4.1.1 The internal building factors such as:

- All internal electric power cable routes
- All internal communication cable routes
- The design, size and shape of all PoPs and Data Centre rooms
- The location and size of all risers and closet systems
- The location, size and shape of all satellite closets and wall cabinets
- Any sources of Electromagnetic interference (EMI)
- All likely sources of water flooding or seepage under floor or adjacent to equipment rooms
- All service elevators and their maximum load capacities if adjacent to risers
- Building entry facilities primary and secondary and duct size details
- Raised floors and false ceilings
- Highlight any potentially hazardous areas

5.4.1.2 The external building factors such as:

- The dimensions of all buildings and floor area coverage
- All proposed or existing external communication duct routes
- Coordination of all other planned service routes where applicable
- Interconnecting manholes, tunnels or conduits
- The Telecom Service Providers Entrance Point (if applicable)
- Network entrance points
- Special landscape features etc.
- Depth of site water table
- Physical or legal restrictions

5.4.1.3 Data centre systems such as:

- Access Control
- Air conditioning
- Cooling
- Ventilation
- Drainage
- Plumbing
- BMS and monitoring equipment
- Cable containment
- Video Surveillance
- Building construction
 - Walls
 - Ceiling
 - Steps
 - Ramps
 - Raised access floors
 - Doors
- Data and control cables
- Electrical power cables
- Electrical equipment
 - Switchgear
 - Power distribution

o Lighting; Etc.

- Equipment racks
- Fire detection and suppression system
- Power generation equipment
- Uninterruptable power supply
- Any other system that is needed to deliver a fully operational Data Centre

5.4.1.4 The Consultant should prepare design, specifications and BoQ of the Data Centre's structured cabling system based upon the following design criteria:

5.4.1.5 Have a useful life in excess of 20 years

5.4.1.6 Future-proofed by full Application Assurance Warranty

5.4.1.7 Internationally recognized commercial building cabling standards:

- TIA/EIA-568-C
- ISO 11802-2
- EN 50173 2nd Edition

5.4.1.8 Compliance to Uptime Institute / TIA-942 guidelines Data Centre Network

5.4.1.9 The CONSULTANT shall be responsible for design, specifications, BoQ as well as successful installation and commissioning of all the active components of the Data Centre. The active components include the:

- Core
- Aggregation
- Access
- Storage
- Internet Access
- Intranet Access
- Disaster recovery
- Network Management and Security Devices

The design and implementation of the active components of the network shall be in line with the data centre functional requirements as made available by the Client.

5.4.2 Part B: Integration Planning

The Consultant is responsible for the design, integration specifications and integration and test plans and overseeing construction and installation of the Command and Control Centre (CCC). The CCC is a master facility providing control and insight into service delivery and service support of multiple offerings which are integrated at this layer. The CCC would be multipurpose and CCCs could be distributed over the city. This is typically supported by the following key elements:

Contact Centre

Data Centre

Suggested design elements for CCC

5.4.2.1 The Consultant shall be responsible for design, specifications and BoQ and implementation oversight of a standard centralized command and control centre with the following functional Specifications: These are subject to be adapted to state of the art of technologies.

5.4.2.2 Availability: Design a CCC to be as available as the most critical infrastructure Functions being managed. CCC must have continuously available Computer systems, Network connectivity, Power and cooling requirements which is characterized as having essentially zero downtime in any given year.

5.4.2.3 Physical location needs:

- Controlled secure environment that is quiet, adjustable lighting, flexible heat.
- Redundant and fault-tolerant locations and power.
- Enough workspace to staff the most critical situation. Allow space to reorganize workflow as well.
- Logical Location and needs
- Logical location and needs are also an extremely important consideration for CCC establishes a reliable point of presence in the network and infrastructure.

5.4.2.4 Sizing

- Secure room preferably with independent access
- Support staff seats and side area for management and coordination in crisis situations
- Designated 'War room', if feasible, for emergency situations management and resolution

5.4.2.5 Placement: CCC placement must allow growth path for later expansion. This growth area is most commonly populated with cubicles, which can be relocated if the room has to be expanded in the future. The CCC must not be placed adjacent to labs, stairwells, restrooms or other building infrastructure that cannot be moved. Ideally, the CCC will be constructed close to Data Centre

5.4.2.6 Shape: Ideally multiple rows space. Shape as per design shown and submitted in for approval

5.4.2.7 Structure: For security reasons, CCC may not possess transparent windows or walls. These areas are vulnerable to both physical intrusion by breaking through the glass and unauthorized personnel having the view to sensitive data.

5.4.2.8 Finishing

- Interior finishing shall consist of maintainable static and dust-free surfaces.
- Walls shall be of painted texture and painted to match existing or those specified by architect in new buildings, preferably a light color to brighten the enclosed space.
- All interior partitions are to be of full height unless otherwise specified.
- Partitions / Walls to have sound proof acoustic panels finished with fabric for better sound absorption

5.4.2.9 Security: Access into the CCC is controlled by card reader system. Access should be allowed only by authorized official with full business justification

5.4.2.10 Electrical Systems: Electricity supplied to the CCC must be a 100% reliable and continuous source. Ideally the power to CCC is extended from the Data Centre. CCC must be backed up by both UPS and generator.

5.4.2.11 Connectivity: Independent and high available (zero downtime) network

5.4.2.12 Mechanical: 7 days-a-week; 24 hour-a-day cooling with independent controls is required in the CCC space.

5.4.2.13 Fire Suppression: It should adhere to standard work space fire-suppression methods.

5.4.2.14 Equipment: Standard equipment requirements such as Desktops, Laptops, IP Voice, PSTN Phone, applications and printers for emergency and crisis management, IP based Interoperability Communications System (IP ICS) and Emergency responders are suggested.

5.4.2.15 Monitoring panel: LCD or Plasma panels as per room size would be wall fixed. Ideally, LCD screens connected through IP network and Digital media server (DMS) to enable staff to use the same as a monitor and/or TV in case of external emergency situation monitoring.

5.4.2.16 Other requirements

- Analyst Storage Area: Storage desk to keep Analyst personal belongings
- Rack space, if feasible for future testing / demo purpose

5.4.2.17 CCC Physical Room Requirements:

The Consultant shall be responsible for the CCC physical room requirements. The section below outlines certain but not all key requirements:

- Secured Area
- Room Finishes
- Raised Floor
- Above Raised Floor
- Dropped Ceiling
- Sterile Room
- Fire Safety
- Power Requirements
- Consoles
- Screens and Video Walls
- Display Overview
- Ergonomic Displays
- Edge Blending
- Wall Control Software

5.4.3 Safety and security

The camera locations that need to be included needs to be arrived through a combination of City authorities' requirements, industry best practices and physical site inspections. The consultant should provide details of what each of these locations will require, at a minimum i.e. licensing, server storage, installation services, cameras and ancillary equipment, cabling plus the test and turn up of the cameras in coordination with the concerned authorities.

In order that there is no duplication of effort from existing or planned initiatives, a detailed gap analysis needs to be undertaken to arrive at possibilities of supplementing to existing initiatives but more importantly avoid any conflicts. The consultant will direct its vendors/system integrators to provide all relevant information necessary for carrying out a seamless integration, which include:

- a) Documentation of the Functional requirements for surveillance as envisioned by the city authorities
- b) schematic drawings for the design for IP video surveillance, which should include
 - a. Connection diagrams for interfacing equipment.

- b. List of connected equipment
- c. Locations for all major equipment components to be installed under this specification
- c) Detailed specification of the proposed cameras
- d) Detailed sizing exercise to estimate number of cameras and other system configurations
- e) Detailed bill of materials
- f) Budget estimates

The consultant would study examples of successful implementations of surveillance across the globe and provide specifics on relevant methodologies, technologies, applicable standards which need to be complied with, both for seamless interoperability and regulatory governance.

The consultant will provide a bill of material, relevant to the design proposed.

5.4.4 Smart Grid for electricity

The objective of this service, especially from ICT perspective would be to enable a best-in-class ICT platform for physical deployment of Smart Grid elements by utility partners.

With traditional power distribution systems, a silo's architecture is very common, which results in inefficiencies across the entire network. The consultant should be able to provide an integrated approach to the design of this system, so that various components of the utilities are connected to each other, resulting in a system with lesser redundancies and better service capabilities.

The solutions designed by selected the consultant should help power utilities to transform the way they generate, distribute, and manage energy and its consumption. It should:

- Build end-to-end secure communications infrastructure from generation to home - which will help utility companies optimize power supply and demand
- Create and drive industry adoption of standards to enable interoperability
- Be a secure, reliable, and resilient platform
- Deliver seamless integration with grid control systems
- Work with many types of partners to deliver integrated, world-class Smart Grid offerings
- Create an ecosystem with partners to ensure common open standards based on IP

To achieve this, the consultant needs to engage with all stakeholders, across the value chain, including, but not limited to:

- **Transmission and Distribution Automation:** optimize asset utilization and improve efficiency and reliability of the transmission and distribution grids
- **Smart Grid Security:** architecting the integrated cyber and physical security treat defense into every element of the solution
- **Smart Grid Security and Network Management:** providing end-to-end network communications visibility and control including security policy management for all IP-enabled devices
- **Smart Meter Communications:** providing scalable standards based IP communications extensible to a large ecosystem of devices.
- **Building and Home Energy Management:** optimizing the energy usage to reduce costs and carbon footprint. Increase customer choice by giving customers more information about household energy use allowing greater control

- **Data Center Optimization:** scale existing data center capacity and readiness for the massive increases required for the collection, storage, management, and analysis of the smart meter data
- **Smart Grid Ecosystem:** developing a standards platform for the integration and interoperability between the providers
- **Smart Grid Services:** a comprehensive portfolio of services that will help utility companies design, build, and run their Smart Energy Networks.

The proposed architecture should be an end-to-end IP-based communication platform integrated with the power grid from generation to consumption that will:

- Converge utility systems and processes across all elements of the grid to increase grid intelligence and efficiency
- Deliver increased grid reliability, resiliency, power quality and security
- Enable the Smart Grid to become a platform for energy service innovation

5.4.5 Passive Fiber Network

The Consultant is responsible for complete City wide design & implementation supervision of building out dark fiber optic backbone system ("Fiber System") to provide citywide access to a Fiber-to-the-x Network ("FTTx Network"). The primary duty includes:

- Accumulate essential information and data to set its goals and objectives to facilitate the deployment of a FTTx Network in Activation zone;
- Based on currently planned & future services, design FTTx Fiber optic network for activation zone. The consultant is expected to consider Telco Dark fiber requirement in its design
- Prepare an engineering study and FTTx Network design, deployment cost model and potential business models to build and operate a citywide network;
- Evaluate the impacts a FTTx Network will have on activation zone rights-of-way, City-owned utility poles, conduits, streetlight poles, Fiber System and real property;
- Define and evaluate FTTx Network requirements;
- Define services and technologies offered on the FTTx Network;
- Provide the SPV with findings and recommendations regarding the feasibility of building a FTTx Network and the best business model to pursue this goal;
- Assist SPV in writing the RFP based on SPV review and approval of the findings and recommendations in the Master Plan, and further direction from the SPV to proceed with issuing an RFP to build a citywide FTTx Network.
- Develop an inventory and assessment of City assets and infrastructure required to support the deployment of a FTTx Network;
- Consideration of innovative construction methods such as micro-trenching to reduce build costs and minimize disruption during the construction process.
- A network able to support high quality voice, data and video services, in addition to other advanced services and applications delivered over ultra-high speed broadband networks. Examples of other services and applications include but not limited to telemedicine, Surveillance, Smart Street lighting, cloud services, etc.

5.4.6 Citi Wi-Fi Network

The Wi-Fi service must be provided 24 hours a day, 7 days a week and must provide a signal strong enough across a busy street. The Wi-Fi hotspots should work together as a network. A user should be able to log in once and stay connected to any hotspot. The

user's device should be allowed to automatically re-connect after a connection has been severed and the user comes within the range of one of the network's hotspots.

The following is a list of the desired features sought in IIT Greater Noida.

- The proposed system should be extensible and scalable; able to support additional capacity, users and functions.
- The city desires to see proposals which incorporate phased deployment approaches in accordance with the rollout schedule.
- The proposal should contain provisions and/or explanations on how future features and/or applications can be added.
- It is expected that equipment may need to be mounted on rooftops, street poles and wall mount surfaces. The Consultant will be expected to design outdoor equipment according to city codes and applicable federal and state laws and regulations.
- The consultant is expected to perform a comprehensive site survey in order to mount the Access points.
- Equipment should be able to withstand the rigors of normal weather (wide ranging temperatures, intense heat, strong winds and heavy precipitation).
- Access points should be protected against power surges, electrical spikes and lightning.
- Battery backup and/or solar power backup for network equipment.
- Wireless services are expected to aggregate wireless traffic back to Presence (POP).
- Recommendations for equipment upgrades are expected.
- Mechanisms for fault tolerance should be in place to eliminate/mitigate single points of failure for components of the system.
- Designs must achieve aesthetic excellence and must be compatible with a wide variety of built contexts.

While targeted coverage areas include the following locations, the idea is to expand or deploy wireless internet services which could cover substantially the entire activation area

All roads and Streets including pavements	
Public parking	
Public parks	
Hospitals, Airports, Bus & Rail Stations	
Schools & Universities	
Conventions centres, Govt. buildings etc.	

Network Management, Maintenance and Support

The Consultant will describe all network management, upgrade and maintenance requirements, required skillsets and related effort, and provide an estimate of annual costs.

5.4.7 Network Operation Center (NoC)

The consultant is responsible for network operations Center (NOC) design for the day to day operation of the entire network infrastructure from the core fiber switches across the distribution and access components to the wireless components and any tenant LAN component management.

- The NOC will enable monitoring of ICT enabled services as well. This would include monitoring any interfaces to a service provider.
- In the NOC, the staff's primary accountabilities are to monitor the network for faults and performance events then initiate trouble tickets and corrective action as required.
- They interface with the single point of contact to receive organizational requests for network service changes or troubles. Remote diagnostics, software corrections and customer service requests would be carried out by and the team would request dispatch of field forces for any on site required work.
- Their primary accountabilities are to monitor the network and servers for security events. Initiating trouble tickets and corrective action as required and interface with a single point of contact to receive an end user's request for security service changes or troubles.
- The team would request the NOC to dispatch field forces for any on site required work. The NOC would co-ordinate the on-site work with the field forces and will be responsible for the test and turn up after security repair or provisioning activity. All this would be done under the change management rules and processes.

5.4.8 ICT Building (Activation Zone)

The Consultant shall be responsible for providing civil, HVAC, structural and MEP guidelines to the civil contractor for Data Center and IOC building. Data Center, IOC and other facilities that are going to be housed in ICT building somewhere in Industrial Area.

The consultant is expected to provide following details (but not limited to)-

- Floor loading & hanging capacity of ceiling
- Ceiling height
- Raised Flooring requirement
- Fire handling capacity of door and walls.
- Fire suppression system of DC, IOC and other infra
- Power requirement of IT load, Cooling

5.4.9 Smart Healthcare

The objective of smart healthcare is to provide enhanced efficiency in various forms of healthcare including inpatient, outpatient and ambulatory services. The specific services that need to be included will be determined by a combination of functionalities that the ICT consultant proposes and existing initiatives by the healthcare department.

From ICT perspective, the consultant should focus on enhancing communication across healthcare channel and improve overall healthcare quality and experience for the patients. The consultant should aim to deliver significant productivity gains, to the tune of 10% -15%, through improved communications within hospitals. ICT consultant should also aim to reduce overall TCO for healthcare IT systems, by being able to connect healthcare with various other verticals and city network.

ICT consultant should simplify communications in the healthcare system by using interoperable technologies that better connect patients with medical providers, payers, and life science organizations, linking critical information, people, and knowledge to improve the healthcare experience, thus enabling collaboration across healthcare system for safe, affordable, and accessible healthcare. ICT consultant should aim for a design that results in efficient use of medical equipment and assets, more effective communication between caregivers, and platform for rapid integration of the latest medical applications to improve the quality of patient care.

5.4.10 Smart education

The objective of this service is to broaden the reach of traditional education system and address some of the challenges faced by traditional education system.

From an ICT perspective, the consultant, through its designs, should aim to enhance student faculty collaboration, facilitate inclusion from neighbouring villages, provide reliable and alternate mode of learning.

The consultant should also contribute to research and innovation within the SIR, by designing a platform which can cater to industrial education and training.

The proposed system should be able to create/enhance media rich learning so that the students are exposed to skills required to compete effectively against other developed cities.

The system should provide access to rich repository of educational resources and expand the learning opportunities. It should also facilitate improvement of soft skills among the students, especially communication skills.

5.5 Deliverables

All the deliverables mentioned in this terms of reference but not limited to the following shall be in the form of 10 (ten) hard copies + soft copies in MS Word and PDF format for Reports and GIS, AUTOCAD, DWG and PDF formats etc. for drawings and plans. Editable copies when asked must be submitted.

S.No.	Milestone Completion*	Deliverables
		Design Phase
1	D+30 days	<p><i>Inception Report and Implementation Plan</i></p> <ul style="list-style-type: none"> • Submission of Inception Report (Section 5 of RFP), opening of onsite project office, mobilization of onsite and offsite resources (per RFQ cum RFP section 4) project kick off meeting with stake holders • Submission of detailed Implementation Plan (to also cover entire set of activities ICT Consultants' project life cycle stages respective deliverables etc.) • Any other activities and items needed for the completeness of milestone
2	D+45 days	<p><i>ICT Master Plan</i></p> <ul style="list-style-type: none"> • Vision • Functional view of the ICT systems that will meet Smart vision • Global best practices for relevant smart cities i.e. benchmarking • Base line study report for the project • Smart solution architecture • HLD for Service delivery in various business domains • Service prioritization • Cost outlay of ICT projects and financial sustainability modelling for these initiatives

3	D+2months	<p>Base lining Report, RF Foot printing, Sensors (other than Cameras) and Actuators details and Civil and other Engineering Inputs</p> <ul style="list-style-type: none"> • Submission of Base lining Report (wrt to globally developed smart cities) • Submission of end to end RF mapping of Cellular and Wi-Fi services, finalization of Service Area nos, their locations, lay out and infrastructure requirements etc. • Providing specifications /details, locations etc. for end to end city wide sensors and actuators including for utilities / trunk infrastructure, roads, environment etc. and conforming to the needs of world class smart city. This excludes video and traffic cameras. • Providing of end to end ICT and Civil, Mechanical, Electrical Engineering inputs (with HW and SW specifications) for minimum buildings (including city SPV, ICT, Utility buildings and Business and Exhibition Center (2 buildings)) that will include civil, electrical, mechanical designs (including flooring and roof requirements, detailed layouts of IOC, including all the components of IOC, DC/ DRDC etc., floor loading and roof loading requirements, interiors, furniture specifications UPS, HVAC, DG etc.). This would also include complete end to end design and specifications (with BoQ) for building management systems for each of 5 buildings and establishing necessary ICT connections (covering all the IT and non IT components) • Streetlight integration details with detailed BoQ for building integrated infrastructure (including with CRM or ITIL tool), running integrated operations, data management and collation, analytics, monitoring / dashboard display, reporting etc. of city wide smart street lighting • Any other activities and items needed for the completeness of milestone
4	D+3 months	<p>Implementation Plan, Design of Networks and City Infrastructure Integrations</p> <ul style="list-style-type: none"> • Submission of city wide (end to end) ICT infrastructure integration implementation plan (to also cover entire set of activities ICT Consultants' life cycle stages respective deliverables etc.) • Submission of end to end finalized detailed design of networks for Wi-Fi, video surveillance (including cameras), traffic management, common network for city utilities and sensors etc. • Details as requested • Submission of end to end integrated finalized design along with city wide blue print (IT and non IT) for integrating all the city wide sensors, actuators, trunk infrastructure and utilities (including for smart grids for water, gas, power, waste etc.), all SCADAs of the city, along with complete schemes and functional details for optimized control (selectively), automation, monitoring, display, eventing/alarms, reporting and analytics to be deployed at various places in the city. It should also include other indirect parameters of city having influence on city operations. Besides end to end design details for set of COTS applications (though COTS would be preferable, can accept custom built if COTS is not available) for managing the above to be detailed out per applicable stages of ICT Consultant's life cycle

		<p>along with applicable deliverables be submitted.</p> <ul style="list-style-type: none"> • Balance deliverables for tower 5 (including as designs, BoQ, Budgets, ToR material etc. for tower 5), including any other documents needed for completeness of tower 5 deliverable, though not specified. • Submission of design and other details must be as per ICT Consultants' project lifecycle explained elsewhere in this document. It should also have user defined use cases, acceptance criteria etc. with sign off from discipline owner / city SPV. Submission also to include complete HW and SW details for RFP framing. • Any other activities and items needed for the completeness of milestone
5	D+4Months	<p>Command Control Center, Data Center, DRDC, Scoping of all Applications</p> <ul style="list-style-type: none"> • Submission of end to end finalized design and details of Command Control Center, Data Center and Disaster Recovery Center (including sizing of all IT and non IT equipment) etc. • Tier III design and design certification approval from Uptime Institute be obtained for DC and DRDC and submitted. • Submission of end to end detailed requirements catalogue, scoping besides other things should cover detailed process mapping (including use cases) generated after adding local requirements (as collected from various sources) and mapped onto globally practiced best process templates for smart cities for all the end to end city applications, including e Governance, enterprise resource planning and associated applications (CRM, BI,SRM...etc.) also covering required interfaces (among apps being built new and apps that may be existing with State entities), along with finalized specifications, design and details. This will include HW sizing too for all the applications in scope. The scoping and low level process mapping along with uses cases and details of interfaces to be built should be fully ready in all respect to take it to next level by System Integrator without any need of any supplementary information. • The above will also have documents such as test and acceptance criteria etc. as stated in the ICT Consultant's project life cycle in this RFQ cum RFP along with sign off from respective discipline owners / city SPV. All the design details and deliverables shall submitted be as per ICT Consultant's project lifecycle explained elsewhere in this document, per global practices and as asked by Client / PMNC. • Balance deliverables for towers 2,3 and 4 (including designs, BoQ, Budgets, ToR material etc.) and as per project life cycle of RFQ cum RFQ and otherwise asked by Client / PMNC • Any other documents needed for completeness of milestone deliverable for towers 2,3 and 4

6	D+4.5months	<p>Dash Boards, ICT for Buildings</p> <ul style="list-style-type: none"> • Submission of finalized design and details (IT, non IT Components and balance civil engg / building details) for complete landscape of all the components of Integrated Operations Center and other ICT remaining works • Submission of end to end finalized design and details (HW and SW) including blue print (with detailed process maps) of city's cockpit and other dash boards needed at various locations in the city. It should also have use cases, acceptance criteria etc. and sign off from discipline owners / city SPV. Submission of design details shall be as per ICT Consultant's project lifecycle explained elsewhere in this document. • Finalization of interiors for ICT components for ABCD, ICT and other Utility Buildings • Balance of deliverables for towers 1 and 6, including designs, BoQ, Budgets, ToR material etc. for towers 1 and 6 • Any other deliverables, documents needed for completeness of milestone deliverable, though not stated directly with towers 1 and 6. • Balance deliverables, if any, not covered above, but part of this RFQ cum RFP • Any other activities needed for completion of milestone
7	D+6months	<p>Floating of tender documents for selection of System Integrator</p> <ul style="list-style-type: none"> • ICT Systems Integrator's RFP (preparation, submission and Floating of RFP for engaging ICT System Integrator) • Any other activities and items needed for the completeness of milestone
8	D+7months	<p>Award of Contract for System Integrator</p> <ul style="list-style-type: none"> • Selection of Systems Integrator's by DMIC / City SPV • Pre and post award assistance for Selection of System Integrator • Any other activities and items needed for the completeness of milestone

S.No.	Milestone Completion*	Deliverables
		Implementation and Operations Phase (To be decided later)
9		<p>End to end Go Live of Networks and Completion and Full Readiness of City Infrastructure Integration</p> <ul style="list-style-type: none"> • Successful Go Live in integrated manner and end to end of tower 5 covering networks for Wi-Fi services, video surveillance, sensors and actuators, integration of trunk infrastructure/ city wide utilities (including smart grid components / SCADAs of various services) and city wide sensors and actuators for complete Activation Area and associated installations such as WTP etc. in TP1, City SPV Building, ICT Building, Utility Building, Business and Exhibition Center (cum Auditorium) etc. • Submission of documentation for milestone deliverables as per applicable stages of ICT Consultant's project life cycle in this RFQ cum RFP and asked otherwise by Client / PMNC including Standard Operating Procedures and Training Manuals.

		<ul style="list-style-type: none"> Any other activities and items needed for the completeness of milestone
10		<p>End to end Go Live - Data Center and Disaster Recovery Centre</p> <ul style="list-style-type: none"> End to end and successful Go Live of tower 4- Tier III Data Center and Disaster Recovery Centre along with all associated equipment. Submission of documentation for milestone deliverables as per applicable stages of the ICT Consultant's project life cycle in this RFQ cum RFP and asked otherwise by Client / PMNC including Standard Operating Procedures and Training Manuals Any other activities and items needed for the completeness of milestone
11		<p>End to end Go Live of IOC, all applications and associated infrastructure</p> <ul style="list-style-type: none"> End to end successful Go live of Towers 1, 2 and 3: Covering all the components of IOC, e Governance and other applications, enterprise resource planning and associated city applications, fully integrated, 100% complete and fully functional along with city wide sensors, actuators, utilities (including various smart grids and other components), trunk and civil infrastructure etc. Submission of documentation for milestone deliverables as per applicable stages of ICT Consultant's project life cycle in this RFQ cum RFP and asked otherwise by Client / PMNC including Standard Operating Procedures and Training Manuals. Any other items needed for the completeness of milestone
12		<p>End to end Go Live - City wide dash boards / Cockpits</p> <ul style="list-style-type: none"> End to end and successful Go Live of tower 6 including city's cockpit / dash boards needed at various locations along with city wide integration, operational optimization, monitoring / display etc. Submission of documentation for milestone deliverables as per applicable stages of ICT Consultant's project life cycle in this RFQ cum RFP and asked otherwise by Client/ PMNC including Standard Operating Procedures and Training Manuals. Any other activities and items needed for the completeness of milestone
13		<p>Go Live - Other infrastructure not directly covered in any of tower but needed other wise</p>
14		<p>Go-Live & training of entire ICT Scope</p> <ul style="list-style-type: none"> Training Completion and end to end ICT Go Live Preparation of training manuals and imparting training to SPV personnel. Successful dry run for final preparations of Go Live for one month Submission of documentation for milestone deliverables as per

		<p>applicable stages of ICT Consultant's project life cycle in this RFQ cum RFP and asked otherwise by Client / PMNC.</p> <ul style="list-style-type: none"> Any other activities and items needed for the completeness of milestone
15		<p>Successful Operations of first leg of 6 months</p> <ul style="list-style-type: none"> First Leg of Operations and Certifications Assessment readiness Go Live and successful full scale operations (first leg of 6 months) Completion of successful assessment of ISO and other certifications and providing requisite support to SI for Tier III Construction (second stage) Certification etc. Handholding / transition of operations to IT governance unit of city SPV Submission of documentation for milestone deliverables as per applicable stages of ICT Consultant's project life cycle in this RFQ cum RFP and asked otherwise by Client / PMNC. Any other activities and items needed for the completeness of milestone
16		<p>Successful Operations of second leg of 6 months</p> <ul style="list-style-type: none"> Second leg of Operations, Transition of Governance to SPV etc. Successful full scale operations (second leg 6 months) Receipt of all of ISO and other certificates by City SPV as per RFP Transition completion to IT governance unit of city SPV Balance deliverables, if any, not covered above, but part of this RFQ cum RFP / SI RFP or otherwise asked by Client / PMNC. Submission of documentation for milestone deliverables as per applicable stages of ICT Consultant's project life cycle in this RFQ cum RFP and asked otherwise by Client / PMNC. Any other activities and items needed for the completeness of milestone

Activities that are not specific to any milestone but are to performed by Consultant according to details contained in Section 5 and elsewhere are the obligation of consultant to provide deliverables not only in timely manner (as specified by PMNC from time to time), but fully meeting to the needs of all the stakeholders.

All design activities stated above/ in this document, among other things cover fully blown equipment specifications, BoQ, budgetary price etc. for RFQ cum RFP for SI.

ICT Consultant will provide updated schedules per requirements of PMNC on monthly basis.

Monthly (or period as decided by client / PMNC) progress reports as detailed elsewhere per PMNC requirement shall be submitted by ICT Consultant.

5.6 References

The Applicant may see relevant reference data/information as detailed below from Client for further assessment (during pre-bid / comments submission phase).

The Consultant shall study and assess all previous studies and reports pertaining to the site, including concept briefs that will be provided by the PMNC to the Selected Applicant. The Consultant shall assess prior proposals pertaining to the site and the surrounding region and

ensure integration of proposals that have been accepted or are under implementation within the planning purview of this project.

The Consultant shall apprise themselves of the Town Planning Schemes, its process and most recent status. The Consultant shall prepare a list of all necessary drawings and documents apart from those already provided that are necessary for fulfilling the obligations under this assignment, and initiate a formal request to the PMNC for sharing the information.

The Consultant shall collect relevant survey and topographic information from the Client to derive preliminary formation levels at the site (if needed). The Consultant shall include analysis of information collected in the Technical Assessment Report and Design Basis Report as part of this stage of works.

5.7 Partial List of Standards and Other Documents

In addition to the standards mentioned at various places in this RFQ cum RFP, following is the partial list of standards that will also be applicable for ICT.

Document ID	Title	Organisation
ANSI/ASQ E 4	Specifications and guidelines for quality systems for environmental data collection and environmental technology programs	ANSI
BS EN 14908-5:2009	Open data communication in building automation, controls and building management implementation guideline – Control	CEN
BS EN 60730-1:1992	Specification for automatic electrical controls for household and similar use – General requirements	CEN
BS ISO 14813-1:2007	Intelligent transport systems – Reference model architecture(s) for the ITS sector – ITS service domains, service groups and services	ISO
CR 205-006:1996 en	Home and building electronics system (HBES) – Technical report 6: Protocol and data integrity and interfaces	NEN
CSN ISO/IEC TR 15067-3	Information technology – Home electronic system (HES) application model – Part 3: Model of an energy management system for HES	ISO/IEC
CWA 14947:2004 en	European eConstruction architecture (EeA)	CEN
CWA 15264-3:2005	User requirements for a European interoperable eID system within a smart card infrastructure	CEN
CWA 16073-0:2010 en	Business interoperability interfaces for public procurement in Europe	CEN
DD CEN/TS 13149-6:2005	Public transport – Road vehicle scheduling and control systems – CAN	CEN
DIN SPEC 33440	Ergonomic design of user-interfaces and products for smart grid and	DIN
DS/EN 61970-1	Energy management system application program interface (EMS- API) – Part 1: Guidelines and general requirements	IEC
EIA TSB 4940	Smart device communications – Security aspects	EIA
EN 60730-1	Automatic electrical controls for household and similar use – Part 1: General requirements (IEC 60730-1:2010, modified)	CENELEC
ETSI GS OSG 001 V 1.1.1	Open smart grid protocol (OSGP)	ETSI
ETSI TR 102935 V 2.1.1	Machine-to-Machine communications (M2M) – Applicability of M2M architecture to smart grid networks – Impact of smart grids on M2M	ETSI
GOST R 55060	Automatized control systems of buildings and structures. Terms and	GOST R
GOST R ISO 15007-1	Ergonomic of vehicles – Measurement of driver visual behaviour with respect to transport information and control systems – Part 1:	GOST R

Document ID	Title	Organisation
IEC 62290-1	Railway applications – Urban guided transport management and command/control systems Part 1: System principles and fundamental	IEC
IEEE 1851	IEEE standard for design criteria of integrated sensor-based test applications for household appliances	IEEE
ISO 15118-1	Road vehicles – Vehicle to grid communication interface – Part 1: General information and use-case definition	ISO
ISO 16354	Guidelines for knowledge libraries and object libraries	ISO
ISO 16484-5	Building automation and control systems – Part 5: Data	ISO
ISO/PAS 22720	Association for standardization of automation and measuring systems	ISO
ISO/TS 24533	Intelligent transport systems – Electronic information exchange to facilitate the movement of freight and its intermodal transfer – Road	ISO
ITU-T X.207	Information technology – Open systems interconnection – Application	ITU
NEMA SG-AMI 1	Requirements for smart meter upgradeability	NEMA
NEN 7512:2005 nl	Health informatics – Information security in the healthcare sector – Basis for trust for exchange of data	NEN
NEN-EN-ISO 24534-3:2013	Intelligent transport systems – Automatic vehicle and equipment identification – Electronic registration identification (ERI) for vehicles –	CEN
NPR-CEN/TR 16427:2013 en	Intelligent transport systems – Public transport – Traveller information for visually impaired people (TI-VIP)	CEN
OEVE B/EN 60555-1/1987	Disturbances in supply systems caused by household appliances and similar electrical equipment – Part 1: Definitions	OVE
PAS 1018	Essential structure for the description of services in the procurement	DIN
PAS 1036	Solution catalog with glossary for e-Government	DIN
PAS 1067 GAEB DA XML	Organization of the information exchange regarding the execution of	DIN
PAS 1090	Demands on information systems for collecting, communicating and serving of relevant service information within the technical	DIN
PAS 555:2013	Cyber security risk – Governance and management – Specification	BSI

Document ID	Title	Organisation
SS-ISO 15784-1:2008	Intelligent transport systems (ITS) – Data exchange involving roadside modules communication – Part 1: General principles and documentation framework of application profiles (ISO 15784-1:2008,	ISO
UTE C15-900U*UTE C15900	Coexistence between communication and power networks – Implementation of communication networks	UTE
VDI 3805 Blatt 1	Product data exchange in the building services – Fundamentals	VDI
VDI 3807 Blatt 2	Characteristic values of energy consumption in buildings – Characteristic heating-energy, electrical-energy and water	VDI
VDI 3814 Blatt 7	Building automation and control systems (BACS) – Design of user	VDI
VDI 4201 Blatt 1	Performance criteria on automated measuring and electronic data evaluation systems for monitoring emissions – Digital interface –	VDI/DIN
VDI 6027 Blatt 2	Requirements for the data exchange of CAD systems – Building	VDI
BS ISO 20121	Event sustainability management systems – Requirements with guidance for use	ISO
ASTM E 1121	Standard practice for measuring payback for investments in buildings	ASTM
BIP 2207	Building information management – A standard framework and guide to	BSI
BS 8587:2012	Guide to facility information management	BSI
BS 8903:2010	Principles and framework for procuring sustainably – Guide	BSI
CAN/CSA-ISO/TS14048:03 (R2012)	Environmental management – Life cycle assessment – Data documentation format	CSA
CWA 15666:2007 en	Business requirement specification – Cross industry e-Tendering	CEN
CWA 15971-1	Discovery of and access to eGovernment resources – Part 1:	CEN
CWA 16649:2013 en	Managing emerging technology – related risks	CEN
CWA 50487:2005 en	Smart-House Code of Practice	CEN
DS/ISO/IEC 18012-2	Information technology – Home electronic system – Guidelines for product interoperability	ISO/IEC
FD P01-066*FD CEN/TR 15941	Sustainability of construction works – Environmental product declarations – Methodology for selection and use of generic data.	AFNOR
ISO 16484-1	Building automation and control systems (BACS) – Part 1: Project specification and implementation	ISO
ISO/IEC 17998	Information technology – SOA governance framework	ISO/IEC

Document ID	Title	Organisation
ISO/IEC TR 29138-1	Information technology – Accessibility considerations for people with disabilities – Part 1: User needs summary	ISO
ITU-T L.1410	Methodology for the assessment of the environmental impact of information and communication technology	ITU
NEN-ISO 29481-2:2012 en	Building information models – Information delivery manual – Part 2:	ISO
NEN-ISO/IEC 16326:2010	Systems and software engineering – Life cycle processes – Project	ISO/IEC
NF P01-061-1*NF EN 15643-1	Sustainability of construction works – Sustainability assessment of buildings – Part 1: General framework.	AFNOR
NPR-ISO/TR 12859:2009 en	Intelligent transport systems – System architecture – Privacy aspects in ITS standards and systems	ISO/TR
RAL-UZ 170	Basic criteria for award of the environmental label – Energy services provided under guaranteed energy savings contracts	RAL Güte
SS-ISO/IEC 27005:2013	Information technology – Security techniques – Information security	ISO/IEC
VDI 3814 Blatt 5	Building automation and control system (BACS) – Advices for system	VDI
VDI 4466 Blatt 1	Automatic parking systems – Basic principles	VDI
VDI 7000	Early public participation in industrial and infrastructure projects	VDI
VDI/GEFMA 3814 Blatt 3.1	Building automation and control systems (BACS) – Guidance for technical building management – Planning, operation, and	GEFMA
BS ISO 37120	Sustainable development and resilience of communities – Indicators for city services and quality of life	ISO
BS ISO/TR 37150	Smart community infrastructures – Review of existing activities	ISO
ABNT NBR 14022	Accessibility in vehicles of urban characteristics for public transport of	ABNT
BIP 2228:2013	Inclusive urban design – A guide to creating accessible public spaces	BSI
BS 7000-6:2005	Design management systems – Managing inclusive design – Guide	BSI
BS 8904:2011	Guidance for community sustainable development	BSI
BS EN 15331:2011	Criteria for design, management and control of maintenance services	EN
CLC/FprTR 50608	Smart grid projects in Europe	CENELEC
CWA 15245	EU e-Government metadata framework	CEN
CWA 16030:2009	Code of practice for implementing quality in mobility management in small and medium	CEN

Document ID	Title	Organisation
	sized cities	
CWA 16267:2011	Guidelines for sustainable development of historic and cultural cities –	CEN
DIN SPEC 91280	Ambient assisted living (AAL) – Classification of ambient assistant living services in the home environment and immediate vicinity of the	DIN
GOST R 54198	Resources saving – Industrial production – Guidance on the application of the best available technologies for increasing the	GOST R
PAS 181:2014	Smart city framework – Guide to establishing strategies for smart cities	BSI
UNI 10951:2001	Systems of information for the maintenance management of buildings	UNI
VDI 7001	Communication and public participation in planning and building of infrastructure projects	VDI
X30-025*BP X30-025	Good practices for the transparency of the information about the social conditions of production and product distribution	AFNOR
Z762-95 (R2011)	Design for the environment (DFE)	CSA

Section 6 Standards Form of Contract

STANDARD FORM OF CONTRACT
CONTRACT FOR CONSULTANCY SERVICES

Between

[Name of Client]

[Name of Consultants]

[Date]

I. Form of Contract

Contract to undertake [name of assignment]

This CONTRACT (hereinafter called the “Contract”) is made on the [Date in words] day of the month of [month] [year in ‘yyyy’ format], by and between

The DMIC Integrated Industrial Township Greater Noida Limited, a company incorporated under the Companies Act, 1956, having its Registered Office at H-169 Chitvan Estate, Sector Gamma – II, Greater Noida, Gautam Budh Nagar, Uttar Pradesh 201308, India, hereinafter referred to as the “Client” which expression unless repugnant to context or meaning thereof shall include its successors, affiliates and assigns) of the First Part.

AND,

[Name of Consultants and registered address]

(Hereinafter called the “Consultants”)

WHEREAS

- a) The Client has requested the Consultants to provide certain consulting services as defined in the General Conditions attached to this Contract (hereinafter called the “Services”);
- b) The Consultants, having represented to the Client that they have the required professional skills, personnel and technical resources, have agreed to provide the services on the terms and conditions set forth in this Contract.

NOW THEREFORE the parties hereto hereby agree as follows:

1. The following documents attached hereto shall be deemed to form an integral part of this Contract:

- a) The General Conditions of Contract (hereinafter called “GC”);
- b) The Special Conditions of contract (hereinafter called “SC”);
- c) The following Appendices:

Appendix A: Instructions to Consultants, Terms of reference containing, inter-alia, the Description of the Services and reporting requirements,

Appendix B: Consultants’, Sub consultants, Key Personnel and Sub Professional Personnel, Task assignment, work programme, manning schedule, qualification requirements of key personnel and schedule for submission of various deliverables

Appendix C: Approach and methodology

Appendix D: Duties of the Client

Appendix E: Consultant’s Fee Details.

Appendix F: “Conformed Document” which incorporates all the changes, modifications and results of the contract negotiations

Appendix G: Copy of Letter of Award

Appendix H: Copy of letter of Award/ acceptance by Consultant

Appendix I: Copy of Bank Guarantee for Performance Security and Insurances.

Appendix J: Clarifications

Appendix K: Hours of work for Consultants' Personnel

Appendix L: Correspondences

2. The mutual rights and obligations of the Client and the Consultants shall be as set forth in the Contract; in particular:

- a) The Consultants shall carry out the Services in accordance with the provisions of the Contract; and
- b) Client will make payments to the Consultants in accordance with the provisions of the Contract.

3) Priority of documents: The Parties expressly agree that in the event of any conflict, inconsistency or contradiction between any clauses forming part of the documents constituting the Contract, and more particularly mentioned in Clause 1 (of this contract) hereinabove, the documents shall be interpreted in the following order of precedence:

- a. The provisions of this Contract shall override all provisions of other documents comprising the Contract.
- b. the provisions of the SC shall be subject to the Contract, but shall override all provisions of other documents comprising the Contract;
- c. the provisions of the GC shall be subject to the Contract SC, but shall take precedence over all other documents comprising the Contract; and
- d. the Appendices shall subject to each of the Contract, SC and the GC
- e. Any decision of the Client in relation to the priority of documents shall be final and binding upon the Consultant

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 DMIC IITGNL

[Signature]

[Name]

[Designation]

FOR AND ON BEHALF OF CONSULTANT

[Signature]

[Name]

[Designation] Witness:

1. [Signature, name and address]

2. [Signature, name and address]

II. General Conditions of Contract

6.1 General provisions

6.1.1 Definitions

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

- a) “Applicable Law” means the all laws, bye-laws, rules, regulations, orders, ordinances, protocols, codes, guidelines, policies, notices, directions, judgments, decrees and any other instruments having the force of law in India as they may be issued and in force from time to time;
- b) “Affiliate” means, with respect to any Party, any other entity that, directly or indirectly: (a) Controls such Party; (b) is Controlled by such Party; (c) is Controlled by the same person who, directly or indirectly, Controls such Party; and “Control” with respect to any person, shall mean: (a) the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such person whether through the ownership of voting share capital, by agreement or otherwise or the power to elect more than one-half of the directors, partners or other individuals exercising similar authority with respect to such person; (b) the possession, directly or indirectly, of a voting interest of more than 50%; and the terms “Controlling” and “Controlled by” shall be construed accordingly;
- c) “Client” means the Party named in the Contract, who employs the Consultant;
- d) “Consultant” or “Consultants” means the party named in the Contract, who is employed as an independent professional firm by the Client to perform the Services;
- e) “Contract” means the Contract signed by the Parties, to which these General Conditions of Contract (GC) constitute a part, together with all other documents listed in this signed Contract;
- f) “Contract Price” means the price to be paid for the performance of the Services;
- g) “GC” means the General Conditions of Contract;
- h) “Government” means the Government of Client’s country;
- i) “Local Currency” means the currency of the Government;

- j) "Member", in case the Consultants consist of a joint venture of more than one entity, means any of these entities, and "Members" means all of these entities; "Lead Member/Member in Charge" means the entity specified in the SC to act on behalf of Each Member in exercising all the Consultant's rights and obligations towards the Client under this Contract;
- k) "Material Adverse Effect" means material adverse effect on (a) the ability of the Consultant to observe and perform any of its rights and obligations under and in accordance with the provisions of this Agreement and/or (b) the legality, validity, binding nature or enforceability of this Agreement;
- l) Master Services Agreement (MSA) shall mean the same as "contract";
- m) "Party" means the Client or the Consultants, as the case may be, and Parties means both of them;
- n) "Performance Security" shall mean the irrevocable and unconditional bank guarantee provided by the Consultant from a scheduled Indian bank as guarantee for the performance of its obligations in respect of the Contract;
- o) "Personnel" means persons hired by the Consultants or by any Sub-consultant as employees and assigned to the performance of the Services or any part thereof;
- p) "Project" means "[name of assignment]";
- q) "SC" means the Special Conditions of Contract by which these General Conditions of the Contract may be amended or supplemented;
- r) "Services" means the work to be performed by the Consultants pursuant to this Contract as described in TOR;
- s) "Sub-consultant" means any entity to which the Consultants subcontract any part of the Services in accordance with the provisions of this contract; and,
- t) "Work Order" means a specific directive or order to perform a defined scope for a defined duration and fee
- u) "Corrupt Practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the selection process or in contract execution.
- v) "Fraudulent Practice" means a misrepresentation of facts in order to influence a selection process or the execution of a contract to the detriment of the Client, and includes collusive practice among consultants (prior to or after submission of proposals) designed to establish prices at artificial non-competitive levels and to deprive the Client of the benefits of free and open competition.

6.1.2 Law Governing Contract: This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Applicable Laws of India and shall be subject to the jurisdiction of the Courts at Gautam Budh Nagar and High Court of Allahabad, Uttar Pradesh.

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

6.1.4 Notices: Any notice, request or consent made pursuant to the 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 to such Party at the address specified in the SC.

6.1.5 Location: The Services shall be performed at such locations as whether in Country or elsewhere, as the Client may approve.

6.1.6 Authorized Representatives: Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Client or the Consultants may be taken or executed by the officials in the SC.

6.1.7 Taxes and Duties: Unless otherwise specified in the SC, the Consultants, Sub-consultants 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. 6.1.8 Interpretation: In the Contract, unless the context otherwise requires:

6.1.8.1 The singular includes the plural and vice versa and any word or expression defined in the singular shall have a corresponding meaning if used in the plural and vice versa. A reference to any gender includes the other gender.

6.1.8.2 A reference to any document, agreement, deed or other instrument (including, without limitation, references to the Contract), includes a reference to any document, agreement, deed or other instrument as may be varied, amended, supplemented, restated, novated or replaced, from time to time.

6.1.8.3 A reference to any document, agreement, deed or other instrument (including, without limitation, references to the Contract), means a reference to such document, agreement, deed or other instrument and to all appendices, annexes, schedules and parts attached or relatable thereto, all of which shall form an integral part of such document, agreement, deed or other instrument, as the case may be.

6.1.8.4 A reference to any Applicable Law includes any amendment, modification, re-enactment or change in interpretation or applicability of such Law and a reference to any statutory body or authority includes a reference to any successor as to such of its functions as are relevant in the context in which the statutory body or authority was referred to

6.1.8.5 Where a word or phrase has a defined meaning, any other part of speech or grammatical form in respect of the word or phrase has a corresponding meaning.

6.1.8.6 The words “include” and “including” are to be construed without limitation. The terms “herein”, “hereof”, “hereto”, “hereunder” and words of similar purport refer to the Contract as a whole. Where a wider construction is possible, the words “other” and “otherwise” shall not be construed *ejusdem generis* with any foregoing words.

6.1.8.7 In the Contract, headings are for the convenience of reference only and are not intended as complete or accurate descriptions of the content thereof and shall not be used to interpret the provisions of the Contract.

6.1.8.8 Any obligation not to do something shall be deemed to include an obligation not to suffer, permit or cause that thing to be done. An obligation to do something shall be deemed to include an obligation to cause that thing to be done.

6.1.8.9 The rule of interpretation which requires that a Contract be interpreted against the person or Party drafting it shall have no application in the case of this Contract.

6.1.8.10 References to a person (or to a word importing a person) shall be construed so as to include:

- a) Individual, firm, partnership, trust, joint venture, company, corporation, body corporate, unincorporated body, association, organization, any government, or state or any agency of a government or state, or any local or municipal authority or other Governmental Authority (whether or not in each case having separate legal personality);
- b) That person’s successors in title and assigns or transferees permitted in accordance with the terms of the Contract; and
- c) References to a person’s representatives shall be to its officers, Personnel, legal or other professional advisors, subcontractors, agents, attorneys and other duly authorized representatives.

6.2 Commencement, completion, modification and termination of contract

6.2.1 Effectiveness of Contract: This Contract shall come into effect on the date the Contract is signed by both the Parties, or such other date as may be stated in the SC.

6.2.2 Commencement of Services: The Consultants shall commence the Services from 15th (fifteen) day of effectiveness of the Contract or any date prior to that with written approval from the Client.

6.2.3 Expiration of Contract: Unless terminated earlier pursuant to relevant clauses in this contract hereof, this Contract shall expire when Services have been completed and all payments have been made at the end of such time period after the Effective Date as shall be specified in the SC.

6.2.4 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.

6.2.5 Force Majeure

6.2.5.1 Definition: For the purposes of this Contract, "Force Majeure" means an event which is beyond the reasonable control of a Party, and which makes a Party's performance of its obligations under the Contract impossible or so impractical to be considered impossible under the circumstances, and includes, but not limited to war, riots, civil disorder, earthquake, fire, explosion, storm, flood or other adverse weather conditions.

6.2.5.2 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 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.
- c) the dates of commencement and estimated cessation of such event of Force Majeure; and
- d) the manner in which the Force Majeure event(s) affects the Party's obligation(s) under the Contract.

6.2.5.3 The Parties agree that neither Party shall be able to suspend or excuse the non-performance of its obligations hereunder unless such Party has given the notice specified above.

6.2.6 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.

6.2.7 Payments: During the period of their inability to perform the Services as a result of an event of Force Majeure, the Consultants 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 services after the end of such period.

6.3 Termination

6.3.1 By the Client: The Client may terminate this Contract, by not less than thirty (30) days' or sixty (60) written notice of termination to the Consultants, to be given after the occurrence of any of the events specified in this clause:

- a) if the Consultants do not remedy a failure in the performance of their obligations under the Contract, within a period of sixty (60) days, after being notified or within such further period as the Client may have subsequently approved in writing;
- b) within thirty (30) days, if the Consultants become insolvent or bankrupt;

- c) if, as the result of Force Majeure, the Consultants are unable to perform a material portion of the Services for a period of not less than sixty (60) days;
- d) within thirty (30) days, if the Consultant fails to comply with any final decision reached as a result of arbitration proceedings pursuant to relevant clauses hereof;
- e) Within thirty (30) days, if the Consultant submits to the Client a false statement which has a material effect on the rights, obligations or interests of the Client. If the Consultant places itself in position of conflict of interest or fails to disclose promptly any conflict of interest to the Client;
- f) within thirty (30) days, if the Consultant, in the judgment of the Client has engaged in Corrupt or Fraudulent Practices in competing for or in executing the Contract;
- g) if the Client, in its sole discretion and for any reason whatsoever, within a period of sixty (60) days" decides to terminate this Contract.

6.3.2 By the Consultants: The Consultants may terminate this Contract, by not less than thirty (30) days written notice to the Client, such notice to be given after the occurrence of the events specified in this clause:

- a) if the Client fails to pay any money due to the Consultants pursuant to this Contract and not subject to dispute pursuant to relevant clauses hereof within forty-five (45) days after receiving written notice from the Consultants that such payment is overdue;

or

- b) if, as the result of Force Majeure, the Consultants are unable to perform a material portion of the Services for a period of not less than sixty (60) days.

6.3.3 Cessation of Rights and Obligations: Upon termination of this Contract pursuant to actual Termination, or upon expiration of this Contract pursuant to relevant clause hereof, all rights and obligations of the Parties hereunder shall cease, except (i) such rights and obligations as may have accrued on the date of termination or expiration, (ii) the obligation of confidentiality set forth in relevant clause hereof, (iii) the Consultant's obligation to permit inspection, copying and auditing of their accounts and records set forth in Clause 6.4.6 hereof, (iv) the rights of indemnity of the Client specified in clause 6.12 and (v) any right which a Party may have under the Applicable Law.

6.3.4 Cessation of Services: Upon termination of this Contract by notice of either Party to the other pursuant to relevant clauses hereof, the Consultant shall, immediately upon dispatch or receipt of such notice, take all necessary steps to bring the Services to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum. With respect to documents prepared by the Consultant and equipment and materials furnished by the Client, the Consultant shall handover all project documents under procedure described in this contract.

6.3.5 Payment upon termination: Upon termination of this Contract, the Client will make the following payments to the Consultants:

- a) Remuneration pursuant to relevant clauses for Services satisfactorily performed prior to the effective date of termination;
- b) If the Contract is terminated pursuant to Clause 6.3.1a), b), d), e) or f), the Consultant shall not be entitled to receive any agreed payments upon termination of the Contract. However, the Client may consider to make payment for the part satisfactorily performed on the basis of the quantum merit as assessed by it, in its sole discretion, if such part is of economic utility to the Client. Under such circumstances, upon termination, the Client may also impose liquidated damages as per the provisions of relevant clauses of this Contract. The consultant will be required to pay any such liquidated damages to Client within 30 days of termination date.

6.3.6 Disputes about Events of Termination: If either Party disputes Termination of the contract under relevant clauses hereof, such Party may, within forty-five (45) days after receipt of notice of termination from the other Party, refer the matter to arbitration under relevant clauses hereof, and this Contract shall not be terminated on account of such event except in accordance with the terms of any resulting arbitral award.

6.4 Obligations of the Consultants

6.4.1 General: The Consultants shall perform the Services and carry out their obligations hereunder 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 Consultants shall always act, in respect of any matter relating to this Contract or to the Services, as faithful advisers to the Client, and shall at all times support and safeguard the Client's legitimate interests in any dealings with Sub- consultants or third parties.

6.4.2 Conflict of interest

6.4.2.1 Consultants Not to Benefit from Commissions, Discounts, etc.: The remuneration of the Consultants pursuant to relevant clauses hereof shall constitute the Consultant's sole remuneration in connection with this Contract or the Services, and the Consultants 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 Consultants shall use their best efforts to ensure that the Personnel, any Sub- consultants and agents of either of them, similarly shall not receive any such additional remuneration.

6.4.2.2 Consultants and Affiliates Not to Engage in Certain Activities: The Consultants agree that, during the term of this Contract and after its termination, the Consultants and their affiliates, as well as any Sub-consultant 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 for the period of two years.

6.4.2.3 Prohibition of Conflicting Activities: Neither the Consultants nor their Sub- consultants 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 which would conflict with the activities assigned to them under this Contract; and
- b) after the termination of this Contact, such other activities as may be specified in the SC.

6.4.3 Confidentiality: The Consultants, their Sub-consultants, 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 Contact or the Client's business or operations without the prior written consent of the Client.

6.4.4 Consultant's Actions Requiring Client's Prior Approval: The Consultants shall obtain the Client'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, it being understood (i) that the selection of the Sub consultant and the terms and conditions of the subcontract specific to conditions like Insurance, Intellectual Property Rights and Confidentiality, shall have been approved in writing by the Client prior to the execution of the subcontract, (ii) that the Consultants shall remain fully liable for the performance of the Services by the Sub consultant and its Personnel pursuant to this Contract, (iii) that the extent of sub-contracting would be restricted to 30 (thirty) percent of the contract price, and (iv) the Client will be provided by the Consultant with particulars (name, financial & technical background, sub-consultancy fee) of the sub-consultant.
- b) appointing such members of the Personnel, as are not mentioned in the Technical Proposal, and
- c) any other action that may be specified in the SC.

6.4.5 Reporting Obligations: The Consultants shall submit to the Client the reports and documents specified in TOR, in the numbers, and within the periods set forth in this contract.

6.4.6 Documents prepared by the Consultants to be the Property of the Client: All plans, drawings, specifications, designs, reports, other documents and software submitted by the Consultants pursuant to this contract shall become and remain the property of the Client, and the Consultants shall, not later than upon termination or expiration of this Contract, deliver all such documents and software to the Client, together with a detailed inventory thereof. The Consultants may retain a copy of such documents and software. Restrictions about the future use of these documents and software, if any, shall be specified in the SC.

6.4.7 Liability of the Consultants: Subject to additional provisions, if any, set forth in the SC, the Consultant's liability under this Contract shall be as provided by the Applicable Law.

6.4.8 Insurance to be taken out by the Consultants: The Consultants (i) shall take out and maintain, and shall cause any Sub consultants to take out and maintain, at their (or the

Sub consultant's, as the case may be) own cost but on terms and conditions approved by the Client, insurance against the risks, and for the coverages, as shall be specified in the Special Conditions (SC), and (ii) within 15 (fifteen) days of receiving any insurance policy certificate in respect of insurances required to be obtained and maintained under this clause, the Consultant shall furnish to the Client, copies of such policy certificates, copies of the insurance certificates and evidence that the insurance premium have been paid in respect of such insurance. No insurance shall be cancelled, modified or allowed to expire or lapse during the terms of this Contract. (iii) if the Consultant fails to effect and keep in force the aforesaid insurances for which it is responsible pursuant hereto, the Client will apart from having other recourse available under this Contract have the option without prejudice to the obligations of the Consultant, to take out the aforesaid insurance, to keep in force any such insurances, and pay such premia and recover the costs thereof from the Consultants, and the Consultants shall be liable to pay such amounts on demand by the Client. (iv) the insurance policies so procured shall mention the Client as the beneficiary of the Consultants and the Consultants shall procure an undertaking from the insurance company in this regard. The consultant should submit an undertaking that the above insurance policies which are not applicable at this stage of the project will be procured by the consultant when the need arises and/or when the client intimates the consultant for the same. The onus of proving the non-applicability of the insurance policy will always lie on the Consultant.

6.5 Consultants' personnel

6.5.1 Description of Personnel

6.5.1.1 The titles, agreed job descriptions, minimum qualifications and estimated periods of engagement in the carrying out of the Services of the Consultant's core team are described in this contract. The core team is hereby approved by the Client. If additional work is required beyond the scope of the Services specified in TOR, the level of effort and/or staff assigned may be increased by agreement in writing between the Client and the Consultants, provided that any such increase shall not, except as otherwise agreed, cause payments under this Contract to exceed the ceilings set forth in this Contract.

6.5.1.2 If required to comply with the provisions of this Contract, adjustments with respect to level of effort, staff assignments, time may be made by the Consultants by written notice to the Client, provided (i) that such adjustments shall not alter the originally estimated period of engagement, scope, qualifications of team or deliverables and (ii) that the aggregate of such adjustments shall not cause payments under this Contract to exceed the ceilings set forth in this Contract. Any other such adjustments shall only be made with the Client's prior written approval.

6.5.2 Removal and/or Replacement of Key Personnel

6.5.2.1 The Client will not normally consider substitutions except in cases of incapacity of key personnel for reasons of health. Similarly, after award of contract the Client expects all of the proposed key personnel to be available during implementation of the contract. The Client will not consider substitutions during contract implementation except under exceptional circumstances up to a maximum of 15 (fifteen) percent of key personnel (considering equal weighting for each key personnel) and that too by only equally or better qualified and experienced personnel. During the course of providing services, substitution of key personnel in excess of 15 (fifteen) percent of key personnel would

call for reduction of remuneration, which will not exceed 80 (eighty) percent of the remuneration agreed for the Original Key personnel.

6.5.2.2 For key personnel replaced for the second time, the remuneration payable will not exceed 80 (eighty) percent of the remuneration which would have been payable for the first replaced personnel replaced for the remaining period.

6.5.2.3 If the Client finds that any of the Personnel have (i) committed serious misconduct or has 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 Consultants shall, at the Client's written request specifying the grounds therefore, forthwith provide as a replacement a person with qualifications and experience acceptable to the Client.

6.5.2.4 Any of the Personnel provided as a replacement under clauses above, the rate of remuneration applicable to such person as well as any reimbursable expenditures (including expenditures due to the number of eligible dependents) the Consultants may wish to claim as a result of such replacement, shall be subject to the prior written approval by the Client. Except as the Client may otherwise agree, (i) the Consultants shall bear all additional travel and other costs arising out of or incidental to any removal and/or replacement, and (ii) the remuneration to be paid for any of the Personnel provided as a replacement shall not exceed the remuneration which would have been payable to the personnel replaced.

6.6 Obligations of the Client

6.6.1 Assistance and Exemptions: Unless otherwise specified in the SC, the Client will use its best efforts to ensure that the Government will provide the Consultants, Sub-consultants and Personnel with work permits and such other documents as necessary to enable the Consultants, Sub consultants or Personnel to perform the Services:

6.6.1.1 assist for the Personnel and, if appropriate, their eligible dependents to be provided promptly with all supporting papers for necessary entry and exit visas, residence permits, exchange permits and any other documents required for their stay in India;

6.6.1.2 Facilitate prompt clearance through customs of any property required for the Services;

6.6.1.3 Issue to officials, agents and representatives of the Government all such instructions as may be necessary or appropriate for the prompt and effective implementation of the Services;

6.6.2 Access to land: The Client warrants that the Consultants shall have, free of charge, unimpeded access to all land in the Government's country in respect of which access is required for the performance of the Services.

6.7 Payments to the consultants

6.7.1 Payment terms: The Consultants total remuneration including out of pocket expenses shall not exceed the Contract Price and shall be a fixed lump sum including all staff costs, Sub-consultants' costs, printing, communications, travel, accommodation, and the like, and all other costs incurred by the Consultant in carrying out the Services. In addition to these, any conditions mentioned in the SC shall also be applicable to this contract. The Contract Price may only be increased, if the parties have agreed to additional payments in accordance with relevant clauses hereof.

6.7.2 No payment shall become eligible for the next stage until the Consultant completes to the satisfaction of the Client the work pertaining to the preceding stage.

6.7.3 Currency: The price is payable in local currency i.e. Indian Rupees.

6.7.4 Payment for Additional Services: For the purpose of determining the remuneration due for additional services as may be agreed under relevant clauses for modification in this contract. The Consultant shall be obliged to include all the ICT end to end requirements and the corresponding solutions and services, up to a maximum of 5% of contract value (at no additional cost to Client) in its scope for Greater Noida, which are not defined in this RFQ cum RFP and ICT Master Plan, but may be required during the execution of the contract. Once this ceiling of 5% is completely exhausted, the additional work will be mutually decided between the client and the applicant and based on the mutual understanding a change order shall be executed.

6.8 Settlement of disputes

6.8.1 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.

6.8.2 Disputes Settlement: Any dispute between the Parties as to matters arising out of and relating to this Contract that cannot be settled amicably within thirty (30) days after receipt by one Party of the other Party's request for such amicable settlement may be submitted by either Party for settlement in accordance with the provision specified in the SC.

6.9 Responsibility for accuracy of project documents

6.9.1 General

6.9.1.1 The Consultant shall be responsible for accuracy of the Designs, drawings, estimate and all other details prepared by him as part of these services. He shall indemnify the Client against any inaccuracy in the work, which might surface during implementation of the project. The Consultant will also be responsible for correcting, at his own cost and risk, the drawings including any re-survey/ investigations and correcting layout etc. if required during the execution of the Services.

6.9.1.2 The Consultant shall be fully responsible for the accuracy of plans and drawings. The Consultant shall indemnify the Client against any inaccuracy / deficiency in the designs and drawings noticed and the Client will bear no responsibility for the accuracy of the designs and drawings submitted by the Consultants.

6.10 Liquidated damages

If the selected Consultant fails to complete the Assignment, within the period specified under the contract, the consultant shall pay to the Client, fixed and agreed liquidated damages, and not as penalty, @ 1% of the contract fees for each week of delay or part thereof. The aggregate maximum of liquidated damages payable to the Client under this clause shall be subject to a maximum of 10% of the total contract fees.

6.11 Representation, warranties and disclaimer

6.11.1 The Consultant represents and warrants to the Client that:

6.11.1.1 it is duly organized, validly existing and in good standing under the applicable laws of its Country;

6.11.1.2 it has full power and authority to execute, deliver and perform its obligations under this Contract and to carry out the transactions contemplated hereby;

6.11.1.3 it has taken all necessary corporate and other action under Applicable Laws and its constitutional documents to authorize the execution, delivery and performance of this Contract;

6.11.1.4 it has the financial standing and capacity to undertake the Project;

6.11.1.5 this Contract constitutes its legal, valid and binding obligation enforceable against it in accordance with the terms hereof;

6.11.1.6 it is subject to laws of India with respect to this Contract and it hereby expressly and irrevocably waives any immunity in any jurisdiction in respect thereof;

6.11.1.7 there are no actions, suits, proceedings, or investigations pending or, to the Consultant's knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the breach of or constitute a default of the Consultant under this Contract or materially affect the discharge by the Consultant of its obligations under the Contract.

6.11.1.8 no representation or warranty by the Consultant contained herein or in any other document furnished by it to the Client contains or will contain any untrue statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading; and

6.11.1.9 no sums, in cash or kind, have been paid or will be paid, by or on behalf of the Consultant, to any person by way of fees, commission or otherwise for securing the Contract or for influencing or attempting to influence any officer or employee of the Client in connection therewith.

6.12 Miscellaneous

6.12.1 Assignment and Charges

6.12.1.1 The Contract shall not be assigned by the Consultant save and except with prior consent in writing of the Client, which the Client will be entitled to decline without assigning any reason whatsoever.

6.12.1.2 The Client is entitled to assign any rights, interests and obligations under this Contract to third parties.

6.12.2 Indemnity: The Consultant agrees to indemnify and hold harmless the Client from and against any and all claims, actions, proceedings, lawsuits, demands, losses, liabilities,

damages, fines or expenses (including interest, penalties, attorneys' fees and other costs of defence or investigation (i) related to or arising out of, whether directly or indirectly, (a) the breach by the Consultant of any obligations specified in relevant clauses hereof; (b) the alleged negligent, reckless or otherwise wrongful act or omission of the Consultant including professional negligence or misconduct of any nature whatsoever in relation to Services rendered to the Client; (c) any Services related to or rendered pursuant to the Contract (collectively "Indemnified matter"). As soon as reasonably practicable after the receipt by the Client of a notice of the commencement of any action by a third party, the Client will notify the Consultant of the commencement thereof; provided, however, that the omission so to notify shall not relieve the Consultant from any liability which it may have to the Client or the third party. The obligations to indemnify and hold harmless, or to contribute, with respect to losses, claims, actions, damages and liabilities relating to the Indemnified Matter shall survive until all claims for indemnification and/or contribution asserted shall survive and until their final resolution thereof. The foregoing provisions are in addition to any rights which the Client may have at common law, in equity or otherwise.

6.12.3 Governing Law and Jurisdiction: The Contract shall be construed and interpreted in accordance with and governed by the Applicable Law of India and subject to relevant clauses hereof and the SC, the Courts at Gautam Budh Nagar and High Court of Allahabad, Uttar Pradesh, India shall have jurisdiction over all matters arising out of or relating to the Contract.

6.12.4 Waiver

6.12.4.1 Waiver by either Party of any default by the other Party in the observance and performance of any provision of or obligations or under the Contract:

- a) shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions or obligations under the Contract;
- b) shall not be effective unless it is in writing and executed by a duly authorised representative of such Party; and
- c) shall not affect the validity or enforceability of the Contract in any manner.

6.12.4.2 Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of the Contract or any obligation hereunder nor time or other indulgence granted by a Party to the other Party shall be treated or deemed as waiver of such breach or acceptance or any variation or the relinquishment of any such right hereunder.

6.12.5 Survival: Termination of the Contract (a) shall not relieve the Consultant or the Client of any obligations hereunder which expressly or by implication survive Termination hereof, and (b) except as otherwise provided in any provision of the Contract expressly limiting the liability of either Party, shall not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of or caused by acts or omissions of such Party prior to the effectiveness of such Termination or arising out of such Termination.

6.12.6 Notices: Unless otherwise stated, notices to be given under the Contract including but not limited to a notice of waiver of any term, breach of any term of the Contract and termination of the Contract, shall be in writing and shall be given by hand delivery, recognised international courier, mail, telex or facsimile transmission and delivered or transmitted to the Parties at their respective addresses specified in the SC. The notices

shall be deemed to have been made or delivered (i) in the case of any communication made by letter, when delivered by hand, by recognised international courier or by mail (registered, return receipt requested) at that address and (ii) in the case of any communication made by telex or facsimile, when transmitted properly addressed to such telex number or facsimile number.

- 6.12.7 Severability: If for any reason whatever any provision of the Contract is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing upon one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable. Provided failure to agree upon any such provisions shall not be subject to dispute resolution under the Contract or otherwise.
- 6.12.8 No Partnership: Nothing contained in the Contract shall be construed or interpreted as constituting a partnership between the Parties. Neither Party shall have any authority to bind the other in any manner whatsoever.
- 6.12.9 Language: All notices required to be given under the Contract and all communications, documentation and proceedings which are in any way relevant to the Contract shall be in the language specified the SC.
- 6.12.10 Exclusion of Implied Warranties etc.: The Contract expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other agreement between the Parties or any representation by any Party not contained in the Contract.
- 6.12.11 Agreement to Override Other Agreements: The Contract supersedes all previous agreements or arrangements between the Parties, including any memorandum of understanding entered into in respect of the contents hereof and represents the entire understanding between the Parties in relation thereto.
- 6.12.12 Counterparts: The Contract may be executed in two counterparts, each of which when executed and delivered shall constitute an original of the Contract

III. The Special Conditions of Contract

6.13 The Special Conditions of Contract

The Special Conditions (SC) of contract contains number of amendments and supplements to clauses in the General Conditions of the Contract.

6.1.1(f) The contract price payable in Indian Rupees is_(exclusive of Goods & Services Tax).

6.1.1(j) The Member in-charge is [name of consultant].

6.1.1(n) Performance security

- (i) The Consultant shall prior to the Effective Date and as a condition precedent to its entitlement to payment under this Contract, provide to the Client a legal, valid and enforceable Performance Security in the form of an unconditional and irrevocable bank guarantee as security for the performance by the Consultant of its obligations under this Contract, in the form set out in this contract, in an amount equal 5 (five) percent of the total cost of Financial Proposal under this Assignment.
- (ii) The Performance Security shall be obtained from a scheduled commercial Indian bank, in compliance with Applicable Laws (including, in case the Consultant is a non-resident, in compliance with applicable foreign exchange laws and regulations).
- (iii) The Performance Security shall be extended accordingly such that the Performance Security remains valid until the expiry of a period of 180 (one hundred eighty) days from the date of submission of the last deliverable under this Contract.
- (iv) The Client shall have the right to claim under the Performance Security and appropriate the proceeds if any of the following occur:
 - a) the Consultant becomes liable to pay liquidated damages;
 - b) occurrence of any of the events listed in sub-clauses (a) through (f) of Clause 6.3.1 of the GCC;
 - c) any material breach of the terms hereof; and/or
 - d) without prejudice to paragraph above, the Consultant fails to extend the validity of the Performance Security or provide a replacement Performance Security in accordance with the provisions of this Contract.

6.1.3 The language is English.

6.1.4 The Client address is [name, designation, telephone, facsimile, address].

6.1.5 The consultant address is [name, designation, telephone, facsimile, address].

6.1.6 The Authorized Representative for the Client is [name, designation].

6.1.7 The Authorized Representative for the consultant is [name, designation].

6.1.8 For domestic consultants/personnel and foreign consultants/personnel who are permanent residents in India The Consultants and their personnel shall pay the taxes, duties, fees, levies/expenses and other impositions levied under the existing, amended or enacted laws during life of this contract and the Client will perform such duties in regard to the deduction of such tax as may be lawfully imposed. The Consultant will be paid by DMIC IITGNL only Goods & Services Tax over and above the cost of Financial Proposal. All other applicable taxes, levies, duties, etc., if any, shall be borne by Consultant.

6.2.1 The date on which this Contract will come into effect is [date].

6.2.3 The duration of assignment shall be 54 (fifty-four) months, with option to extend with mutual written agreement.

6.4.7 Limitation of the Consultant's Liability towards the Client

(a) Except in case of negligence or willful misconduct on the part of the Consultants or on the part of any person or firm acting on behalf of the Consultants in carrying out the Services, the Consultants, with respect to damage caused by the Consultants to the Client's property, shall not be liable to the Client:

(i) for any indirect or consequential loss or damage; and

(ii) For any direct loss or damage that exceeds (i) the total payments for Professional Fees and Reimbursable Expenditure made or expected to be made to the Consultants hereunder, or (ii) the proceeds the Consultants may be entitled to receive from any insurance maintained by the consultants to cover such a liability, whichever of (i) or (ii) is higher.

(b) This limitation of liability shall not affect the Consultant's liability, if any, for damage to Third Parties caused by the Consultants or any person or firm acting on behalf of the Consultants in carrying out the Services.

6.4.8 Risks and coverage

(a) Third Party motor vehicle liability insurance as required under Motor Vehicles Act, 1988 in respect of motor vehicles operated in India by the Consultants or their Personnel or any Sub consultants or their Personnel for the period of consultancy.

- (b) Third Party liability insurance with a minimum coverage, for Rs.10,00,000/- (Rupees Ten Lakhs) for the period of consultancy.
- (c) Professional Liability Insurance: Consultants will maintain at its expense, Professional Liability Insurance including coverage for errors and omissions caused by Consultant's negligence, breach in the performance of its duties under this Contract from an Insurance Company permitted to offer such policies in India, for a period of five years beyond completion of Consultancy Services commencing from the Effective Date, (i) For an amount not exceeding total payments for Professional Fees and Reimbursable Expenditures made or expected to be made to the Consultants hereunder or (ii) the proceeds, the Consultants may be entitled to receive from any insurance maintained by the Consultants to cover such a liability, whichever of (i) or (ii) is higher with a minimum coverage of [insert amount and currency]. The indemnity limit in terms of "Any One Accident" (AOA) and "Aggregate limit on the policy period" (AOP) should not be less than the amount stated in the contract. In case of joint venture or „in association“, the policy should be in the name of joint venture / in association entity and not by the individual partners of the joint venture/association.
- (d) Client's liability and workers' compensation insurance shall be in respect of the Personnel of the Consultants and of any Sub consultant, in accordance with the relevant revisions of the Applicable Law, as well as, with respect to such Personnel, any such life, health, accident, travel or other insurance as may be appropriate; and all insurances and policies should start from the date of commencement of services and remain effective as per relevant requirements of contract agreement.
- (e) Any other insurance that may be necessary to protect the Client, its employees and its assets (against loss, damage or destruction, at replacement value) including rioting and all Force Majeure Events that are insurable.

6.7.1 Consultancy fee will be paid in accordance with the following milestone based payment schedule on submission and acceptance of report / deliverables

S.No.	Milestone Completion*	Deliverables (per activities detailed in section 5 and elsewhere of this RFQ cum RFP)	Payment (in percentage of total fee)
		Design Phase	
1	D+30 days	Inception Report and Implementation Plan	5%
2	D+45 days	ICT Master Plan	10%
3	D+2months	Base lining report, RF foot printing, sensors and actuators details, and civil and other engineering inputs	5%
4	D+3 Months	Implementation plan, design of networks and city infrastructure integration	5%
5	D+4 months	Command and control center, data center, DRDC, scoping of all applications	8%
6	D+4.5 months	Dash boards, ICT for building	3%
	D+6 months	Floating of RFQ cum RFP for selection of System Integrator	2%
8	D+7 months	Award of Contract for System Integrator	5%
		Implementation and Operations Phase:	
9		End to end Go Live of Networks and complete Readiness of city wide Integrated Infrastructure	6%
10		End to end Go Live - Data Center and Disaster Recovery Centre(DRDC)	6%
11		End to end and successful Go Live of All Applications	9%
12		End to end and successful Go Live – City wide dash boards / cockpits	4%
13		Complete Go Live – Integrated Operations Center for City and associated infrastructure	12%
14		Go-Live & training of entire ICT Scope	5%
15		Completion of Successful Operations of first 6 months	10%
16		Completion of Successful Operations of second 6 months	5%

***Important Notes**

Coordination, technical support and other ICT activities of the RFP related to all utilities, trunk infrastructure of Greater Noida continue as part of responsibility of ICT Consultant throughout the engagement of ICT Consultant and are not specific to any milestone.

Client / PMNC reserve the right to advance part milestone deliverables per requirements of project without changing the percentage payments assigned to respective milestones.

Each milestone to be designated as complete and eligible for payment must be approved by Client Authority. The consultant shall ensure that all submissions with regard to each milestone shall cover full scope under the respective deliverable (including getting the necessary sign offs from respective Government entities). Incomplete submissions shall be returned to consultant. The consultant will comply the review comments of each milestone within maximum of 3 submissions (one original and two resubmissions). The consultant shall account for appropriate time in their base line schedule. Under no circumstances, the consultant is eligible for payment if milestone is not approved by client and Government entities.

In case the cumulative delay exceeds 3 months at any point of time, client reserves the right to cancel full / remaining order without assigning any reason, in which case the payment in respect of approved milestones only will be made by client to Consultant.

As stated before, this is a fixed price contract the ICT Consultant shall be responsible to include all direct and indirect costs it expects to incur for this job for its entire duration.

Payments will made only in percentage of fixed prices quoted as per above schedule and no other charges of any type are payable (exception being applicable taxes only)

Payment shall be made within 45 days of receipt of the invoice and approval of the relevant deliverables, and within 75 days in the case of the final payment, on achievement of milestones.

6.8.2 Dispute settlement: If any dispute or difference of any kind whatsoever arises between the parties in connection with or arising out of or relating to or under this Contract, the parties shall promptly and in good faith negotiate with a view to its amicable resolution and settlement. In the event no amicable resolution or settlement is reached within a period of thirty (30) days from the date on which the above- mentioned dispute or difference arose, such dispute or difference shall be finally settled by arbitration. The arbitral tribunal shall consist of a sole arbitrator appointed by mutual agreement of the parties. In case of failure of the parties to mutually agree on the name of a sole arbitrator, the arbitral tribunal shall consist of three arbitrators. Each party shall appoint one arbitrator and the two arbitrators so appointed shall jointly appoint the third arbitrator. The seat of arbitration shall be Gautam Budh Nagar and the arbitration shall be conducted in the English language. The Arbitration and Conciliation Act, 1996 shall govern the arbitral proceedings. The award rendered by the arbitral tribunal shall be final and binding on the parties.

Annexure A: Form of Bank Guarantee for Performance Security

(To be stamped in accordance with Stamp Act if any, of the country for issuing bank)

Ref.: Bank Guarantee:

Date:

Dear Sir,

In consideration of Integrated Industrial Township Greater Noida Limited (hereinafter referred as the 'Client', which expression shall, unless repugnant to the context of meaning thereof include its successors, administrators and assigns) having awarded to M/s [name of consultant] a [type of company], established under laws of [country] and having its registered office at [address] (hereinafter referred to as the 'Consultant' which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and permitted assigns), an Assignment for preparation of [name of assignment] Contract by issue of Client's Contract Letter of Award No. [reference] dated [date] and the same having been unequivocally accepted by the Consultant, resulting in a Contract valued at Rs. [amount in figures and words] for (Scope of Work) (hereinafter called the 'Contract') and the Consultant having agreed to furnish a Bank Guarantee amounting to Rs. [amount in figures and words] to the Client for performance of the said Agreement.

We [Name of Bank] incorporated under [law and country] having its Head Office at [address](hereinafter referred to as the Bank), which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators executors and assigns) do hereby guarantee and undertake to pay the Client immediately on demand an or, all monies payable by the Consultant to the extent of Rs. [amount in figure and words] as aforesaid at any time up to [date] without any demur, reservation, contest, recourse or protest and/ or without any reference to the Consultant. Any such demand made by the Client on the Bank shall be conclusive and binding notwithstanding any difference between the Client and the Consultant or any dispute pending before any Court, Tribunal, Arbitrator or any other authority.

We agree that the Guarantee herein contained shall be irrevocable and shall continue to be enforceable until the Client discharges this guarantee.

The Client shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee, from time to time to vary the advance or to extend the time for performance of the Contract by the Consultant nor shall the responsibility of the bank be affected by any variations in the terms and conditions of the contract or other documents. The Client shall have the fullest liberty without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Client and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Client and the Consultant any other course or remedy or security available to the Client. The Bank shall not be relieved of its obligations under these presents by any exercise by the Client of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Client or any other indulgence shown by the Client or by any other matter or thing whatsoever which under law would but for this provision have the effect of relieving the Bank.

The Bank also agrees that the Client at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Consultant and notwithstanding any security or other guarantee that the Client may have in relation to the Consultant's liabilities.

This Guarantee shall be irrevocable and shall remain in full force and effect until discharge by the Bank of all its obligations hereunder.

This Guarantee shall not be affected by any change in the constitution or winding up of the Consultant /the Bank or any absorption, merger or amalgamation of the Consultant /the bank with any other Person.

Notwithstanding anything contained herein above our liability under this guarantee is limited to Rs. [amount in figure and words] and it shall remain in force up to and including [date] and shall extend from time to time for such period(s) (not exceeding one year), as may be **desired** by M/s [name of consultant] on whose behalf this guarantee has been given. Date this [date in words] day [month] of [year in 'yyyy' format] at [place].

WITNESS

1. [signature, name and address]

2. [signature, name and address]

[Official Address]

Designation

[With Bank Stamp]

Attorney as Per Power of Attorney No.

Dated

Strike out, whichever is not applicable.

The date will be fixed as indicated in S.C.C.

The stamp papers of appropriate value shall be purchased in the name of bank which issues the 'Bank Guarantee'. The bank guarantee shall be issued either by a bank (Nationalized/Scheduled) located in India or a foreign bank through a correspondent bank (scheduled) located in India or directly by a foreign bank which has been determined in advance to be acceptable to the Client.

Annexure B: Schematic Plan
