



REQUEST FOR PROPOSAL (RFP)
FOR
SUPPLY, INSTALLATION, COMMISSIONING, OPERATIONS &
MAINTENANCE OF
ADAPTIVE TRAFFIC SIGNALING SYSTEM (ATMS)
IN
VIJAYAWADA CITY

Vijayawada Municipal Corporation (VMC)
Government of Andhra Pradesh

Ref. No.Rc.CE-133095/2018, Dt.16-10-2018

Vijayawada Municipal Corporation (VMC)

Jawaharlal Nehru Buildings, Canal Rd, Vijayawada, Andhra Pradesh 520 001.

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DISCLAIMER

The information contained in this Request for Proposal document (“RFP”) or subsequently provided to Applicants, whether verbally or in documentary or any other form by or on behalf of the VMC or any of its employees or advisers, is provided to Applicants on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP is not an agreement and is neither an offer nor invitation by the VMC to the prospective Applicants or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in the preparation of their Proposals pursuant to this RFP. This RFP includes statements, which reflect various assumptions and assessments arrived at by VMC. Such assumptions, assessments and statements do not purport to contain all the information that each Applicant may require. This RFP may not be appropriate for all persons, and it is not possible for VMC, its employees or advisers to consider the objectives, technical expertise and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in this RFP, may not be complete, accurate, adequate or correct. Each Applicant should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments and information contained in this RFP and obtain independent advice from appropriate sources.

Information provided in this RFP to the Applicants is on a wide range of matters, some of which depends upon interpretation of law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. VMC accepts no responsibility for the accuracy or otherwise for any interpretation of the law.

VMC, its employees and advisers make no representation or warranty and shall have no liability to any person including any Applicant 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 RFP or otherwise, including the accuracy, adequacy, correctness, reliability or completeness of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way in this Selection Process.

VMC also accepts no liability of any nature whether resulting from negligence or otherwise, howsoever caused, arising from reliance of any Applicant upon the statements contained in this RFP. VMC may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumption contained in this RFP.

Issuance of this RFP does not imply that the VMC is bound to select an Applicant or to appoint the Selected Applicant, as the case may be, for the RFP, VMC reserves the right to reject all or any of the Proposals without assigning any reasons whatsoever.

The applicant shall bear all its costs associated with or relating to the preparation and submission of its Proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations which may be required by the VMC or any other costs incurred in connection with or relating to its Proposal. All such costs and expenses will remain with the Applicant and VMC shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by an Applicant in preparation or submission of the Proposal, regardless of the conduct or outcome of the selection process.

Acronyms

ATMS	Adaptive Traffic Management System
BG	Bank Guarantee
DD	Demand Draft
EMD	Earnest Money Deposit
GST	Goods and Services Tax
VMC	Vijayawada Municipal Corporation
INR	Indian National Rupee
IP	Internet Protocol
LD	Liquidated Damages
LLP	Limited Liability Partnership
LoA	Letter of Acceptance
MTTR	Mean Time To Repair/Replace
OEM	Original Equipment Manufacturer
PBG	Performance Bank Guarantee
PSU	Public Sector Unit
SD	Security Deposit
SLA	Service Level Agreement
SOP	Standard Operating Procedure
SPOC	Single Point of Contact

Definitions

- **“Agreement”** means the Agreement to be signed between the successful bidder and VMC including all attachments, appendices, all documents incorporated by reference thereto together with any subsequent modifications, the RFP, the bid offer, the acceptance and all related correspondences, clarifications, presentations.
- **“Authority”** refers to VMC or its nominated representatives
- **“Authorized Representative”** shall mean any person authorized by either of the parties.
- **“Bidder”** means any firm or group of firms (called consortium) offering the solution(s), service(s) and /or materials as required in the RFP. The word Bidder/ System Integrator when used in the pre-award period shall be synonymous with parties bidding for this RFP, and when used after award of the Contract shall mean the successful party with whom VMC signs the agreement for rendering of services for implementation of this project.
- **“Contract”** is used synonymously with Agreement.
- **“Law”** shall mean any Act, notification, bye law, rules and regulations, directive, ordinance, order or instruction having the force of law enacted or issued by the Central Government and/ or Andhra Pradesh or regulatory authority or political subdivision of government agency.
- **“LoA”** means Letter of Acceptance, which shall constitute the intention of the department to place the Purchase Order with the successful bidder.
- **“Party”** means VMC or Bidder, individually and “Parties” mean VMC and Bidder, collectively.
- **“Proposal / Bid”** means the Pre-Qualification and Technical Proposals submitted along with the subsequent clarifications and undertakings, if any;
- **“Request for Proposal (RFP)”** means this document and its annexure etc., seeking a set of solution(s), services(s), materials and/or any combination of them.
- **“Requirements”** shall mean and include schedules, details, description, and statement of technical data, performance characteristics and standards (Indian & International) as specified in RFP.
- **“Service Level(s)”** means the performance standards, which shall apply, to the solution design, implementation & services delivered by the Empanelled Agency.

1. Inviting Authority

Vijayawada Municipal Corporation(VMC) invites sealed bids from the prospective bidders for “Supply, Installation, Commissioning and Operation & Maintenance of Internet Protocol enabled Adaptive Traffic Management System (ATMS) for a period of five (5) years” as part of Vijayawada Smart City Project. The bidders shall propose all the components as per the technical specifications mentioned in this RFP and selected bidder(s) should support VMC in providing reliable service delivery. Submission of bids shall be deemed to have been done after careful study and examination of the tender document with full understanding of its implications.

1.1. Key Events and Dates

1.	Name of the Authority	Vijayawada Municipal Corporation
2.	Name of the Assignment	RFP for Supply, Installation, Commissioning, Operations and Maintenance of Adaptive Traffic Management System (ATMS) in Vijayawada City
3.	RFP Number	Ref. No. Rc.CE-133095/2018, Dt.16-10-2018
4.	RFP Publishing Date	20-10-2018.
5.	Pre-bid meeting	27-10-2018 at 11.00 A.M in Vijayawada Municipal Corporation
6.	Last date and time for submission of proposal (Proposal Due Date)	03-10-2018 @ 3.30 P.M
7.	Date and time of opening of pre-qualification cum technical bids	03/10/18 at 5:00 PM Vijayawada Municipal Corporation (VMC), Canal Rd, Krishnalanka, Vijayawada, Andhra Pradesh 520001. Email: ourvmc@yahoo.com
8.	Date and time of opening of financial bid	After evaluation of Technical bid
9.	Bid Processing Fee (Non-refundable)	INR 20,000/- (Rupees Twenty Thousand Only) in the form of Demand Draft issued by one of the Nationalized / Scheduled Banks in India drawn in favor of <u>Commissioner, Vijayawada Municipal Corporation (VMC)</u> , payable at Vijayawada. Original DD must be submitted in VMC office at Vijayawada at the time of bid submission.
10.	Bid Security / EMD (Refundable)	INR 10,00,000 (Rupees Ten Lakhs Only) in the form of Bank Guarantee issued by one of the Nationalized / Scheduled Commercial Banks in India drawn in favor of <u>the Commissioner, Vijayawada Municipal Corporation(VMC)</u> , payable at Vijayawada. Original BG must be submitted in VMC office at Vijayawada at the time of bid submission. Bid Security / EMD should be valid for a period of 180 (One Hundred &Eighty) days from Proposal Due Date. The

		Bid Security / EMD will be refunded to unsuccessful Applicant agencies within 30 (Thirty) days of completion of selection process.
11.	Performance Bank Guarantee	10% of the Contract Value in the form of Bank Guarantee issued by any Nationalized / Scheduled Banks in India drawn in favor of <u>the Commissioner, Vijayawada Municipal Corporation (VMC)</u> , payable at Vijayawada. <ul style="list-style-type: none"> ▪ Should be valid for contract period + 3 months ▪ EMD of the successful bidder will be considered towards PBG and validity should be extended as per the contract duration.
12.	Warranty*& Maintenance	Comprehensive onsite warranty, Operations & Maintenance for a period of 5 years from Go-Live.
13.	For any enquiries and clarifications, please contact:	Superintendent Engineer, Vijayawada Municipal Corporation (VMC), Canal Rd, Krishnalanka, Vijayawada, Andhra Pradesh 520001. Email: engineeringvmc@gmail.com . Ph: 9866514183
14.	Validity of the Proposal	Bidder proposals shall remain valid for a period of 180 days from the Proposal due date.
15.	Method of Selection	Quality and Cost Based Selection (QCBS)

*Note: *The equipment supplied should be replaced in case of failure within warranty period*

1.2. Procedure for Bid Submission

The Bidder shall submit their response through Bid submission process on offline platform at office of [Chief Engineer, VMC](#) by following the procedure given below:

The bidders shall submit their Pre-Qualification cum Technical bid and Price bid. The bidders shall submit the copies of all the relevant certificates, documents etc., in support of their Pre-Qualification cum Technical bids and other certificates/documents with clear readability, at the office of VMC. The bidder should sign on all the statements, documents, certificates submitted.

1.3. Hard Copies

All bidders should submit below documents in hard copy Original DD towards the bid processing fee & Original BG towards EMD in VMC office at Vijayawada at the time of bid submission.

- VMC shall carry out the evaluation solely based on the certificates/documents, BG towards EMD submitted and open the price bids of the responsive bidders only.
- VMC will notify the bidders for submission of original hardcopies and the documents if required.
- VMC will not take any responsibility for any delay in receipt/non-receipt of original DD/BG towards Document Fee/ EMD before the stipulated time.

On receipt of documents, VMC shall ensure the genuinity of the DD towards document fee, BG towards EMD and all other certificates/documents submitted and in support of the qualification criteria before concluding the agreement.

a) **RFP Document:**

The bidder is requested to download the RFP document and read all the terms and conditions mentioned in the RFP Document and seek clarification if any from the RFP Inviting Authority.

The bidder has to keep track of any changes by viewing the Addendum/Corrigenda issued by the RFP Inviting Authority from time-to-time in the VMC website. The Department calling for RFPs shall not be responsible for any claims/issues arising out of this.

2. Scope of Work

As a part of Smart Mission for Vijayawada, System integrator project is one of the project being executed by the Authority. In this regard, as a part of the project, a command and Communication Centre (CCC) is being setup for effective Surveillance, monitoring and coordination especially in disaster like situations. The field traffic controllers and Public Addressing System communicate with the CCC server through secured GSM based connectivity with assured bandwidth to maintain high availability. The CCC is built with dedicated adaptive server for traffic solution to maintain real time data.

As part of the project ,VMC plans to install 63 Solar Based Traffic Signal with Vehicle Actuation Detectors and 20 Solar based Pelican signals through this RFP.

Project Objectives:

- Improve Travel Time: Reduction in stoppage time, optimized cycle times of intersection to regulate and maintain free flow of traffic to enhance the efficiency of the road and transport infrastructure.
- Real Time Information and Response: The real time information at the control room shall enable the operator to take necessary actions based on the real time information, arranging alternate route to VIP convoys, diverting the traffic to different routes etc.
- Improve Traffic Services: The traffic services to the public can be improved through the user friendly presentation of the various traffic information in real time.
- Should develop flow chart with grid pattern showing green and red colours for free flow and congestion of traffic.
- The grid pattern should display with icons on the locations and when clicked on the icon the live feed should be displayed in small screens.

The scope of work covers two phases as follows:

- a) Delivery& Commissioning Phase
- b) Maintenance Phase

a) Delivery& Commissioning Phase

The scope of work in this phase includes supply, installation and commissioning of 63 no. of new internet enabled Adaptive Traffic controlled signaling systems (with capability to accesses, monitor and control from centralized control room) across the city as mentioned in Annexure-XI (List of Locations).It is the responsibility of the selected vendor to deliver at the designated locations across the city.

The bidder shall also be responsible for provisioning of network connectivity to all signals for remote management and integrate the Adaptive Traffic controlled signaling system with existing Traffic signal for single point monitoring and controlling

- Connectivity via GPRS/ wired network communication (Broadband)/ MPLS/Leased Line/P2P/others.
- All signals should have countdown timers, power backup, and connectivity to central control room, with remote accessing, controlling and monitoring facility
- Power backup via Solar and Battery for 24*7 operations
- All cabling shall be routed underground via HDD only. In case of exceptions to HDD, VMC may approve on case to case basis.

The selected bidder is responsible to ensure seamless transition in case of new signal/junction commissioning.

b) Maintenance Phase

After installation and commissioning of the ATMS, the selected bidder shall be solely responsible for comprehensive support & maintenance during for 5 years from the date of commissioning as per SLA.

c) Key Responsibilities

• **Bidders Responsibility**

- Restoration and clearance of the debris at the installed locations
- Adequate power backup at the junctions
- Survey and Field Visits
- Insurance for the hardware procured
- Adherence to Timelines/SLA

• **VMC Responsibility**

- Necessary clearances, permissions for installation/ commissioning the traffic signals.
- Electricity Meter for AC power Supply and monthly charges for AC at traffic signals junction and central control room.
- Shifting of existing traffic signal poles / street lights / high mast in the vicinity of traffic signal junction
- Facilitate the bidder for receiving necessary permission and coordination with other stakeholders

The minimum technical specifications are given in Annexure –X. Selected vendor is free to provide higher or better specifications in line with the current solution available to render smooth operations. It is the responsibility of bidder to provide the recommendations to VMC in case of any such modifications required and obtain approval.

- *The selected bidder has to understand the current solution in place and propose accordingly.*

3. Pre-Qualification Criteria

The prospective bidders must satisfy the following eligibility criteria for submission of their bids and provide supporting documents as proof of eligibility.

Eligibility Criteria	Document Proof	Compliance	Page No. and Section No. in bid
Bidder should be: Ø A company incorporated in India under the Companies Act, 1956 / 2013 and subsequent amendments thereto. Ø Registered with GST Authorities in India Ø Should have been operating for the last five years in India as on the date of publishing of RFP notice (including name change / impact of mergers or acquisitions).	Ø Copy of Certificate of Incorporation Ø Copy of PAN Ø Copy of Registration Certificates with the GST Authorities Ø Copy of purchase orders showing at least 5 years of operations or Certified true copy of balance sheet and PL statements for last 5 years		
Bidder should have an average annual turnover of minimum INR 60crore from IT / ITES revenue for the three financial years (FY 2015-16, 2016-17 and 2017-18)	1. Audited financial statements for the last three financial years (FY 2015-16, 2016-17 and 2017-18) 2. Certificate from the Statutory Auditor on turnover details from the IT / ITES over the last three (3) financial years (FY 2015-16, 2016-17 and 2017-18)		
The Bidder should possess at least two of the below Certifications which are valid at the time of bidding: · ISO 9001:2015 - NSIC - DSIR	Copies of valid certificates in the name of the bidding entity		
The Bidder should be Original Equipment Manufacture of items and should have Research and Development in India	Copies of valid certificates in the name of the bidding entity		

Note: In case of consortium, all correspondence shall be done with /through the prime bidder.

4. Technical Bid Evaluation

Criteria Category	Evaluation criterion details	Marks Total= 100	Supporting Documents required
Bidder Profile (Maximum Marks– 30)			
Annual turnover	Annual turnover from IT/ITeS as mentioned below for bidder over the last three Financial years (FY 2015- 16, 2016-17, 2017-18). Marks shall be allotted as given below: · >= 60 Crores – 80% marks · Every additional 5 Crore – Additional 10% marks each (capped at maximum marks allotted in this category)	10	Certificate from the Statutory Auditor on turnover details from IT / ITES / Telecom business over the last three (3) financial years (FY 2015-16, 2016-17 and 2017-18)
Project Execution value	The Bidder should have been awarded and successfully commissioned project(s) that entails deployment of fully vehicle actuated traffic signals OR Variable Message Displays at min value of Rs.2 crore over the last 10 years. The projects should have been executed in India Marks shall be allotted as below: Executed Value over last three years · >= 1 Crore – 80% marks · Every additional 1 Crore additional 10% marks each (capped at maximum marks allotted in this category)	10	Work order and Completion Certificate
Manpower	Full time employees (FTE) on payroll of bidder working in the business unit with more than 5 years of experience in IT/ITeS. Marks shall be allotted as given below: · > 100 FTEs – 60% marks · Every additional 25 FTEs – Additional 10% marks each (capped at maximum marks allotted in this category)	5	Company employee details & their PF DETAILS
Certification	The valid certifications with Bidder from the following list: · ISO 9001:2015 · NSIC · DSIR Marks shall be allotted as given below: · One of the above certifications – 60% marks · Every additional certification – Additional 20% marks each (capped at maximum marks allotted in this category)	5	Copies of valid certificates in the name of the bidding entity
Approach & Methodology (Maximum Marks - 35)			
Understanding of the project	Understanding of the project and conformity to Scope of work, functional and technical requirement.	3	
Risks and Mitigation	Identification of major risks and mitigation measures proposed	2	
Approach and methodology	Explain detailed approach and methodology for execution of the project along with project plan	10	
Demo	Successful Demonstration/Proof of Concept	10	
Presentation	The Bidder will need to exhibit proposed architecture, functional and non-functional requirements through presentation	10	
Relevant experience of the Bidder (Maximum Marks– 20)			

RFP for Supply, Installation, Commissioning, Operations and Maintenance of Adaptive Traffic Management System (ATMS)

ITMS Projects	<p>The Bidder should have been awarded and successfully executed at least one of the below project in the last Seven years, having value of more than INR 2 crore:</p> <ol style="list-style-type: none"> 1. Variable Message Displays 2. Traffic Signals. <p>Marks shall be allotted as below: Installations during last seven years :</p> <ol style="list-style-type: none"> i. minimum 60 junctions – 60% marks ii. Minimum 100 junctions – 75% marks iii. more than 100 junctions – 100% marks (capped at maximum marks allotted in this category) 	10	<p>1. Work order/ Contract clearly highlighting the scope of work and value of the contract / order AND 2. Completion Certificate issued & signed by the competent authority of the client entity on the entity's letterhead OR Self-certificate from the authorized signatory of the bidder.</p>
ATMS Algorithm	The bidder should be Original Equipment Manufacturer and should have the own algorithm in signal management	10	
Proposed resources (Max Marks : 15)			
Project Manager	<p>Minimum Education: BE/BTech Total Experience: 10 years overall Should have more than 6 years of experience of handling Traffic Signal Projects/ Railway signals Marks shall be allotted towards following compliances:</p> <p>BE/B.Tech – 3 Experience > 6 yrs < 10 years – 2 Experience > 10 years – 3 1 Project upto 50 Signals – 1 1 Project 50 – 100 signals – 2 1 Project above 100 Signals - 3</p>	9	Submission of Detailed CV (refer format given in the Annexure)
ITMS Expert	<p>Minimum Education: M.Tech Total Experience: At least 8 years in IT sector Qualification: M.Tech) Marks shall be allotted towards following compliances:</p> <ul style="list-style-type: none"> · Qualifications – 30% marks · Work Experience in IT – 20% marks · Relevant Work experience – 50% marks 	3	Submission of Detailed CV (refer format given in the Annexure)
IT Expert	<p>Minimum Education: BE/BTech Total Experience: At least 8 years in IT sector Should have experience in designing & implementing ITMS for at least 2 similar projects. Marks shall be allotted towards following compliances:</p> <ul style="list-style-type: none"> · Qualifications – 30% marks · Work Experience in IT – 20% marks · Relevant Work experience – 50% marks 	3	Submission of Detailed CV (refer format given in the Annexure)
Total Marks		100	

Important Notes:

- Bidders should obtain **minimum 60 out of 100 marks** in the overall technical evaluation to qualify for opening of the Financial Bid.
- In case, none of the bidder achieves the min. qualifying marks, the Technical Evaluation Committee may revise the min. qualification marks as per the case in the interest of this RFP. The Technical Evaluation Committee's decision in this regard shall be final and binding on the Bidder.
- Bidders should submit necessary proofs towards experience claimed such as work orders / work completion certificates from clients/certificate from Auditors etc. as required by VMC.
- VMC may ask Bidder(s) for additional information to verify claims made in Bid documentation from already submitted Proposals at any point of time before announcement of final results.
- A Technical Committee will examine the Technical Bids against the Prequalification Criteria and Technical Criteria given in the Tender document and all other terms & conditions in the tender. The evaluation will be conducted based on the support documents submitted by the Bidders.

Selection process for Bidder

Opening of Bids: The commercial bids shall be opened by Authority in presence of those Bidders or their representatives who may be present at the time of opening. The representatives of the bidders should be advised to carry the identity card or a letter of authority from the bidder firms to identify that they are bona fide representatives of the bidder firm, for attending the opening of bid.

The Bid Documents shall comprise of the following:

- a. Cover C (verification of Tender fee & submission of Cover A& B)
- b. Cover A (Pre-Qualification bid and Technical Qualification bid)
- c. Cover B (Commercial bid)
 - The date and time for opening of Commercial bid would be communicated to the qualified bidders.
 - The Technical Bids of only those bidders who qualify in Pre-Qualification (Minimum Eligibility stage) will be opened.
 - The Commercial Bids of only those bidders who score is equal to or more than 60marks in Technical Evaluation will only be opened.

1.1.1 Preliminary Examination of Bids

Authority shall examine the bids to determine whether they are complete, whether the documents have been properly signed and whether the bids are generally in order. Any bids found to be nonresponsive for any reason or not meeting any criteria specified in the RFP, shall be rejected by Authority and shall not be included for further consideration.

Initial Bid scrutiny shall be held and bids will be treated as non-responsive if the bids are:

- a. Not submitted in format as specified in the RFP document
- b. Received without the Letter of Authorization (Power of Attorney)
- c. Found with suppression of details
- d. With incomplete information, subjective, conditional offers and partial offers submitted
- e. Submitted without the documents requested
- f. Non-compliant to any of the clauses mentioned in the RFP
- g. With lesser validity period

1.1.2 Clarification on Bids

During the bid evaluation, Authority may, at its discretion, ask the Bidder for any clarification(s) with regard to the bid. The request for clarification and the response shall be in writing.

Evaluation Process:

Authority shall constitute a Tender Evaluation Committee to evaluate the responses of the bidders. The Tender Evaluation Committee shall evaluate the responses to the RFP and all supporting documents /documentary evidence submitted. Inability to submit requisite supporting documents/documentary evidence by bidders may lead to rejection of their bids.

The decision of the Tender Evaluation Committee in the evaluation of bids shall be final. No correspondence will be entertained outside the process of evaluation with the Committee. The Tender Evaluation Committee may ask for meetings or presentation with the Bidders to seek clarifications or confirmations on their bids. The Tender Evaluation Committee reserves the right to reject any or all bids. Each of the responses shall be evaluated as per the criteria and requirements specified in this RFP.

The steps for evaluation are as follows:

1.1.2.1 Pre-Qualification for Technical Eligibility:

- a. Authority shall validate the Cover C for “Tender fee & Cover A& B”.
- b. If the contents of the Cover C, are as per requirements then authority shall open the “Pre-Qualification Bid”. Each of the Pre-Qualification condition mentioned and EMD is MANDATORY. In case, the Bidder does not meet any one of the conditions, the bidder shall be disqualified. Bidders would be informed of their qualification/disqualification based on the Pre- Qualification criteria through Email and Phone and subsequently, the Bid Security amount shall be returned. Technical bids of those bidders who don’t pre-qualify will not be opened. **Commercial** bid will not be opened of those bidders, who don’t qualify the Minimum Eligibility evaluation and their Commercial bids shall be returned unopened. Bid Security amount shall be returned for those who don’t qualify in the financial evaluation stage.

1.1.2.2 Technical Evaluation

- a. The “Technical bid” will be evaluated under the QCBS approach only for the bidders who succeed in Stage 1(Pre-Qualification).
- b. Authority will review the technical bids of the short-listed bidders to determine whether the technical bids are substantially responsive. Bids that are not substantially responsive are liable to be disqualified at Authority’s discretion.
- c. The bidders' technical solutions proposed in the bid document shall be evaluated as per the Requirements specified in the RFP and technical evaluation framework as mentioned **therein**.
- d. Bidders may be asked to give demonstration of the envisaged solution to Authority as per the **demo scripts** that shall be shared with the Bidders who qualify the Pre-Qualification Stage.
- e. Bidders should submit detailed – “Approach & Methodology & Solutions proposed “.
- f. Each Technical Bid will be assigned a Technical Score out of a maximum of 100 points. Only the bidders who get Technical Score of more than or equal to 60 marks in Technical Evaluation will qualify for Commercial Evaluation stage.
- g. In this stage, the Technical Proposal will be evaluated on the basis of Bidders experience, its understanding of TOR, proposed methodology and work plan, and the experience of Key Personnel. Any Bidder whose Technical Proposal scores less than 60 marks out of 100 shall be liable to be rejected, and the other Technical Proposals shall be ranked from highest to the lowest on the basis of their technical score (ST) i.e., Only Bidders scoring ≥ 60 marks (equal to or greater than 60 marks) out of total 100 marks qualify for financial bid opening.

1.1.2.3 Commercial Evaluation (Evaluation of Financial Bid)

- a. All the technically qualified bidders (Under Technical evaluation) will be notified to participate in Commercial Bid opening process.
- b. The Commercial Bids for the technically qualified bidders shall then be opened on the notified date and time and reviewed to determine whether the commercial bids are substantially responsive. Bids that are not substantially responsive are liable to be disqualified at Authority’s discretion.
- c. Commercial bids that are not as per the format provided shall be liable for rejection.
- d. The bid price shall inclusive of all taxes and levies and shall be in Indian Rupees (INR) and mentioned separately.

- e. The responsive price bids shall only be evaluated.

1.1.2.4 Total Bid Evaluation – QCBS approach

The Bidder will be selected under the Quality cum Cost Based System (QCBS) with weightages on 80:20 (80% for technical proposal and 20% for financial proposal). During technical evaluation marks will be allotted based on the technical proposal and relevant document submitted.

Technical Score = St (maximum 100 points) The financial score will be opened only for the Bidders scoring more than 60 in Technical score (St).

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 = the financial score,

Fm = the lowest Financial Proposal value (in ₹) among all the bidders, and

F = the Financial Proposal (in ₹) of the respective bidders under consideration.

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

$$S = St \times 0.80 + Sf \times 0.20;$$

In which

S = Final Score for bid selection

St = Technical score of the respective bidder

Sf = Financial score of the respective bidder

Bidder achieving the highest score, S (combined technical and financial score) will be considered to be the successful bidder and will be issued the Letter of Acceptance (LoA).

If there is more than one bidder achieving (combined technical and financial score) the equal score, then highest score based on decimal points will be considered for the selection.

For example, if the technical score of a particular firm is 60 marks and financial score is 80 marks, then the combined technical and financial score in the ratio of 80:20 will be as computed below.

80 percent of technical score = $0.80 \times 60 = 48$ marks

20 percent of financial score = $0.20 \times 80 = 16$ marks

Total combined score = 64 marks

- a. The financial Bid would be assessed on the basis of the QCBS for the project.
- b. Generally, the Highest Score Bidder shall be the “Selected Bidder”. The remaining Bidders shall be kept in reserve and may be invited for negotiations in case such Bidder withdraws or is not selected for any reason.
- c. In the event that the Highest Score Bidder withdraws or is not selected for any reason in the first instance, the authority may invite the second Highest Score bidder for negotiation. In the event, if second highest score bidder also withdraws or is not selected for any reason, then the next Highest score bidder shall be invited for the negotiations and so on.
- d. In the event that the authority rejects or annuls all the Bids, it may, in its discretion, invite all eligible Bidders to submit fresh Bids hereunder.

5. Instructions to the Bidder

5.1. General

- 1.1 **Name of work:** RFP for Supply, Installation, Commissioning, Operations and Maintenance of Adaptive Traffic Management System (ATMS) in Vijayawada City.

- 1.2 The Commissioner, VMC invites bids for the above work during the period, for which date and time specified in the NIT and will be opened by the Commissioner, VMC or his nominee at his office on the date and time mentioned in the NIT.
- 1.3 The tenders should be in the prescribed form, invited on the website of VMC, by the Municipal Commissioner, that can be downloaded from the website **www.ourvmc.org/engg/gentenders.asp** duly paying the bid processing specified above at the bid submission.
- 1.4 The dates stipulated in the tender notice are firm and under any circumstances will not be relaxed unless officially extended.
- 1.5 The Tender opening Authority will not consider any tender received after expiry of date and time fixed for receipt of tenders.
- 1.6 Tenderers shall furnish declaration on Rs. 100/- non judicial stamp paper that they have not been blacklisted in any department in Andhra Pradesh. Any wrong declaration in this regard which comes to notice at a later date will disqualify them and the Tenders so received will be rejected and the Tenderer black listed.
- 1.7 Transaction fee: Demand Draft towards Bid Processing fee of Rs.20, 000/- drawn in favor of Municipal Commissioner, Vijayawada Payable at Vijayawada and the original DD to be submitted to VMC during opening the Tenders.
- 1.8.1. The successful Tenderer is expected to complete the work within the time period specified in the NIT.
2. Tenderers/ Firms Eligible to Tender:
 - 2.1 The Tenderers / Firms who
 - i) Possess the valid registration in the class and category mentioned in the NIT and satisfies all the conditions therein.
 - ii) Are not blacklisted or debarred or suspended by the Government for whatever the reason, prohibiting them not to continue in the contracting business
 - iii) Have complied with the eligibility criteria specified in the NIT
 - 2.2 Tenderers /Firms Ineligible to Tender:
 - i) A retired officer of the Govt. of AP or Govt. of India executing works is disqualified from tendering for a period of two years from the date of retirement without the prior permission of the Government.
 - ii) The Tenderer who has employed any retired officer as mentioned above shall be considered as an ineligible tenderer.
 - iii) The contractor himself or any of his employees is found to be Gazette Officer who retired from Government Service and had not obtained permission from the Government for accepting the contractor's employment within a period of 2 years from the date of his retirement.
 - iv) The Contractor or any of his employees is found at any time after award of contract, to be such a person who had not obtained the permission of the Government as aforesaid before submission of the tender or engagement in the Contractor's service.

- v) Contractor shall not be eligible to tender for works in the division / circle where any of his near relatives are employed in the rank of Assistant Engineer or Assistant Executive Engineers and above on the Engineering side and Divisional Accounts Officer and above on the administrative side. The Contractor shall intimate the names of persons who are working with him in any capacity or are subsequently employed. He shall also furnish a list of Gazetted /Non-Gazetted, State Government Employees related to him. Failure to furnish such information tenderer is liable to be removed from the list of approved contractors and his contract is liable for cancellation.

Note: Near relatives include

1. Sons, step sons, daughters, and step daughters.
2. Son-in-law, and daughter-in-law.
3. Brother-in-law, and sister-in-law.
4. Brothers and Sisters.
5. Father and Mother.
6. Wife / Husband.
7. Father-in-law and Mother-in-law
8. Nephews, nieces, uncle and aunties
9. Cousins and
10. Any person residing with or dependent on the contractor.

5.2. Pre-bid Queries

All enquiries from the Bidders relating to this RFP must be submitted to the VMC, Vijayawada. These queries should be e-mailed in MS-Excel format to engineeringvmc@gmail.com. The queries should necessarily be submitted in the following Format:

#	RFP Part No.	Section No.	Page no.	Content of the RFP requiring clarification	Clarification Sought

5.3. Language of the Bid

The bids prepared by the Bidder and all subsequent correspondence and documents relating to the bids exchanged by the Bidder and VMC shall be written in **English** language. Any printed literature furnished by the Bidder, written in another language, shall be accompanied by an accurate English translation, in which case, for purposes of interpretation of the Bid, the English translation shall govern.

5.4. Amendments

Before closing of the Tender, clarifications and amendments if any will be notified in the website mentioned in the Tender Schedule. The Bidders periodically check for the amendments or corrigendum or information in the website till the closing date of this Tender. VMC will not make any individual communication and will in no way be responsible for any ignorance pleaded by the Bidders.

Before the closing of the Tender, VMC may amend the Tender document as per requirements or wherever VMC feels that such amendments are necessary.

Amendments also may be given in response to the queries by the prospective Bidders. Such amendments will be notified in the websites mentioned in the tender schedule. VMC at its discretion may or may not extend the due date and time for the submission of bids on account of amendments.

VMC is not responsible for any misinterpretation of the provisions of this tender document on account of the Bidders failure to update the Bid documents on changes announced through the website.

5.5. Clarifications by VMC

When deemed necessary, VMC may seek bonafide clarifications on any aspect from the Bidder. However, that would not entitle the Bidder to change or cause any change in the substance of the Bid or price quoted. During the course of Technical Bid evaluation, VMC may seek additional information or historical documents for verification to facilitate decision making. In case the Bidder failed to comply with the requirements of VMC as stated above, such Bids may at the discretion of VMC, shall be rejected as technically non-responsive.

5.6. Suppression of facts and misleading information

During the Bid evaluation, if any suppression or misrepresentation of is brought to the notice of VMC. VMC shall have the right to reject the Bid and if after selection, VMC would terminate the contract, as the case may be, will be without any compensation to the Bidder and the EMD / PBG, as the case may be, shall be forfeited.

Bidders should note that any figures in the proof documents submitted by the Bidders for proving their eligibility is found suppressed or erased, VMC shall have the right to seek the correct facts and figures or reject such Bids.

It is up to the Bidders to submit the full copies of the proof documents to meet out the criteria. Otherwise, VMC at its discretion may or may not consider such documents.

Tender calls for full copies of documents to prove Bidder's experience and capacity to undertake the project.

5.7. Contacting Tender Inviting Authority

Bidders shall not make attempts to establish unsolicited and unauthorized contact with VMC /Tender Committee after the opening of the Tender and prior to the notification of the Award and any attempt by any Bidder to bring to bear extraneous pressures on the Tender Accepting Authority shall be sufficient reason to disqualify the Bidder.

Notwithstanding anything mentioned above, VMC may seek bonafide clarifications from Bidders relating to the tenders submitted by them during the evaluation of tenders.

5.8. Tender Validity

The offer submitted by the Bidders should be valid for a minimum period of 180 days from the date of opening of the Tender. The Contract will be valid for 5 years from the date of signing of the contract. However VMC reserves the right to extend or short close the Tender validity period if situation warrants to benefit the Government.

5.9. Hand written documents, Erasures or Alterations

The offers containing erasures or alterations will not be considered. There should be no hand-written material, corrections or alterations in the offer. Filling up of the information using terms such as “OK”, “noted”, “as given in brochure/manual” is not acceptable and may lead to the disqualification of the Bid.

5.10. Bid Prices

The Bidder shall indicate in the proforma prescribed, the unit rates and total Bid Prices for the equipment / services, it proposes to provide under the Contract. Prices should be shown separately for each item as detailed in this document.

If during the course of execution of the project any minor revisions to the work requirements like technical specifications, equipment sizing, etc. are to be made to meet the goals of the Project; such changes shall be carried out within the proposed price. If any deviation has a major impact on the Project Cost, the Authority shall take appropriate decision and such decisions would be binding on the Bidder.

5.11. Firm Prices

Prices quoted in the Bid must be firm and final and shall not be subject to any modifications, on any account whatsoever. The Bid Prices shall be indicated in Indian Rupees (INR) only.

The Price Bid should clearly indicate the price quoted without any ambiguity / qualifications whatsoever and should include all applicable duties, fees, levies, and other charges as may be applicable in relation to the activities proposed to be carried out. Taxes as applicable shall be paid by VMC.

Prices in any form or by any reason before opening the Price Bid should not be revealed, failing which the offer shall be liable for rejection. If price change is inevitable due to any factor external to the bidders, the bidders may be given chance to submit revised Bids in a separate sealed cover. Decisions of the Authority shall be final in this regards.

5.12. Letter of Authorization

A letter of Authorization from the Board of Directors / appropriate authority authorizing the Tender submitting authority or a Power of Attorney should be submitted in the Tender, otherwise the Bids will be summarily rejected.

5.13. Conditional Bids/Offer by the Bidders

The Bidder should abide by all terms and conditions specified in the RFP Document. Conditional bids/offers shall be liable for disqualification.

5.14. Late Tender Bids

Any tender offer received by VMC after the deadline for submission of tender offer prescribed by the Authority, will be summarily rejected.

5.15. Opening of Bids

Bids received within the prescribed closing date and time will be opened on the date, time and at the address mentioned in the RFP Documents.

Price Bid of only those Bidders who fulfilled all the eligibility criteria shall be opened.

5.16. Right to Accept or Reject Bids

Authority reserves the right to accept or reject any Bid, and to annul the RFP process and reject all bids at any time prior to award of contract, without thereby incurring any liability to the affected Bidder(s) or any obligation to inform the affected Bidder(s) of the grounds for such action.

5.17. Notification of Award

Authority will notify the Successful Bidder via letter / fax /email of its intent of accepting the bid. Within 7 days of completion of selection process, the Successful Bidder shall be required to sign the LoA and return the same to the address specified above as a token of acceptance of the LoA.

LoA will be issued only after successful completion of PoC as part of Technical Evaluation.

5.18. Earnest Money Deposit

An EMD amount as specified in the Tender Schedule should be paid by way of Bank Guarantee drawn in favour of “The Commissioner, Vijayawada Municipal Corporation (VMC).” payable at Vijayawada.

The EMD of the unsuccessful Bidders will be returned at the expense of the Bidders within a reasonable time consistent with the rules and regulations in this behalf. The EMD amount held by VMC till it is refunded to the unsuccessful Bidders will not earn any interest thereof.

The EMD amount of the Successful Bidder(s) can be converted as part of Security Deposit (SD) for successful execution of the work and will be returned only after the successful fulfilment of the Contract.

The EMD amount will be forfeited by VMC, if the Bidder withdraws the bid during the period of its validity specified in the tender or if the Successful Bidder fails to sign the contract or the Successful in bidder fails to remit Security Deposit within the respective due dates.

5.19. Performance Bank Guarantee

As a condition precedent to execution of the Agreement, the Successful Bidder shall ensure submission of the requisite unconditional irrevocable Bank Guarantee, in the prescribed Format within 15 days of receipt of the LOA as a Performance Bank Guarantee (PBG) for **10% of the Contract Value** for the services to be performed under the resultant Agreement. The Performance Bank Guarantee shall be valid for the term of the resultant Agreement + 3 months, and shall be renewed and maintained as necessary by the SI for the term of the resultant Agreement, and extensions if any. In case of any delay/ non-submission of PBG, decision of VMC shall be final & binding on the bidder.

- Earnest Money Deposits (EMD) submitted by the bidders along with their bids shall be refunded to all bidders, except the Successful Bidder, within 30 days of issuance of the LOA. EMD of the successful bidder will be considered towards PBG and validity should be extended as per the contract duration.

The Performance Bank Guarantee may be liquidated by the Authority as penalty/liquidated damages resulting from the Successful bidder's failure to complete its obligations under the resultant Agreement. The Performance Bank Guarantee shall be returned by Authority to the Bidder within 120 days of the term/expiration of the resultant Agreement after applicable deductions as per the Agreement, if any.

5.20. Signing of Agreement

Subsequent to Authority notification to the Successful Bidder by way of a LoA, acceptance of the LoA and submission of the Performance Guarantee, the Successful Bidder shall execute the Agreement with the VMC. Failure of the Successful Bidder to furnish the Performance Guarantee or execute the Agreement within the prescribed time shall cause the EMD of the Successful Bidder to be liquidated. In such event, VMC shall negotiate with the next eligible bidder. The Successful Bidder will be liable to indemnify VMC for any additional cost or expense, incurred on account of failure of the Successful Bidder to execute the Agreement.

Notwithstanding anything to the contrary mentioned above, the Authority at its sole discretion shall have the right to extend the timelines for execution of Agreement on the request of the Successful Bidder, provided the same is bonafide.

5.21. Rejection Criteria

Besides other conditions and terms highlighted in the RFP Document, bids may be rejected under following circumstances:

- a) Conditional Bids.
- b) If the information provided by the Bidder is found to be incorrect / misleading / fraudulent at any stage / time during the RFP Evaluation Process.
- c) Any effort on the part of a Bidder to influence the bid evaluation, bid comparison or contract award decisions.
- d) Bids received after the prescribed time & date for receipt of bids.
- e) Bids without signature of person (s) duly authorized on required pages of the bid.
- f) Bids without power of attorney/ board resolution or its certified true copy.
- g) Bids received without submission of the prescribed Bid processing fee/EMD.
- h) Incomplete Price Bid.
- i) Price Bids that do not conform to the RFP's Price Bid Format.
- j) If there is an arithmetic discrepancy in the Price Bid calculations the RFP Evaluation Committee shall rectify the same. If the Bidder does not accept the correction of the errors, its Bid may be rejected.

5.22. Concessions permissible under statutes

Bidder, while quoting against this RFP, must take cognizance of all concessions permissible, if any, under the statutes and ensure the same is passed on to the Authority, failing which it will have to bear extra cost. In case Bidder does not avail concessional rates of levies like customs duty, excise duty, sales tax, etc. VMC will not take responsibility towards this. However, the Authority may provide necessary assistance, wherever possible, in this regard.

5.23. Bid forms

- a. Wherever a specific form is prescribed in the bid document, the bidder shall use the form to provide relevant information.
- b. For all other cases the bidder shall design a form to hold the required information.

5.24. Delivery Timelines

The Successful Bidder shall complete commissioning of the 63 Signals provided in Annexure –XI within **10(ten)Months** from the date of entering into contract. If the Successful Bidder fails to commence the assignment, the LOA may be, cancelled /terminated.

However, in case of specific reasons for delay in supply beyond the periods specified herein the bidder should obtain specific written approval from VMC citing the reasons. The decision of VMC is final on the issue of extension of the delivery period.

5.25. Delivery & Documents

Delivery of Goods and Services shall be made by the selected vendor strictly in accordance with the specifications of the tender document or in case of deviations, the specifications approved and accepted by VMC. Corresponding documentation shall be submitted to VMC along with delivery.

Delivery to the designated locations of VMC is responsibility of the selected bidder.

Successful bidder should maintain adequate spares to support atleast 10% of equipment supplied as part of this RFP.

5.26. Insurance

1. Supplier shall provide and maintain a valid insurance cover for the entire contract period to an extent of the deliverables supplied as part of contract, held in the joint names of the Purchaser and the Supplier with an insurance company acceptable to the Purchaser.
2. Policies or certificates for insurance shall be delivered by the Supplier to the Engineer for his approval before the start date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.
3. Alteration to the terms of insurance shall not be made without the approval of the Engineer. Both parties shall comply with any conditions of the insurance policies.

6.27. Third Party Claims

The selected bidder shall indemnify VMC against all third-party claims of infringement of patent, trademark or industrial design rights arising from use of the Goods or any part thereof in India.

6.28. Inspection & Test

VMC and/or its representative reserve the right of inspection and testing of the goods prior to delivery and after delivery at the site, or at any time during the period of the contract.

VMC reserves the right to inspect, test and, wherever necessary, reject the Goods after the Goods' arrival at Project Site. This shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by VMC or its representative prior to the Goods shipment.

6.29. Execution of Work Order

The Successful Bidder should nominate and intimate VMC, an Account Manager for Single Point of Contact (SPOC), who should be responsible for effective delivery of work complying with all the terms and conditions. The Successful Bidder should ensure that the Account Manager fully familiarizes with the Tender Conditions, Scope of Work and deliverables.

6.30. Service Levels & Warranty

Implementation service levels

Service Category	Target	Penalty
System Integration Services for Final Acceptance Testing	24 weeks from the date of Signing of the Contract.	A Penalty as 2% per week for first two weeks, 4% per week for every subsequent week, subject to a maximum of 10%. Penalty will be computed on CAPEX value of contract.

Operation & Maintenance service levels

Service Category	Target	Penalty
Signal uptime	>=97%	No Penalty
	<=97% to >= 96.00%	1% of the QGR value for the specific quarter
	<= 96.00%	2% of the QGR value for the specific quarter

6.31. Payment Terms

1. 75% against the supply of items along with 100% GST. Balance 25% after Installation, Commissioning and Acceptance/ Go-Live certificate from VMC. (In case of supply/ commissioning , payments shall be done on completion of full order)
2. AMC/O&M value will be paid equally across 5 years in quarterly installments

6.32. Force Majeure

Force Majeure shall not include any events caused due to acts/omissions of such Party or result from a breach/contravention of any of the terms of the Contract, Bid and/or the Tender. It shall also not include any default on the part of a Party due to its negligence or failure to implement the stipulated/proposed precautions, as were required to be taken under the Agreement.

The failure or occurrence of a delay in performance of any of the obligations of either party shall constitute a Force Majeure event only where such failure or delay could not have reasonably been foreseen or where despite the presence of adequate and stipulated safeguards the failure to perform obligations has occurred. In such an event, the affected party shall inform the other party in writing within five days of the occurrence of such event. VMC will make the payments due for Services rendered till the occurrence of Force Majeure. However, any failure or lapse on the part of the vendor in performing any obligation as is necessary and proper to negate the damage due to projected force majeure events or to mitigate the damage that may be caused due to the above mentioned events or the failure to provide adequate disaster management/recovery or any failure in setting up a contingency mechanism would not constitute force majeure, as set out above.

In case of a Force Majeure all Parties will endeavor to agree on an alternate mode of performance in order to ensure the continuity of service and implementation of the obligations of a party under the agreement and to minimize any adverse consequences of Force Majeure.

6.33. Liquidated Damages

Subject to clause for Force Majeure if the bidder fails to complete before the scheduled date or if bidder repudiates the agreement before completion of the Work, VMC at its discretion may without prejudice to any other right or remedy available to VMC the Contract recover a maximum of 5% (five percent) of the total value of the work order from the successful bidder as Liquidated Damages (LD).

1% of the late delivered or deemed late delivered/installed deliveries/installations goods for One week or part thereof, 1.5% for Two weeks or part thereof, 2% for Three weeks or part thereof, 2.5% for 4 weeks or part thereof and so on subject to maximum of 5%. If the delay continues beyond 10 weeks, VMC may terminate the Agreement.

VMC may without prejudice to its right to effect recovery by any other method deduct the amount of liquidated damages from any money belonging to the bidder in its hands (which includes VMC's right to claim such amount against successful bidder's Bank Guarantee) or which may become due to the Implementation Agency. Any such recovery or liquidated damages shall not in any way relieve the bidder from any of its obligations to complete the Works or from any other obligations and liabilities under the agreement.

6.34. Termination of Contract

Termination for default

VMC may without prejudice to any other remedy for breach of contract, by written notice of default with a notice period of 7 days, sent to the Successful Bidder, terminate the contract in whole or part, (i) if the Successful Bidder fails to deliver any or all of the goods within the time period(s) specified in the Contract, or fails to supply the items as per the Delivery Schedule or within any extension thereof granted by VMC; or (ii) if the Successful Bidder fails to perform any of the obligation(s) under the contract; or (iii) if the Successful Bidder, in the judgement of VMC, has engaged in fraudulent and corrupt practices in competing for or in executing the Contract.

In the event VMC terminates the Contract in whole or in part, VMC may procure, upon terms and in such manner as it deems appropriate, the goods and services similar to those and delivered and the Successful Bidder shall be liable to VMC for any additional costs for such similar goods. However, the Successful Bidder shall continue the performance of the contract to the extent not terminated.

Termination for Insolvency

VMC may at any time terminate the Contract by giving written notice with a notice period of 7 days to the Successful Bidder, if the Successful Bidder becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Successful Bidder, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to VMC.

Termination for Convenience

VMC may by written notice, with a notice period of seven days sent to the Successful Bidder, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for VMC's convenience, the extent to which performance of work under the Contract is terminated, and the date upon which such termination becomes effective. On termination, the successful Bidder is not entitled to any compensation whatsoever.

6.35. Arbitration and Jurisdiction

In case of any dispute, the matter will be referred to a Sole Arbitrator to be appointed by the Commissioner of VMC in accordance with the "Arbitration and Conciliation Act 1996". The arbitration shall be held in Vijayawada, India and the language English only.

Subject to the above, the Courts of AP alone only shall have jurisdiction in the matter.

5.36. Bill of Quantities as part of Deliverables

Sl.No	Description	Qty	Remarks
1	Solar Based Traffic Signal with Vehicle Actuation Detectors	63	A set of 2 aspects (1 Red, 1 Amber, 3 Straight Green) and 2 pedestrian aspects considered for each road along with pedestrian alarm. One vehicle detector considered for each road
2	Solar based Pelican signals	20	A set of 2 aspects (1 Red, 1 Amber, 1 Straight Green), 2 pedestrian aspects, 2 cantilever pole and 2 primary pole considered for each road along with pedestrian alarm
3	Connectivity (GSM Based) at 63 locations Public Addressing System (PAS)	63	
4	Variable Message Sign Board	4	
5	Facility Management Services for 5 years	(3- persons)	
6	The Video Wall Cubical for CCC along with controller and software	12	Matrix of 3 X 4;
7	Work Stations for CCC	2	
8	Operation & Maintenance	Lot	

ANNEXURES

Annexure I –Cover Letter

(To be submitted by Bidder on Original Letterhead)

To Date:

The Commissioner,
Vijayawada Municipal Corporation (VMC),
Jawaharlal Nehru Buildings, Canal Road, Vijayawada
Andhra Pradesh 520001

Subject: RFP for Supply, Installation, Commissioning, Operations and Maintenance of Adaptive Traffic Management System (ATMS) in Vijayawada City

Ref: XXX/ XX/2018, dated _____

Dear Sir,

With reference to your RFP Document dated I/We, having examined all relevant documents and understood their contents, hereby submit our Proposal.

1. All information provided in the Proposal and in the Appendices is true and correct and all documents accompanying such Proposal are true copies of their respective originals.
2. I/We shall make available to the Authority any additional information it may deem necessary or require for supplementing or authenticating the Proposal.
3. I/We acknowledge the right of the Authority to reject our Proposal without assigning any reason or otherwise and hereby waive our right to challenge the same on any account whatsoever.
4. I/We to the best of our knowledge certify that in the last three years, we or any of our Associates 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 Bidder, 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.
5. I/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 vendor, without incurring any liability to the Bidders
6. I/We to the best of our knowledge certify that in regard to matters other than security and integrity of the country, we or any of our Associates 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 Project or which relates to a grave offence that outrages the moral sense of the community.
7. I/We to the best of our knowledge 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 Associates.
9. I/We agree and understand that the Proposal is subject to the provisions of the RFP document. In no case, shall I/We have any claim or right of whatsoever nature if our Proposal is not opened or rejected.
10. I/We agree to keep this offer valid for 180 days from the Proposal Due Date specified in the RFP.

11. I/We agree and undertake to abide by all the terms and conditions of the RFP Document. In witness thereof, I/We submit this Proposal under and in accordance with the terms of the RFP Document.

Yours faithfully,

(Signature, name and designation of the authorized signatory)

(Name and seal of the firm)

Annexure II – Bidder Profile

(To be submitted by Bidder on original letterhead)

#	Particulars	Details
1.	Name of the Company	
2.	Year of incorporation	
3.	Nature of the Company (Registered Company)	
4.	Registered Office Address	
	Office Telephone Number	
	Fax Number	
5.	Contact Person	
	Name	
	Telephone Number	
	Email Address	
6.	Local presence in Vijayawada	
	Office Address	
	Office Telephone Number	
	Fax Number	
7.	Contact Person(in Vijayawada)	
	Name	
	Telephone Number	
	Email Address	
8.	Registration Details	
	Permanent Account Number (PAN)	
	VAT Registration Number	
	CST Registration Number	
	Service Tax Registration Number	
	GST Number	
9.	Banker's Name, Address and Account Number	

Annexure III - Financial Information
(To be submitted by Bidder on original letterhead)

Annual Turnover of the Bidder(s)

Criteria	Sub Criteria	FY	Total Financials
Financial Capability	Avg. Annual Turnover (in INR)	FY 2015-16	
		FY 2016-17	
		FY 2017-18	
	Net worth	FY 2015-16	
		FY 2016-17	
		FY 2017-18	

Documentary Proof Required:

Statutory auditor's certificate clearly specifying the Turnover & Net worth for the specified years.

Audited Balance Sheets and Profit & Loss statements for the last 3 financial years as on 31.03.2018

Annexure IV- Declaration of Acceptance of RFP Terms & Conditions

(To be submitted by Bidder on original letterhead)

To Date:

The Commissioner,
Vijayawada Municipal Corporation (VMC),
Jawaharlal Nehru Buildings, Canal Road, Vijayawada
Andhra Pradesh 520001

Subject: RFP for Supply, Installation, Commissioning, Operations and Maintenance of Adaptive Traffic Management System (ATMS) in Vijayawada City

Ref: XXX/ XX/2018, dated _____

Sir,

It is to certify that the RFP document – RFP No..... dated..... is carefully read & understood and all the sections and clauses are COMPLIED UNCONDITIONALLY AND UNEQUIVOCALLY. There is no deviation from the terms & conditions of the RFP. We also hereby confirm that the solution proposed by us will meet the project requirements.

Yours faithfully,

(Signature, name and designation of the authorized signatory)

(Name and seal of the firm)

Annexure V - Declaration of Clean Track Record/ No Blacklisting

(To be submitted by Bidder on original letterhead)

To Date:

The Commissioner,
Vijayawada Municipal Corporation (VMC),
Jawaharlal Nehru Buildings, Canal Road, Vijayawada
Andhra Pradesh 520001

Subject: RFP for Supply, Installation, Commissioning, Operations and Maintenance of Adaptive Traffic Management System (ATMS) in Vijayawada City

Ref: XXX/XXXX/2018, dated _____

Sir,

I/We hereby declare that my company has not been debarred / black listed as on Bid submission date by any State Government, Central Government, Central & State Govt. Undertakings / Organizations and by any other Quasi Government bodies / Organizations, and any other major Enterprise / Organizations in India for non-satisfactory past performance, corrupt, fraudulent or any other unethical business practices.

Yours faithfully,

(Signature, name and designation of the authorized signatory)

(Name and seal of the firm)

Annexure VI -EMD Format
(To be executed in Rs.100/- Stamp Paper)

To,
The Commissioner,
Vijayawada Municipal Corporation (VMC),
Jawaharlal Nehru Buildings, Canal Road, Vijayawada
Andhra Pradesh 520001

Bank Guarantee No:
Amount of Guarantee:
Guarantee covers from:
Last date for lodgment of claim:

This Guarantee executed by _____ (Banker's Name & Address) having our Head Office at _____ (address) (hereinafter referred to as "Bank") in favour of Vijayawada Municipal Corporation (VMC), Jawaharlal Nehru Buildings, Canal Rd, Vijayawada, Andhra Pradesh 520001, India (hereinafter referred to as "Beneficiary") for an amount not exceeding Rs. _____/- (Rupees _____ Only) as per the request of M/s. _____ having its office address at _____ (hereinafter referred to as "Bidder") against RFP reference _____ dated ____/____/____ of Vijayawada Municipal Corporation (VMC). This guarantee is issued subject to the condition that the liability of the Bank under this guarantee is limited to a maximum of Rs. _____/- (Rupees _____ Only) and the guarantee shall remain in full force up to _____ (date) and cannot be invoked otherwise by a written demand or claim by the beneficiary under the Guarantee served on the Bank before _____ (date).

ANDWHEREAS it has been stipulated by you in the said ORDER that the Supplier shall furnish you with a Bank Guarantee by a Scheduled/Nationalized Bank for the sum specified therein as EMD towards bid submission.

ANDWHEREAS we have agreed to give the Bidder a Guarantee.

THEREFORE, we (Bankers address) _____, hereby affirm that we are Guarantors and responsible to you on behalf of the Bidder for Rs. _____/- (Rupees_____ Only) and we undertake to pay you, upon your first written demand without any demur, cavil or argument, any sum or sums within the limit of Rs. _____/- (Rupees_____ Only) as aforesaid, without your needing to prove or show grounds or reasons for your demand or the sum specified therein. We will pay the guaranteed amount notwithstanding any objection or dispute whatsoever raised by the Bidder.

This Guarantee is valid until _____.

Place:

Date: _____ Signature and seal of Guarantors (Bank) _____

Annexure VII – Performance Bank Guarantee Format

(To be submitted by the successful bidder on Rs.100/- stamp paper)

In consideration of VMC (“Authority”), having agreed to accept from _____ “successful bidder”, a Performance Bank Guarantee as maybe modified from time to time wherever necessary under the terms and conditions of the Agreement entered into by the said successful bidder in respect of work _____, RFP No. _____ under VMC for the due fulfilment of the terms and conditions of the said Agreement under VMC, on production of a Bank Guarantee for Rs.____ (Rupees _____ only), we _____ “Bank” _____ branch, hereby undertake the guarantee to pay immediately to VMC, on demand in writing by VMC, an amount of Rs. _____ (Rupees _____) without any reservation and recourse against any loss or damage caused to or suffered by VMC by reason of any breach by the successful bidder of any of the terms and conditions of the said agreement under the said Authority.

We _____ Bank, further agree that the guarantee hereby contained shall remain in full force and effect during the period that will be taken for the performance of the said Agreement under the VMC and that it shall be in enforcement until all the dues of VMC under or by virtue of the said Agreement under the VMC have been fully paid and their claims satisfied or discharged or until the said Authority certifies that the terms and conditions of the said Agreement under the VMC have been fully and properly carried out by the successful bidder and accordingly discharges the guarantee subject. This bank guarantee is valid till _____ (date) and VMC shall have no rights under this guarantee after _____ (date).

We _____ Bank, lastly undertake not to revoke this guarantee during its currency except with the previous consent of the VMC in writing.

Dated _____ day of _____ 2017.

Place:

Date: Signature and seal of Guarantors (Bank)

Annexure VIII- Manufacturer's Authorization Form (MAF)

(To be submitted in Manufacturer's letterhead)

To

The Commissioner,
Vijayawada Municipal Corporation (VMC),
Jawaharlal Nehru Buildings, Canal Road, Vijayawada
Andhra Pradesh 520001

Sir,

We hereby authorize M/s _____ to undertake to submit a Bid, and subsequently negotiate & sign the contract with VMC for the Tender No: _____ for product manufactured by us. We hereby extend our full warranty for the goods offered for supply by the above firm against this tender.

We also undertake to provide timely supplies as per terms of tender and as agreed mutually and also to provide a trouble free and continuous support either directly or through our authorized distributors/dealers under our supervision during the said support period. We will provide the necessary support in the event of up gradation of any of the software is necessitated while providing the support will arrange for complete replacement of the item(s) with an equivalent / higher version.

In case of violation of any of the conditions above, I/We understand that I/We are liable to be blacklisted by VMC for a period of three years.

(Signature of authorized Personnel)

Note: Competent authority of the Manufacturer should issue the letter of authority individually for each bidder separately.

Annexure IX – Price Bid Form

(To be submitted by Bidder on original letterhead)

To Date:

The Commissioner,

Vijayawada Municipal Corporation (VMC),

Jawaharlal Nehru Buildings, Canal Road, Vijayawada

Andhra Pradesh 520001

Subject: RFP for Supply, Installation, Commissioning, Operations and Maintenance of Adaptive Traffic Management System (ATMS) in Vijayawada City

Ref: XXXX/ XX/2018, dated _____

S. No	Description	Units	Unit Rate in INR (A)	Taxes INR (B)	Qty (Q)	Total in INR (T) =Q*(A+B)
1.	Adaptive Traffic Controller with Cabinet Enclosure	Nos			63	
2.	Set of two Solar Panels (300W x 2) with Frame and Accessories	Nos			63	
3.	Vehicle Actuated Detector	Nos			220	
4.	Cantilever Pole	Nos			220	
5.	Standard Pole	Nos			346	
6.	Traffic Light Aspects – Red	Nos			440	
7.	Traffic Light Aspects – Green	Nos			1128	
8.	Traffic Light Aspects – Amber	Nos			440	
9.	Pedestrian Aspects with Audible Alarms	Nos			440	
10.	Count Down Timer	Nos			220	
11.	Installation & Commissioning including civil works	Lot			63	
12.	*Additional Components (if any) required towards the solution proposed	Lot			1	
13.	Public address system	Nos			63	
14.	Variable Message Sign Board	Nos			4	
15.	Connectivity	Nos			67	

16.	Pelican Signal (as per BOQ provided)	Nos			20	
17.	Work station	Nos			2	
18.	The Video Wall for CCC along with controller and software ; matrix 3 X 4 cubical	No.s			1	
19.	FMS person – man month charges (2 person x 12 months x 5 years = 120)	Nos			120	
Total CAPEX						
1	Operation & Maintenance Charges per Quarter				20	
Total OPEX						

Grand Total Cost (GTC) = Total CAPEX + Total OPEX = _____

***In case of any specific components required towards installation and commissioning, the same shall be provided in S.No 12 of the CAPEX – Price Bid Form.**

Note

- Unit Rate shall include all duties, levies, insurance, transport and other charges excluding Taxes.
- The Bidder offering **Lowest Grand Total Cost (Exclusive of Taxes)** will be considered as L1 for financial evaluation. If there is a discrepancy between words and figures, the amount in words shall prevail.

VMC reserves the right to

1. Negotiate with the Bidder whose offer is lowest (L1) for further reduction of prices (if deemed necessary)
2. Modify, reduce or increase the quantity requirements to an extent of the tendered quantity
3. Change the list of areas of work from time to time based upon the requirement of the purchase.
4. If delivery performance of the Bidder is not as per the Schedule, then VMC reserves the right to take action against them.
5. VMC reserves its right to withhold any amount for the deficiency in the service aspect of the ordered items supplied.

(Signature, name and designation of the authorized signatory)

(Name and seal of the firm)

Annexure X – Minimum Tech Specifications

Traffic Controller Specifications:

Parameter	Specifications
Processor	32-Bit Based Controller
Communication Ports	RS232,USB,Ethernet
Programming facility	Through central monitoring station or Through Any Laptop
Police Control Panel	Toggle switches for Individual lane or Multiple lane control, Pedestrian Control, Off, Amber Flash and Auto/Manual/ Remote Controlled (Optional-On-Demand)
Protection	Auto shutdown on over/under voltage/current and Auto Start Up on Restoration
Input Voltage	DC I/P 24V
Operating Voltage	24V DC / as per system requirement
Remote Monitoring / Synchronization	1. Compatible with GSM/GPRS/Ethernet Systems, GPS interfaced with the controller for accurate time and corridor synchronization between junctions and traffic controller
Features	1. Programmable Year Calendar: Min. 20 Holidays (can be Customized) 2. Programmable Day (7 days) 3. Min 24 cycle plans per day 4. upto 59 Phases / stages per plan 5. In built diagnostics 6. Hurry Call 7. In built data logging 8. Health report features. 9. Vehicle actuation 10. Conflict Monitoring
Temperature	0°C to 55°C
Humidity	95% Humidity at 40°C Non Condensing
Construction	Weather Proof, Vandal Proof, Dust and Splash Proof Steel Cabinet Passivated and Painted with cable entry points and separate access to police panel controls
Controller Enclosure	IP 54 Complaint

ADAPTIVE TRAFFIC CONTROL FEATURE:

- Take input of vehicle occupancy of every intersection
- Analyze the timing of the past as configured
- Propose New Timings
- Maintain signal Progression of priority route of corridor
- A log is maintained for observation and validation
- Detect Red light jumping
- Vehicle number detector with classifying type of vehicles
- Detect the persons not wearing helmets.

- Wrong route entry detection.

TRAFFIC ENGINEERING

This section is intended to give an overview of requirements

The Central Monitoring screen shall enable the user to specify the permanent artificial demands for all phases, and permanent artificial extensions for all vehicle phases. These artificial demands and extensions shall effectively override all detector inputs (except for all-red extending detectors, which will require special handling), and thus give a fully compliant configuration. The controller timetable facility shall support up to 16 different sets of timings (including minimum- and maximum-green times for each phase, etc.), which can be selected – either regularly by time-of-day and day-of-week, or exceptionally on specified special dates.

Erection of pole and camera positions should be taken care to cover whole lanes of the road width

Vehicle Speed linked detection to be made. If Over speed is detected the payable amount to be calculated and challan to be generated.

Traffic Flow chart to be displayed on the video wall with red and green markings showing conjunction of traffic and free flow of traffic.

Vehicle Actuated

The controller shall fully support the following requirements as below:

- Minimum and Maximum times
- Optional Pre-Timed Maximum action
- Extension times
- Detector fault monitoring

By default, the Configurator shall automatically set up stage-change “movement” conditions which cause stages to be selected in an efficient sequence. However, the user can readily replace some or all of these stage-change conditions with his/her own variants.

Plan Changing

The controller shall enable for the implementation of “smooth” plan changing, whereby a change from one plan to another automatically occurs at a compatible point in the two plans, or alternatively a transitional plan is followed.

Part-Time Operation

The function of the controller shall be decided based on the following circumstances:

- A Pre-defined request
- detection of queuing traffic
- A manual request
- Hurry Call request

Hurry-Call

The controller shall support up to 8 Hurry-Call plans

Manual Control

Manual Panel should provide the facilities of signals on/off, mode selection and stage-control (including all-red).

Pedestrian Facilities

The controller shall fully support the following options:

Safety monitoring of vehicle red lamps, with failure action

LED Aspect Specifications

Description	RED LED	AMBER LED	GREEN LED	Pedestrian Red / Green
Diameter	300 mm	300 mm	300 mm	300 mm
Luminous Intensity	> 400 Cd	> 400 Cd	> 400 Cd	> 400 Cd
Optical Performance	B3/1 N	B3/1 N	B3/1 N	B3/1 N
Operating Voltage	24 V DC	24 V DC	24 V DC	24 V DC
Power Consumption	< 6W	< 6W	< 6W	< 6W
Operating Temperature range	-40° C to +85° C	-40° C to +85° C	-40° C to +85° C	-40° C to +85° C
MTBF(design life cycle)	10 Years	10 Years	10 Years	10 Years
LED Make	Avago / OSRAM / Equivalent			

2 Digit Numeric Timer

Sl. No	Parameter	Specification
1	CPU	16 Bit Micro controller with Zigbee RF Module
2	Input Signal	Lamp drive input (Red and Green) or Wireless Zigbee controller
3	Input sensing time	2 Cycles
5	Output Display	Count Down Time for Red and Green signal and Displays Message during VAC, Manual mode
6	Display type	3 digit, LED display
7	Input Voltage	DC 24V
8	Input Power	Less than 100VA
9	Size(W x H x D)	650 x 375 x 135mm with 130mm hood on Top
10	Weight	12Kgs(approx.)
11	Storage Temp	0°C to 75°C
12	Operating Temp	0°C to 55°C
13	Humidity	95% at 40°C (Non Condensing)

LED from standard make like AVAGO /OSRAM

Oval LED with of (min) 1660 MCD & viewing angle 40°x100° or SMD LED with MCD of (min) 2240 MCD & viewing angle 30°

20 LED in each segment & Minimum 17 LED in diagonal segments.

Salient Features

Power saving with PWM

3 digit, LED display

Work in solar power with battery backup / grid

Battery Configuration:

Parameters	Min Value	Max Value
Battery Voltage	--	24 VDC Typical
Capacity	100 AH	200 AH
Type	Lead Acid	--
Charging Ratio	C/10	C/8

Solar MPPT Charger Specs:

Parameters	Min Value	Max Value
Panel I/P Voltage	30 VDC	80 VDC
O/P Power	--	600W
Efficiency		≥ 90%

AC DC Battery Charger Specs:

Parameters	Min Value	Max Value
AC I/P Voltage	180 VAC	280 VAC
O/P Power	--	500W
Efficiency		≥ 96%

VEHICLE DETECTOR Specifications:**Technical Specification of Adaptive Traffic Sensor**

Traffic sensors should be video based detectors (only camera based), which provide a standard open contact interface to the traffic controller to provide vehicle presence data.

<ul style="list-style-type: none"> <i>Software Features and Performance:</i> 	
<ul style="list-style-type: none"> Coverage 	<ul style="list-style-type: none"> 1~3 lanes,
<ul style="list-style-type: none"> Frame rate 	<ul style="list-style-type: none"> 50HZ: 1920*1080@50fps 60HZ: 1920*1080@60fps
<ul style="list-style-type: none"> Vehicle Type 	<ul style="list-style-type: none"> Car/Van/Bus/Truck/Others (08~32mm)
<ul style="list-style-type: none"> Vehicle Color 	<ul style="list-style-type: none"> Recognizable at daytime only (08~32mm)
<ul style="list-style-type: none"> Video Compression 	<ul style="list-style-type: none"> H.265/H.264/MJPEG
<ul style="list-style-type: none"> Streaming 	<ul style="list-style-type: none"> RTSP
<ul style="list-style-type: none"> <i>Configuration</i> 	
<ul style="list-style-type: none"> Web Server 	<ul style="list-style-type: none"> Support

• TCP/IP Server	• SDK/ISAPI
• Time Synchronization	• NTP/Manually
• Software Update	• Web/SDK
• <i>Data Transmission</i>	
• FTP	• FTP, Multiple FTP
• Standard Protocols	• TCP/IP, HTTP, HTTPS, FTP, DNS, DDNS, RTP, RTSP, RTCP, NTP, UPnP, IPv6, UDP
• Serial Port	• 2RS-485 ports, 1 RS-232 port
• Software integration	• Software to be integrated with the command control room of VMC & traffic police control room
• Data Output	• SDK/ISAPI
• <i>Trigger Mode</i>	
• By Video	• Continuous video analysis with automatic vehicle detection, even without plate.
• By External Interfaces	• I/O,RS-485
• <i>System</i>	
• ANPR Camera	• 2MP (1/1.8"CMOS), max.1920*1080
• Supplement Light	• 3 LEDsupplement lights, 850nm, angle: 40°
• Programming Interface	• ONVIF(Version 2.1),ISAPI
• Lens	• 8~32mm @ F1.8, angle of view:42.5°~13.4°; • 5.3~13mm @ F1.5~F2.8, angle of view: 85°~31°
• Operating System	• Linux
• Digital I/O	• 2-ch inputs, 2-ch outputs
• Connector	• Waterproof circular connector
• ProtectionLevel	• IP65
• Communication Interface	• 1RJ45 10M/100M/1000M self-adaptiveEthernet interfaces
• Storage	• TF card up to 128GB
• <i>Technical Data</i>	
• Certifications	• CE,FCC,bRoHS
• Operating &Storage Temperature	• -30 °C to+70 °C(-22°F to +158°F)

• Operating & Storage Humidity	• 5%to 95% @+40°C (+104°F), non-condensing
• Dimensions(W ×H ×D)	• 120×132.8×428.5mm(4.72×5.23×16.87inch)
• Weight	• 3.12±0.5kg(6.88±1.1lb)
• Power Supply	• DC 24V
• Power Consumption	• Max.15W

Public Addressing System

Sl No	Parameter	Minimum Specifications
1	PAS System	It is an IP based system, should support to manage individual PAS announcements in 1:1 or 1:many environments at multiple locations Simultaneously. It should support both Live & Recorded inputs
2	Speakers	Min. 1 powerful speaker to be used at every location to be audible
3	Access Control	Access control mechanism would also be required to establish so that the usage is regulated
4	Integration	Command Center software
5	Power	Automatic On/Off; Internal battery backup with different charging options (with Main / Solar)
6	Casing	IP-55 rated for housing
7	Management	Central Management Software to manage PAS remotely at Command Center or at multiple locations as per requirement

Variable Message Display

S.NO	DESCRIPTION	SPECIFICATION
1.	Pixel Pitch	Vertical 10mm and Horizontal 10mm
2.	LED Type	Lamp type (3mm Diffused oval)
3.	Pixel Configuration	Full Color (1R, 1G, 1B)
4.	Sides	1 (One Sided)
5.	Board Matrix (H x L)	128 x 288
6.	Display Dimensions (H x L)	4.2ft. x 9.45ft. / 1.28Mts x 2.88Mts
7.	Color Depth	>12 bit per color
8.	Luminance Class/Ratio	L3 as per IRC/EN 12966 standards
9.	Display Language	English, Hindi & Local Language
10.	Information	Support pictograms, text and video

11.	Display Effects	Scrolling up / down / left / right / steady / flash / Partial Flash and Center Spread.
12.	Frame rate	60 Hz
13.	Refresh rate	>800 Hz
14.	Brightness	Automatic Brightness Control based on scheduled time zones or ambient light conditions (optional) Manual Brightness Control from application software
15.	Communication Interface	One Ethernet Port for Central connectivity GPRS modem (Optional) One Isolated RS232 port for local operation console
16.	Internal Memory	4GB
17.	PCB	Glass Epoxy FR4 Grade
18.	Operating Temperature	-10°C to +60°C
19.	Humidity	20 to 85% (non-condensing)
20.	Operating Power Supply	420V, 3Ph, 50 Hz, Neutral, ground (preferred) or 240V Single Ph, Neutral, ground
21.	Power Consumption (approx.)	2.5KW Peak consumption (All LEDs ON) 1.5KW typical (Normal condition)
22.	Enclosure Material	Mild Steel(MS)
23.	Enclosure Color	Black Powder coated
24.	Protection Class	IP65 front and IP54 back
25.	Outer Dimensions (H x L x D)	1500mm x 3000mm x 250mm approx.

Work Stations

Sl No	Parameter	Minimum Specifications
1	Processor	Latest generation 64bit X86 Quad core processor(3Ghz) or better
2	Chipset	Latest series 64bit Chipset
3	Motherboard	OEM Motherboard
4	RAM	Minimum 8 GB DDR3 ECC Memory @ 1600 Mhz. Slots should be free for future upgrade. Minimum 4 DIMM slots, supporting up to 32GB ECC
5	Graphics card	Minimum Graphics card with 2 GB video memory (non- shared)
6	HDD	2 TB SATA-3 Hard drive @ 7200 rpm with Flash Cache of 64GB SSD. Provision for installing 4 more drives.
7	Media Drive	NO CD / DVD Drive
8	Network interface	10/100/1000 Mbps autosensing on board integrated RJ-45 Ethernet Port.
9	Audio	Line/Mic IN, Line-out/Spr Out (3.5 mm)
10	Ports	Minimum 6 USB ports (out of that 2 in front)
11	Keyboard	104 keys minimum OEM keyboard
12	Mouse	2 button optical scroll mouse (USB)

13	Monitor	22" TFT LED monitor, Minimum 1920 x1080 resolution, 5 ms or better response time, TCO 05 (or higher) certified
14	Certification	Energy star 5.0/BEE star certified
15	Operating System	64 bit pre-loaded OS with recovery disc
16	Security	BIOS controlled electro-mechanical internal chassis lock for the System.
17	Antivirus feature	Advanced antivirus, antispyware, desktop firewall, intrusion prevention (comprising of a single, deployable agent) which can be Managed by a central server. (Support, updates, patches and errata for the entire contract/ project period)
18	Power supply	SMPS; Minimum 400-watt Continuous Power Supply with Full Ranging input and APFC. Power supply should be 90% efficient with EPEAT Gold certification for the system

Earthing

Earthing to be provided as per IS 3043

Video Wall for CCC

Video Wall Screen

The Video Wall for CCC Shall be configured with 3 X 2 formation of the following professional display(TV) screens:

S.No	Parameter	Minimum Specifications
1	Screen Size	55" in 4 X 3 total 9'x16' 3 in each Horizontal and 4 in each Vertical in 55" each screen. Total = 12 Screens
2	Resolution	Full high definition(1080p) 16:9 Widescreen
3	Contrast Ratio	5000:01:00
4	Brightness	350 nit
5	Viewing Angle	178 degrees/178 degree(H/V)
6	Response time	8 ms
7	Input	HDMI
8	Control	On Screen Display (OSD) IR remote control
9	Operations	24 X 7 basis
10	Display	LED Only

Video Wall Controller

S.No	Parameter	Minimum Specifications
1	Controller	Controller to control video wall in a matrix as per requirement along with software
2	Chasis	19" Rack Mount
3	Processor	Latest Generation 64 bit X 86 Quad Core Processor (3.4 GHz) or better
4	Operating System	Pre- Loaded 64-bit Operating System Windows/Linux/Equivalnet , with recovery disc
5	RAM	16 GB DDR3 ECC RAM
6	HDD	2 X 500 GB 7200 RPM HDD (Configured in RAID 0)
7	Networking	Dual-port Gigabit Ethernet Controller with RJ-45 Ports
8	RAID	RAID 0,1,5,10 support
9	Power Supply	(1 + 1) Redudant hot swappable
10	Input/Output	DVI/HDMI/USB/LAN/VGA/SATA Port

11	Accessories	104 Key keyboard and optical USB mouse
12	USB Ports	Minimum 4 USB Ports
13	Redundancy	Power Supply, HDD, LAN Port & Controller
14	Scalability	Display multiple source windows in any size , anywhere on the wall
15	Control	Brightness/Contrast/Saturation/Hue/Filtering/Crop/Rotate
16	Inputs	To connect to minimum 2 sources through HDMI
17	Output	To connect to minimum 16 Displays through HDMI
18	Operating Temperature	10 °C to 35 °C ; 80% humidity
19	Cable & Connection	Successful bidder should provide all the necessary cables and connectors, so as to connect controller with LED

Video Wall Management Software		
S.No	Parameter	Minimum Specifications
1	Display & Scaling	Display multiple sources anywhere on display up to any size
2	Input management	All input sources can be deployed on the video wall in freely resizable and movable windows

Pelican Controller Specifications:

Parameter	Required Specifications
Processor	32-Bit Based Controller
Communication Ports	RS232,USB,Ethernet
Drive PCB	16 Drive lines for LED Aspects
Programming facility	Local or Remote (optional)
Police Control Panel	Toggle switches for Individual lane or Multiple lane control, Pedestrian Control, Off, Amber Flash and Auto/Manual/ Remote Controlled (Optional-On-Demand)
Protection	Auto shutdown on over/under voltage/current and Auto Start Up on Restoration
Input Voltage	DC I/P 24V
Operating Voltage	24V DC / as per system requirement
Features	1. Adjustable Pedestrian Cycle Time 2. In built diagnostics 3. In built data logging 4. Health report features 5. Conflict Monitoring
Temperature	0°C to 55°C
Humidity	95% Humidity at 40°C Non Condensing
Construction	Weather Proof, Vandal Proof, Dust and Splash Proof Steel Cabinet Passivated and Painted with cable entry points and separate access to police panel controls
Controller Enclosure	IP 54 Complaint

Technical Details

SYSTEM OPERATION:

Operation: 24 hrs operation with facility for selection of operation time

Activation of pedestrian cycle: Manual by means of push button switches housed in IP64 enclosure.

Power Source: Solar

Back up:, system should operate for 72 hrs from a fully charged battery.

SYSTEM CONTROL:

System voltage: 24 V DC

Networking: Should be capable of Remote Monitoring through Ethernet

Programmability: Programmable Timing with on-site modification capability

System Up-time: Greater than 98 %

POWER SOURCE:

Solar Power : Array of solar panels
Solar Charge Controller : 24 Volts / 20 Amps

BATTERY

Type : Sealed Maintenance Free.
 Capacity : Suitable for 24 hours back-up
 Max. Depth of discharge : 80 %

Configuration

Type	Road type	No of CL Poles	Alarm for Visually Disabled	Number of Pedestrian Switches	Signal Heads			
					Red	Amber	Green	Ped Red/Green
1	One Way	1	1	2	2	2	2	2+2
2	*2 Way	2	0	2	4	4	4	2+2
3	2 way	2	2	4	4	4	4	4+4

All signal heads should Comply with EN 12368 (European Specification)

Earthing

Earthing to be provided as per IS 3043

Bill of Quantities for Traffic Junctions (3-Way / 4-Way Junctions)

Sl No	Item	Quantity	
		3 Way	4 Way
1	Adaptive Traffic Controller with Cabinet Enclosure	1	1
2	Batteries (12v, 100 Ah)	2	2
3	Solar Panels (300W) with Frame and accessories	2	2
4	Vehicle Actuated Detector	3	4
5	Cantilever Pole	3	4
6	Standard Pole	5	6
7	Traffic Light Aspects – Red	6	8
8	Traffic Light Aspects – Green	12	24
9	Traffic Light Aspects – Amber	6	8
10	Pedestrian Aspects with Audible Alarms (Emergency Push Buttons on Request)	6	8
11	Count Down Timer	3	4
12	The Video Wall for CCC along with controller and software ; matrix 3 X 4 cubicals	1	

Annexure XI – List of Locations**Vijayawada - Proposed Traffic Signal Junction Locations**

S No.	Junction Name	S No.	Junction Name
1	Swathi	32	Police Control room
2	Kummaripalem	33	Mahanadu Road
3	Venkateswara Foundry	34	Ramesh Hospital
4	Prakasam Barrage	35	Siddhartha Academy
5	Vinayaka Temple	36	JemmiChettu
6	GeddaBomma	37	Chennupati Petro Bunk
7	SeethammavariPadalu	38	DV Manor
8	Chittinagar	39	Benz Circle
9	SrinivasaMahal	40	NTR Circle
10	YV Rao Estates	41	Patamata Centre
11	Bandar Locks	42	Auto Nagar
12	Raghavaiah Park Centre	43	Krishna Nagar
13	DCP Bungalow	44	JyothiMahal
14	RTC Out Gate	45	Skew Bridge
15	RTC In Gate	46	Geetha Nagar
16	State Guest House	47	Nethaji Bridge
17	Prakasam Statue	48	American Hospital
18	Swarna Palace	49	Fire Station
19	Apsara Theatre	50	Pipula Road
20	Museum Road	51	Sitara Centre
21	Vijaya Talkies	52	PSR Statue
22	T-Junction	53	Gollapudi Y
23	DhabaKotlu Centre	54	Gollapudi One
24	Chuttugunta Centre	55	Middle of the Fly Over
25	Alankar Inn	56	Kabela Centre
26	Veterinary Hospital	57	Old RTC Y
27	Nice Bar	58	Seethannapet Gate
28	Pushpa Hotel	59	Sharada College
29	Padavalarevu	60	Food
30	Gunadala 3 Bridges	61	Madhuranagar
31	Nirmala Convent	62	Ramavarrapadu Ring Road
		63	Deepthi Travels

End of the Document