

THIS Information Technology Agreement ("Agreement" or "Contract") is made by and between the City of Santa Fe, hereinafter referred to as the "City" and **Souder Corporation dba Mountain Parking Equipment**, hereinafter referred to as the "Contractor" and collectively referred to as the "Parties".

WHEREAS, pursuant to the Contractor has held itself out as expert in implementing the Scope of Work as contained herein and the City has selected the Contractor as the offeror most advantageous to the City; and

WHEREAS, all terms and conditions of the RFP No. '18/49/P to provide and install a state of the art Parking Access and Revenue Control System (PARCS) and the Contractor's response to such document(s) are incorporated herein by reference;

NOW, THEREFORE, IT IS MUTUALLY AGREED BETWEEN THE PARTIES:

ARTICLE 1 – DEFINITIONS

- A. "Acceptance" or "Accepted" shall mean the approval, after Quality Assurance, of all Deliverables by the City's Contract Manager.
- B. "Application Deployment Package" shall mean the centralized delivery of business critical applications including the source code (for custom software), documentation, executable code and deployment tools required to successfully install application software fixes including additions, modifications, or deletions produced by the Contractor.
- C. "Business Days" shall mean Monday through Friday, 7:30 a.m. (MST or MDT) to 5:30 p.m. except for federal or state holidays.
- D. "Change Request" shall mean the document utilized to request changes or revisions in the Scope of Work – Exhibit A, attached hereto and incorporated herein.
- E. "IT Director" shall mean the Information Technology Director for the City.
- F. "Confidential Information" means any communication or record (whether oral, written, electronically stored or transmitted, or in any other form) that consists of: (1) confidential client information as such term is defined in State or Federal statutes and/or regulations; (2) all non-public State budget, expense, payment and other financial information; (3) all attorney-client privileged work product; (4) all information designated by the City as confidential, including all information designated as confidential under federal or state law or regulations; (5) unless publicly disclosed by the City, the pricing, payments, and terms and conditions of this Agreement, and (6) City information that is utilized, received, or maintained by the City, the Contractor for the purpose of fulfilling a duty or obligation under this Agreement and that has not been publicly disclosed.
- G. "Contract Manager" shall mean a Qualified person from the Parking Division responsible for all aspects of the administration of this Agreement. Under the terms of this Agreement, the Contract Manager shall be designated by the Parking Division Director.
- H. "Default" or "Breach" shall mean a violation of this Agreement by either failing to perform one's own contractual obligations or by interfering with another Party's performance of its obligations.
- I. "Deliverable" shall mean any verifiable outcome, result, service or product that must be delivered, developed, performed or produced by the Contractor as defined by the Scope of Work.
- J. "Designated Representative" shall mean a substitute(s) for a title or role, e.g. Contract Manager, when the primary is not available.
- K. "DoIT" shall mean the Department of Information Technology.
- L. "DFA" shall mean the Department of Finance and Administration;
- M. "Escrow" shall mean a legal document (such as the software source code) delivered by the Contractor into the hands of a third party, and to be held by that party until the performance of a condition is Accepted; in the event Contractor fails to perform, the City receives the legal document, in this case, Source Code.

- N. "Enhancement" means any modification including addition(s), modification(s), or deletion(s) that, when made or added to the program, materially changes its or their utility, efficiency, functional capability, or application, but does not constitute solely an error correction.
- O. "GRT" shall mean New Mexico gross receipts tax.
- P. "Intellectual Property" shall mean any and all proprietary information developed pursuant to the terms of this Agreement.
- Q. "Independent Verification and Validation ("IV&V")" shall mean the process of evaluating a Project and the Project's product to determine compliance with specified requirements and the process of determining whether the products of a given development phase fulfill the requirements established during the previous stage, both of which are performed by an entity independent of the City.
- R. "Know How" shall mean all technical information and knowledge including, but not limited to, all documents, computer storage devices, drawings, flow charts, plans, proposals, records, notes, memoranda, manuals and other tangible items containing, relating or causing the enablement of any Intellectual Property developed under this Agreement.
- S. "Payment Invoice" shall mean a detailed, certified and written request for payment of Services by and rendered from the Contractor to the City. Payment Invoice(s) must contain the fixed price Deliverable cost and identify the Deliverable for which the Payment Invoice is submitted.
- T. "Performance Bond" shall mean a surety bond which guarantees that the Contractor will fully perform the Contract and guarantees against breach of contract.
- U. "Project" shall mean a temporary endeavor undertaken to solve a well-defined goal or objective with clearly defined start and end times, a set of clearly defined tasks, and a budget. The Project terminates once the Project scope is achieved and the Project approval is given by the Contract Manager and verified by the City.
- V. "Project Manager" shall mean a Qualified person from the City responsible for the application of knowledge, skills, tools, and techniques to the Project activities to meet the Project requirements from initiation to close. Under the terms of this Agreement, the Project Manager shall be Leonard Romero, Parking Maintenance Supervisor, or his/her Designated Representative.
- W. "Qualified" means demonstrated experience performing activities and tasks with Projects.
- X. "Quality Assurance" shall mean a planned and systematic pattern of all actions necessary to provide adequate confidence that a Deliverable conforms to established requirements, customer needs, and user expectations.
- Y. "Services" shall mean the tasks, functions, and responsibilities assigned and delegated to the Contractor under this Agreement.
- Z. "City Purchasing Agent (CPA)" shall mean the City Purchasing Agent for the City or his/her Designated Representative.
- AA. "City Purchasing Department (SPD)" shall mean the City Purchasing Department of the City.
- BB. "Software" shall mean all operating system and application software used by the Contractor to provide the Services under this Agreement.
- CC. "Software Maintenance" shall mean the set of activities which result in changes to the originally Accepted (baseline) product set. These changes consist of corrections, insertions, deletions, extensions, and Enhancements to the baseline system.
- DD. "Source Code" shall mean the human-readable programming instructions organized into sets of files which represent the business logic for the application which might be easily read as text and subsequently edited, requiring compilation or interpretation into binary or machine-readable form before being directly useable by a computer.
- EE. "Turnover Plan" means the written plan developed by the Contractor and approved by the City in the event that the work described in this Agreement transfers to another vendor or the City.
- EF. "Implementation Services" means services related to system implementation, configuration, data conversion, customization, and training.

ARTICLE 2 – SCOPE OF WORK

- A. Scope of Work. The Contractor shall perform the work as outlined in Exhibit A, attached hereto and incorporated herein by reference.

- B. Performance Measures. The Contractor shall substantially perform to the satisfaction of the City the Performance Measures set forth in Exhibit A. In the event the Contractor fails to obtain the results described in Exhibit A, the City may provide written notice to the Contractor of the Default and specify a reasonable period of time in which the Contractor shall advise the City of specific steps it will take to achieve these results and the proposed timetable for implementation. Nothing in this Section shall be construed to prevent the City from exercising its rights pursuant to Article 6 or Article 16.
- C. Schedule. The Contractor shall meet the due dates, as set forth in Exhibit A, which due dates shall not be altered or waived by the City without prior written approval, through the Amendment process, as defined in Article 23.
- D. License. Contractor hereby grants the City a non-exclusive, irrevocable, license to use the TMS-SmartPark -TIBA Management System Standard Edition Single Facility License. TMS-SmartPark-Upgrade to Enterprise Edition-Single Site Enterprise License. Upgrade from Single Central PARCS controller to 3 PARCS Controller. Software and any and all updates, corrections and revisions as defined in Article 2 and Exhibit A, for the term of this Agreement.

The right to copy the Software is limited to the following purposes: archival, backup and training. All archival and backup copies of the Software are subject to the provisions of this Agreement, and all titles, patent numbers, trademarks, copyright and other restricted rights notices shall be reproduced on any such copies.

- E. Source Code. The Parties agree the City has no right to Contractor's Source Code.
1. Contractor agrees to maintain, at Contractor's own expense, a copy of the Software Source Code to be kept by an escrow agent and to list the City as an authorized recipient of this Source Code. The Source Code shall be kept current with the releases/versions of the software in live use at the City. The Source Code shall be in magnetic form on media specified by the City. The escrow agent shall be responsible for storage and safekeeping of the magnetic media. Contractor shall replace the magnetic media no less frequently than every six (6) months to ensure readability and to preserve the Software at the current City revision level. Included with the media shall be all associated documentation which will allow the City to top load, compile and maintain the software in the event of a Breach.
 2. If the Contractor ceases to do business or ceases to support this Project or Agreement and it does not make adequate provision for continued support of the Software it provided the City; or, if this Agreement is terminated, or if the Contractor Breaches this Agreement, or if the Contractor is merged or acquired and no longer supports the Software, the Contractor shall make available to the City within thirty (30) calendar days of the date services cease: 1) the latest available Software program Source Code and related documentation meant for the Software provided or developed under this Agreement by the Contractor and listed as part of the Services; 2) the Source Code and compiler/utilities necessary to maintain the system; and, 3) related documentation for Software developed by third parties to the extent that the Contractor is authorized to disclose such Software. In such circumstances, City shall have an unlimited right to use, modify and copy the Source Code and documentation.
- F. The City's Rights.
1. Rights to Software. The Parties agree the City does not have rights to the Software except as explicitly stated in this Agreement.
 2. Proprietary Rights. The Contractor will reproduce and include the City's copyright and other proprietary notices and product identifications provided by the Contractor on such copies, in whole or in part, or on any form of the Deliverables.
 3. Rights to Data. Any and all data stored on the Contractor's servers or within the Contractors custody, in order to execute this Agreement, is the sole property of the City.

The Contractor, subcontractor(s), officers, agents and assigns shall not make use of, disclose, sell, copy or reproduce the City's data in any manner, or provide to any entity or person outside of the City without the express written authorization of the City.

ARTICLE 3 - COMPENSATION

- A. **Compensation Schedule.** For Implementation Services, the City shall pay to the Contractor a not to exceed price for each Deliverable, per the schedule outlined in Exhibit A, less retainage, if any, as identified in Paragraph D. All travel expense costs shall be included in the not to exceed price. The City will not make a separate payment for reimbursable expenses.
- B. **Payment.** The total compensation under this Agreement shall not exceed one million five hundred thousand dollars (\$1,500,000.00) excluding New Mexico gross receipts tax. This amount is a maximum and not a guarantee that the work assigned to be performed by Contractor under this Agreement shall equal the amount stated herein. The Parties do not intend for the Contractor to continue to provide Services without compensation when the total compensation amount is reached. Contractor is responsible for notifying the City when the Services provided under this Agreement reach the total compensation amount. In no event will the Contractor be paid for Services provided in excess of the total compensation amount without this Agreement being amended in writing prior to services, in excess of the total compensation amount being provided.

Payment for Implementation Services shall be made upon Acceptance of each Deliverable according to Article 4 and upon the receipt and Acceptance of a detailed, certified Payment Invoice. Payment will be made to the Contractor's designated mailing address. In accordance with Section 13-1-158 NMSA 1978, payment shall be tendered to the Contractor within thirty (30) days of the date of written certification of Acceptance. All Payment Invoices MUST BE received by the City no later than fifteen (15) days after the termination of this Agreement. Payment Invoices received after such date WILL NOT BE PAID.

- C. **Taxes.** The Contractor shall be reimbursed by the City for applicable New Mexico gross receipts taxes, excluding interest or penalties assessed on the Contractor by any authority. The payment of taxes for any money received under this Agreement shall be the Contractor's sole responsibility and should be reported under the Contractor's Federal and State tax identification number(s).

Contractor and any and all subcontractors shall pay all Federal, state and local taxes applicable to its operation and any persons employed by the Contractor. Contractor shall require all subcontractors to hold the City harmless from any responsibility for taxes, damages and interest, if applicable, contributions required under Federal and/or state and local laws and regulations and any other costs, including transaction privilege taxes, unemployment compensation insurance, Social Security and Worker's Compensation.

- D. **Retainage.** The City shall retain 15% of the not to exceed Deliverable cost for each Deliverable that is the subject of this Agreement as security for full performance of this Agreement. All amounts retained shall be released to the Contractor upon Acceptance of the final Deliverable.
- E. **Performance Bond.** The Parties agree there is no Performance Bond.]

ARTICLE 4 - ACCEPTANCE

- A. **Submission.** Upon completion of agreed upon Deliverables as set forth in Article 2 and Exhibit A, Contractor shall submit a Payment Invoice with the Deliverable, or description of the Deliverable, to the City. Each Payment Invoice shall be for the fixed Deliverable price as set forth in Article 2 and Exhibit A, less retainage as set forth in Article 3(D).
- B. **Acceptance.** In accord with Section 13-1-158 NMSA 1978, the Contract Manager shall determine if the Deliverable provided meets specifications. No payment shall be made for any Deliverable until the individual Deliverable that is the subject of the Payment Invoice has been Accepted, in

writing, by the Contract Manager. In order to Accept the Deliverable, the Contract Manager, in conjunction with the Project Manager, will assess the Quality Assurance level of the Deliverable and determine, at a minimum, that the Deliverable:

1. Complies with the Deliverable requirements as defined in Article 2 and Exhibit A;
2. Complies with the terms and conditions of the RFP No. '18/49/P;
3. Meets the performance measures for the Deliverable(s) and this Agreement;
4. Meets or exceeds the generally accepted industry standards and procedures for the Deliverable(s); and
5. Complies with all the requirements of this Agreement.

If the Deliverable is deemed Acceptable under Quality Assurance by the Contract Manager or their Designated Representative, the Contract Manager will notify the Contractor of Acceptance, in writing, within thirty (30) Business Days from the date the Contract Manager receives the Deliverable(s) and accompanying Payment Invoice.

- C. Rejection. Unless the Contract Manager gives notice of rejection within the thirty (30) Business Day Acceptance period, the Deliverable will be deemed to have been Accepted. If the Deliverable is deemed unacceptable under Quality Assurance, thirty (30) Business Days from the date the Contract Manager receives the Deliverable(s) and accompanying Payment Invoice, the Contract Manager will send a consolidated set of comments indicating issues, unacceptable items, and/or requested revisions accompanying the rejection. Upon rejection and receipt of comments, the Contractor will have ten (10) Business Days to resubmit the Deliverable to the Contract Manager with all appropriate corrections or modifications made and/or addressed. The Contract Manager will again determine whether the Deliverable(s) is Acceptable under Quality Assurance and provide a written determination within fifteen (15) Business Days of receipt of the revised or amended Deliverable. If the Deliverable is once again deemed unacceptable under Quality Assurance and thus rejected, the Contractor will be required to provide a remediation plan that shall include a timeline for corrective action acceptable to the Contract Manager. The Contractor shall also be subject to all damages and remedies attributable to the late delivery of the Deliverable under the terms of this Agreement and available at law or equity. In the event that a Deliverable must be resubmitted more than twice for Acceptance, the Contractor shall be deemed as in breach of this Agreement. The City may seek any and all damages and remedies available under the terms of this Agreement and available at law or equity. Additionally, the City may terminate this Agreement.

ARTICLE 5 – TERM

THIS AGREEMENT SHALL NEITHER BE EFFECTIVE NOR BINDING UNTIL APPROVED BY THE CITY.

This Agreement shall be effective on the date that it is fully executed and terminate upon full installation and acceptance by the City. This is a purchase of equipment and installation contract and therefore will not have a contract length other than the negotiated time for installation and going live.

Maintenance of PARCS equipment contract, terms of which will be ongoing, as negotiated by the City. Ongoing maintenance contract will be effective at the end of the first two-year warranty period provided by the equipment manufacturer. Term shall comply with §13-1-150

ARTICLE 6 – TERMINATION

- A. Grounds. The City may terminate this Agreement for convenience or cause. The Contractor may only terminate this Agreement based upon the City's uncured, material breach of this Agreement.
- B. Appropriations. By the City, if required by changes in State or federal law, or because of court order, or because of insufficient appropriations made available by the United States Congress and/or the New Mexico State Legislature, or the City Council for the performance of this Agreement. The City's

decision as to whether sufficient appropriations are available shall be accepted by the Contractor and shall be final. If the City terminates this Agreement pursuant to this subsection, the City shall provide the Contractor written notice of such termination at least fifteen (15) Business Days prior to the effective date of the termination.

C. Notice; City Opportunity to Cure.

1. Except as otherwise provided in Paragraph (3), the City shall give Contractor written notice of termination at least thirty (30) days prior to the intended date of termination.
2. Contractor shall give City written notice of termination at least thirty (30) days prior to the intended date of termination, which notice shall (i) identify all the City's material breaches of this Agreement upon which the termination is based and (ii) state what the City must do to cure such material breaches. Contractor's notice of termination shall only be effective (i) if the City does not cure all material breaches within the thirty (30) day notice period or (ii) in the case of material breaches that cannot be cured within thirty (30) days, the City does not, within the thirty (30) day notice period, notify the Contractor of its intent to cure and begin with due diligence to cure the material breach.
3. Notwithstanding the foregoing, this Agreement may be terminated immediately upon written notice to the Contractor (i) if the Contractor becomes unable to perform the services contracted for, as determined by the City; (ii) if, during the term of this Agreement, the Contractor is suspended or debarred by the City; or (iii) the Agreement is terminated pursuant to Paragraph 5, "Appropriations", of this Agreement.

- D. Liability. Except as otherwise expressly allowed or provided under this Agreement, the City's sole liability upon termination shall be to pay for acceptable work performed prior to the Contractor's receipt or issuance of a notice of termination; provided, however, that a notice of termination shall not nullify or otherwise affect either party's liability for pre-termination defaults under or breaches of this Agreement. The Contractor shall submit an invoice for such work within thirty (30) days of receiving or sending the notice of termination. THIS PROVISION IS NOT EXCLUSIVE AND DOES NOT WAIVE THE CITY'S OTHER LEGAL RIGHTS AND REMEDIES CAUSED BY THE CONTRACTOR'S DEFAULT/BREACH OF THIS AGREEMENT.

ARTICLE 7 – TERMINATION MANAGEMENT

- A. Contractor. In the event this Agreement is terminated for any reason, or upon expiration, and in addition to all other rights to property set forth in this Agreement, the Contractor shall:

1. Transfer, deliver, and/or make readily available to the City property in which the City has a financial interest and any and all data, Know How, Intellectual Property, inventions or property of the City;
2. Incur no further financial obligations for materials, Services, or facilities under the Agreement without prior written approval of the City;
3. Terminate all purchase orders or procurements and any subcontractors and cease all work, except as the City may direct, for orderly completion and transition;
4. Take such action as the City may direct, for the protection and preservation of all property and all records related to and required by this Agreement;
5. Agree that the City is not liable for any costs arising out of termination and that the City is liable only for costs of Deliverables Accepted prior to the termination of the Agreement;
6. Cooperate fully in the closeout or transition of any activities to permit continuity in the administration of City's programs;
7. In the event that this Agreement is terminated due to the Contractor's course of performance, negligence or willful misconduct and that course of performance, negligence, or willful misconduct results in reductions in the City's receipt of program funds from any governmental City, the Contractor shall remit to the City the full amount of the reduction;
8. Should this Agreement terminate due to the Contractor's Default, the Contractor shall reimburse the City for all costs arising from hiring new Contractor/subcontractors at potentially higher rates and for other costs incurred;
9. In the event this Agreement is terminated for any reason, or upon its expiration, the Contractor shall develop and submit to the City for approval an Agreement Turnover Plan

at least ten (10) Business Days prior to the effective date of termination. Such Turnover Plan shall describe the Contractor's policies and procedures that will ensure: (1) the least disruption in the delivery of Services during the transition to a substitute vendor; and (2) cooperation with the City and the substitute vendor in transferring information and Services. The Turnover Plan shall consist of the orderly and timely transfer of files, data, computer software, documentation, system turnover plan, Know How, Intellectual Property and other materials, whether provided by the City or created by the Contractor under this Agreement, to the City, including but not limited to, user manuals with complete documentation, functional technical descriptions of each program and data flow diagrams. At the request of the City, the Contractor shall provide to the City a copy of the most recent versions of all files, software, Know How, Intellectual Property and documentation, whether provided by the City or created by the Contractor under this Agreement.

- B. City. In the event this Agreement is terminated for any reason, or upon expiration, and in addition to all other rights to property set forth in this Agreement, the City shall:
1. Retain ownership of all work products and documentation created pursuant to this Agreement; and
 2. Pay the Contractor all amounts due for Services Accepted prior to the effective date of such termination or expiration.

ARTICLE 8 – INDEMNIFICATION

- A. General. The Contractor shall defend, indemnify and hold harmless the City, and its employees from all actions, proceedings, claims, demands, costs, damages, attorneys' fees and all other liabilities and expenses of any kind from any source which may arise out of the performance of this Agreement, caused by the negligent act or failure to act of the Contractor, its officers, employees, servants, subcontractors or agents, during the time when the Contractor, its officer, agent, employee, servant or subcontractor thereof has or is performing Services pursuant to this Agreement. In the event that any action, suit or proceeding related to the Services performed by the Contractor or any officer, agent, employee, servant or subcontractor under this Agreement is brought against the Contractor, the Contractor shall, as soon as practicable, but no later than two (2) Business Days after it receives notice thereof, notify, by certified mail, the legal counsel of the City.
- B. The indemnification obligation under this Agreement shall not be limited by the existence of any insurance policy or by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or any subcontractor, and shall survive the termination of this Agreement. Money due or to become due to the Contractor under this Agreement may be retained by the City, as necessary, to satisfy any outstanding claim that the City may have against the Contractor.

ARTICLE 9 – INTELLECTUAL PROPERTY

Ownership. The Contractor will own the Intellectual Property.

ARTICLE 10 – INTELLECTUAL PROPERTY INDEMNIFICATION

- A. Intellectual Property Indemnification. The Contractor shall defend, at its own expense, the City against any claim that any product or service provided under this Agreement infringes any patent, copyright or trademark, and shall pay all costs, damages and attorney's fees that may be awarded as a result of such claim. In addition, if any third party obtains a judgment against the City based upon Contractor's trade secret infringement relating to any product or Services provided under this Agreement, the Contractor agrees to reimburse the City for all costs, attorneys' fees and the amount of the judgment. To qualify for such defense and/or payment, the City shall:

1. Give the Contractor written notice, within forty-eight (48) hours, of its notification of any claim;
 2. Work with the Contractor to control the defense and settlement of the claim; and
 3. Cooperate with the Contractor, in a reasonable manner, to facilitate the defense or settlement of the claim.
- B. City Rights. If any product or service becomes, or in the Contractor's opinion is likely to become, the subject of a claim of infringement, the Contractor shall, at its sole expense:
1. Provide the City the right to continue using the product or service and fully indemnify the City against all claims that may arise out of the City's use of the product or service;
 2. Replace or modify the product or service so that it becomes non-infringing; or
 3. Accept the return of the product or service and refund an amount equal to the value of the returned product or service, less the unpaid portion of the purchase price and any other amounts, which are due to the Contractor. The Contractor's obligation will be void as to any product or service modified by the City to the extent such modification is the cause of the claim.

ARTICLE 11 – WARRANTIES

- A. General. The Contractor hereby expressly warrants the Deliverable(s) as being correct and compliant with the terms of this Agreement, Contractor's official published specification and technical specifications of this Agreement and all generally accepted industry standards. This warranty encompasses correction of defective Deliverable(s) and revision of the same, as necessary, including deficiencies found during testing, implementation, or post-implementation phases.
- B. Software. The Contractor warrants that any software or other products delivered under this Agreement shall comply with the terms of this Agreement, Contractor's official published specification(s) and technical specifications of this Agreement and all generally accepted industry standards. The Contractor further warrants that the software provided under this Agreement will meet the applicable specifications for twelve (12) years after Acceptance by the Contract Manager and implementation by the City. If the software fails to meet the applicable specifications during the warranty period, the Contractor will correct the deficiencies, at no additional cost to the City, so that the software meets the applicable specifications.

ARTICLE 12 – CONTRACTOR PERSONNEL

- A. Key Personnel. Contractor's key personnel shall not be diverted from this Agreement without the prior written approval of the City. Key personnel are those individuals considered by the City to be mandatory to the work to be performed under this Agreement. Key personnel shall be:

Scott Souder, President
Zach Souder, Vice President
Kevin Humphreys, Operations Manager/Sales Engineering
Anne Mirabella, Service Manager, IT Manager
Kate Fey, Project Supervisor
Ryan Welsh, Sales Engineer

- B. Personnel Changes. Replacement of any personnel shall be made with personnel of equal ability, experience, and qualification and shall be approved by the City. For all personnel, the City reserves the right to require submission of their resumes prior to approval. If the number of Contractor's personnel assigned to the Project is reduced for any reason, Contractor shall, within ten (10) Business Days of the reduction, replace with the same or greater number of personnel with equal ability, experience, and qualifications, subject to City approval. The City, in its sole discretion, may approve additional time beyond the ten (10) Business Days for replacement of personnel. The Contractor shall include status reports of its efforts and progress in finding

replacements and the effect of the absence of the personnel on the progress of the Project. The Contractor shall also make interim arrangements to assure that the Project progress is not affected by the loss of personnel. The City reserves the right to require a change in Contractor's personnel if the assigned personnel are not, in the sole opinion of the City, meeting the City's expectations. This clause does not apply to subcontractors hired by the prime Contractor.

ARTICLE 13 - CHANGE MANAGEMENT

- A. Changes. Contractor may only make changes or revisions within the Scope of Work as defined by Article 2 and Exhibit A after receipt of written approval by the Contract Manager. Such change may only be made to Tasks or Sub-Task as defined in the Exhibit A. Under no circumstance shall such change affect the:
1. Deliverable requirements, as outlined in Exhibit A;
 2. Due date of any Deliverable, as outlined in Exhibit A;
 3. Compensation of any Deliverable, as outlined in Exhibit A;
 4. Agreement compensation, as outlined in Article 3; or
 5. Agreement termination, as outlined in Article 6.
- B. Change Request Process. In the event that circumstances warrant a change to accomplish the Scope of Work as described above, a Change Request shall be submitted that meets the following criteria:
1. The Project Manager shall draft a written Change Request for review and approval by the Contract Manager to include:
 - (a) the name of the person requesting the change;
 - (b) a summary of the required change;
 - (c) the start date for the change;
 - (d) the reason and necessity for change;
 - (e) the elements to be altered; and
 - (f) the impact of the change.
 2. The Contract Manager shall provide a written decision on the Change Request to the Contractor within a maximum of ten (10) Business Days of receipt of the Change Request. All decisions made by the Contract Manager are final. Change Requests, once approved, become a part of the Agreement and become binding as a part of the original Agreement.

ARTICLE 14 – DEFAULT/BREACH

In case of Default and/or Breach by the Contractor, for any reason whatsoever, the City may procure the goods or Services from another source and hold the Contractor responsible for any resulting excess costs and/or damages, including but not limited to, direct damages, indirect damages, consequential damages, special damages and the City may also seek all other remedies under the terms of this Agreement and under law or equity.

ARTICLE 15 – EQUITABLE REMEDIES

Contractor acknowledges that its failure to comply with any provision of this Agreement will cause the City irrevocable harm and that a remedy at law for such a failure would be an inadequate remedy for the City, and the Contractor consents to the City's obtaining from a court of competent jurisdiction, specific performance, or injunction, or any other equitable relief in order to enforce such compliance. City's rights to obtain equitable relief pursuant to this Agreement shall be in addition to, and not in lieu of, any other remedy that City may have under applicable law, including, but not limited to, monetary damages.

ARTICLE 16 - LIABILITY

Contractor shall be liable for damages arising out of injury to persons and/or damage to real or tangible personal property at any time, in any way, if and to the extent that the injury or damage was caused by or due to the fault or negligence of the Contractor or a defect of any equipment provided or installed, provided in whole or in part by the Contractor pursuant to the Agreement. Contractor shall not be liable for damages arising out of, or caused by, alterations made by the City to any equipment or its installation or for losses caused by the City's fault or negligence. Nothing in this Agreement shall limit the Contractor's liability, if any, to third parties and/or employees of the City, or any remedy that may exist under law or equity in the event a defect in the manufacture or installation of the equipment, or the negligent act or omission of the Contractor, its officers, employees, or agents, is the cause of injury to such person.

ARTICLE 17 - ASSIGNMENT

The Contractor shall not assign or transfer any interest in this Agreement or assign any claims for money due or to become due under this Agreement without the prior written approval of this Agreement's approval authorities.

ARTICLE 18 - SUBCONTRACTING

- A. **General Provision.** The Contractor shall not subcontract any portion of this Agreement without the prior written approval of the City. No such subcontracting shall relieve the Contractor from its obligations and liabilities under this Agreement, nor shall any subcontracting obligate payment from the City.
- B. **Responsibility for subcontractors.** The Contractor must not disclose Confidential Information of the City to a subcontractor unless and until such subcontractor has agreed in writing to protect the confidentiality of such Confidential Information in the manner required of the Contractor under this Agreement.

ARTICLE 19 - RELEASE

The Contractor's Acceptance of final payment of the amount due under this Agreement shall operate as a release of the City, its officers and employees from all liabilities, claims and obligations whatsoever arising from or under this Agreement.

ARTICLE 20 - CONFIDENTIALITY

Any Confidential Information provided to the Contractor by the City or, developed by the Contractor based on information provided by the City in the performance of this Agreement shall be kept confidential and shall not be made available to any individual or organization by the Contractor without the prior written approval of the City. Upon termination of this Agreement, Contractor shall deliver all Confidential Information in its possession to the City within thirty (30) Business Days of such termination. Contractor acknowledges that failure to deliver such Confidential Information to the City will result in direct, special and incidental damages.

ARTICLE 21 - CONFLICT OF INTEREST

The Contractor warrants that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance or Services required under the Agreement. The Contractor certifies that the requirements of the Governmental Conduct Act, Sections 10-16-1 through 10-16-18, NMSA 1978, regarding contracting with a public officer, state employee or former state employee have been followed.

ARTICLE 22 - RECORDS AND AUDIT

The Contractor shall maintain detailed time and expenditure records that indicate the date, time, nature and cost of Services rendered during this Agreement's term and effect and retain them for a period of three (3) years from the date of final payment under this Agreement. The records shall be subject to inspection by the City. The City shall have the right to audit billings both before and after payment. Payment for Services under this Agreement shall not foreclose the right of the City to recover excessive or illegal payments.

ARTICLE 23 - AMENDMENT

This Agreement shall not be altered, changed, or amended except by an instrument in writing executed by the Parties hereto. No amendment shall be effective or binding unless approved by all of the approval authorities. Amendments are required for the following:

1. Deliverable requirements, as outlined in Exhibit A;
2. Due Date of any Deliverable, as outlined in Exhibit A;
3. Compensation of any Deliverable, as outlined in Exhibit A;
4. Agreement Compensation, as outlined in Article 3; or
5. Agreement termination, as outlined in Article 6.

ARTICLE 24 – MERGER, SCOPE, ORDER OF PRECEDENCE

- A. Severable. The provisions of this Agreement are severable, and if for any reason, a clause, sentence or paragraph of this Agreement is determined to be invalid by a court or City or commission having jurisdiction over the subject matter hereof, such invalidity shall not affect other provisions of this Agreement, which can be given effect without the invalid provision.
- B. Merger/Scope/Order. This Agreement incorporates any and all agreements, covenants and understandings between the Parties concerning the subject matter hereof, and all such agreements, covenants and understanding have been merged into this Agreement. No prior agreement or understanding, verbal or otherwise, of the Parties or their agents or assignees shall be valid or enforceable unless embodied in this Agreement.

ARTICLE 25 – NOTICES

All deliveries, notices, requests, demands or other communications provided for or required by this Agreement shall be in writing and shall be deemed to have been given when sent by registered or certified mail (return receipt requested), when sent by overnight carrier, or upon telephone confirmation by Contractor to the sender of receipt of a facsimile communication that is followed by a mailed hard copy from the sender. Notices shall be addressed as follows:

For CITY
Contract Administrator
City of Santa Fe
(505) 955-6674
PO Box 909
Santa Fe, NM 87504-0909

For CONTRACTOR
James Scott Souder, President
Souder Corporation dba Mountain Parking Equipment
ScottSouder@mtnpark.com
(720) 259-4883
2009 S Cherokee Street
Denver, CO 80223

Any change to the Notice individual or the address, shall be effective only in writing.

ARTICLE 26 – GENERAL PROVISIONS

- A. The Contractor agrees to abide by all federal and state laws and City ordinances, including but not limited to:
1. Civil and Criminal Penalties. The Procurement Code, Sections 13-1-28 through 13-1-199 NMSA 1978, imposes civil and criminal penalties for its violation. In addition, the New Mexico criminal statutes impose felony penalties for illegal bribes, gratuities and kickbacks.
 2. Equal Opportunity Compliance. The Contractor agrees to abide by all federal and state laws and City Ordinances, pertaining to equal employment opportunity. In accordance with all such laws of the State of New Mexico, the Contractor agrees to assure that no person in the United States shall, on the grounds of race, religion, color, national origin, ancestry, sex, age, physical or mental handicap, serious medical condition, spousal affiliation, sexual orientation or gender identity, be excluded from employment with or participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity performed under this Agreement. If Contractor is found not to be in compliance with these requirements during the life of this Agreement, Contractor agrees to take appropriate steps to correct these deficiencies.
 3. Workers Compensation. The Contractor agrees to comply with state laws and rules applicable to workers compensation benefits for its employees. If the Contractor fails to comply with the Workers Compensation Act and applicable rules when required to do so, this Agreement may be terminated by the City.
 4. Americans with Disabilities Act. The Contractor agrees to comply with the Americans with Disabilities Act Section 504 of the Rehabilitation Act of 1973 and not discriminate on the basis of disability in the admission or access to, or treatment of employment in its services, programs, or activities. The Contractor agrees to hold harmless and indemnify the City from costs, including but not limited to damages, attorney's fees, and staff time, in any action or proceeding brought alleging a violation of ADA and/or Section 504 caused by the Contractor.
 5. City Code of Conduct. The Contractor shall, as a condition of being awarded this Agreement, to require each of its agents, officers and employees to abide by the City's policies prohibiting sexual harassment, firearms and smoking, as well as all other reasonable work rules, safety rules or policies regulating the conduct of persons on City property at all times while performing duties pursuant to this Agreement. The Contractor agrees and understands that a violation of any of these policies or rules constitutes a breach of the Agreement and sufficient grounds for immediate termination of the Agreement by the City.
- B. Applicable Law. The laws of the State of New Mexico shall govern this Agreement. Venue shall be proper only in a New Mexico court of competent jurisdiction in accordance with Section 38-3-1 (G) NMSA 1978. By execution of this Agreement, Contractor acknowledges and agrees to the jurisdiction of the courts of the State of New Mexico over any and all such lawsuits arising under or out of any term of this Agreement.
- C. Waiver. A party's failure to require strict performance of any provision of this Agreement shall not waive or diminish that party's right thereafter to demand strict compliance with that or any other provision. No waiver by a party of any of its rights under this Agreement shall be effective

ARTICLE 27- SURVIVAL

The Articles entitled Intellectual Property, Intellectual Property Ownership, Confidentiality, and Warranties shall survive the expiration or termination of this Agreement. Software License and Software Escrow agreements entered into in conjunction with this Agreement shall survive the expiration or termination of this Agreement.

ARTICLE 28- TIME

Calculation of Time. Any time period herein calculated by reference to "days" means calendar days, unless Business Days are used; provided, however, that if the last day for a given act falls on a Saturday, Sunday, or a holiday as observed by the State of New Mexico, the day for such act shall be the first day following that is not a Saturday, Sunday, or such observed holiday.

ARTICLE 29 - FORCE MAJEURE

Neither party shall be liable in damages or have any right to terminate this Agreement for any delay or Default in performing hereunder if such delay or Default is caused by conditions beyond its control including, but not limited to Acts of God, Government restrictions (including the denial or cancellation of any export or other necessary license), wars, insurrections and/or any other cause beyond the reasonable control of the party whose performance is affected.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date of the signature by the required approval authorities below.

CITY OF SANTA FE:

CONTRACTOR:


ALAN WEBBER, MAYOR

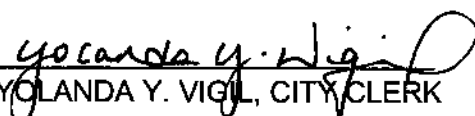
See Attached
NAME AND TITLE

DATE: 10/18/19

DATE: _____

CRS# 03-411104-00-2
City of Santa Fe Business
Registration # 19-00153051

ATTEST:


YOLANDA Y. VIGIL, CITY CLERK
CC mtg. 10-8-19

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IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date of the signature by the required approval authorities below.

CITY OF SANTA FE:

CONTRACTOR:


ALAN WEBBER, MAYOR


NAME AND TITLE *President*

DATE: 10/18/19

DATE: 10/30/19

CRS# 03-411104-00-2

City of Santa Fe Business

Registration # 19-00153051

ATTEST:

YOLANDA Y. VIGIL, CITY CLERK
CC Mtg. 10-8-19

APPROVED AS TO FORM:

MDM 8/8/19
ERIN K. MCSHERRY, CITY ATTORNEY

APPROVED:

For Mary McCoy 10/17/19
MARY MCCOY, FINANCE DIRECTOR *gpl*

52155.562600 org #5350455
Business Unit / Line Item

F. SYSTEM DESIGN AND REQUIRED COMPONENTS

The PARCS shall be comprised of the various hardware and software components, modules or devices that will be tightly integrated into a seamless network environment. Some devices listed below may be combined into a single housing or multi-purpose operating unit. For example, an entry lane ticket dispenser may also possess an integral magnetic stripe and or barcode reader capability (Credit Card In and Out), integral intercom and validation functionality. To the extent possible it is the City's desire that the Contractor provide system components that are modular in nature. Commonality of components among different devices is highly desirable.

Some entry or exit lanes within the system and within a parking facility may be configured differently (for example, lane devices with or without LPR functionality) however; the devices shall be configured so as to allow multiple processing capabilities within the same lane. The functionality of device in any lane shall not be impaired by the operation of another device and the System software shall be capable of identifying, tracking and reporting system activity by individual device as well as by lane. The devices may independently address other peripherals within the lane (preferred) or other network components or communicate through a lane controller.

All devices in a given parking facility should be connected to a network switch, an intermediate networking device located at each lot or garage, via standard shield twisted-pair CAT 5/6/7 network cables (RJ-45 connector) which in turn would connect the PARCS central server(s). Devices must be capable of Transport Control Protocol/Internet Protocol (TCP/IP) standard network communications (with minimal, if any, proprietary software or firmware protocols).

FI. Facility Management Software or System (FMS)

The Contractor shall provide a fully on-line, virtual real-time, fault-tolerant system that shall be monitored and controlled by a software application or integrated group of software modules or applications described as the Facility Management System (FMS) software. The term FMS shall be used to describe the sum total of all software components, modules and functionality. The software components of the individual field hardware devices or special purpose subsystem devices shall be discussed in the appropriate section below.

The Facility Management Software (FMS) or system shall be an integrated program or group of programs designed to communicate with, control and monitor all PARCS components in virtual real time and have the capability to interface in real-time with City's current Financial System or any future Financial System City acquires at no additional cost to the City. This online system shall include all communications control software and components, as well as, provide secure access to and management of the central and distributed active and archival storage devices. The FMS shall be based on a central database displayed as an event log or journal file that records all system activity in an immutable format. The FMS shall constantly poll all devices whether active or inactive to monitor and report on communications link conditions as well as, device status. All field-programmable functions of the individual PARCS devices shall be programmable (either globally or individually) utilizing the FMS interface.

The FMS shall have a Windows-based graphic user interface (GUI) from which the user may access all FMS functions. This GUI shall present all pertinent system information in virtual real time and in an organized fashion in a single or multiple Windows that can be controlled by the individual operator. The FMS shall be available to any authorized user from any computer on the City's administrative network that has been granted access to the PARCS network. The main screen of the FMS shall include a facility map that depicts the City's parking facilities in relation to each other. A properly authorized user shall be able to "drill down" from the facility map to view and control the status of individual System devices. The GUI shall also include a series of pull-down menus organized in such a manner as to make them intuitively easy to use.

The FMS will automatically provide system time synchronization by maintaining the system clock for the entire PARCS. The FMS will regularly query and update the internal clocks on the individual PARCS devices whenever the device clock differs from the system clock by fifteen (15) seconds or more. The FMS software shall automatically adjust for daylight saving time and leap years in its internal interface and allow modification of device internal clocks for this purpose.

The FMS shall possess at least six (6) password security levels. Access to individual events or functions shall be assigned to each security level and locally programmed. System exception events and alarms shall be displayed (audibly and graphically) on the FMS GUI and shall be acknowledged by the system operator. The audible alarms may be silenced and all event alarms shall be individually programmable. The acknowledgement of any alarm shall be recorded on the FMS system journal or event log.

The FMS software shall be fully integrated with the License Plate Inventory (LPI) and License Plate Recognition (LPR) software modules or subsystems below. The FMS shall allow any user operating a workstation on the communications network to access, monitor and review LPI or LPR data (including license plate images) stored within the PARCS. This requirement would include any image data processed or stored at the device or lot level.

All FMS data shall be stored in a location and format that is readily accessible throughout the communications network. All FMS data shall be formatted to allow modification of the output data (filtering, sorting, indexing, etc.) using standard reporting tools (integrated into the FMS) without modifying the underlying source data. All data elements shall be exportable to any designated workstation or to storage media in a format readable by any ODBC-compliant software package. The FMS shall be capable of accurately generating and storing standard reports as described below as well as ad hoc reports created through the System query functionality. All FMS reports shall have the capability of being sent to any printer on the PARC communications network using an appropriate print dialog box, icon, or the print screen function. All FMS data and reports shall be archived with appropriate security level restrictions (using online or off line storage) for a period of up to three (3) years (the current year's data shall be stored online). Archived data may be saved in a compressed format.

All computer software, hardware and firmware related to the FMS shall be suitable for its purpose and allow for reasonable growth without material degradation of its functionality. Reasonable growth shall be defined as being able to accommodate up to two hundred percent (200%) of the current number of devices, workstations, transactions, total revenue or peak data volume.

To the greatest extent possible, industry standard software packages shall be utilized and such software package shall be identified in the Contractor's submittal. The Contractor's submittal shall state the purpose of the software package, where it will be used, and how it will be used. If one software package is required to interface with another software package, the interface shall be documented as appropriate. Custom software required by the Contractor to operate the PARCS shall be supplied to the City with complete documentation and supporting schema, flowcharts and block diagrams limited to non-proprietary information.

F2. License Requirements

The Contractor shall provide to City (subject to the City project manager's approval) all software licensing for the software packages used for the System and any subsystems selected by the Contractor for implementation at the City. The licensing arrangement for the FMS software shall include an unlimited site license so that any number of authorized users on the PARCS communications network may access the System's functionality at any given time. This unlimited use shall not degrade the operations of the PARCS or any workstation computer used to access the System. Third party software licenses for software used in the PARCS shall be limited to 10 user licenses.

The Contractor shall provide appropriate software licenses as required for each of the software programs that have been developed or provided (off-the-shelf) to operate the System. If available, a site license shall be provided to City. The Contractor shall identify all third-party software and associated licenses in the System Definition Documentation. The Contractor shall submit in their proposal, a listing of all software licenses the proposed System will require through the standard warranty period.

F3. Software Upgrades and Escrow Requirement

All System software or firmware applications programs, modules, or subsystems shall be warranted to be free of defects for a period of one (1) year following final acceptance of the PARCS. All third party software shall retain full warranty as provided by the software vendor; however, cannot be less than one (1) year. The City may elect to have the Contractor maintain the software as part of the Contractor's maintenance support services. During the warranty period and any subsequent maintenance period the City shall receive at no additional cost any relevant software updates or added functionality relating to the FMS that the Contractor publishes or otherwise makes available for sale. Copies of all software (and software updates/upgrades made during the one-year warranty period) must be provided to City at the conclusion of the warranty period. A list of all commercial off-the-shelf software tools required to fully execute the software shall be provided to the City project manager in the Maintenance Manual.

All software and all software updates/upgrades shall be escrowed with an approved escrow agent for a minimum of ten (10) years and the Contractor shall provide the City project manager written evidence of all action taken to fulfill this requirement. The initial setup and the first year of the escrow agreement is the sole responsibility of the contractor, years 2-10 will be the responsibility of the City. The software shall be held by a third party escrow agent to be identified by the City and having a facility convenient to the City. The City shall have the unconditional right to use, update or otherwise modify the above referenced code in the event the Contractor becomes insolvent or if the Contractor as agreed in the terms and conditions of the contract and the escrow agreement is found to have materially and consistently failed to meet its contractual support obligations through abandonment or non-responsiveness. The escrowed materials shall include software code, Contractor specific compiler(s) and tools, and instructions to fully execute the escrowed software. The escrowed materials shall reflect City's System at the time of system acceptance.

All PARCS software updates and upgrades shall be provided free of charge for five (5) years starting twelve (12) months from date of System acceptance; however, City shall have the option of implementing the updates and upgrades or not. All software updates and upgrades must be accompanied by accurate and complete documentation, as well, as proof that the updates have been added to the escrow account as required. When software updates include new processes (enhancements), the Contractor shall provide a written evaluation of the updated software's impact on City's System prior to installation of the updated software. Central server and workstations software shall be delivered with the most recent service packs and software patches unless specified by City and must be updated throughout the warranty period unless specified by City. The Contractor shall provide normal software improvement releases (updates) when they become available or when delivered to other clients (whichever comes first). Where software problems are identified by the City and are agreed to be minor, these problems shall be corrected in a new software release to be available to City within thirty (30) days of notification.

A system update is any software/hardware fix that is deemed necessary to add in order for the system to perform at its intended level of operation. For example, if a software bug is found in a system in Germany and determined that it could adversely affect all systems with that version of software, a fix is programmed, it shall be included as a software update package and distributed to all clients.

A system upgrade is a system feature or operational enhancement that can be added to the system or a newer software version that increases the speed and/or efficiency of the system. For example, if a newer version of PARCS is released and City wishes this newer version, it would be considered an upgrade and the City will have the option to request the contractor to upgrade its PARCS in accordance with Item F3. Software Upgrades and Escrow Requirement.

F4. Required Interfaces

The Contractor shall ensure that the System has the capability of exporting data in specific formats as required in these specifications. The exact formats of the data streams making up these system interfaces shall be identified in the System Definition Document.

It shall be the responsibility of the Contractor to research each system to determine the most appropriate method of transferring data within City's current networking environment. Systems or subsystems potentially requiring interfacing include but are not limited to the City's website, a frequent parker module, a parking reservation module, and the credit/debit card processing module. Displaying messages on the City's Website such as occupancy or best parking is the sole responsibility of the City; the Contractor delivers the information necessary in the appropriate format through the PARCS interface. The integration of the Reservation module on the City's website is the responsibility of the City.

FS. Required Software Modules or Functions

The Facility Management System or Software (FMS) shall provide a set of modules or functions that will allow it to function as the hub of all PARCS activity. The FMS shall also provide administrative controls, user management, and access security for all modules. These functions herein described as modules will be based on the centralized System Event Log or Journal. The Event Log or Journal shall be the database repository of all system messages and activity. The Event Log or Journal shall be immutable and maintained in secure database.

The Event Log or Journal will record all transaction data so as to allow the System to properly and accurately calculate, collect, and report revenue. The FMS will provide a central electronic audit trail so the accuracy and completeness of revenue reporting can be verified. The calculation of fees shall be based on the ability of the FMS to establish and adjust parking rate schedules (globally or per facility) for all types of transactions. The System shall also allow the City to set and change System "complimentary" and "grace" times globally and by facility. Complimentary time is the amount of time a patron has to enter and exit a parking facility without being charged a parking fee. Grace time is the amount of time allowed before the next increment of time is added to the parking fee. The rate schedules shall be resident on the system servers and also downloaded to individual devices so they may be able to calculate rates properly either on-line or off-line.

All the modules listed below shall be based on a report to the Event Log or Journal. The Event Log or Journal shall be maintained in a City approved database and shall have user-friendly query functionality. The methods and architecture the Contractor plans to use for the FMS software shall be described in detail in the System Definition Document.

F5.1. Device Monitoring and Control

One of the primary purposes of the FMS is to provide centralized processing and monitoring of all system data. The device monitoring and control module shall be the core module of the FMS and be based on the System Event Log and Journal. This module shall include all device and component interfaces or drivers necessary at the server or workstation level to provide full device monitoring and control functionality. This module shall also include all necessary user interfaces (such as the Facility Map) that may be required for proper centralized control of the entire parking operation.

F5.2. Revenue Tracking and Reconciliation

The Revenue Tracking and Reconciliation module or function is perhaps the most important of the software functionalities. The Contractor shall clearly detail the method to be employed to implement this functionality in the System Definition Document. This module will include all revenue tracking functions, as well as, rate tables and other such structures. This module shall include appropriate server and workstation reporting of all revenue by cashier, device, lane, facility, transaction type and any other parameter addressed in these specifications.

F5.3. Reporting and Analysis

The FMS shall include Reporting and Analysis functionality that will allow it to generate and store the information necessary to manage and report all parking revenue activities. The reporting and analysis module will give authorized users access to transaction data as recorded in the System Event Log or Journal. This module shall include a query function that will allow authorized users (through the use of filters, sorting and other methods) to produce custom data output based on the content of the System Event Log or Journal. Standard reports will allow users to view data in pre-formatted output sent to a screen or a printer. Custom reports to be specified at a later time shall also be included in this module and included in the appropriate system and subsystems reports menus. This module shall also have strategic planning capabilities that shall allow the City to conduct 'What If' analyses of historical parking data. This type of analysis may be used to assess the impact of rate adjustments and to allow the City to properly plan future facilities in terms of comparing fee calculation based on historical occupancy information and alternative fee assignments to the actual occupancy and revenue information. Additional information on this functionality can be found in the Reports and Reporting Capabilities discussion below.

F5.4. Accounts Receivable

The FMS shall include an Accounts Receivable module that will provide management reports, invoicing, billing and tracking functionality for designated accounts (prepaid validations, etc.). This module shall be fully integrated with the FMS software and the access control module described in the sections herein. The module shall include appropriate screens to manage individual and company accounts, as well as, generate the reports required to produce and distribute the billing product. The Contractor shall include a full description of the design and function of this module in the System Definition Document.

F5.5. Ticket Processing

The FMS shall include functionality to handle all ticket transaction processing for the PARCS. This module shall be able to receive and track data from the field hardware devices and generate appropriate transaction and management reports. This functionality shall be closely tied to the device monitor and control and reporting and analysis modules so as to properly account for all normal and exception ticket-based transactions. Additional information concerning the ticket processing function at the server/workstation and device levels is included in the various device descriptions listed below.

F5.6 Credit/Debit Card Processing

The FMS shall include a fully PCI DSS compliant module for credit/debit card processing communications capability to allow it to centrally request transaction approvals. The FMS shall also allow for batch processing of credit/debit card transactions. This processing may be conducted internally to the central server or preferably by using a dedicated credit server or group of servers.

The module shall also include the tools necessary to research and resolve credit/debit card exceptions. This functionality shall include all interfaces and drivers that may be required to interface with the card processing clearinghouse and some functions may actually be conducted using clearinghouse software. The Contractor shall include a full discussion of this functionality including procedures for implementing changes in card processing clearinghouses in the System Definition Document.

F5.7. Other RFID or Magnetic Card Processing

This module shall include all the software elements that will allow the City to use other RFID or magnetic stripe and or barcode cards or badges for special purposes such as employee parking, employee and patron discounts, etc. Some cards may be used as non-revenue cards, cards with quarterly billing or added value cards that may be reloaded at the parking operations office. The module will include server-resident 'anti-passback' capability designed to prevent fraud from multiple entries using the same access media. The Contractor shall include a full discussion of this functionality including procedures for managing and billing the various types of card users. All available system cards used in the new PARCS system such as non-revenue, coupon validation or other access cards shall be described in the System Definition Document.

F5.8. AVI (Access Control)

For the purposes of this document the AVI module shall refer to the software functionality necessary for the use of media solely for access control. Revenue transactions may be tracked similarly but handled by separate modules. All AVI devices (antennae, reader, controllers, etc.) will be integrated into the FMS so that AVI transaction data is accurately conveyed and posted to the FMS system journal or event log, AVI revenue and transaction counts are accurately reported and AVI transaction reconciliation may occur on a daily basis.

The AVI software module shall be capable of sending and receiving appropriate commands to and from the barrier gate in each lane to allow that device to confirm gate status and open or close the barrier gate. In multi-use lanes the AVI device shall not interfere with the proper operation of other lane devices, except that other devices will be disabled when the lane controller receives a good AVI read. This disablement maybe accomplished through communication with the barrier gate, lane controller or FMS rather than direct communications among the individual devices.

F5.9. License Plate Recognition (LPR) Process Control

The FMS shall include an LPR process control function either as an internal module or as a tightly integrated separate application. The LPR processing module shall allow the City to maintain positive revenue control while it implements new customer service options.

The LPR process control module shall assist in the capture, processing and matching of LPR images.

FS.10. Validation Tracking and Control

The contractor shall provide a system which is capable of providing a multi-value validation program based on manual offline validations units. These units shall encode on the magnetic side stripe of the parking ticket up to five (5) different dollar values of validated time and allows up to 999 different validation accounts. Each tariff account has its own tariff information allowing the flexibility to assign one specific group of an individual account a different rate structure. Multiple validation units should be able to be assigned to the same validation account or group.

FS.11. Frequent Parker Program

The FMS shall include a software module or functionality that will allow the City to develop and implement a Frequent Parker Program (FPP). This module would be integrated with other modules to allow for proper processing, control and reporting of FPP data. The module shall be capable of tracking customer parking activities from LPR records, smart cards, and Credit/Debit Card Processing. The module shall include appropriate enrollment screens (to add patrons to the database), an appropriate tracking database, and appropriate reports.

FS.12. Parking Space Count Monitoring

The FMS shall be capable of controlling either directly or through an integrated application all aspects of the parking count subsystem. The status and count values for each area, lot or floor shall be displayed on the FMS GUI and updated in virtual real time. Count values may be adjusted or reset through the FMS. The FMS shall include the capability to accommodate prepaid, frequent parker or non-revenue accounts (organized in individual or in company groups) which will allow access into the parking facilities and track usage and movement within the system. The Contractor shall integrate within their software module an account specific counting to provide cumulative counters for each account group like credit card in/out, short term parking, and FPP enrolled customer parking.

FS.13. Parking Reservation Program

The FMS shall be capable of introducing a Parking Reservation Program functionality which will allow the City to implement a reservation program based on internet or smart phone input. This module will allow the City to implement this program by suitable integration between this module and other FMS modules such as the Credit/Debit Processing module, the Parking Space Count Monitoring module, and the Device Control and Monitoring Module. The Contractor shall fully discuss its approach to this functionality in the System Definition Document.

FS.14. Maintenance Management

The Contractor shall provide an off-line, easy to use maintenance log function independent from the PARCS system. This module will allow authorized users to track and identify equipment maintenance and performance trends. The module shall also allow

the City to track and verify technician performance based on the number and types of service calls completed. Appropriate reports as described below shall be provided in order to properly implement this functionality.

All software modules or functions shall be properly documented in the System Definition Document.

F6. Field Hardware Devices

All PARCS field hardware devices will be the newest available at date of contract signing and of the highest quality and levels of operation to facilitate ease of use, reporting, maintenance, spare parts inventory, and continuity of performance throughout the parking system. Each device shall provide for network communications to the FMS through intermediate switches as may be required for proper operation of the device and provide for an audit trail at the device level (where applicable) and as part of the total PARCS. All devices will be compatible with each other, as well as with the functional requirements of each successive level of operation, including, but not limited to the software requirements of the PARCS for control, reporting and auditing of parking operations. All Devices shall have maximum commonality of electronic components (boards, readers, ticket transports, displays, etc.) with similar exit devices so as to reduce spare parts costs.

All exterior equipment will be finished in a manner approved by the City project manager and as documented in the System Definition Document. Housings of all exterior installations will be weatherproof and suitable for the conditions prevalent at the City. All access doors and panels will be located in such a manner as to facilitate ease of use and maintenance. Access to doors and panels will not be blocked by any other device or by bollards, guardrails, barriers or other protective devices. All connections, cables, switches and fuses/circuit breakers required for lane monitoring will be fully secured in such manner that they are inaccessible to personnel involved in daily operations and marked in accordance with City standards and the requirements contained in these specifications. All device power cables and power switches will be secured in such manner as to prevent access by unauthorized personnel.

Each entry or exit lane device will be protected from lightning and transient voltage devices both through power and communication lines in such a manner as befit conditions prevalent at the City. All device connections including, but not limited to, mechanical, electrical and communication will be identical to the connections on every other device and shall be labeled with nomenclature identical to that provided with the Contractor's system documentation. All devices will be Underwriters Laboratory (UL) listed (or City approved equivalent).

The equipment shall have stand-alone capability to operate in an offline mode if communication to the central server is interrupted. When in off-line mode, all device/s must be able to record and store all transactions' information locally. All stored information shall be uploaded to the central server once communications have been re-established.

When uploading information, virtual real-time data shall take precedence over stored data if a conflict arises. Before the equipment exceeds the limit on number of transactions in storage, the equipment shall have the intelligence to close the lane or device so that the stored transactions are not overwritten. Each device must be capable of storing minimum of one thousand (1000) transactions.

All equipment appearances, functions, features, and characteristics shall be the Contractor's standard equipment and is subject to the approval of the City project manager and are to be documented in the System Definition Document.

F7. Lane Configurations

Details of each lane configuration shall be included in the System Definition Document. To the greatest extent possible the City would like to see standard lane layouts (for similarly functioning lanes) that will facilitate patron use and make maintenance less complex. The Contractor's design shall take into account any future functionality that may be required such as additional forms of payment or access control devices (smart phone payments, pre-paid cards, etc.). In designing the entry lane configurations the Contractor shall also take special care in providing the necessary number of properly-placed inductive loops required for proper functioning of all devices and the lane in general. The Contractor may reuse existing loops but will be solely responsible for their proper function for at least ten (10) years from the System Acceptance date.

F7.1 Entry Lanes

All public parking entry lanes shall offer credit card in functionality and must include, at a minimum, one (1) ticket-issuing machine (TIM)/proximity/magnetic stripe and or barcode card (such as credit/debit cards) reader device in facilities with multiple entrance lanes or two (2) ticket-issuing/proximity/magnetic stripe and or barcode card (such as credit/debit cards) reader devices in locations when a facility has only one entry lane, LED signs for rate and special event messaging, "Red/Green" lane status lights, an appropriate ADA-compliant intercom, a barrier gate (straight and preferably 180 degree articulated and/or fence arms), all required LPR subsystem components (cameras, lights, controllers, etc.), appropriate detection devices (such as inductive loop detectors) designed and spaced to detect motorcycles and small cars such as SmartCar, etc., a lane closure barrier gate, an uninterruptible power supply (UPS) up to two (2) hours, and protective bollards (or similar structures). In addition, some or all public entry lanes may have additional special equipment to implement programs such as the parking reservation system, etc. Employee parking patrons will be processed at certain public facilities through the use of proximity card readers mounted on or near the entry TIM.

All non-public entry lane configurations, if desired by City, shall be similar to the public entry lanes. With the exception of the LPR subsystem equipment, LED information signs and the lot closure gates, the non-public lanes should include many of the same elements listed above. Other than the different access media and to the extent possible, it is expected that the non-public entry device will be essentially similar in appearance and design to the public entry devices. No additional special purpose equipment is envisioned for the non-public entries but the Contractor shall provide specifics on how it plans to address the required functionality for these lanes in the System Definition Document. All

elements of the System Definition Document shall be based on Contractor's standard equipment and is subject to review and approval by the City project manager.

F7.2. Exit Lane

All public parking exit lanes shall be identical to the entry lane design and shall include, at a minimum, a proximity/ magnetic stripe and or barcode ticket/card (such as credit/debit cards) reader device, an LED sign for patron information, "Red/Green" lane status lights, a receipt printer, an appropriate ADA-compliant intercom, a barrier gate, all required LPR subsystem components (cameras, lights, controllers, etc.), appropriate detection devices (such as inductive loops detectors), a lane closure gate, an uninterruptible power supply (UPS) up to two (2) hours, and protective bollards (or similar structures). In addition, all public exit lanes except those specified by the City shall also include a cashier interface to allow operation of the lane in an attended mode. The cashier interface may be integrated with the self-service interface described above or may be a separate fee computer. The City's preferred solution would be to have single device, herein discussed as a dual purpose exit device, to address both the unattended and attended functionality. The dual purpose exit device shall also include two lockable cashier drawers (primary and relief) and a patron fee display to be mounted as per Contractors specification (to be approved by the City project manager) that shall be operational at all times when the lane is in the attended mode.

All non-public parking exit lanes, if desired by City, will be configured similar to the public exit lanes. With the exception of the LPR subsystem equipment, LED information signs and the lane closure gates, the non-public lanes should include many of the same elements listed above. The lanes shall include a proximity card reader. To the extent possible the non-public exit device shall be similar in design and appearance to the public lane exit reader and also the non-public entry device. No additional special purpose equipment is envisioned for the non-public exits but the Contractor shall provide specifics of how it plans to address the required functionality for these lanes in the System Definition Document. All elements of the System Definition Document shall be based on Contractor's standard, as well as third party, equipment and is subject to review and approval by the City project manager.

F7.3. Additional Lane Component Requirements

The Contractor shall provide battery backup capabilities at all entry and exit lanes. The battery backup or UPS device provided by the Contractor will be critical for the proper functioning of each lane. UPS units will be mounted in such manner as to be inaccessible to unauthorized personnel and, where possible, shall be fully-integrated into the existing booths, housing or communications cabinets. The UPS system shall also provide surge and lightning protection. Each lane will have an UPS capable of two (2) hours of use. To the extent possible, all UPS units at all entry and exit lanes shall be similar in order to reduce battery costs.

The Contractor shall provide an LED sign designed to provide better patron information and conform to applicable regulatory or statutory signage and ADA requirements.

"Red/Green lane status signs shall convey lane status information such as, whether the lane is open or closed. Where appropriate these signs shall be used in concert to convey additional special purpose messages such as when lanes are open only for certain purposes (such as "AVI Only", "Card Only", etc.). A lane controller or a primary device in the entry or exit lane shall control the lane status lights and the Contractor shall provide up to eight preformatted messages for the LED signs and the capability to add messages locally as required. The lane and the lane status lights shall be controlled through and programmable from the FMS by a signal sent to the sign or to the device controlling it. Certain device malfunctions shall result in an automatic lane closure message from the FMS. The types of malfunctions that will trigger a lane closure shall be user-programmable through the FMS and result in an automatic switching of the Red/Green lane light to the 'Closed' or Red option. The particulars of the LED sign proposed and preformatted messages shall be submitted to the City project manager for review and approval.

The Contractor shall provide an appropriate patron fee display (in addition to the self-service interface display) at all lanes with a cashier interface. The Patron Fee Display shall provide feedback to the patron on parking fees and change due. When the Cashier is not processing a transaction the Patron Fee Display will indicate the system time as derived from the FMS. The color and font of visual information provided by the Patron Fee Display will conform to industry best practices and comply with local, state, federal laws, ordinances, regulations or guidelines. Special consideration shall be given to ADA-related guidelines. Alternate mounting locations may also be proposed if the Contractor determines that such locations would improve the visibility of the Patron Fee Display or the legibility of the information it conveys. Alternate Patron Fee Display mounting locations shall also take into account vehicle and employee safety and not present an undo hazard to persons or vehicles. The mounting locations for all patron fee display shall be subject to the review and approval of the City project manager.

The Contractor shall also provide all appropriate barrier or lot closure gates in a manner that satisfies the requirements below. The gates provided shall strike an appropriate balance between safety (for vehicles and pedestrians) and revenue control. Any barrier or lot closure gate with a "bounce back" safety feature shall be adjustable so that the gate will only bounce back when striking an object and so that the gate cannot be held in the up position when energized (to reduce the chance of fraud). The bounce back feature may also be disabled if adjustment is not possible.

The City prefers "intelligent" gates that possess their own internal logic and communications functions. The barrier or lane closure gate should be capable of receiving input signals from various lane devices and be capable of reporting gate status (gate up, gate down, gate broken or missing, etc.) and vend signals to the lane devices or directly to the FMS. The City prefers direct-drive gates (belt driven gates will not be considered) and the use of high-speed barrier gates in lanes possessing AVI devices. Gate housings shall conform to the general requirements listed below for device construction and finishes. Gate arms shall be designed so that they may be replaced by one individual with appropriate tools. The gate arm may be constructed of wood, plastic or metal (or combination thereof) but shall possess a padded protective surface on its bottom edge.

Gates shall function properly in high wind conditions. The Contractor shall provide technical specifications for the proposed gates, for review and approval by the City project manager, in the System Definition Document.

F8. Entry Lane Devices

FB.J. Device Description

The Entry Device will be primarily a ticket issuing, reading and verification device however, in non-public facilities the devices shall be configured to read and verify magnetic stripe and or barcode or proximity cards and AVI only. As a dispenser, it will dispense a magnetic stripe and or barcode ticket to incoming public parking patrons. It will also send a vend signal to the barrier gate mechanism to open and allow access. The device will also have the capability to accept magnetically-encoded credit/debit/smart cards and/or facility specific parking cards (for prepaid, validations or non-revenue applications) encoded and issued by the City.

The Entry Device (public only) will be designed to dispense either a single magnetically encoded 'credit-card' sized ticket, multiple tickets joined together or allow the insertion of a single magnetic stripe and or barcode credit card or similar media (prepaid card, non-revenue card, smart card, etc.). Multiple tickets joined together will be used for advertising purposes.

The public entry lane device will be designed to dispense a ticket when a vehicle is detected on the arming loop and the parking patron depresses the proper button or switch to dispense a ticket. The Entry Device will provide an audible signal when a ticket has been dispensed or magnetic stripe and or barcode card has been inserted. The signal shall remain active until the ticket or magnetic stripe and or barcode card is removed or retracted, as applicable.

When a ticket is issued, it will be encoded both magnetically and in human readable format with transaction information to include but not limited to, a unique sequential transaction number, a lane or device number, a facility number or code, the date and time of issue in 24-hour format and the applicable rate code. When a magnetic stripe and or barcode card is inserted into the reader slot the device shall read the magnetic stripe and or barcode and take appropriate action based on the type of card presented. Credit/Debit cards shall be checked for validity as described in Section 1.8 below, while other cards (prepaid, value-added, non-revenue, smart cards etc.) shall activate other software modules. All transaction information, regardless of media type, shall be immediately conveyed to the FMS via the PARCS communications network.

All Entry Devices shall be installed in a manner that will allow issuance of tickets to or acceptance of magnetic stripe and or barcode cards from users in vehicles not exceeding six foot six inches (6'6") in height. This vital security safeguard may be accomplished using infrared beam height detectors.

FB.2. Entry Device Construction/Mechanical

The Entry Device will be constructed of heavy-duty steel or aluminum, will be of all welded construction and designed for all weather usage. If steel, the cabinet will be painted with, at minimum, a single coat of primer and two coats of polyurethane enamel or epoxy resin finish in a color to be approved by the City. If aluminum, the cabinet will be painted in a powder coat paint in a color to be approved by the City project manager.

The Entry Device will be constructed in such manner as to allow ease of repair and replacement of the ticket transport and card reader mechanisms. The cabinet will provide a minimum of two access doors (except as provided below) for easy serviceability and ticket loading. All Entry Devices will be keyed alike, with one key for the ticket panel and a separate key for the mechanism access panel. Alternately, the cabinet may be internally compartmentalized to allow access to the ticket OR access to the mechanism, each accessible by separate interior panels. The Entry Device (public only) shall hold a minimum of 5,000 tickets in removable steel or aluminum bin or by use of easily inserted cardboard ticket boxes. A separate bin or similar device within the same compartment shall collect all impounded tickets. The Entry Device will use a thermal printer to imprint human readable data on the ticket to match the encoded information. Each print head will be capable of printing, at a minimum, 1,000,000 tickets. The tickets shall be separated from the ticket stack by a ticket cutting mechanism or assembly. Graphics how to insert a magnetic ticket shall be described in the SOD to the approval of the project manager.

F8.3. Entry Device Electrical/Electronic

Each Entry Device should have a 'single slot' fascia so that all magnetic stripe and or barcode media (tickets and cards) are processed using the same slot. The slot should allow for directed insertion with single magnetic heads using ISO-compatible side stripe configuration.

The Entry Device will provide electronic inputs and outputs to be used by the FMS to control and monitor access and to compile lane and transaction activity reports. Such communications shall be TCP/IP-based network communications. Although full communications with the FMS will be the required configuration, the Entry Device shall also be able to operate when such communications are interrupted or otherwise not present. The Entry Device shall have sufficient local memory storage capacity to cache no less than eight hours' worth of transaction data with the exception to LPR images and the in-lane image capture processor has not lost communication. Upon reestablishing communications with the central server (FMS), logic within each Entry Device will automatically download data for all transactions conducted while the device was offline. The data download shall occur in a manner that will not degrade the operation of the overall communications network and transactions shall be posted to the FMS Event Log or Journal in time-sequenced order (as they occurred rather than when received in the FMS). Before the equipment exceeds the number of transactions in storage the device shall have the intelligence to close the lane so that the stored transactions are not overwritten.

Each Entry Device shall possess an internal clock function that can be set and updated from any FMS workstation or at the device. The internal clock shall be updated by the main FMS server every hour in order to prevent system time differences greater than 15

seconds. The clock shall have the ability to automatically adjust for daylight savings time and leap years.

Each public Entry Device shall have the capability to interface with the license plate recognition (LPR) subsystem to record plate information for incoming vehicles. Depending on the system used, the LPR data may be reported to the FMS, processed locally, or reported to an intermediate controller for further processing or storage. The LPR function should be configured in a 'post capture' operation (after ticket issuance or card read). The Entry Device shall also be configurable to operate in a non-LPR environment (non-public) and this capability shall be field programmable.

The Entry Device should possess a diagnostics program accessible at the lane level through use of a laptop computer or other similar device. All instructions and prompts in the diagnostic program will be in English. The Entry Device shall be capable of appropriately interfacing with every other entry lane device and component, including peripheral components (barrier gates, lane lights, LPR processor, etc.) and other transaction processing devices (AVI readers, proximity card readers, etc.).

The Entry Device shall have an appropriate display, compliant with ADA guidelines and capable of conveying clear instructions and status information to the patron (LCD or equivalent screen at least 5" in size). Windows-based bitmap (or JPEG) images are the preferred method for conveying patron information but other methods will be considered as acceptable. Each Entry Device will include signage indicating: *"PUSH BUTTON FOR TICKET OR INSERT CREDIT/DEBIT CARD"* or similar patron instructions as approved by the City and to be placed in accordance with the City's guidelines. Visual cues provided via the device display may reinforce but not substitute for signage.

The Entry Device shall also have an intercom function that complies with ADA requirements and all requirements contained in these specifications. The Contractor shall propose an intercom that is two-way and hands-free in operation. If the patron does not take the dispensed ticket or insert the appropriate media in a field programmable time longer than a usual transaction needs to process the presence loop (via a relay) shall automatically activate the lane intercom function so assistance may be provided. All intercoms shall be routed to a master or sub-master panel as directed by the City project manager. The Contractor-provided intercom system is subject to approval by City's project manager. A discussion of the intercom system shall be provided in the System Definition Document.

The Entry Device will be capable of operating in a tandem or redundant installation in a lane that would allow one Entry Device to be active (primary), while a secondary Entry Device remains in standby mode. Upon failure of the primary Entry Device, the secondary Entry Device will automatically become active and have appropriate visual cues that will allow patrons to distinguish which Entry Device to use. The inactive device's ability to dispense a ticket or process cards will be disabled however, monitoring communications with the FMS shall be maintained.

Each Entry Device will send a signal to vend the gate, to the FMS and to the parking space count subsystem when activity occurs. The vend signal will allow access to the

facility and the other notifications will update the transaction database and facility vehicle count. The Entry Device will not issue another ticket until such time as it receives a signal (from the gate or FMS) that the barrier gate has been lowered. Each public Entry Device shall also have appropriate sensors that will allow the device to send a signal (alarm) to the FMS or any workstation on the PARCS communications network when the ticket supply falls below a user-settable level. The Entry Device shall also report other alarm conditions to include but not limited to, ticket jams, card jams, loss of communications, open device, etc.

Each Entry Device will have a heater to assist in humidity control. The Entry Device shall have thermostatic capability that will automatically adjust heating or ventilation devices to maintain internal housing temperature within an acceptable range. The environmental controls shall allow operation in exterior conditions between +25 and +120 degrees Fahrenheit and 10 to 95% relative humidity.

All equipment appearances, functions, features, and characteristics are subject to the approval of the City project manager and shall be documented in the System Definition Document.

F9. Exit Lane Devices

F9.1 Device Descriptions

There shall be two types of exit lane devices, exit readers and dual purpose exit devices. The devices shall be configured for public or non-public use. Depending on the functionality of the lane (attended versus unattended), different equipment components will be required at each exit lane. Depending on the location however, the lane shall be capable of processing public and non-public parking transactions or non-public parking transactions only. Each transaction processed by a public exit lane device shall commence with an LPR process (FMS query local capture and verification for LPR mode). Exit lane gate will be opened only upon closing of the cash drawer whenever an exit transaction is completed in an attendant mode.

Each public Exit Lane Device will be capable of reading the magnetically-encoded ticket dispensed by the Entry Device described above, reading validated tickets from a POF machine then validating and computing the correct fee based on the appropriate rate table. A 'single slot' configuration is preferred where the ticket and credit card (along with any other magnetic stripe and or barcode media) would be read using a single-slotted, magnetic stripe and or barcode reader/encoder.

The Contractor will provide a credit/debit card system, internal to the public Exit Devices, which will allow for the processing of credit cards, debit cards, prepaid cards non-revenue cards and other magnetic stripe and or barcode cards as the City may choose to accept in the future.

Credit/debit card system will be fully integrated in the revenue control system to provide for full reporting through the Exit Device and the FMS. All normal transactions processed through the FMS shall be approved in an average time of no more than four (4) to eight (8) seconds (dependent on response time from clearinghouse) from the time input is

completed. Whenever possible transactions will be cleared in virtual real time however; when network communications are temporarily unavailable, batch processing of transactions will be used. Upon completion of an approved exit transaction, the FMS shall simultaneously send a signal to open the exit lane gate as well as the "roll-down" facility closure gate when applicable.

Each public Exit Device shall be capable of retaining information on invalid ticket or other similar exceptions in local memory provided that the exception was broadcast over the network prior to loss of communications. Upon reestablishing communications with the central server (FMS), logic within each device will automatically download data for all transactions conducted while the device was offline. The data download shall occur in a manner that will not degrade the operation of the overall communications network and transactions shall be posted to the FMS journal (or indexed) in time-sequenced order (as they occurred rather than when received).

Tickets that have been processed in an exit lane shall be invalidated for future use, both on the ticket and electronically within the system. The invalidation methodology shall be discussed and described within the System Definition Document. Exception transactions described later in these specifications may not be processed at unattended lanes.

At non-public facilities the exit lanes shall utilize exit readers proximity card processing functionality. Select public lanes shall also include proximity card processing functionality. All public exit lanes shall be capable of operating in an unattended mode that accommodates ticket-based transactions, credit/debit-card transactions and POF transactions. Cashier-attended lanes shall be capable of also processing all such transactions.

All Exit Devices will be keyed alike and keyed uniquely from all other parking control devices, with one key for ticket access and a separate key for the mechanism access panel.

F9.2. Exit Reader

The Exit Reader shall be similar in almost all respects to the Entry Device used in public and non-public applications as described above. The preferred solution for this device would be one that shares common components with the Entry Device (transports, housing, print heads, etc.). In public exit lanes, rather than issue a ticket, the Exit Device will allow patrons to exit through unattended lanes by inserting tickets from the Entry Device, or tickets validated by Pay-on-Foot machines and other validation machines. The Exit Device shall also be capable of processing "credit card in/out" transactions, "ticket in/credit card out" transactions, as well as, prepaid and non-revenue magnetic stripe and or barcode cards. The Exit Reader shall have the capability to impound collected tickets and deposit these tickets in a special purpose ticket hopper. The Exit Reader in public lanes shall also be able to provide the patron a "credit-card" size (or other media format) receipt containing all required information as described in the Consumables section below.

However, the fee computer functionality capabilities discussed below for the Dual Purpose Exit Device shall also apply to the Entry Reader when configured for public

patron use. The Exit Reader at non-public lanes shall be used to read proximity cards only and shall be capable of providing server-resident anti-pass back functionality. To the extent possible these non-public Exit Readers should be similar in appearance and design to the Exit Reader provided in the public parking facilities.

F9.3. Dual Purpose Exit Device

The Dual Purpose Exit Device shall be a device that combines the functions of a Fee Computer and Exit Reader described above. The Dual Purpose Exit Device solution will (if possible) provide a single device located in or adjacent to the existing cashier booth that allows the lane to be used in an attended or unattended mode. The Exit Reader functionality of this device shall allow patrons to complete their own magnetic stripe and or barcode card-based transactions (self-service) whether or not the lane is attended.

The Dual Purpose Exit Device must be capable of separately accounting for and reporting shift and transaction data for transactions conducted by cashiers and transactions conducted by parking patron. The Dual Purpose Exit Device will be an on-line virtual real time revenue control device which provides fee calculation and reporting features at an exit of the parking facility. The devices shall be fully-networked using standard TCP/IP protocol. Although full network communications with the FMS will be the required configuration, the devices shall also be capable of operating without such communications being present ('standalone mode'). Each Dual Purpose Device shall be capable of buffering a minimum of 24-hours of transaction information on local storage media.

Each Dual Purpose Exit Device shall be capable of accepting manually keyed information in the event that the magnetically encoded ticket or card is unreadable. The device will assign a unique and sequential number to every transaction. The exit date and time will be based on an internal system clock, set accordingly to and by the FMS. The device will print one receipt per transaction (a function that may be set to manual or automatic mode) to include all information as listed in the Consumables section of these specifications.

Each Dual Purpose Exit Device will have a liquid crystal display (LCD) or HD LCD display visible to the cashier (cashier interface) and another visible to the patron (self-service interface). The cashier display shall have "touch screen" capability for standard cashier transactions and a keyboard for all exception transactions involving intervention with LPR. Each Dual Purpose Exit Device will integrate with or provide a display visible to the patron (patron fee display) that will convey fee amount and change due information when the device is used in an attended mode. The default display for the display shall be the system time and the type of information provided (time, fee or change due) should be readily identifiable by the patron at all times. Each device will be capable of sending a signal to vend the barrier gate at the completion of the transaction and upon the closing of the appropriate cash drawer.

F9.4. Exit Device (Reader & Dual Purpose) Programmability

Each Exit Device will be fully programmable either at the device or via download from the FMS. The public Exit Devices will be capable of being programmed for definable

time increments by minute, hour, day, number of days, and day of the week. The public exit devices will be capable of being programmed for up to ninety-nine (99) separate rate tables, each with for up to nine hundred ninety-nine (999) time increments. The rate tables shall have maximum flexibility for time increments (variable between one and sixty minutes per hour and multiple hours, days, weeks or months), grace periods, complimentary periods and dollar amount per increment. The public exit devices will be capable of being programmed to set a daily maximum parking rate for each device within each parking area, a grace or complimentary period that runs concurrently with the first time increment and definable dollar amount-based or time-based validations that may be programmed on the ticket by pay-on-foot devices or ticket validation machines. Lastly, the public exit devices shall be capable of being programmed with "holiday rates" (rates with limited duration, pre-programmed to commence and expire automatically). Contractor is responsible for providing sufficient training to the City to allow unlimited fee rate changes at no additional cost to owner. The term fee rate change is meant to change the rates for each tariff step but not the tariff step structure.

The Dual Purpose Exit Devices will be capable of being programmed for up to nine hundred ninety-nine (999) users (cashier and supervisor ID numbers) with the ID numbers programmed on magnetic stripe and or barcode media issued by the PARCS system to each user. A dual security system would be used so that each user would have both unique ID media and unique password to access the PARCS system. Each Dual Purpose Exit Device shall have a cashier interface with standard alphanumeric keys, and keys programmable for, but not limited to, up to two hundred (200) different validation accounts, and all exception transactions listed in these specifications or otherwise provided by the Contractor. The programmable keys on the touch screen shall be configurable so as to enable or disable each type of function.

F9.5. Exit Device Audit Trail

All public Exit Devices will be capable of transmitting, in virtual real time, an electronic audit trail to the FMS via standard network communication. The cashier interface of the Dual Purpose Exit Device will also be capable of producing a printable local audit trail. The audit trail will consist of, at a minimum, the entry/exit times and dates (in 24-hr format) for all transactions, entry/exit device identifiers for all transactions, the rate code used for transactions, validation codes used (if any), validated amounts (if any), number of exception transactions (by type), number of exception events, illegal exits, cashier/shift log-in information and any power or communication failure data.

Each Dual Purpose Exit Device will maintain separate records for each cashier and possess the capability of suspending a shift for breaks or relief. The device will maintain a non-resettable totals and subtotals for each shift. The device will clear cashier shift totals at the end of the shift marked by the running of the shift-end report. All data from completed shifts shall be stored locally at the device for a period of at least thirty (30) days. The device shall also report any incomplete or open shifts (where no end shift event has occurred). A supervisor with appropriate access shall have the capability to close any incomplete shifts, but such action shall be marked in the audit trail (and reported to the FMS) as an exception event.

F9. 6 Dual Purpose Exit Device Cashier Reporting

Each Dual Purpose Exit Device shall be capable of providing a printed end of cashier shift report to include but not limited to, device identifier, cashier or supervisor identifier, date and time of report, non-resettable transaction numbers, non-resettable fee totals, the number of total transactions, the number of normal transactions (with subtotal), number of transactions and fee totals by tender type, number of validation transactions (with subtotal) and number of exception transactions (with amounts and by type).

F9. 7. Exit Devices Construction/Mechanical

The required construction, mechanical, electrical and electronic characteristics of all Exit Devices (public or non-public) shall be similar to those enumerated above for the Entry Devices. The Contractor shall provide a full description of these characteristics as part of the System Definition Document. All equipment appearances, functions, features, and characteristics are subject to the approval of the City project manager and shall be documented in the System Definition Document.

Each Dual Purpose Device will consist of cashier interface, a ticket validation device, a printer, a power supply, patron fee display and up to two cash drawer (one primary and one relief) and a patron (self-service) interface which will be similar to the Exit Reader. The cashier interface will be constructed in such manner as to fit in the current booths. If the Contractor is unable to do this, they shall provide an alternative solution, acceptable to the City project manager, which meets all other requirements of this specification.

F10. Special Purpose Fee Computers

FJ0.J. Parking Operations Office Fee Computer

A fully-functioning Fee Computer shall be provided in the Parking Operations Office. This Fee Computer shall be used primarily to process, manage and control special purpose magnetic stripe and or barcode cards used for employee parking, discount coupons, etc. Special authorized users would prepay for special transactions or discounts using this device. Although identified as a fee computer, a properly configured workstation may be used to fulfill this requirement. This device would have the reporting and audit trail functionality listed for the devices above. The device would also have the integral capability to encode or re-encode cards with card value and identifying data. The City envisions this fee computer as a tool to replace several manual exception processes (employee discounts, etc.) with an automated, auditable process based on magnetic stripe and or barcode cards.

This fee computer need only have one lockable cash drawer but would still require an appropriate patron fee display. If however, a workstation is used for this functionality, the cashier drawer requirements would not apply. Details on the Contractor's proposed solution to address this functionality shall be included in the System Definition Document for review and approval by the City project manager.

F10.2. Central Cashiering Fee Computer (Option)

The Central Cashiering Fee Computer shall be used to assist customers preferring cashiered services and to assist customers in the Pay-on-Foot (POF) area of a garage. This

device shall have similarities to both the cashier interface of the Dual Purpose Exit Device and the POF devices described below.

The Central Cashiering Fee Computer shall include all the appropriate programmability, audit trail and reporting capabilities listed for cashier interface of the Dual Purpose Exit Device. Additionally and similar in function to the POF devices, the Central Cashiering Fee Computer will allow users to prepay their parking fees and provide them with a validated (paid) ticket with the appropriate lag time to allow patrons to exit via the Exit Readers. Lag time is a preset length of time programmed into the system to allow patrons paying at the Central Cashier or POF devices to return to their vehicles and exit. Failure to exit prior to the expiration of the lag time period would result in the accrual of additional fees payable at exit. Lag time, measured in minutes shall be set and changeable by the City for a specific parking facility, or globally for all parking facilities. This ability shall be granted only to those with appropriate user access and verified password. Lag time shall be changeable by the City through on-line communication from designated workstations and broadcast to all system devices. Details on the Contractor's proposed solution to address this functionality shall be included in the System Definition Document for review and approval by the City project manager.

F11. Pay-on-Foot (POF) Devices

F11.1. Device Descriptions

The Contractor shall provide Pay-on-Foot (POF) devices that will allow patrons to prepay their parking fees before arriving at garage exits. Payment may be tendered using validations, credit/debit cards, currency notes or combination thereof that would be processed by the POF device. Two different configurations shall be required, one which accepts both currency and credit card payments and one configured to accept credit/debit/smart card payments only.

The POF will be an integrated part of a larger PARCS system that would include all other transaction processing devices, all of which would be monitored and controlled by the FMS software resident on a central server. The Contractor shall furnish and install the necessary equipment and incidentals for the POF devices to be approved by the City project manager.

The POF shall possess an internal clock that may be set or updated at the device or globally from any FMS workstation (or central server) to ensure accuracy with fifteen (15) seconds of the central server's clock. The POF devices will normally be in constant communication with the FMS or central server via a network connection. Network communications will use the TCP/IP standard protocol. The POF devices shall have the ability to transmit, receive and store transactional (including exceptions) and operational data in manner similar to lane devices.

The POF will also be able to operate offline until the memory buffer is filled or such time as a communications link has been reestablished, whatever occurs first. Upon reestablishing communications with the central server (FMS), logic within each device will automatically download data for all transactions conducted while the device was offline. The data download shall occur in a manner that will not degrade the operation of

the overall communications network and transactions shall be posted to the FMS journal (or indexed) in time-sequenced order (as they occurred rather than when received). Each POF shall have sufficient local memory storage to cache 24-hours of transaction information when offline and sufficient intelligence to cease operations *prior* to overwriting stored data.

FIL.2. POF Device Operations

The POF shall be a PC-based device running a City approved application that will calculate parking fees due (for tickets issued at any PARCS entry lane) based on a magnetic stripe and or barcode ticket inserted into the appropriate slot on the face of the device. The POF shall print or encode on the ticket, in applicable media format and also in human readable format, respectively, all transaction information that would normally be written to the ticket by an exit device. The device will accept payment and provide an exit pass or validated ticket that will allow the patron to exit (via any lane with an Exit Reader or Dual Purpose Exit Device) within a given field programmable lag time or grace period. Should the patron exceed the allotted lag time or grace period additional parking fees will accrue. Each POF shall be capable of processing any valid ticket issued by any other device in the PARCS system. The POF device shall be able to retract processed tickets if left in the POF after a user-defined timeout period.

Each POF shall be able to track, and reject any illegal tickets (invalid, used or foreign) and notify the FMS via an alarm (to be determined by the City Project Manager) message that such a ticket has been detected. The POF shall have rate table programmability feature similar to and compatible with the specified Exit Devices. Each POF shall be configured with a UPS unit (including surge protection for power or data systems) either internal to the device or in line with its AC power supply.

All POF devices shall have credit/debit/smart card processing capabilities similar to those specified for exit lane devices. In addition to these credit/debit/smart card processing capabilities the POF devices shall also have the ability to generate a system alert and direct customers to the central cashier should they encounter problems processing their cards. Some POF devices shall also be capable of accepting cash payments. At a minimum, the cash-accepting device shall accept U.S. currency (excluding \$2 notes) in denominations up to and including twenty (20) dollars and dispense U.S. currency in denominations up to ten (10) dollars. All currency notes shall be parked or escrowed until the transaction has been completed.

If necessary these POF devices shall also be capable of dispensing change (rounded to the next whole dollar, if required) as appropriate. In addition to the one set of banknote canisters or cartridges delivered with each cash and credit/debit card POF device, three (3) additional sets of canisters or cartridges (per device) shall be provided with an additional 10% for spare parts support.

POF devices shall *provide* a single receipt for each transaction. These receipts may serve as credit/debit/smart card vouchers as well. The receipt shall include all the information found on receipts issued by other exit devices and enumerated in the Consumables section below plus the lag time available to the customer before additional fees become due. The

receipt shall be field programmable so that a receipt is issued for every transaction, upon request, or when a certain programmable total parking fee threshold is reached.

FJJ.3. POF Device Construction/Appearance

Each POF will be enclosed in a locked, tamper-resistant steel cabinet appropriate for the storage of large amounts of currency. The POF cabinet shall be installed in a manner that makes it compliant with ADA requirements, customer convenience and any applicable statutory or code requirements. The POF shall have internal security features to include but not limited to, open device notification to the FMS, internal tracking of maintenance mode operations, a digital camera with ability to record within the POF to view a patron's face and or activity around the POF Device. Special keying or password protection to uniquely identify anyone accessing the device will be an integral part of the device security system. The POF shall be capable of maintaining an internal electronic event journal to log transaction data as well as significant or exception events, and shall be capable of relaying this data in virtual real-time to the FMS for logging in the central Event Log or Journal. The POF cabinet shall contain an UPS unit that provides two (2) hours battery backup power and power conditioner; domestic power shall be connected directly to the UPS unit so that the POF shall constantly operate using conditioned power.

The POF devices shall have clear and appropriate graphics or video guidance systems (the Contractor shall describe in the System Definition Document each single screen) to guide the patron through the transaction process. The graphic user interface (GUI) shall be in English and Spanish (and having a multi-language support as an option based on contractor's standard languages) with universal icons, color text and graphics used appropriately. The customer guidance on the POF devices shall be with minimum human intervention, except for the payment itself and will be displayed at a minimum on a 12" Display. Should the device be out of service an appropriate message shall be displayed instructing patrons to either pay at exit or use alternate POF locations. The POF shall also be equipped with a two-way intercom function that will allow patrons to get assistance as required by pushing a button. The intercom shall be ADA-compliant in its operation and installation.

The colors for the POF housing, the type of intercom, the type of display, and all text, and graphics shall be documented in the System Definition Document and approved by the City project manager prior to delivery.

FJJ.4. Employee Parking Proximity Card Reader

The Contractor shall propose AVI or RFID access control devices similar to the existing proximity card readers used for non-public parking. These devices should at minimum be "contact less" in operation with a read distance of up to one (1) foot. These devices will be installed as free standing units or be incorporated in the Public Parking Entry/Exit Devices for use by employees and pre-paid parking patrons.

F12. Network and Computer Devices

The City shall provide an independent network, comprised of appropriate computing and networking devices, components and interfaces, that is robust, able to accommodate the System requirements and in compliance with current City Information Technology and

Telecommunications (ITT) standards. The City and the Contractor will work together on the design and implementation of the network infrastructure. The Contractor shall submit the network design requirements for the PARCS system for approval to the City project manager in the System Definition Document.

The Contractor shall assist the City to provide a network design with system and component redundancy so that no single failure of a device shall cause an operational failure. The network design shall be based on open architecture standards that support future upgrades, while building on existing infrastructure investments and minimizing network down timer. The network design shall be able to accommodate reasonable growth and development so as to allow a doubling in network traffic, storage requirements, and network devices. Although the System will operate on its own network with certain dedicated workstations, the Contractor shall provide (subject to the approval of the City project manager) an interface with the City's administrative network for access to the System by authorized users from their desktops anywhere within the administrative network. All networking installation tasks shall be conducted under the guidance of the City's network management staff. Detailed descriptions of the network design and its component parts, to include but not limited to descriptive narratives, diagrams, technical specifications, procedures, and operating instructions shall be provided by the City and included in the System Definition Document by the Contractor.

F13. Data Communications

The Contractor shall implement data, audio, and video communications (in a manner approved by the City project manager) between the System-redundant central servers, the network switches, workstations, and field hardware devices. The server location will be as directed by the City's Chief Information Technology Officer (CITO). The contractor shall provide the servers with peripherals, connectors, patch cords, terminations and all other devices (excluding racks or other mounting infrastructure) necessary to accomplish the required connectivity. The Contractor shall be responsible for all cabling and connectivity within the individual parking facilities. To the extent possible this connectivity shall be accomplished using the existing communications infrastructure and in a manner that minimizes impact on parking operations and customer service.

The Contractor shall be responsible for providing proper communication links and all physical or software connections between the different components of the System. The deployment of any communications components that may be required for the proper functioning of the System, but is not provided by the City, shall be the responsibility of the Contractor and charged to the City. Communications cabling between devices on the network shall be fiber optic or in accordance with the City's cabling standards and as appropriate for the particular cabling runs. The Contractor shall provide patch cords to connect all supplied equipment to the communications infrastructure. In the System Definition Document, the Contractor shall provide a detailed description of the physical cabling topology for City project manager approval in a format to be approved by the City project manager.

F14. Computer Rooms

The System central servers shall be located in the City's Data Center or as determined by the City's CITO.

F15. Maintenance Support System

The Contractor will provide and install, and implement equipment that supports Simple Network Management Protocol (SNMP) and remote monitoring of distributed units. Network management shall be independent of the operational/applications software.

F16. Servers

The Contractor will provide, install, connect, test, and commission at a minimum two (2) identically configured servers or group of servers (a primary and a backup) to function as the central host computer for the PARCS. The servers shall be dedicated to the PARCS system and independent from any other system or application running on the City's network. All server installations shall include all required peripherals and must be performed under the supervision of the City's information technology staff. All necessary software and configuration such as the database and cluster applications shall be provided by the Contractor. The City and the Contractor will work together on the design and implementation of the database server system. Where possible and appropriate, the Contractor shall attempt to minimize the number of redundant server systems operating by having multiple applications residing and operating from common servers. To provide physical redundancy and facilitate load-balancing, load-sharing, System servers shall be placed within the City's Network Operations Center (NOC). At the City's option, the redundant or backup set of servers may be installed in a separate location with appropriate network connectivity that will provide additional survivability. Such servers or group of servers, which shall consist of core data input, storage, processing, and dissemination facilities, shall be suitable for the intended purpose and sized in a manner as to operate the PARCS according to the performance standards set forth in these technical specifications. Such servers or group of servers shall generally comply with the City's server standards and may be physical and/or virtual. The preference is for all of the server and database systems to be virtual.

The servers or group of servers shall be capable of processing all data and of meeting all other performance requirements as set forth in these specifications. The servers and group of servers shall be sized to allow for system expansion of up to 100% of existing volume in terms of transactions, LPR images, number of PARCS devices or number of facilities controlled. At a minimum, the servers shall meet specifications set forth by the City's CITO. If physical, the servers or group of servers shall include dual or redundant power supplies, data backup capability (network-based storage), and a network interface card.

The servers configuration shall include all software (installed by the Contractor), including licenses and documentation, necessary for their operation and administration. The operating system shall be the latest compatible version of Microsoft software. The City may at its sole discretion use an existing license for the new servers and request a credit for the Contractor. All middleware, administration desktop application and

communications packages or drivers (to include documentation and licenses) appropriate for the specific configuration shall also be included.

The servers shall be installed and configured to support a City issued or approved security system in all the servers to prevent unauthorized access (as approved by the City project manager). The security system shall include the latest version of software certified by the Contractor at the time of installation and shall provide for multi-processor support and secure server database access.

The Contractor may be required to provide, install, configure, commission, and support anti-virus software that includes the most current virus scan data available at the time of installation. The City may at its sole discretion use an existing license for the new servers and request a credit from the Contractor.

The Contractor may be required to provide (as approved by the City project manager) all software necessary to backup and restore the System data and server operating system on optical discs. The Contractor will provide written recommended backup procedures and practices in a format acceptable to the City project manager. In addition, the City shall have the ability to carry data to other City storage devices as desired. These other storage devices shall include common third-party equipment such as network hard drives, etc. to be provided by the City.

The database storage and memory shall be configured in such a manner as to maintain six (6) months of on-line system transactions data (including LPR data and images) and all summary reports. The Contractor is responsible to provide sufficient storage space to accommodate the amount of data to be stored for six (6) months of online system transactions data (including LPR data and images) and all summary reports. The Contractor shall provide a backup/archiving system (software only) whereby reports are properly catalogued, such that historical data can be retrieved, added to new reports, or printed. All summary reports for up to five (5) years shall be archived on electronic media. All operational data for the current year and the two previous years (36 months of data) shall be available on-line. The term operational data shall include full details of all event or journal log entries relating to failures, complaints and lane closures and all exception transactions. Detailed event data shall be maintained for 180 days with the balance of the data up to 36 months shall be in summary format. The Contractor provided redundant server system hardware shall size the System servers' storage capability to have three years active data on hard disk along with software and other programs required to operate the system.

The Contractor shall provide a written description of the hardware/virtual configuration of all system servers as well as provide a written description of the software configuration (to be approved by the City project manager and the Contractor) and in a format (also to be approved by the City project manager and the Contractor) so it can be incorporated as part of the System Definition Document.

F17. Network Switches

The Contractor will work with City's CITO to install, connect, configure, and commission managed network switches in the appropriate communications rooms to allow network connection of all PARCS devices. The Contractor will meet the City's current network switch configurations. All network communication hardware and software documentation shall be incorporated by the Contractor into the System Definition Document.

All network switch installations and configurations shall be performed under the supervision of City information technology staff and properly documented in a manner acceptable to the City project manager.

F18. Other Equipment

F18.J. Uninterruptible Power Supply

The Contractor may be required to supply install, connect, and configure one each Uninterruptible Power Supply (UPS) to allow a minimum of two (2) hours of uninterrupted operation of the System Server and the backup server in the event of a power supply failure to one or both. The Contractor shall submit technical specifications to City's CITO for approval the appropriate UPS requirements to allow the Central Server to shut down gracefully in the event of power outage.

FJ8.2. Workstations

The Contractor shall provide the recommended workstation specifications for the dedicated workstations to be primarily used to monitor and control the System but will also have the capability to run other programs (such as the Microsoft Office suite) in a Windows environment. The Contractor will procure the necessary workstations and install them with oversight from the City's CITO or designee. Besides the dedicated System workstations, the City will allow authorized users to access the System through the City's administrative network using their existing desktop computers and a custom web browser application. The Contractor shall supply the minimum workstation requirements to allow such capabilities. The Contractor shall clearly state in the System Definition Document which specifications are for the dedicated System workstations and which specifications are for the existing City workstations (if the requirements are different).

F18.3. Printers

The Contractor shall specify minimum printer requirements that would allow the City to efficiently and effectively monitor and control the parking operation. The Contractor shall provide the recommended printer specifications and the suggested number of printers to operate the System.

G REPORTS AND REPORTING CAPABILITIES

G1. System Reports and Reconciliation

The Contractor shall provide a comprehensive package of their standard City system reports (to be defined in SDD) that shall allow the City to maximize the utility of all System functionality. The system reports shall assist the City and the parking management company in the proper monitoring, control, staffing, auditing, planning and development of the System and the parking facilities. All reports provided shall be consistent and reflect the reporting accuracy standard contained in these specifications.

Final versions of all system reports shall be included in the System Definition Plan and the Configuration Management Plan shall be updated to reflect revision numbers.

The Contractor shall provide a detailed description and presentation of the reconciliation processes required within the System and shall explain how the system reports shall be used to accomplish this critical task. The Contractor shall provide a step-by-step description of all report balancing and reconciliation activities for approval by the City project manager. These reconciliation descriptions shall include (at a minimum) the procedures for balancing the overall parking operations statistics, transactions, revenue, license plate recognition, inventory, space count, pay-on-foot, and parking reservations. Changes to the reconciliation processes may be requested and provided by the Contractor to the City. The final description of the reconciliation procedures will be included in the System Definition Document

G2. Reporting Capabilities

The City shall have the ability to view on screen or print all reports in full or for select periods of time and dates or save to a file in a variety of format (PDF or CSV) to be defined in the System Definition Document (subject to the approval of the City project manager) including, at a minimum Microsoft™ Excel. The City shall also have the ability to generate the reports using a comprehensive report menu system (resident in the facility management software) that groups reports by function and may be accessed from any workstation on the PARCS network. The reports shall be used to access current and historical data and may be set for automatic or on demand generation.

The Contractor shall provide the City with the ability to create queries and reports on the System's transactional data without jeopardizing the System's data integrity. The City's preference is that all query and reporting functionality shall be resident on the System and accessible through the FMS reporting menu system.

The Contractor shall also provide statistical information that will allow authorized users to conduct "What If" analyses, at their own conclusion based on the outcome of the reports, for strategic functions such as revenue projections, parking demand trend analysis, rate adjustment impact and facility management planning.

G3. Required System Reports

G3.1. Daily Summary Reports

A collection of transaction data (including number and types of transactions, number of tickets issued, collected or outstanding, dollar value of outstanding tickets or vehicle inventory in the facilities, number of credit/debit card transactions, revenue collected by lane, shift, tender type, or cashier, etc.) for all activity by lane number or other identifier for a twenty-four hour period (user defined) presented in a single report.

G3.2. Monthly Summary Reports

Similar in scope and data elements to the Daily Summary Reports, the Monthly Summary Report aggregates and summarizes all the data from the individual daily reports.

G3.3. Revenue Reconciliation Report

A management report designed to provide all revenue information in a single location so that total revenue collected versus total revenue expected may be reconciled on a daily basis. This report may be run for any period of time (hours, days or months and groups or portions thereof).

G3.4. Ticket or Transaction Reconciliation Report

A report designed to account for all ticket and non-ticket transactions and compare these totals against gate vends and LPR vehicle inventory.

G3.5. Maintenance Log Report

A report derived from the system journal or log that identifies malfunctions and down time by device and/or lane. This report may include trend analysis. (These reports to be provided to pre-designated City's Parking Division Unit or staff member independent of the PARCS report package).

G3.6 Equipment Downtime Report

A maintenance management report designed to track and correct chronic maintenance problems for specific devices or components. Each lane device and POF device shall be listed along the length of downtime each experienced within a user-settable length of time. (These reports to be provided to pre-designated City's Parking Division Unit or staff member independent of the PARCS report package).

G3.7. Technician Performance Report

A maintenance management report listing all technicians and detailing the number and length of service calls or procedures performed in a given period of time. (These reports to be provided to pre-designated City's Parking Division Unit or staff member independent of the PARCS report package).

G3.8. System Exception Reports

A management report that shall summarize all system exceptions (or filter exceptions by type) reported to the FMS and written to the system journal or log for review and action by the appropriate party.

G3.9. Lane Activity or Volume Reports

A summary report that indicates lane and device usage on a daily or monthly basis in terms of number of vehicles or transactions processed. The report shall highlight usage by time, device and lot.

G3.10. Credit Card Processing or Reconciliation Report

A revenue report designed to allow reconciliation of amounts transmitted to the credit card clearinghouse versus amounts deposited in the City's revenue accounts (less any applicable transaction or discount fees).

This report shall become part of the system once the City has deployed the AVI system and the interface is developed.

G3.11. Validation Reports

Periodic (daily, weekly, or monthly) revenue reports that list all validations received and fees not collected by validation type or account from field devices, list all amounts collected or billable from validation customers by, validation account, type and amount.

G3.12. System Journal or Event Log Report

This is a multi-purpose report that may be filtered on any field in the system journal or event log report database to fit the users' needs. This report serves as the basic query function for the system's journal or event log.

G3.13. Cashier Shift Reports (Fee Computer)

A management and revenue report available either at the lane or via the FMS that provides transaction and revenue totals for each shift worked by an individual cashier or supervisor.

G3.14. Supervisor Shift Report

A summary report that indicates all the lane and cashier activity totals for given supervisor's shift.

G3.15. Cashier Analysis Report

A management report designed to track and identify patterns in cashier productivity by compiling transactions processed by each cashier with special emphasis on exception transactions and transaction volume per shift. The report may also be used for corrective training, incentive plans or disciplinary action.

G3.16. Peak Occupancy Reports

A periodic summary report (daily, monthly or weekly), this report indicates peak vehicle occupancies by hour and by day for each garage and lot with subtotals for each floor of a garage and grand totals of entire facility.

G3.17. Duration Reports or Ticket Value Reports

A management report that categorizes all transactions (for a day, week or month) into user-programmable time or ticket value increments with subtotals for each increment. The report should also calculate average (mean) and median ticket prices.

G3.18. Current LPR vehicle inventory Reports

A daily, weekly or monthly management report that summarizes all current LPR data by facility (and if applicable by location). The report shall also include data on vehicles or plates purged from the database. A dollar value of the LPR vehicle inventory by facility shall also be provided.

G3.19. LPR Exception Reports

A daily, weekly or monthly management report designed to summarize all disappeared, reappeared or moved vehicles. Primarily used to check the LPR database this report documents all plates that have been purged without a known exit, that have been previously purged at exit and inventoried (indicating a possible input error) or whose

location has changed since the last inventory update. LPR exception reports shall detail all transactions that have deviated from standard LPR imaging or matching process.

G3.20. Plate Inventory Aging Reports

Ad-hoc reports that list all license plates that have exceeded the established maximum stay at any given parking facility. The report is useful for identifying abandoned vehicles and for maintaining the LPR inventory.

G3.21. Abuse Report

A management report to be generated automatically by the system at user-settable intervals and designed to track vehicles or license plates having an excessive number of exception transactions within a given time period. This report shall be linked to the Hot List functionality required in the LPR subsystem.

G4. Custom Reports

All system design reports listed in the SDD.

H REQUIRED SUBSYSTEMS

The term "Required Subsystem" as used in this section, refers to specific system functionalities that require both significant special purpose software and hardware components in order to properly complete required tasks. The subsystems described below also require significant interfaces so they may interact with each other, other software modules or applications, and other field hardware devices or components. Several subsystems described below will also require significant development by the Contractor and are described in general terms so as to allow the Contractor discretion in responding to the requirements.

HI. License Plate Recognition (LPR) Subsystem

The Contractor shall provide a fully functional License Plate Recognition (LPR) module or subsystem for the PARCS. LPR functionality shall be available at each entry and exit lane utilized for public parking. The LPR subsystem is critical to maintaining positive revenue control as the City implements new parking products and customer service options such as ticketless transaction processing in combination with credit card used at entry and exit. LPR functionality shall also be used to improve accountability by aiding in the processing of exception transactions.

It is the City's desire to implement an LPR solution that includes image capture and decoding of rear license plate data (to include the surrounding vehicle surface) information. The Contractor shall determine what type of solution is feasible and explain their approach in the System Definition Document. The City would prefer use of proven image processing hardware or software technology available for parking or other similar applications.

The City desires that the Contractor provide ISO-compliant magnetic stripe and or barcode cards that will allow it to offer expedited processing into any public parking

facility for certain public and non-public parking patrons. When these special users (such as internet reservation patrons, authorized employees, etc.) enter a public parking facility the LPR subsystem shall track their license plate data as it would for regular public parking patrons. All transactions occurring in the public parking facilities shall include LPR processing. Oversized vehicles within the license plate and LPR "Target Range" shall be read. The LPR subsystem shall include all software and hardware devices (both in the lane and elsewhere) and all peripheral and mounting devices required to capture, decode, interpret, associate, store, retrieve, compare and report license plate images and information in a manner that complies with the requirements and standards set forth herein, and without causing degradation to any other function of the System. It will also be the responsibility of the Contractor to provide all infrastructure modifications and to make all appropriate connections to the lane devices excluding the City provided PARCS network that may be necessary and proper to ensure full LPR functionality.

The Contractor shall be responsible for providing an LPR subsystem that is fully interfaced and integrated into the System so that LPR data is available over the entire PARCS network. All license plate data shall be written to a secure, password-protected database that shall be indexed in a manner that allows the quickest plate matching possible. The database shall be searchable on any field and shall be linked with the transactions database so that associated plate information can be found for any data element in a transaction record.

License plate data (including images) shall be maintained in an active directory on the central server of the PARCS or on a special purpose server on the PARCS network. The central server or special purpose server shall be housed in the City's network operations center. Data availability shall be paramount and the Contractor and City shall design a system with sufficient processing speed and storage capacity to store no less than six months of data in the active directory. All LPR exceptions (no match, no tag, etc.) shall trigger an alert or alarm at the designated primary image review workstation, as approved by the City project manager, which shall continue until acknowledged by an operator or at City's discretion after a configurable timeout. This alarm or alert shall both be visual and audible and the City shall have the ability to individually disable such alarms if desired. Once a transaction cycle is completed at the entry, the vehicle's license plate number shall be stored in the active LPR database, a complete transaction cycle at an exit lane shall cause the vehicle license plate to be deleted from the active LPR database and added to an inactive LPR database. The inactive LPR database may be archived or purged either automatically or manually at reasonable intervals approved by the City project manager.

Archived data shall be easily accessible and located on the network so that it is readily accessible for research purposes. The Contractor, in the System Definition Document, shall detail its data archiving timetables and procedures. The City project manager shall have the right to request the Contractor to make reasonable adjustments or changes in the retention times or archiving procedures, in order to facilitate parking operations.

HJJ. Entry/Exit Lane Configuration

It shall be the Contractor's responsibility to provide to the City project manager, via the System Definition Document, its proposed LPR subsystem design and lane

configurations. The Contractor shall detail all civil, cabling, conduit, power, lighting, trigger loops, and other requirements, that it will provide and which may be necessary for the full functionality of the LPR subsystem at each lane.

Precise location of the camera equipment shall be per the Contractor's recommendations subject to approval of the City's project manager. It shall be the responsibility of the Contractor to document the performance deterioration effects, if any, if the City's project manager selects a different location for the camera equipment. It is the City's preference to mount LPR cameras in an overhead position wherever possible.

The system shall be configured in a manner that will maximize automatic plate matching. It shall also be possible for the City to disable any requirement to correct license plate numbers at entry. For each lane, license plate data captured at exit and requiring manual review shall be routed to a primary workstation (to be designated by the City). The primary workstation routing shall be user-settable for each lane individually and the City may also designate a secondary review workstation as a fail over option. Each PARCS workstation resident on the communications network and operated by a duly authorized user shall be capable of providing license plate review and edit functionality.

All LPR subsystem processing shall occur in parallel with other functions occurring within the System and shall not increase the transaction processing time for vehicle entry or exit. All lanes shall be configured so as to reduce processing times and expedite transaction times. All LPR exceptions (no match, no tag, etc.) shall trigger an alert or alarm at the designated primary workstation for the given lane, as approved by the City project manager that shall continue until acknowledged by an operator or at City's discretion after a configurable timeout. This alarm or alert should be visual and audible and the City shall have the ability to disable such alarm, if desired.

HJ.2. LPR Performance Requirement

The LPR subsystem shall acquire a vehicle's license plate number image at each parking entry and exit lane for 100% of the entry and exit transactions. Oversized vehicles within the license plate and LPR "Target Range" shall be read. This 100% read rate shall apply to unobstructed and un-obscured license plates. Additionally, the LPR subsystem shall read all license plate characters (exclusive of unobstructed, un-obscured, and un-encroached license plates) correctly on a minimum of 100% of the transactions and will read all but two LPN characters correctly (exclusive of unobstructed, un-obscured, and un-encroached license plates) on a minimum of 100% of the transactions. An un-encroached license plate means it has no foreign object within .375 inches (3/8") of LPN characters. Table 3 summarizes these LPR performance requirements. The Contractor shall provide appropriate documentation to the City project manager concerning the technology's method of operation, the efficacy of technology and suggest suitable testing regimes.

Table 3: LPR Performance Standards

ILPR Task	Requirement I
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Capture of all rear license plates entering and exiting lanes including oversized vehicles within the license plate and LPR "Target Range" shall be read.	100%
Character recognition shall be accurate within 2-digits (N-2) of all legible plates	100%
Character recognition shall be accurate for all characters (N) of all legible plates	100%
Provide an automated match of all entering and exiting vehicles	100%
Provide a match of ticket to the image captured	100%

***Note:** During any testing, the above performance standards shall only apply to processing of images involving New Mexico license plates.*

HJ.3. LPR Entry Lane Processing

Processing of LPR data may vary depending on the type of technology, capture point and camera placement proposed. Generally speaking the City envisions an LPR subsystem that captures entry images in a "post capture" mode. Post capture shall mean beginning the image capture process after a ticket had been issued or a card has been read and the car passes the closing loop. Cameras mounted overhead would be triggered by the appropriate sensing device to begin capturing images and would cease the capture process when the barrier gate closes.

The images would be evaluated by an LPR engine (the software component of the LPR subsystem) and using appropriate parameters, the LPR engine would select and decode the best image or best group of images. The best image or group of images would be associated with a transaction record (for both ticket and card transactions) and the data record (text and images) would be sent to the active LPR database so that the system could later search on any field of the transaction record for the matched image. This process would allow, in ticketless transactions, patrons to enter and exit utilizing different credit/debit cards and would expedite exception transactions.

HJ.4. LPR Exit Lane Processing

When the vehicle arrives at an exit lane the LPR subsystem would be triggered by the appropriate sensing device. The camera(s) would begin capturing images to match against the image associated with the patron's exit media (ticker or card). If the LPR information matches, the transaction will continue as a normal transaction. If the LPR subsystem is unable to find a suitable match it may send the two best images to a designated workstation for further processing. This may involve a supervisory or cashier review as determined by the City. When the problem has been resolved the transaction would be completed and the barrier gate would be raised. The complete record of LPR data for the transaction cycle (one entry and one exit) would be moved to the inactive LPR database.

HJ.5. LPR in Exception Processing

The LPR system will be a key component in providing audit trail of exception tickets. This functionality shall be required to properly implement self-service transaction processing. Following successful completion of each exception transaction, the vehicle

license plate number, whether manually entered or read by the LPR subsystem, shall be automatically moved to an Exception Transaction File and made readily available for audit of exception tickets and corresponding exception transactions. .

It shall be possible to disable any single exception transaction identified below (within the LPR subsystem) without impacting the functioning of any other exception transaction.

The City desires the contractor propose alternate processing methods that will allow certain exception transactions to be processed at unattended lanes either directly by the patron or remotely by an attendant at a PARCS workstation.

HI. 5.1. Lost Ticket

A lost ticket transaction shall occur when the patron arrives at an exit lane without an entry ticket. The LPR subsystem shall use plate matching to find the correct entry transaction so that the proper fee may be calculated. If the LPR subsystem fails to locate a matching license plate or image, an alarm message shall be broadcast over the network and written to the FMS Event Log or Journal. The workstation operator will acknowledge the alarm message and process the exit transaction by requesting the entry time and date from the active license plate database. This information shall then be provided to the cashier to complete the transaction or in the case of an unattended lane shall be completed by the workstation operator.

HI.5.2. Unreadable Tickets

Similar to the Lost Ticket process described above, when a ticket is found to be unreadable by the System (whether mutilated, blank or foreign without LPR intervention), the LPR subsystem shall search for the entry transaction data associated with the vehicle's license plate number. If a match is found, the entry information shall be extracted and compared to the exit time, and the parking fee shall be calculated. The transaction proceeds as usual. The unreadable ticket shall produce a unique visible-alarm or alert at a designated workstation only if the LPR subsystem fails to locate a matching license plate or image. Processing of predefined alarms shall be password protected via the access rights.

HI.6. Hot List & White List

The Contractor shall provide a function within the LPR subsystem that shall automatically track and report license plates that have been identified as having a high incidence of exception transactions. This listing of plates shall be known as the Hot List. The LPR subsystem shall allow an authorized user (with appropriate password access) to set the thresholds for types and numbers of transactions within a given time frame that shall trigger a response from the system.

The system shall generate an appropriate visual and audible alarm when a vehicle on the Hot List enters or attempts to exit the facility. Upon entry of any vehicle on the Hot List, the LPR subsystem shall sound an audible alarm at a designated workstation that shall continue until acknowledged by an operator. Entry of plate numbers onto the Hot List shall be automatic and based on user-defined parameters. All Hot List entries shall at a minimum, include the date the plate number is added to the list and the reason for adding the plate number to the list (usually due to suspected abuse). Access to the Hot List shall

be controlled by user access and password. License plate numbers shall remain on the Hot List until removal by the City.

The City shall also have the capability to add plates to the list manually. Such additions or removals shall generate the appropriate message notification to the System Journal or Event Log.

The Contractor shall also provide a White List that will be populated with specific transaction data to be determined by the City. It is envisioned that the White List may be used to track usage by specific service vehicles or City VIPs.

HJ. 7. Cameras and Lighting

The Contractor shall provide all required cameras, filters and the necessary supplementary lighting necessary to equip every public parking entry and exit lane in a manner that will provide full LPR subsystem functionality. The Contractor shall also provide all housings, mounting posts, brackets, shielding or protective devices required and appropriate to protect LPR lane components from damage, tampering or theft. All connections and cabling would be similarly protected and identified in accordance with the appropriate City standard or the manufacturer's instructions.

The LPR lane devices shall be mounted in a manner that will best suit their functional requirements but the Contractor would give due consideration to the City's mounting location preferences. All device placements shall be properly documented in the System Definition Document and shall be reviewed by the City project manager prior to installation.

HJ.8. System Failure Procedures

The City shall have the option of temporarily disabling the functionality of the LPR subsystem should it become unstable or encounter a systemic failure. When such disablement occurs the System shall be automatically reverted to a manual LPI process at attended lanes by looking up the LPR active database. Likewise, should the LPR subsystem be disabled, the City shall have the option of continuing unattended transaction processing with manual intervention from a workstation or disabling the lane devices.

Turning off the LPR system will be done by an authorized System User and will result in a logged event including the user name, time, and reason. This normal operation of the PARCS shall not require patrons to wait for the expiration of an LPR-related timeout to process their transaction. To facilitate the return to normal operations, the system will provide two separate software switches: one for enabling (disabling) image capture and license plate recognition and a second for enabling (disabling) the LPR related alarms. This procedure shall be documented by the Contractor in the System Definition Document to be approved by the City project manager.

H2. Parking Space Count Subsystem

H2.1. Parking Space Count Subsystem Description

The Contractor shall provide and install a Parking Space Count Subsystem designed to accurately and continually collect, store, maintain and report (in virtual real time) counts of vehicles, and by derivation, available or occupied parking spaces, within all areas or

levels of all public parking facilities. The Contractor shall provide all application software and interfaces necessary for full and proper functionality for the subsystem generally, as well as, all subsystem devices and components including but not limited to, any logic controllers or other modules or devices. The Contractor shall also provide appropriate interfaces to other PARCS subsystems or software modules as may be necessary for the proper function of the overall System.

It is the City's desire to have a Parking Space Count Subsystem that is fully integrated with the parking access and revenue control system and resides on the central server. The subsystem must include the flexibility to adjust counts of available spaces to allow for special circumstances such as parking reservations, adjust counts based on input from the LPR or LPI subsystems and set closing and reopening thresholds at levels lower than the maximum number of spaces. The subsystem must also be expandable to the same extent as the overall PARCS having sufficient, memory, database and communications capacity to accommodate a 200% expansion of the number of parking spaces, number of detecting devices, number of areas, levels or lots, and number entry and exit lanes.

Under normal conditions the operation of the Parking Space Count Subsystem shall be fully automated. The Parking Space Count Subsystem shall also allow for manual adjustments and override of all functions enumerated herein (and as described in the System Definition Document) via any PARCS workstations. Such manual adjustment features shall be accessible through a properly secured menu system only accessible by authorized users. Subsystem information shall be included in a graphical user interface available at any PARCS workstation that will act as a facility map and depict the relative location and status of the various facilities the PARCS controls. All numerical representations of space occupancy or availability shall be displayed so the user can toggle between the actual number and the corresponding percentage of total spaces. The subsystem shall automatically control all parking space count signage, automatically adjust all area, level and facility counts, as well as, provide automatic or on-demand reports and any required real-time information to external systems (such as the City's official website).

The Parking Space Count Subsystem shall use special detecting devices, located on each garage level, in each area, and in each entry/exit lane, to detect vehicles entering and exiting a given parking area, level or facility. The City prefers that non-intrusive detection devices other than loop detectors be used in the garages and wherever they may be appropriate. Detection devices shall be capable of detecting vehicle direction (bi-directional) and provide anti-coincidence detection to minimize the possibility of missed counts.

The Contractor shall detail in the System Definition Document all relevant subsystem design features to include but not limited to, all screen layouts relating to the graphic user interface, all detection devices and technologies, all automatic and manual user functions, all reports and reporting capabilities and all necessary interfaces with other software modules and subsystems of the PARCS, as well as all external systems. The Contractor shall discuss methods to ensure that all counts for all areas and levels are accurate to within 1% of actual vehicle counts and that all counts for facilities are accurate to within 1% of actual vehicle counts in any given 24-hour period. Contractor shall also discuss

appropriate procedures for testing accuracy levels in the System Definition Document and in the Testing Plan. The System Definition Document, and other related deliverables shall be subject to review and approval by the City project manager.

H2.2. Required Subsystem Devices (Signs)

The Contractor shall provide, install, integrate, test and commission all space count signs associated with the Parking Space Count Subsystem. These signs shall include 'monument' or 'scoreboard' signs at key entry points to each public parking structure (does not apply to surface lot). The Contractor shall provide such signs at locations approved by City project manager for other public parking facilities.

The Contractor shall also provide appropriate status signs for each area, floor or level to be controlled by the subsystem. All signs provided as a part of the Parking Space Count System shall meet all applicable industry standards, as well as, federal, state and local laws, regulations, codes, ordinances or guidelines for signage of this type. At a minimum, signs shall be visible and readily legible under ambient lighting conditions (to include low light conditions) at a minimum distance of one hundred feet (100) feet. Contractor shall obtain written approvals of signage submittals by City project manager prior to proceeding. Final placement of each sign, the sign type, size, character height, character color, background color, and font shall be subject to the approval of the City project manager prior to procurement and installation.

H3. Credit/Debit Card Processing Subsystem

H3.1. Credit/Debit Card Processing Subsystems Description

The Contractor shall provide a Credit/Debit Card Processing Subsystem in compliance with card processing regulations and the current service provider's protocols. All credit/debit card transactions whether device-based or module-based (parking reservation, etc.) shall be conducted, tracked and reported through this subsystem. The Contractor shall provide a list of the credit/debit card processing clearinghouses with which the Contractor's proposed subsystem is already certified. The subsystem shall have the flexibility to allow easy modification and expansion (in terms of lanes, transactions, or devices) without additional support from the Contractor or the processing clearinghouses. The term "Credit/Debit Card" as used herein, shall not be taken to imply a requirement for dedicated P.I.N. input pads on any field hardware device.

The Credit/Debit Card Processing Subsystem shall function independently of any one clearinghouse and the City shall be free to change credit card processing clearinghouses at its sole discretion. Any software or hardware modification necessary to effect such a change will be the responsibility of the Contractor during the installation and warranty periods. Any change of the clearinghouse requested by the City during the installation shall not prevent the Contractor to receive final acceptance of any phase of the project... The Contractor shall further agree to cooperate with the City should a change in clearinghouses be required after the installation and warranty periods.

The Credit/Debit Card Subsystem shall be connected to two separate processing centers so that a loss of communication with a processing center will not result in a total loss of on-line approval capability. Lane devices, switches or credit card servers in the overall PARCS, in each facility, or at each entry or exit plaza shall be connected or routed to alternating processing centers to equalize processing load. Loss of communications between any device, switch, router or server and the primary processing center shall result in the automatic switching or routing of credit card traffic (Fail Over) to the remaining or secondary processing center.

The Contractor will provide a credit/debit card processing capability internal to each PARCS hardware device (fee computer, entry/exit lane devices, POF, etc.), which will allow the processing of credit/debit cards, and other such magnetic stripe and or barcode cards as the City currently accepts or may choose to accept in the future.

Each such device shall have its own device identification number so that transactions and reports can reference the device for tracking purposes. The subsystem will be fully integrated in the revenue control system to provide for full reporting through the PARCS device (if applicable) and the facility management software (via a workstation).

The subsystem shall have the ability to perform transactions at the device level whether in an on-line or off-line (batch) mode so that loss of communications with the processing clearinghouse does not impede the acceptance of credit/debit cards. The normal transaction process shall be for online authorizations of all transactions. All transactions shall be subjected to industry standard validity checks (to include blacklist checks) and shall be stored at the facility controller of the device until such time as communications with the processing clearinghouse has been restored. The City shall be able to control how many and which transactions are sent in a batch file when the connection is reestablished, as well as, be able to assign priority processing of current transactions.

The subsystem shall have appropriate controls to secure all credit/debit card data from tampering or misuse. The security controls and procedures shall conform to all industry standards, to include but not be limited to the VISA CISP program requirements for Levels 2 or 3 merchants in force at the time of installation. Credit/debit card data shall be stored in a secure, password protected database that allows only authorized users to perform queries and export functions required to research and resolve disputes, charge backs and other issues. Wherever possible reports, receipts and lists of credit/debit card data shall have truncated card numbers and other measures to minimize the chances of fraud.

The Contractor shall provide complete details of the credit/debit card processing functionality to include but not limited to credit card processing procedures, the security measures taken to safeguard credit/debit card information, details of on-line versus off-line processing, expected transaction accuracy rates, manual corrections or research processes and reporting capabilities. All such discussions shall be contained in the System Definition Document and shall be subject to review and approval by the City's project manager.

H3.2. Required Devices (Communications Devices)

The contractor shall be responsible for coordinating implantation of the subsystem with the City and the clearinghouse.

H4. Parking Reservation Subsystem

H4.1. Parking Reservation Subsystem Description

The City desires to implement a primarily web/internet-based parking reservation program. The Contractor shall design and provide a reservation system capable of taking a parking reservation for any City facility primarily via the internet, Wi-Fi or via telephone. The program would be implemented so as to be fully integrated with other public parking facilities without the need for nested or dedicated parking areas and without the need for dedicated special purpose lanes. The Contractor shall provide all software components (both in the central servers and field devices), all required interfaces with other System modules and subsystems, as well as, all field devices necessary and proper to implement this program (except as detailed below). This subsystem or functionality shall be listed separately as an attachment to the Proposal.

A patron will use a website that is linked to and accessed from the City's home page or call a specific telephone number (number and phone service provided by City) to access the parking reservation system. The patron will select the desired parking facility then provide their name and credit/debit card information, the anticipated arrival date/time, and the license plate number of the vehicle to be used. The patron will also provide the approximate duration of stay. A credit/debit card will be required to hold the reservation and the system shall take steps to ensure the card information is valid.

On the day for which parking reservations are made, the number of reservations for each facility shall be subtracted from that facility's space counts in order to allow for anticipated demand. The subsystem must allow authorized users to manually adjust or override all data received from the reservation subsystem.

When the facility is open, a patron with a reservation arrives at any entry lane of the chosen facility, or uses a credit/debit card and enters the appropriate facility. The LPR system will capture the vehicle's license plate then automatically compare that plate number with all license plates on the Reservation List for the given day and facility. If the plate is on that list, the transaction is then recorded as a 'Reserved Transaction' transaction.

When a facility is full the Contractor shall propose a process for allowing entry to patrons with reservations only. This process may involve additional devices placed so as to override the lot closure procedures imposed by the System. Such transactions shall then be identified and processed in accordance with the process detailed above.

At exit, the patron will be allowed to exit through any exit lane. The patron will present their credit/debit card. The appropriate parking fee will be calculated and displayed to the patron. Once the parking fee has been satisfied, a receipt will be generated for the patron

and the exiting procedures will continue as with a normal exit transaction. If practical, the City would prefer to have the patron's fees automatically charged to the credit/debit card used to secure the reservation.

It shall be possible for the City to set limits as to how many reservations the subsystem will accept for each parking facility and the entire parking system as a whole. Parking reservation transactions shall be classified as a unique transaction type to be tracked and reported separately within the System. The parking reservation system shall provide a rate structure programming function that will allow the City to charge rates that are the same or different for each facility and the same or different from those rates paid by regular patrons at each facility. This rate structure shall allow for charging additional service fees at the time of exit. It shall be possible to identify "No Show" license plates and the system should have provisions for disallowing future reservations from "No Shows" after a user-settable threshold has been reached. The System shall have provisions which will permit City to assess a convenience fee and/or cancellation fee to all reservation transactions.

There will be specific reports that will be developed for the subsystem and shall be included in the custom reports. They will include a listing of reservations categorized by date of reservation, a list of reserved parking patrons currently in the facilities, and a listing of the 'No Show' reserving patrons. The format and the intended content of the reports will be defined during the system design process.

Since it will be possible for patrons to make parking reservations via the Internet, the Contractor shall provide details on the data security and integrity measures to be employed to prevent unauthorized access to the System or the City's administrative network. If a dedicated web server is required for implementation the Contractor will provide server. The Contractor shall provide all software, all interfaces, all data communications devices and all other hardware necessary, except for the firewall, to connect the web server to the System. In addition, the Contractor shall develop, maintain, host, and outsource the web-front end associated with the parking reservation system for the first year of operation, after which time City will contract for and/or maintain all hosting and hosting associated requirements. The Contractor will provide the required assistance and support to facilitate this transition. The development, maintenance, and hosting of the web-front-end and all the specifics of the subsystem's implementation shall be included in the System Definition Document and shall be subject to the approval of the City project manager.

H4.2. Required Devices (Reservation Verifiers)

The Contractor shall propose whatever devices shall be required to implement the Parking Reservation Subsystem functionality, whether the facility the patron desires to enter is open or closed. The City does not envision any added devices will be required when a facility is open, but additional devices may be required to override lot closure procedures (such as lot closure barrier gates) at full facilities. The Contractor shall explore and discuss the feasibility of introducing such devices or addressing this issue through software in the System Definition Document.

H5. Validations Subsystem

HS.1. Validations Subsystem Description

The City desires to implement a comprehensive Validation program that will allow it to better track and implement discount programs and other special purpose transactions. The Contractor shall provide a complete, fully-functional Validation Subsystem that includes all software components (both in the central servers and field devices), all required interfaces with other System modules and subsystems, as well as, all field validating devices necessary and proper to implement this program.

The System the Contractor provides shall have the ability to allow validation codes to track validations by validation account number or code. The Validations Subsystem proposed must include appropriate management and billing reports, as well as, tracking functionality for up to nine hundred ninety-nine (999) separate validation accounts and up to ninety-nine (99) different validation types. The subsystem must be able to associate a given rate structure for each validation type, account and or code. The subsystem must be capable of handling validation transactions at any exit lane and must be compatible with other field hardware devices such as the POF devices and the special purpose fee computers. The Contractor shall document the process of handling validations as well as the devices to be used in the System Definition Document.

The System shall be capable of employing machine-readable validations (described above) that have been applied to the parking ticket by use of validation machines provided by the Contractor. The Validations subsystem shall allow the City to implement validations for discounts based on time or dollar amount.

In the event the value of a validation should fail to cover the entire parking fee, the transaction shall continue as a normal transaction with the validation treated as a partial payment, and the patron being prompted to pay the remaining fee amount. Should the validation amount exceed the actual parking fee, the subsystem shall record the lesser amount (the actual fee) in the transaction database and all associated reports. It shall be possible for the City to easily audit the validation transaction; therefore, validations shall be clearly distinguishable from other transactions. All validations shall be tracked and accounted for within the System reports by cashier on a daily and monthly basis.

HS.2. Required Devices (Validation Machines)

The Contractor shall provide validation machines or devices that may be used by the City or other authorized users to apply validations to System tickets. The validation machines shall also be capable of encoding one time badge validations on any magnetic stripe and or barcode media (paper or any card stock type). The validation machines shall encode identifiers used to identify data for the account holder issuing the validation and the appropriate fee structure to be applied. The validation machines shall have the ability to automatically re-encode the validation rate on the parking ticket at the point of validation. The cashier will have no interaction with rate adjustments at time of a "validated ticket" exit. The Contractor shall also describe in detail a process by which barcode discount coupons may be processed at exit through attended lanes. The Contractor shall document the capabilities of the validation machines and the capability of processing of barcode discount coupons in the System Definition Document.

The City will be able to process a barcode validation coupon issued by an entity participating in the City's validation program provided the coupon follows the contractor's barcode specification and format.

A parking patron will drive to a manned exit cashier lane and present their parking ticket and barcode coupon to the cashier. The cashier will insert the system ticket (mag-stripe) into the fee computer and the appropriate rate will be calculated. The cashier will then read the coupon barcode via the barcode reader. The initial parking fee will be adjusted based on the validation program referenced by the barcode coupon. A report will be generated indicating the quantity and dollar volume of the barcode validation program. The City will work closely with the contractor to insure the proper creation and distribution of barcode coupons to prevent duplication and subsequent fraud of the barcode validation program.

L SYSTEM RELIABILITY AND ACCOUNTABILITY STANDARDS

The Contractor shall demonstrate that the System meets availability and reliability performance requirements prior to and during the start-up period, and demonstrate that to the City project manager through calculations documented in the System Definition Document and through the testing procedures specified elsewhere in these specifications. The System shall achieve a minimum overall System availability of 99.5% during operations following the final acceptance of the System. The 0.5% non-availability shall only apply to situations where a total failure of one sub-system occurs (such as loss of LPR functionality). Single lane or device failures shall not be included in the overall System availability calculations.

The System shall be designed and implemented to minimize downtime by removing all single points of failure to the greatest extent possible. The System shall be designed and implemented to facilitate prompt repair for all failed or degraded System components by providing, to the extent possible modular, subsystems and devices with field-replaceable components.

The Contractor shall conduct regular availability and reliability assessments of the entire System during all phases of the installations to establish its reliability and to identify areas of potential vulnerability and document these areas in the Risk Management Plan and the System Definition Document. The Contractor shall submit detailed results of this supporting documentation to include test results, test assumptions and calculations.

11. System Redundancy

All lane devices, special purpose computers and POFs shall be capable of continued operations in stand-alone mode in the event network communication services are interrupted. No redundancy is required at a lane unless common equipment is shared between multiple lanes. For example, equipment at a single lane may fail causing a shutdown of a lane; however, the failure shall not affect other lanes. To the extent possible all field devices shall be configured with proper battery backup, as well as lighting and surge protection so has to allow them to operate in less than optimal conditions.